Utah Transit Authority

Board of Trustees

REGULAR MEETING AGENDA

669 West 200 South
Salt Lake City, UT 84101

Wednesday, May 14, 2025 **9:00 AM** **FrontLines Headquarters**

The UTA Board of Trustees will meet in person at UTA FrontLines Headquarters (FLHQ) - 669 West 200 South, 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**	Trustee Jeff Acerson
4.	**Public Comment**	Chair Carlton Christensen
5.	**Consent**	Chair Carlton Christensen
	a. Approval of April 23, 2025, Board Meeting Minutes	
	b. Quarterly Disbursement Report - Vehicle Parts Inventory Vendors - Q1 2025	
	c. Quarterly Disbursement Report - Non-Inventory Vendors - Q1 2025	
6.	**Reports**	
	a. Executive Director Report - Shingo Rising Star Award Recipient - Alisha Garrett	Jay Fox
	b. Strategic Plan Minute: Moving Utahns to a Better Quality of Life - Operate 5-Year Service Plan	Jay Fox
	c. Financial Report - March 2025	Viola Miller Brad Armstrong
	d. Investment Report - First Quarter 2025	Brian Reeves

7. Resolutions

a.	R2025-05-01 - Resolution Authorizing Execution of an Interlocal Cooperation Agreement with Salt Lake County for Contributions to the UTA TRAX Ambassador Program	Nichol Bourdeaux Megan Waters

8. Contracts, Disbursements and Grants

a.	Contract: Vendor Managed Inventory Supply Services (The Aftermarket Parts Company, LLC)	Todd Mills
b.	Contract: Paratransit Vehicles for Special Services (Model 1)	Kyle Stockley
c.	Contract: Jordan River Rail Service Center Wheel Truing Machine (NSH USA Corporation)	Bryan Sawyer
d.	Contract: Light Rail Vehicle Repair Services (Siemens Mobility Inc.)	Bryan Sawyer
e.	Contract: Midvale Rail Service Center Flooring Restoration (CDC Restoration and Construction, L.C.)	Bryan Sawyer
f.	Contract: Master Task Ordering Agreement - Bond Underwriting Services Pool (Stifel, Nicolaus & Company, Incorporated)	Brian Reeves
g.	Change Order: Mid-Valley Express Bus Rapid Transit (MVX) Construction Change Order 15 - 4700 South Mill and Overlay (Stacy & Witbeck, Inc.)	Jared Scarbrough
h.	Change Order: Construction Services Agreement for Jordan River Bldg #2 Remodel Change Order 14 - Secure Walls and Bracing (Paulsen Construction, LLC)	Jared Scarbrough
i.	Change Order: On-Call Infrastructure Maintenance Contract Task Order #25-002 - 450 East Interlocking Construction (Stacy and Witbeck, Inc.)	Jared Scarbrough
j.	Change Order: On-Call Infrastructure Maintenance Contract Task Order #25-014 - U-Line Welded to Bolted Connections (Stacy and Witbeck, Inc.)	Jared Scarbrough

k. Pre-Procurements — Todd Mills
- Arctic Bearing Repair Kits
- Maintenance of Way Positive Train Control Training and Certification
- Organizational Excellence Support Services
- Locomotive Electric Wiper Upgrade

9. Service and Fare Approvals

a. Fare Agreement: Special Events Agreement for Salt Lake Twilight & Kilby Court Concert Series (Sartain and Saunders, LLC) — Monica Howe

b. Fare Agreement: Special Events Agreement for Western Stampede Rodeo (City of West Jordan) — Monica Howe

10. Budget and Other Approvals

a. TBA2025-05-01 - Technical Budget Adjustments — Viola Miller
- 2025 Capital Budget — Brad Armstrong
- 2025 Operating Budget

11. Discussion Items

a. Paratransit Forward Study — Nichol Bourdeaux, Jaron Robertson, Alex Beim

b. Transit-Oriented Communities (TOC) Planning and Design Principles — Paul Drake

c. State of Good Repair (SGR) Public Information Update — Heather Barnum, Megan Waters

12. Closed Session — Chair Carlton Christensen

a. Strategy Session to Discuss:
- Purchase, exchange, or lease of Real Property (Utah Code 52-4-205 (1) (d))
- Sale of Real Property (Utah Code 52-4-205 (1) (e))

13. Open Session — Chair Carlton Christensen

14. Other Business — Chair Carlton Christensen

a. Next Meeting: Wednesday, May 28, 2025 at 9:00 a.m.

15. 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 portal 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 below.
    - Use this link: http://bit.ly/UTA_BOT_05-14-25 and follow the instructions to register for the meeting.
    - You will need to provide your name and email address when registering.
    - Sign on to the Zoom meeting through the URL provided after registering.
    - Sign on 5 minutes prior to the meeting start time.
    - Use the "raise hand" function in Zoom to indicate you would like to make a comment.
    - 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.
- 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, May 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.
- Members of the Board of Trustees and meeting presenters will participate in person, however, they may join electronically, as needed, with 24 hours advance notice.
- 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:** 5/14/2025

TO: Board of Trustees
THROUGH: Curtis Haring, Board Manager
FROM: Curtis Haring, Board Manager

TITLE:

Approval of April 23, 2025, Board Meeting Minutes

AGENDA ITEM TYPE:
Minutes

RECOMMENDATION:
Approve the minutes of the April 23, 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, April 23, 2025, at 9:00 a.m.

Minutes from the meeting document the actions of the Board and summarize the discussion that took place during the meeting. A full audio recording of the meeting is available on the Utah Public Notice Website <https://www.utah.gov/pmn/sitemap/notice/988685.html> and video feed is available through the UTA Public Meeting Portal <https://rideuta.granicus.com/player/clip/360?view_id=1&redirect=true>.

ATTACHMENTS:
1. 2025-04-23_BOT_Minutes_unapproved

Utah Transit Authority

Board of Trustees

MEETING MINUTES - Draft

669 West 200 South
Salt Lake City, UT 84101

Wednesday, April 23, 2025 **9:00 AM** **FrontLines Headquarters**

Present: Chair Carlton Christensen
Trustee Beth Holbrook
Trustee Jeff Acerson

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 9:01 a.m.

2. Pledge of Allegiance

Attendees recited the Pledge of Allegiance.

3. Safety First Minute

Ann Green-Barton, UTA Chief People 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 April 9, 2025, Board Meeting Minutes

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

6. Reports

a. Executive Director Report

- **UTA Recognition - UTA Police Department - Social Enterprise Award**
- **UTA Recognition - Sgt. Watanabe and James Cragun**

UTA Recognition - UTA Police Department - Social Enterprise Award
Jay Fox, UTA Executive Director, was joined by Patrick Preusser, UTA Chief Operating Officer, and Dalan Taylor, UTA Chief of Police & Public Safety Manager.

Preusser reported the Columbus Community Center recently presented the UTA police with their 2025 Social Enterprise Award in recognition of their invisible disability training program. The program was established by John Pearce, UTA Police Sergeant, and Justin Pearce, Sergeant Pearce's son.

UTA Recognition - Sgt. Watanabe and James Cragun
Jay Fox was joined by Patrick Preusser, Dalan Taylor, and Carolyn Anderson, UTA Manager of Commuter Rail Operations.

Preusser and Taylor highlighted measures taken by Todd Watanabe, UTA Police Sergeant, and James Cragun, UTA Assistant Manager of Rail Operations, to save the life of an individual in distress.

b. Strategic Plan Minute: Achieving Organizational Excellence through Implementing WorkDay and Trapeze

Jay Fox was joined by Alisha Garrett, UTA Chief Enterprise Strategy Officer.

Fox shared results of an administrative employee survey on critical systems awareness for Trapeze, Workday, and enterprise asset management. Phase 1 implementation for these systems is planned for August 2025.

Discussion ensued. Questions on satisfaction with procured systems, implementation timeline, and operator shift bid impacts were posed by the board and answered by staff.

c. Discretionary Grants Report

Tracy Young, UTA Grants Director, reviewed proposed grant applications, which include vehicle procurements and Davis-Salt Lake Community Connector, among other projects.

Discussion ensued. Questions on how grants could be used were posed by the board and answered by staff.

d. Capital Program Report - First Quarter 2025

David Hancock, UTA Chief Capital Services Officers, was joined by Daniel Hofer, UTA Director of Capital Programs & Support.

Staff reviewed progress on the capital program during the first quarter (Q1) of 2025, including program summary statistics, 2023-2025 Q1 spending comparisons, significant milestones, major project deliverable status, deliverable goals, Q1 challenges, and 2025 outlook.

Discussion ensued. Questions on the potential budget impact related to the timing of large projects, UTA bus production, training facility renovation, timeline for the Ogden facility construction, timeline for the Transit Transportation Investment Fund (TTIF) nomination process, and 2025 projects progression were posed by the board and answered by staff.

e. 2024 Annual Transit-Oriented Communities Report and Real Estate Inventory

Paul Drake, UTA Director of Real Estate & Transit-Oriented Development, was joined by Spencer Burgoyne, UTA Manager of Property Administration.

Staff provided information on UTA's real estate inventory, Transit-Oriented Developments (TODs), and station area planning endeavors.

Discussion ensued. Questions on lease types, transit-critical real estate, potential TOD projects, and community feedback related to station area planning were posed by the board and answered by staff.

7. Resolutions

a. R2025-04-02 - Resolution Authorizing the Execution of Grant Agreements for Specified Projects

Tracy Young summarized the resolution, which authorizes the execution of grant agreements for Midvalley Express (MVX) operations, Davis-Salt Lake Connector design, Vanpool expansion, and Rideshare-Vanpool management.

Discussion ensued. Questions on the Davis-Salt Lake Connector local match and Vanpool expansion were posed by the board and answered by Young.

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 Holbrook, and Trustee Acerson

8. Contracts, Disbursements and Grants

a. Contract: Brake Caliper Overhaul - S70 Light Rail Vehicles (Wabtec Passenger Transit)

Kyle Stockley, UTA Director of Capital Vehicles, requested the board approve a $13,086,540 contract with Wabtec Passenger Transit for the replacement of brake

calipers on 77 S70 light rail vehicles.

Discussion ensued. A question on vehicle rehabilitation prioritization was posed by the board and answered by Stockley.

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

b. Contract: Master Task Ordering Agreement - Bond Underwriting Services Pool (Bank of America Securities)

Viola Miller, UTA Chief Financial Officer, was joined by Brian Reeves, UTA Associate Chief Financial Officer.

Reeves requested the board approve a contract with Bank of America Securities for bond underwriting services. The contract is part of a five-year master task ordering agreement that has total not-to-exceed value of $7,500,000 for the entire vendor pool.

Discussion ensued. Questions on determining vendor utilization within the pool and vendor services 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.

c. Contract: Master Task Ordering Agreement - Bond Underwriting Services Pool (Jefferies LLC)

Brian Reeves requested the board approve a contract with Jefferies LLC for bond underwriting services, The contract is part of a five-year master task ordering agreement that has total not-to-exceed value of $7,500,000 for the entire vendor pool.

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: Master Task Ordering Agreement - Bond Underwriting Services Pool (Wells Fargo Bank, N.A.)

Brian Reeves requested the board approve a contract with Wells Fargo Bank, N.A. for bond underwriting services, The contract is part of a five-year master task ordering agreement that has total not-to-exceed value of $7,500,000 for the entire vendor pool.

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: Operator Restroom - Roy Center Station (Cal Wadsworth Construction)

Jared Scarbrough, UTA Director of Capital Design & Construction, requested the board approve a not-to-exceed $557,613.54 contract with Cal Wadsworth Construction for installation of a prefabricated operator break room, restrooms, and utility storage closet at the FrontRunner Roy Station.

Discussion ensued. Questions on design cost efficiencies were posed by the board and answered by Scarbrough.

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. Change Order: On-Call Systems Maintenance Contract Task Order #25-008 - University Line OCS Upgrades and Traction Power Maintenance (Rocky Mountain System Services)

Jared Scarbrough requested the board approve a $2,598,659.30 change order to the contract with Rocky Mountain System Services to reconfigure the overhead catenary system (OCS) at the Rice interlocking crossover, upgrade the auto-tensioner Tensorex C+, perform maintenance on the OCS from 900 East to the University of Utah Medical Center Station, and rehabilitate all welded-to-bolted rail connections from Main Street to the University of Utah Medical Center Station on the TRAX alignment. The total contract value, including the change order, is $7,997,402.85.

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.

g. Pre-Procurements

- **Utah County Park and Rides**
- **AdvanceTec Industries, Mobile Radio Development and Hardware**

Todd Mills, UTA Director of Supply Chain, indicated the agency intends to procure the good and/or services outlined on the meeting agenda.

Chair Christensen called for a recess at 10:29 a.m.

The meeting was reconvened at 10:36 a.m.

9. Discussion Items

a. Sustainable Service Delivery System Update

Jay Fox was joined by Kim Shanklin, UTA Chief of Staff to the Executive Director.

Staff reviewed April 2025 Change Day accomplishments, described adjustments made to support restored and expanded service, and discussed ongoing process refinement and analysis efforts to support the UTA 5-year Service Plan.

Discussion ensued during which Chair Christensen recommended UTA share its sustainable service efforts with elected officials and partner agencies.

b. Potential Financing Opportunities

Viola Miller was joined by Brian Reeves and Brian Baker with Zions Public Finance.

Staff presented potential financing opportunities, including new bond issuance, bond tendering, and tax-exempt refunding of taxable bonds.

Discussion ensued. A question on market considerations was posed by the board and answered by staff.

10. Other Business

a. Next Meeting: Wednesday, May 14, 2025 at 9:00 a.m.

11. Adjourn

Transcribed by Cathie Griffiths
Executive Assistant to the Board Chair
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/988685.html for entire content. Meeting materials, along with a time-stamped video recording, are also accessible at https://rideuta.granicus.com/player/clip/360?view_id=1&redirect=true.

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

Approved Date:

_____

Carlton J. Christensen
Chair, Board of Trustees

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Quarterly Disbursement Report - Vehicle Parts Inventory Vendors - Q1 2025

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Review the parts supplier spend information by transit mode for Q1 2025 as compared against disbursement authorization given by resolution.

BACKGROUND:
Resolution R2025-03-03 was approved by the Board of Trustees granting the purchasing authority and related disbursements to vehicle parts vendors in 2025 up to the amounts below:

- **Bus parts - up to $9,850,000**
- **Light Rail Vehicle parts - up to $11,000,000**
- **Commuter Rail Vehicle parts - up to $5,000,000**

Per the resolution, at the end of every quarter the Director of Supply Chain provides a report of actual purchase totals by mode to the Board of Trustees, and will review and compare actual Purchase Order amounts with the amounts listed in the resolution. Any transit mode parts Purchase Order amounts that will likely exceed the forecasted amount will be brought back to the Board of Trustees for further review and authorization.

DISCUSSION:
Attached is the Q1 parts expenditure totals by mode. Additionally, the top 5 vendors spend for each transit

mode are individually identified.

Q1 2025 expenditure compared to the authorized amount in R2025-03-03 was:

- **Bus Parts -** $1,978,278 Year-to-date expenditure compared to $9,850,000 annual authorization.
- **Light Rail Vehicle Parts -** $2,003,784 Year-to-date expenditure compared to $11,000,000 annual authorization.
- **Commuter Rail Vehicle Parts** - $883,362 Year-to-date expenditure compared to $5,000,000 annual authorization.
- **All Parts Total Spend** - $4,865,424 Year-to-date expenditure compared to $25,850,000 annual authorization.

ALTERNATIVES:
N/A

FISCAL IMPACT:
Each maintenance division is provided with an annual parts inventory budget as part of their Operating Expense Budget.

ATTACHMENTS:
Quarterly Disbursement Report - Vehicle Parts Inventory Vendors - Q1 2025

Quarterly Disbursement Report

Vehicle Parts Inventory Vendors – Q1 2025

1. **Bus parts:**
    a. Resolution R2025-03-03 authorized Bus vehicle parts purchases and disbursements in 2025 for up to $9,850,000. The Q1 actual expenditure for bus parts was $1,978,278.
    b. Top five vendors in Q1 2025 were:
        i. $504,679 – Gillig Corporation
        ii. $487,682 – Cummins Sales & Service
        iii. $217,748 – The Aftermarket Parts Co. (New Flyer)
        iv. $134,234 – Muncie Transit Supply
        v. $96,971 – Kenworth Sales

2. **Light Rail parts:**
    a. Resolution R2025-03-03 authorized Light Rail vehicle parts purchases and disbursements in 2025 for up to $11,000,000. The Q1 actual expenditure was $2,003,784
    b. Top five vendors in Q1 2025 were:
        i. $415,653 – Siemens Mobility
        ii. $220,538 – Wabtec Passenger Transit
        iii. $217,005 – Schunk Carbon Technology
        iv. $168,960 – National Railway Supply
        v. $166,300 – Penn Machine Company

3. **Commuter Rail parts:**
    a. Resolution R2025-03-03 authorized Commuter Rail vehicle parts purchases and disbursements in 2025 for up to $5,000,000. The Q1 actual expenditure was $883,362
    b. The top five vendors in Q1 2025 were:
        i. $230,744 – L & S Electric
        ii. $159,522 – Bremskerl N. America
        iii. $151,243 – Western Rail
        iv. $78,207 – PowerRail Distribution
        v. $53,593 – Vapor-Stone Rail Systems

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO: Board of Trustees
THROUGH: Jay Fox, Executive Director
FROM: Viola Miller, CFO
PRESENTER(S): Rob Lamph, Comptroller

TITLE:

Quarterly Disbursement Report - Non-Inventory Vendors - Q1 2025

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Review total disbursements made to non-inventory vendors during Q1 2025

BACKGROUND:
The Board approved resolution R2025-04-01 authorizing disbursements for non-inventory vendor payments in 2025. The resolution also requires a quarterly report to the Board on non-inventory disbursements. Payments have been made to vendors as scheduled.

DISCUSSION:
The required quarterly report of expenditures to non-inventory vendors, included in R2025-04-01, is attached. The report shows that disbursements to all vendors are within the board-approved limits.

ALTERNATIVES:
None

FISCAL IMPACT:

None

ATTACHMENTS:

Quarterly Disbursement Report - Non-Inventory Vendors - Q1 2025

UTA
669 West 200 South
Salt Lake City, UT 84101

Quarterly Disbursement Report – Non-Inventory Vendors – Q1 2025

The Board approved resolution R2025-04-01 authorizing disbursements for non-inventory payments in 2025. The resolution also requires a quarterly report to the Board on non-inventory disbursements. This quarterly report for quarter one 2025 shows the disbursement amounts for the non-inventory vendors for amounts greater than $200,000. This is the first quarterly report for the 2025 fiscal year. All vendors are well below their Not to Exceed amounts. The Utah County Bonds are semiannual payments due in May and November.

Type	Vendor Name	Purpose	2025 Not to Exceed	Expenditures as of 03/31/2025
Payroll	Department of the Treasury	Payroll Taxes	$ 50,696,139	$ 11,625,286
Payroll	UTA/ATU JOINT INSURANCE TRUST	Health Insurance (Collective Bargaining)	$ 30,480,790	$ 8,353,151
Payroll	OFFICE OF RECOVERY SERVICES	Utah State Child Support	$ 451,514	$ 107,820
Payroll	AMALGAMATED TRANSIT UNION	Union Dues for Employees	$ 937,342	$ 194,858
Payroll	UTAH ST TAX (WITHHOLDING ONLY)	Payroll Taxes	$ 10,599,391	$ 2,045,123
Payroll	VANTAGEPOINT TRANSFER AGENTS -	457 Plans	$ 9,428,461	$ 5,005,804
Payroll	Cambridge Associates, LLC.	Pension Contribution	$ 34,446,297	$ 8,070,821
Payroll	MUTUAL OF AMERICA LIFE INS.	457 Plans	$ 7,032,052	$ 1,969,054
Payroll	Utah-Idaho Teamsters Security	Health and Dental Insurance Premiums andUnion Dues for Employees	$ 713,544	$ 169,540
Debt	Utah County Government	4th Quarter Cent Sales Tax Agreement with Utah County	$ 3,377,512	$ -
Government	Utah Attorney General's Office	Legal Services	$ 2,123,900	$ 245,486
Utility	AT&T ++	Cellular Connection to Buses	$ 581,695	$ 74,858
Utility	CENTURY LINK (QWEST) +++	Internet Connection	$ 501,381	$ 48,132
Utility	Salt Lake City Corp	Electric, Water, and Sewer	$ 262,234	$ 46,097
Utility	MURRAY CITY UTILITIES	Electric, Water, and Sewer	$ 650,701	$ 162,924
Utility	FirstNet	Cellular Phone Contract	$ 1,016,256	$ 341,784
Utility	ROCKY MOUNTAIN POWER	Electricity	$ 9,018,557	$ 2,314,520
Utility	Enbridge Gas Utah(Dominion Energy/Questar)	Natural Gas	$ 2,738,208	$ 527,078

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Executive Director Report

- **Shingo Rising Star Award Recipient - Alisha Garrett**

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

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

- Shingo Rising Star Award Recipient - Alisha Garrett (Jay Fox)

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Strategic Plan Minute: Moving Utahns to a Better Quality of Life - Operate 5-Year Service 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 plan minute highlights our strategic priority; Moving Utahns to a Better Quality of Life. A key component of this strategic priority is access to UTA services. This is a combined report out. We have both a strategic initiative to operate our 5-year plan as well as an annual target to achieve 54% access to all day service, both are directly tied to UTA's service and annual April change day. This report will highlight key milestones that were achieved and progress related to the strategic initiative and annual target.

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:** 5/14/2025

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 - March 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 March 2025 Monthly Financial Statements have been prepared in accordance with the Financial Management Policy and are being presented to the Board. Also provided is the monthly Board Dashboard which summarizes key information from the March 2025 Monthly Financial Statements.

DISCUSSION:
At the May 14, 2025, 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:

- March 2025 Board Dashboard
- March 2025 Monthly Financial Statements

Utah Transit Authority

Board Dashboard: Mar 31, 2025

Financial Metrics	**Mar Actual**	**Mar Budget**	***Fav / (Unfav)***	***%***	**YTD Actual**	**YTD Budget**	***Fav / (Unfav)***	***%***
Sales Tax **(Feb '25 mm $)**	$ 36.3	$ 35.8	*$ 0.46*	*1.3%*	$ 74.1	$ 72.4	*$ 1.76*	*2.4%*
Fare Revenue (mm)	$ 3.0	$ 3.2	*$ (0.17)*	*-5.3%*	$ 9.6	$ 8.7	*$ 0.85*	*9.7%*
Operating Exp (mm)	$ 33.3	$ 39.2	*$ 5.96*	*15.2%*	$ 102.9	$ 115.7	*$ 12.78*	*11.0%*
Subsidy Per Rider (SPR)	$ 8.53	$ 10.21	*$ 1.68*	*16.5%*	$ 9.11	$ 10.21	*$ 1.10*	*10.8%*
UTA Diesel Price ($/gal)	$ 2.38	$ 3.60	*$ 1.22*	*33.9%*	$ 2.38	$ 3.60	*$ 1.22*	*33.9%*
Operating Metrics	**Mar Actual**	**Mar-24**	***F / (UF)***	***%***	**YTD Actual**	**YTD 2024**	***F / (UF)***	***%***
Ridership (mm)	3.54	3.39	*0.2*	*4.6%*	10.25	9.85	*0.4*	*4.0%*

Energy Cost by Type (Monthly Avg YTD)	
Diesel Bus (Cost per Mile)	$ 0.46
Diesel CR (Cost per Mile)	$ 3.25
Unleaded Gas (Cost per Mile)	$ 0.62
CNG (Cost per Mile)	$ 0.36
Bus Propulsion Power (Cost per Mile)	$ 0.39
TRAX Propulsion Power (Cost per Mile)	$ 0.73

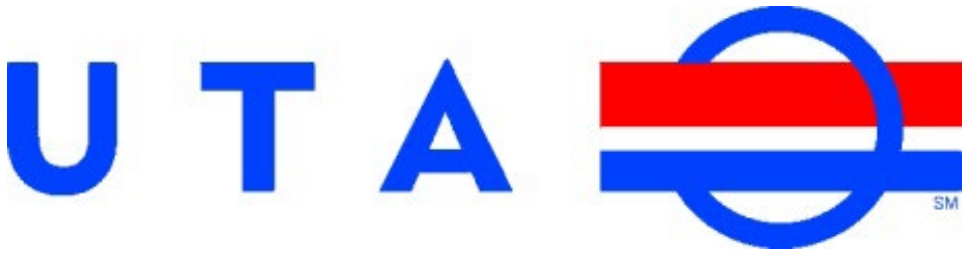
"Sales Tax" lists the amount of sales tax revenue received for the month listed in bold. All other data reflects the month listed in the table title.

Utah Transit Authority

Financial Statement

(Unaudited)

March 31, 2025



KEY ITEM REPORT
(UNAUDITED)
As of March 31, 2025

EXHIBIT 1-1

		2025 YTD ACTUAL	2025 YTD BUDGET	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
1	Operating Revenue	$ (10,129,936)	$ (5,948,172)	$ 4,181,764	70%
2	Operating Expenses	102,933,007	76,501,175	(26,431,832)	-35%
3	**Net Operating Income (Loss)**	**(92,803,071)**	**(70,553,003)**	**(22,250,068)**	**-32%**
4	Capital Revenue	(13,899,224)	(58,479,250)	(44,580,026)	-76%
5	Capital Expenses	27,291,011	82,557,750	55,266,739	67%
6	**Net Capital Income (Loss)**	**(13,391,787)**	**(24,078,500)**	**10,686,713**	**44%**
7	Sales Tax	(117,889,172)	(116,583,679)	1,305,493	1%
8	Other Revenue	(15,022,368)	(22,656,000)	(7,633,632)	-34%
9	Debt Service	14,836,320	19,433,707	4,597,387	24%
10	Sale of Assets	(319,864)	-	319,864	
11	**Net Non-Operating Income (Loss)**	**118,395,084**	**119,805,972**	**(1,410,888)**	**-1%**
12	**Contribution to Cash Balance**	**$ 12,200,227**	**$ 25,174,469**	**$ (12,974,243)**	52%
13	Amortization	2,476,748			
14	Depreciation	35,036,634			
15	**Total Non-cash Items**	**$ 37,513,382**			

STATISTICS

RIDERSHIP

	2024 YE Actual	Mar 2025	Mar 2024	Difference	2025 YTD	2024 YTD	Difference
16	40,478,945	3,544,286	3,387,109	157,177	10,246,568	9,848,720	397,848

OPERATING SUBSIDY PER RIDER -

		SPR
17	Net Operating Expense	$ 102,933,007
18	Less: Passenger Revenue	- (9,592,436)
19	Subtotal	93,340,571
20	Divided by: Ridership	÷ 10,246,568
21	Subsidy per Rider	$ 9.11

SUMMARY FINANCIAL DATA EXHIBIT 1-2
(UNAUDITED)
As of March 31, 2025

BALANCE SHEET

		3/31/2025	3/31/2024	Change
	CURRENT ASSETS			
1	Cash	$ 23,514,150	$ 20,052,596	17%
2	Investments (Unrestricted)	341,270,771	477,018,954	-28%
3	Investments (Restricted)	149,927,348	128,799,578	16%
4	Receivables	98,453,192	109,879,862	-10%
5	Receivables - Federal Grants	318,932	1,436,887	-78%
6	Inventories	48,749,133	45,242,799	8%
7	Prepaid Expenses	1,768,225	1,338,145	32%
8	**TOTAL CURRENT ASSETS**	**$ 664,001,751**	**$ 783,768,821**	
9	Property, Plant & Equipment (Net)	2,905,030,360	2,932,730,957	-1%
10	Other Assets	158,657,612	164,268,693	-3%
11	**TOTAL ASSETS**	**$ 3,727,689,723**	**$ 3,880,768,471**	
12	Current Liabilities	$ 131,118,740	$ 67,933,847	93%
14	Net Pension Liability	142,283,669	166,224,640	-14%
15	Outstanding Debt	2,280,622,805	2,278,945,414	0%
16	Net Investment in Capital Assets	576,467,785	801,941,171	-28%
17	Restricted Net Position	103,934,068	107,898,475	-4%
18	Unrestricted Net Position	493,262,656	457,824,924	8%
19	**TOTAL LIABILITIES & EQUITY**	**$ 3,727,689,723**	**$ 3,880,768,471**	

RESTRICTED AND DESIGNATED CASH AND CASH EQUIVALENTS RECONCILIATION

	RESTRICTED RESERVES			
20	2018 Bond Proceeds	67	$ 63	6%
21	2019 Bond Proceeds	4,712	698,409	-99%
22	Debt Service Interest Payable	69,700,854	62,777,438	11%
23	Risk Contingency Fund	8,175,790	8,128,265	1%
24	Catastrophic Risk Reserve Fund	1,172,061	1,143,439	3%
25	Box Elder County ROW (sales tax)	3,278,330	3,278,330	0%
26	Utah County 4th Qtr (sales tax)	26,813,511	16,295,225	65%
27	Amounts held in escrow	40,452,822	36,457,491	11%
28	**TOTAL RESTRICTED RESERVES**	**$ 149,598,147**	**$ 128,778,660**	
	DESIGNATED GENERAL AND CAPITAL RESERVES			
29	General Reserves	$ 80,300,000	72,100,000	
30	Service Sustainability Reserves	13,400,000	12,017,000	
31	Capital Reserve	66,900,000	45,616,000	
32	Debt Reduction Reserve	30,000,000	30,000,000	
33	**TOTAL DESIGNATED GENERAL AND CAPITAL RESERVES**	**$ 190,600,000**	**$ 159,733,000**	
34	**TOTAL RESTRICTED AND DESIGNATED CASH AND EQUIVALENTS**	**$ 340,198,147**	**$ 288,511,660**	

SUMMARY FINANCIAL DATA EXHIBIT 1-3
(UNAUDITED)
As of March 31, 2025

REVENUE & EXPENSES

		ACTUAL Mar-25	ACTUAL Mar-24	YTD 2025	YTD 2024
	OPERATING REVENUE				
1	Passenger Revenue	$ (3,018,574)	$ (3,139,702)	$ (9,592,436)	$ (10,385,142)
2	Advertising Revenue	(179,167)	-	(537,500)	(387,000)
3	**TOTAL OPERATING REVENUE**	**$ (3,197,740)**	**$ (3,139,702)**	**$ (10,129,936)**	**$ (10,772,142)**
	OPERATING EXPENSE				
4	Bus Service	$ 12,056,435	$ 11,759,077	$ 38,226,940	$ 35,383,576
5	Commuter Rail	2,147,295	2,240,234	6,390,626	7,247,774
6	Light Rail	3,905,527	3,825,872	12,537,894	12,000,379
7	Maintenance of Way	1,812,677	1,699,003	5,258,535	5,241,351
8	Paratransit Service	2,879,465	2,482,090	7,514,109	7,067,237
9	RideShare/Van Pool Services	275,965	269,174	976,590	783,881
10	Microtransit	950,850	470,901	2,687,173	1,130,412
11	Operations Support	4,806,599	5,617,556	15,495,525	16,579,400
12	Administration	4,423,034	3,390,688	13,845,614	12,174,225
13	Non-Departmental		-	-	-
14	**TOTAL OPERATING EXPENSE**	**$ 33,257,847**	**$ 31,754,593**	**$ 102,933,007**	**$ 97,608,235**
15	**NET OPERATING (INCOME) LOSS**	**$ 30,060,107**	**$ 28,614,891**	**$ 92,803,071**	**$ 86,836,092**
	NON-OPERATING EXPENSE (REVENUE)				
16	Investment Revenue	(1,534,020)	(2,066,851)	(4,948,785)	(7,557,012)
17	Sales Tax Revenue[1]	(45,534,383)	(48,532,883)	(117,889,172)	(117,590,818)
18	Other Revenue	(2,231,376)	(741,699)	(3,673,179)	(2,115,194)
19	Fed Operations/Preventative Maint. Revenue	122,578	29,985	(6,400,404)	32,031
20	Bond Interest	4,611,081	6,069,913	13,833,243	18,209,739
21	Bond Interest UTCT	148,357	148,357	445,071	445,071
22	Bond Cost of Issuance/Fees	-	350	(23,500)	45,150
23	Lease Interest	325,239	199,375	581,506	503,803
24	Sale of Assets	(82,062)	(56,200)	(319,864)	(91,575)
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (44,174,586)**	**$ (44,949,654)**	**$ (118,395,084)**	**$ (108,118,804)**
26	**CONTRIBUTION TO RESERVES**	**$ 14,114,480**	**$ 16,334,763**	**$ 25,592,013**	**$ 21,282,712**
	OTHER EXPENSES (NON-CASH)				
27	Bond Premium/Discount Amortization	(344,047)	(339,686)	(1,032,140)	(1,019,056)
28	Bond Refunding Cost Amortization	1,102,053	1,242,598	3,306,160	3,727,795
29	Future Revenue Cost Amortization	67,576	67,576	202,729	202,728
30	Depreciation	12,938,246	11,557,699	35,036,634	34,701,330
31	**NET OTHER EXPENSES (NON-CASH)**	**$ 13,763,829**	**$ 12,528,187**	**$ 37,513,382**	**$ 37,612,797**

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

BUDGET TO ACTUAL REPORT
(UNAUDITED)
As of March 31, 2025

EXHIBIT 1-4

CURRENT MONTH

		ACTUAL Mar-25 Mar-17	BUDGET Mar-25 Mar-17		VARIANCE FAVORABLE (UNFAVORABLE) Mar-17	% FAVORABLE (UNFAVORABLE) Mar-17
	OPERATING REVENUE					
1	Passenger Revenue	$ (3,018,574)	$ (3,186,133)		$ (167,559)	-5%
2	Advertising Revenue	(179,167)	(195,917)		(16,750)	-9%
3	**TOTAL OPERATING REVENUE**	**$ (3,197,740)**	**$ (3,382,050)**		**$ (184,309)**	**-5%**
	OPERATING EXPENSE					
4	Bus Service	$ 12,056,435	13,552,462		$ 1,496,027	11%
5	Commuter Rail	2,147,295	2,721,031		573,736	21%
6	Light Rail	3,905,527	4,287,516		381,989	9%
7	Maintenance of Way	1,812,677	1,933,670	#	120,994	6%
8	Paratransit Service	2,879,465	2,500,038	#	(379,427)	-15%
9	RideShare/Van Pool Services	275,965	336,139	#	60,174	18%
10	Microtransit	950,850	1,400,877	#	450,027	32%
11	Operations Support	4,806,599	5,717,983	#	911,384	16%
12	Administration	4,423,034	6,549,620		2,126,586	32%
13	Non-Departmental	-	214,504		214,504	100%
14	**TOTAL OPERATING EXPENSE**	**$ 33,257,847**	**$ 39,213,840**		**$ 5,955,992**	**15%**
15	**NET OPERATING (INCOME) LOSS**	**$ 30,060,107**	**$ 35,831,790**		**$ 5,771,683**	**16%**
	NON-OPERATING EXPENSE (REVENUE)					
16	Investment Revenue	$ (1,534,020)	$ (423,750)		$ 1,110,270	262%
17	Sales Tax Revenue	(45,534,383)	(44,228,889)		1,305,494	3%
18	Other Revenue	(2,231,376)	(1,235,500)		995,876	81%
19	Fed Operations/Preventative Maint. Revenue	122,578	(6,034,000)		(6,156,578)	-102%
20	Bond Interest	4,611,081	6,049,457		1,438,376	24%
21	Bond Interest UTCT	148,357	139,793		(8,564)	-6%
22	Bond Cost of Issuance/Fees	-	16,050		16,050	100%
23	Lease Interest	325,239	283,303		(41,936)	-15%
24	Sale of Assets	(82,062)	-		82,062	
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (44,174,586)**	**$ (45,433,536)**		**$ (1,258,950)**	**-3%**
26	**CONTRIBUTION TO RESERVES**	**$ 14,114,480**	**$ 9,601,747**			

BUDGET TO ACTUAL REPORT
(UNAUDITED)
As of March 31, 2025

EXHIBIT 1-5

YEAR TO DATE

		ACTUAL Mar-25	BUDGET Mar-25	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING REVENUE				
1	Passenger Revenue	$ (9,592,436)	$ (8,742,472)	$ 849,964	10%
2	Advertising Revenue	(537,500)	(587,750)	(50,250)	-9%
3	**TOTAL OPERATING REVENUE**	**$ (10,129,936)**	**$ (9,330,222)**	**$ 799,714**	**9%**
	OPERATING EXPENSE				
4	Bus Service	$ 38,226,940	$ 39,981,364	$ 1,754,424	4%
5	Commuter Rail	6,390,626	8,163,093	1,772,467	22%
6	Light Rail	12,537,894	12,862,548	324,654	3%
7	Maintenance of Way	5,258,535	5,731,083	472,547	8%
8	Paratransit Service	7,514,109	7,473,863	(40,246)	-1%
9	RideShare/Van Pool Services	976,590	1,008,417	31,827	3%
10	Microtransit	2,687,173	4,202,631	1,515,458	36%
11	Operations Support	15,495,525	17,200,085	1,704,560	10%
12	Administration	13,845,614	18,877,427	5,031,813	27%
13	Non-Departmental	-	214,504	214,504	100%
14	**TOTAL OPERATING EXPENSE**	**$ 102,933,007**	**$ 115,715,015**	**$ 12,782,008**	**11%**
15	**NET OPERATING (INCOME) LOSS**	**$ 92,803,071**	**$ 106,384,793**	**$ 13,581,722**	**13%**
	NON-OPERATING EXPENSE (REVENUE)				
16	Investment Revenue	$ (4,948,785)	$ (1,271,250)	$ 3,677,535	289%
17	Sales Tax Revenue	(117,889,172)	(116,583,679)	1,305,493	1%
18	Other Revenue	(3,673,179)	(3,706,500)	(33,321)	-1%
19	Fed Operations/Preventative Maint. Revenue	(6,400,404)	(18,102,000)	(11,701,596)	-65%
20	Bond Interest	13,833,243	18,148,370	4,315,127	24%
21	Bond Interest UTCT	445,071	419,378	(25,693)	-6%
22	Bond Cost of Issuance/Fees	(23,500)	16,050	39,550	246%
23	Lease Interest	581,506	849,909	268,403	32%
24	Sale of Assets	(319,864)	-	319,864	
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (118,395,084)**	**$ (120,229,722)**	**$ (1,834,638)**	**-2%**
26	**CONTRIBUTION TO RESERVES**	**$ 25,592,013**	**$ 13,844,929**		

BUDGET TO ACTUAL REPORT BY CHIEF EXHIBIT 1-4A
(UNAUDITED)
As of March 31, 2025

CURRENT MONTH

		ACTUAL Mar-25	BUDGET Mar-25	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING EXPENSE				
1	Board of Trustees	$ 244,738	$ 314,069	$ 69,331	22%
2	Executive Director	321,710	628,222	306,512	49%
3	Chief Communication Officer	244,229	403,498	159,269	39%
4	Chief Planning and Engagement Off	1,724,642	2,345,754	621,112	26%
5	Chief Finance Officer	1,085,417	1,619,821	534,404	33%
6	Chief Operating Officer	26,077,813	29,165,892	3,088,079	11%
7	Chief People Officer	866,966	1,153,978	287,012	25%
8	Chief Development Officer	468,190	690,287	222,097	32%
9	Chief Enterprise Strategy Officer	2,224,143	2,677,815	453,672	17%
10	Non-Departmental	-	214,504	214,504	100%
11	**TOTAL OPERATING EXPENSE**	**$ 33,257,848**	**$ 39,213,840**	**$ 5,955,992**	**15%**

YEAR TO DATE

		ACTUAL Mar-24	BUDGET Mar-24	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING EXPENSE				
12	Board of Trustees	$ 708,597	$ 942,207	$ 233,610	25%
13	Executive Director	1,298,244	1,884,666	586,422	31%
14	Chief Communication Officer	611,313	1,210,494	599,181	49%
15	Chief Planning and Engagement Off	5,171,935	6,883,716	1,711,781	25%
16	Chief Finance Officer	3,795,273	4,859,273	1,064,000	22%
17	Chief Operating Officer	81,963,501	86,865,476	4,901,975	6%
18	Chief People Officer	2,405,962	3,461,934	1,055,972	31%
19	Chief Devlopment Officer	1,533,330	2,045,861	512,531	25%
20	Chief Enterprise Strategy Officer	6,663,493	7,346,884	683,391	9%
21	Non-Departmental	60	214,504	214,444	100%
22	**TOTAL OPERATING EXPENSE**	**$ 104,151,708**	**$ 115,715,015**	**$ 11,563,306**	**10%**

CAPITAL PROJECTS
(UNAUDITED)
As of March 31, 2025

EXHIBIT 1-6

		2025 ACTUAL	ANNUAL BUDGET	PERCENT
	EXPENSES			
1	Capital Services	23,831,272	$ 276,029,000	8.6%
2	Enterprise Strategy	1,549,934	15,809,000	9.8%
3	Executive Director (Safety)	198,807	1,996,000	10.0%
4	Finance	912,567	21,211,000	4.3%
5	Operations	234,343	9,700,000	2.4%
6	People	708,201	2,145,000	33.0%
7	Planning & Engagement	25,717	3,341,000	0.8%
9	**TOTAL**	**27,460,842**	**$ 330,231,000**	**8.3%**
	REVENUES			
10	GRANT	$ 16,386,436	$ 127,571,000	12.8%
11	STATE CONTRIBUTION	5,133,396	45,619,000	11.3%
12	LEASES (PAID TO DATE)		32,652,000	0.0%
13	BONDS		23,055,000	0.0%
14	LOCAL PARTNERS	1,305,170	5,020,000	26.0%
15	UTA FUNDING	4,635,840	96,314,000	4.8%
16	**TOTAL**	**27,460,842**	**$ 330,231,000**	**8.3%**

FAREBOX RECOVERY & SPR EXHIBIT 1-7
(UNAUDITED)
As of March 31, 2025

BY SERVICE

	CURRENT MONTH		YEAR TO DATE	
	Mar-25	**Mar-24**	**2025**	**2024**
UTA				
Fully Allocated Costs	33,257,847	31,754,593	102,933,007	97,608,235
Passenger Farebox Revenue	3,018,574	3,139,702	9,592,436	10,385,142
Passengers	3,544,286	3,387,109	10,246,568	9,848,720
Farebox Recovery Ratio	9.1%	9.9%	9.3%	10.6%
Actual Subsidy per Rider	$8.53	$8.45	$9.11	$8.86
BUS SERVICE				
Fully Allocated Costs	16,552,353	16,102,827	52,510,071	49,311,631
Passenger Farebox Revenue	1,273,300	1,409,994	4,351,865	4,006,043
Passengers	1,771,264	1,691,874	5,172,121	5,026,365
Farebox Recovery Ratio	7.7%	8.8%	8.3%	8.1%
Actual Subsidy per Rider	$8.63	$8.68	$9.31	$9.01
LIGHT RAIL SERVICE				
Fully Allocated Costs	7,911,109	7,611,080	24,783,274	24,017,785
Passenger Farebox Revenue	579,984	626,580	1,962,665	1,854,173
Passengers	1,175,096	1,149,370	3,316,810	3,200,702
Farebox Recovery Ratio	7.3%	8.2%	7.9%	7.7%
Actual Subsidy per Rider	$6.24	$6.08	$6.88	$6.92
COMMUTER RAIL SERVICE				
Fully Allocated Costs	3,837,559	3,941,372	11,747,081	12,565,936
Passenger Farebox Revenue	372,611	427,621	1,153,083	1,293,699
Passengers	350,744	326,850	1,015,343	978,185
Farebox Recovery Ratio	9.7%	10.8%	9.8%	10.3%
Actual Subsidy per Rider	$9.88	$10.75	$10.43	$11.52
MICROTRANSIT				
Fully Allocated Costs	1,071,427	590,567	3,070,930	1,509,524
Passenger Farebox Revenue	52,773	16,651	153,821	93,132
Passengers	53,632	47,456	156,462	133,466
Farebox Recovery Ratio	4.9%	2.8%	5.0%	6.2%
Actual Subsidy per Rider	$18.99	$12.09	$18.64	$10.61
PARATRANSIT				
Fully Allocated Costs	3,262,027	2,919,362	8,806,058	8,421,804
Passenger Farebox Revenue	295,240	336,307	840,088	2,155,178
Passengers	81,155	79,848	236,071	235,634
Farebox Recovery Ratio	9.1%	11.5%	9.5%	25.6%
Actual Subsidy per Rider	$36.56	$32.35	$33.74	$26.59
RIDESHARE				
Fully Allocated Costs	623,372	589,386	2,015,592	1,781,555
Passenger Farebox Revenue	444,666	322,550	1,130,914	982,916
Passengers	112,394	91,711	349,761	274,368
Farebox Recovery Ratio	71.3%	54.7%	56.1%	55.2%
Actual Subsidy per Rider	$1.59	$2.91	$2.53	$2.91

FAREBOX RECOVERY & SPR EXHIBIT 1-8
(UNAUDITED)
As of March 31, 2025

BY TYPE

	CURRENT MONTH		YEAR TO DATE	
	Mar-25	**Mar-24**	**2025**	**2024**
FULLY ALLOCATED COSTS				
Bus Service	$16,552,353	$16,102,827	$52,510,071	$49,311,631
Light Rail Service	$7,911,109	$7,611,080	$24,783,274	$24,017,785
Commuter Rail Service	$3,837,559	$3,941,372	$11,747,081	$12,565,936
Microtransit	$1,071,427	$590,567	$3,070,930	$1,509,524
Paratransit	$3,262,027	$2,919,362	$8,806,058	$8,421,804
Rideshare	$623,372	$589,386	$2,015,592	$1,781,555
UTA	**$33,257,847**	**$31,754,594**	**$102,933,006**	**$97,608,235**
PASSENGER FAREBOX REVENUE				
Bus Service	$1,273,300	$1,409,994	$4,351,865	$4,006,043
Light Rail Service	$579,984	$626,580	$1,962,665	$1,854,173
Commuter Rail Service	$372,611	$427,621	$1,153,083	$1,293,699
Microtransit	$52,773	$16,651	$153,821	$93,132
Paratransit	$295,240	$336,307	$840,088	$2,155,178
Rideshare	$444,666	$322,550	$1,130,914	$982,916
UTA	**$3,018,574**	**$3,139,703**	**$9,592,436**	**$10,385,141**
PASSENGERS				
Bus Service	1,771,264	1,691,874	5,172,121	5,026,365
Light Rail Service	1,175,096	1,149,370	3,316,810	3,200,702
Commuter Rail Service	350,744	326,850	1,015,343	978,185
Microtransit	53,632	47,456	156,462	133,466
Paratransit	81,155	79,848	236,071	235,634
Rideshare	112,394	91,711	349,761	274,368
UTA	**3,544,285**	**3,387,109**	**10,246,568**	**9,848,720**
FAREBOX RECOVERY RATIO				
Bus Service	7.7%	8.8%	8.3%	8.1%
Light Rail Service	7.3%	8.2%	7.9%	7.7%
Commuter Rail Service	9.7%	10.8%	9.8%	10.3%
Microtransit	4.9%	2.8%	5.0%	6.2%
Paratransit	9.1%	11.5%	9.5%	25.6%
Rideshare	71.3%	54.7%	56.1%	55.2%
UTA	9.1%	9.9%	9.3%	10.6%
ACTUAL SUBSIDY PER RIDER				
Bus Service	$8.63	$8.68	$9.31	$9.01
Light Rail Service	$6.24	$6.08	$6.88	$6.92
Commuter Rail Service	$9.88	$10.75	$10.43	$11.52
Microtransit	$18.99	$12.09	$18.64	$10.61
Paratransit	$36.56	$32.35	$33.74	$26.59
Rideshare	$1.59	$2.91	$2.53	$2.91
UTA	$8.53	$8.45	$9.11	$8.86

SUMMARY OF ACCOUNTS RECEIVABLE EXHIBIT 1-9
(UNAUDITED)
As of March 31, 2025

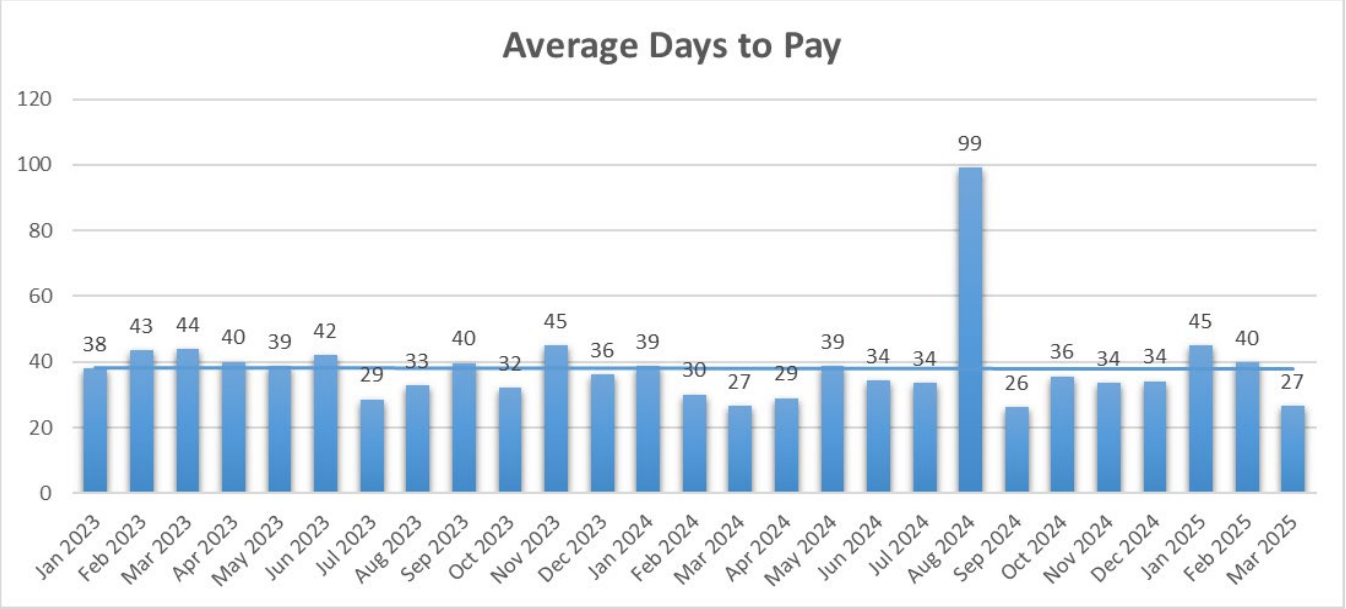
	Classification	Total	Current	31-60 Days	61-90 Days	90-120 Days	Over 120 Days
1	Federal Grants Government [1]	$ 318,932	$ 318,932	-	-	-	-
2	Sales Tax Contributions	77,596,421	45,534,383	$ 32,062,038	-	-	-
3	Warranty Recovery	1,474,279	1,474,279	-	-	-	-
4	Build America Bond Subsidies	-	-	-	-	-	-
5	Product Sales and Development	4,035,470	753,923	2,386,685	8,994	5,197	880,671
6	Pass Sales	41,512	181,519	(34,723)	1,615	43	(106,943)
7	Property Management	163,379	24,470	4,345	5,815	0	128,749
8	Vanpool/Rideshare	254,553	169,008	33,782	9,373	-	42,390
9	Salt Lake City Agreement	523,919	523,919	-	-	-	-
10	Planning	-	-	-	-	-	-
11	Capital Development Agreements	9,226,283	1,134,596	-	7,190,282	-	901,404
12	Other	5,137,376	6,940,259	(2,174,761)	7,501	3,796	360,580
13	**Total**	**$ 98,772,124**	**$ 57,055,289**	**$ 32,277,367**	**$ 7,223,579**	**$ 9,036**	**$ 2,206,852**
	Percentage Due by Aging						
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		18.7%	59.1%	0.2%	0.1%	21.8%
19	Pass Sales		437.3%	-83.6%	3.9%	0.1%	-257.6%
20	Property Management		15.0%	2.7%	3.6%	0.0%	78.8%
21	Vanpool/Rideshare		66.4%	13.3%	3.7%	0.0%	16.7%
22	Salt Lake City Agreement		100.0%	0.0%	0.0%	0.0%	0.0%
23	Planning						
24	Capital Development Agreements		12.3%	0.0%	77.9%	0.0%	9.8%
25	Other		135.1%	-42.3%	0.1%	0.1%	7.0%
26	**Total**		**57.8%**	**32.7%**	**7.3%**	**0.0%**	**2.2%**

[1] Federal preventive maintenance funds and federal RideShare funds

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

EXHIBIT 1-10

Contract # and Description		Contract Date	Vendor	Check #	Date	Check Total
00203378	TPSS UPGRADE/REHAB	8/23/2021	C3M Power Systems LLC	903114	3/6/2025	(485,549.10)
00017344	Capital Projects	3/6/2024	Landmark Companies Inc	388978	3/6/2025	(266,660.02)
00017408	Radios and Dispatch Licenses	11/12/2024	FirstNet	388979	3/6/2025	(749,975.00)
R2025-04-01	Pension Contribution	10/23/2024	Cambridge Associates, LLC.	389049	3/7/2025	(1,316,543.97)
R2025-04-01	INCOME TAX	10/23/2024	UTAH ST TAX (WITHHOLDING ONLY)	389074	3/7/2025	(350,880.84)
02003243	PARA SERVICE NORTH	6/3/2020	MV PUBLIC TRANSPORTATION	903180	3/12/2025	(267,619.73)
02003243	PARA SERVICE NORTH	6/3/2020	MV PUBLIC TRANSPORTATION	903180	3/12/2025	(245,464.16)
00233786	ON-CALL MAINTENANCE	6/9/2021	Stacy and Witbeck, Inc.	903181	3/12/2025	(640,004.00)
00233786	ON-CALL MAINTENANCE	6/9/2021	Stacy and Witbeck, Inc.	903181	3/12/2025	(245,021.00)
00233786	ON-CALL MAINTENANCE	6/9/2021	Stacy and Witbeck, Inc.	903181	3/12/2025	(2,478,474.66)
00203349	ON-CALL MAINTENANCE	6/9/2021	Stacy and Witbeck, Inc.	903264	3/19/2025	(375,588.00)
R2025-04-01	Pension Contribution	10/23/2024	Cambridge Associates, LLC.	389305	3/21/2025	(1,248,974.22)
R2025-04-01	INCOME TAX	10/23/2024	UTAH ST TAX (WITHHOLDING ONLY)	389331	3/21/2025	(329,488.34)
01903143	PARA SERVICE SOUTH	6/2/2020	UNITED WAY COMMUNITY SERV	903352	3/27/2025	(201,564.13)
00233803	MANAGEMENT SERVICES CONSULTANT	4/14/2023	AECOM Technical Services, Inc.	903353	3/27/2025	(247,999.33)
00203399	ON DEMAND MOBILITY	9/7/2021	VIA TRANSPORTATION INC	903355	3/27/2025	(216,987.38)
02303738	SOFTWARE SERVICE	12/22/2023	TRAPEZE SOFTWARE GROUP, INC.	903357	3/27/2025	(567,603.00)
00243813	TRAX Platform in South Jordan	5/8/2024	PAULSEN CONSTRUCTION, INC.	903358	3/27/2025	(443,603.00)



669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Investment Report - First Quarter 2025

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
The Board of Trustees Policy No. 2.1, Financial Management, authorizes the Treasurer to manage the investment of all non-retirement Authority funds in compliance with applicable laws and requires the Chief Financial Officer to prepare and present to the Board a summary of investments, investment activity, and investment performance compared to benchmarks as soon as practical after the end of each calendar quarter. The investment report has been prepared in accordance with the Financial Management Policy and is being presented to the Board.

DISCUSSION:
As of March 31, 2025, the benchmark return (greater of the average return of three-month U.S. Treasury bills or the average return of Federal Funds rate) was 4.33% for the quarter. Investment returns for the State of Utah's Public Treasurer's Investment Fund (PTIF) and Zions Corporate Trust was 4.52%, which exceeded the benchmark return. Investment returns for Chandler Asset Management were 4.14% and the overnight account at Zions Bank was 3.80%: these did not exceed the benchmark return.

The blended portfolio return rate for the quarter was 4.29%, which was slightly below the benchmark rate due

to long term investment strategy and the increased interest rate environment for the short end of the yield curve.

Note, all returns are reported on an annualized basis.

All investments are in accordance with the Utah State Money Management Act, Section 51, Chapter 7, Utah Code annotated.

ALTERNATIVES:

Utah Transit Authority could increase investments in the Chandler Investment Portfolio and extend the overall duration to potentially seek higher returns. However, that strategy would forego the current advantages of the shorter duration and higher return portfolios like PTIF. Additionally, it would increase the liquidity risk by extending the portfolio duration, which is contrary to the Corporate Policy No. 3.1.4 Investments.

FISCAL IMPACT:

Investment earnings for UTA in the first quarter of 2025 were $4,243,956.

ATTACHMENTS:

Investment Report

Utah Transit Authority

Investment Portfolio

March 31, 2025

Investment	CUSIP	Amount Invested	Purchase Date	Maturity	Yield	Quarter Earnings
Public Treasurer's Investment Fund		$ 125,589,199			4.52%	$ 1,292,066
Chandler Asset Management		254,643,615			4.14%	$ 1,937,008
Zions Corporate Trust		82,544,626			4.52%	$ 889,114
Zions Bank		16,883,921			3.80%	$ 125,768
Total Investments		$ 479,661,361			4.29%	$ 4,243,956

	Monthly Rates of Returns			
	January	February	March	Average
Public Treasurer's Investment Fund	4.55%	4.53%	4.49%	4.52%
Chandler Asset Management	4.26%	4.11%	4.05%	4.14%
Zions Bank	3.82%	3.80%	3.76%	3.80%
Zions Corporate Trust	4.55%	4.53%	4.49%	4.52%
Fed Funds Rate	4.33%	4.33%	4.33%	4.33%
3 Month T-Bill	4.21%	4.22%	4.20%	4.21%

*Benchmark Return is the highest of either the 3 Month T-Bill rate or the Fed Funds rate.

Securities Purchased Outside of Investment Portfolio

1/1/2025-3/31/2025

Investment	CUSIP	Amount Invested	Purchase Date	Maturity	Yield to Maturity	Annual Earnings
No purchases this quarter						

Securities Sold Outside of Investment Portfolio

1/1/2025-3/31/2025

Investment	CUSIP	Amount Invested	Date Sold	Sale Amount	Interest Earned	Gain
No sales this quarter						
		$ -				$ -

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Nichol Bourdeaux, Chief Planning & Engagement Officer
PRESENTER(S):	Nichol Bourdeaux, Chief Planning & Engagement Officer Megan Waters, Community Engagement Director

TITLE:

R2025-05-01 - Resolution Authorizing Execution of an Interlocal Cooperation Agreement with Salt Lake County for Contributions to the UTA TRAX Ambassador Program

AGENDA ITEM TYPE:
Resolution

RECOMMENDATION:
Approve Resolution R2025-05-01 to authorize the Interlocal Agreement with Salt Lake County to support the UTA TRAX Ambassador Program.

BACKGROUND:
The Utah Interlocal Cooperation Agreement Act, Utah Code § 11-13-101, *et seq.* enables components of government to execute a Interlocal Cooperation Agreement ("ILA") so both entities may obtain mutual advantage and economies of scale, among other things. Salt Lake County has appropriated Transportation Funds to further regional transportation by financing all or a portion of the costs of transportation projects throughout the County in accordance with Utah Code § 59-12-2219 and all other applicable federal, state and local laws, rules and regulations.

Salt Lake County and UTA desire to enter into this ILA providing for the transfer of up to Fifty Thousand Dollars ($50,000) of Transportation Funds to UTA to reimburse UTA for certain costs incurred by UTA to fund the TRAX Ambassador Program (the "Project").

DISCUSSION:
Salt Lake County and UTA would like to enter into an agreement for Salt Lake County (UTA contract #25-P00455) to support operational expenses related to the UTA TRAX Ambassador Program. The TRAX Ambassador Program is an initiative designed to enhance rider experience and customer support, including

improving perceptions of safety onboard the transit system. Staff provide wayfinding information, customer information, resources, referrals, and are trained in customer service, cultural sensitivity, ADA, de-escalation, boundaries, CPR/First Aid, and Narcan. Salt Lake County funds could support up to $50,000 in program expenses. The term of this agreement begins with the execution date and expires on June 30, 2028, or when all allowable funds have been disbursed.

ALTERNATIVES:
If not approved the funding will be declined.

FISCAL IMPACT:
$50,000 in funds received to support TRAX Ambassador Program

ATTACHMENTS:

- R2025-05-01 - Resolution Authorizing Execution of an Interlocal Cooperation Agreement with Salt Lake County for Contributions to the UTA TRAX Ambassador Program, including Exhibit A - Interlocal Cooperation Agreement with Salt Lake County

RESOLUTION OF THE BOARD OF TRUSTEES OF THE UTAH TRANSIT AUTHORITY AUTHORIZING EXECUTION OF AN INTERLOCAL COOPERATION AGREEMENT WITH SALT LAKE COUNTY FOR CONTRIBUTIONS TO THE UTA TRAX AMBASSADOR PROGRAM

R2025-05-01 May 14, 2025

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 Special Government Entities - Special Districts Act and the Utah Public Transit District Act (collectively the "Act"); and

WHEREAS, the Utah Interlocal Cooperation Agreement Act, UTAH CODE § 11-13-101, *et seq.* enables components of government to execute a Interlocal Cooperation Agreement ("ILA") so both entities may obtain mutual advantage and economies of scale, among other things; and

WHEREAS, the Act empowers the Board of Trustees ("Board") of the Authority with the ability to execute ILAs on behalf of the Authority; and

WHEREAS, Salt Lake County and the Authority have reached an Interlocal Cooperative Agreement for the transfer of up to fifty thousand dollars ($50,000) to the Authority; and

WHEREAS, these funds are to be used for expenses related to the TRAX Ambassador Program operated by the Authority; and

WHEREAS, the Board of the Authority recognizes the mutual advantage of this agreement, and desires to, in accordance with the Utah Interlocal Cooperation Agreement Act, approve and authorize the execution of an ILA with Salt Lake County for the transfer of funds to the Authority to support the TRAX Ambassador Program.

NOW, THEREFORE, BE IT RESOLVED by the Board:

1. That the Board hereby approves the Interlocal Cooperation Agreement with Salt Lake County for the transfer of up to fifty thousand dollars ($50,000) toward expenses related to the TRAX Ambassador Program in substantially the same form as attached as Exhibit A.

2. That the Executive Director is authorized to execute the Interlocal Cooperation Agreement with Salt Lake County in substantially the same form as attached as Exhibit A.

3. That the Board hereby ratifies any and all actions previously taken by the Authority's management, staff, and counsel related to negotiating and implementing The Interlocal Cooperation Agreement with Salt Lake County.

4. That the corporate seal shall be affixed hereto.

APPROVED AND ADOPTED this 14th day of May 2025.

Carlton Christensen, Chair
Board of Trustees

ATTEST:

Secretary of the Authority

(Corporate Seal)

Approved as to Form:

Signed by:
David M. Wilkins
0F6F048DE4724A2...
Legal Counsel

EXHIBIT A
(Interlocal Cooperation Agreement
with Salt Lake County)

County Contract No. _____
District Attorney Log No. 25CIV000152

INTERLOCAL COOPERATION AGREEMENT

between

SALT LAKE COUNTY

and

THE UTAH TRANSIT AUTHORITY

TRAX Ambassador Program

This Interlocal Cooperation Agreement (this "Agreement") is entered into by and between **SALT LAKE COUNTY**, a body corporate and politic of the State of Utah (the "County"); and the **UTAH TRANSIT AUTHORITY**, a public transit district organized under the laws of the State of Utah ("UTA"). The County and UTA may each be referred to herein as a "Party" and collectively as the "Parties."

RECITALS:

A. The County and UTA are "public agencies" as defined by the Utah Interlocal Cooperation Act, UTAH CODE §§ 11-13-101 to -608 (the "Interlocal Act"), and, as such, are authorized by the Interlocal Act to enter into this Agreement to act jointly and cooperatively in a manner that will enable them to make the most efficient use of their resources and powers. Additionally, Section 11-13-215 of the Interlocal Act authorizes a county, city, town, or other local political subdivision to share its tax and other revenues with other counties, cities, towns, local political subdivisions, or the state.

B. During the 2018 General Session, the Utah State Legislature enacted Senate Bill 136, which allowed for a one percent local option sales and use tax, which is used by the County in its Regional Transportation Choice Fund (4th Quarter), which provides for on-going transportation funding in Salt Lake County (hereinafter "Transportation Funds").

C. The County has appropriated Transportation Funds to further regional transportation by financing all or a portion of the costs of transportation projects throughout the County in accordance with Utah Code § 59-12-2219 and all other applicable federal, state and local laws, rules and regulations.

D. The Parties now desire to enter into this Agreement providing for the transfer of up to Fifty Thousand Dollars ($50,000) of Transportation Funds to UTA to reimburse UTA for certain costs incurred by UTA to fund the TRAX Ambassador Program (the "Project").

AGREEMENT:

NOW, THEREFORE, in consideration of the mutual representations, warranties, covenants and agreements contained herein, the sufficiency of which is hereby acknowledged, the Parties represent and agree as follows:

ARTICLE 1 - INCORPORATION AND DEFINITIONS

1.1. Incorporation and Definitions. The foregoing recitals and all exhibits hereto are hereby made a part of this Agreement. Unless otherwise defined in this Agreement, terms shall have the meaning set forth in the Transportation Code. The following terms shall have the following meanings in this Agreement:

(a) Certificate of Grant Recipient: The Certificate of Grant Recipient attached hereto as **Exhibit A**.

(b) Event of Default: As defined in Section 6.1 below.

(c) Event of Force Majeure: As defined in Section 7.4 below.

(d) Maximum Reimbursable Amount: Fifty Thousand Dollars ($50,000).

(e) Project: The transportation project described in the Project Description.

(f) Project Description: Operational expenses related to the UTA TRAX Ambassador Program, which is an initiative designed to enhance rider experience and customer support, including improving perceptions of safety onboard the transit system. Staff provide wayfinding information, customer information, resources and referrals; and are trained in customer service, cultural sensitivity, ADA, de-escalation, boundaries, CPR/First Aid, and Narcan.

(g) Project Element. A discrete portion of a Project.

(h) Reimbursable Project Costs: Costs incurred by UTA during the Reimbursement Term for the Project, so long as such costs are consistent with the allowable uses for Transportation Funds described in Utah Code § 59-12-2212.2 and in accordance with the Certificate of Grant Recipient.

(i) Reimbursement Term: The period of time commencing with the effective date of this Agreement and expiring upon the earlier of (i) the date UTA has been disbursed, in aggregate, the Maximum Reimbursable Amount, (ii) the date this Agreement is terminated, or (iii) June 30, 2028, which date may be extended by the County, in its sole discretion, but only in writing, upon receipt of a written request from UTA setting forth UTA's justification for such an extension.

(j) Request for Disbursement: A statement from UTA, in the form attached hereto as **Exhibit B**, requesting an amount of Transportation Funds to be disbursed to UTA for reimbursement of Reimbursable Project Costs.

(k) Transportation Code: §§ 72-1-101 to -16-402, UTAH CODE (2024).

(l) Transportation Funds: As defined in the Recitals, above.

1.2. Interpretation of Action That May be Taken by the County. Whenever in this

Agreement an action may be taken or not taken by the County, in its sole discretion, this shall mean that the action may be taken or not taken by the Mayor of the County, or his/her official designee (or the Director of the Department of Regional Planning, Housing and Economic Development, if such duty is so delegated to him/her by the Mayor of the County), in his/her sole discretion.

ARTICLE 2 - DISBURSEMENT OF TRANSPORTATION FUNDS

2.1. Transportation Funds. During the Reimbursement Term, the County shall disburse Transportation Funds to UTA to reimburse UTA for Reimbursable Project Costs, up to the Maximum Reimbursable Amount for the Project, all on the terms and subject to the conditions of this Agreement.

2.2. Annual Status Update. Until the Project has been completed and Transportation Funds have been fully disbursed to UTA, UTA shall, on an annual basis, update the County on the status of: (a) the Project; and (b) the anticipated timing and amount of future Request for Disbursement submittals. This annual update shall be submitted to the County in writing (via letter or email) on or before June 30th each year.

2.3. Execution of Certificate of Grant Recipient. Concurrent with the execution of this Agreement, UTA shall execute the Certificate of Grant Recipient attached hereto as **Exhibit A**.

ARTICLE 3 - REPRESENTATIONS AND WARRANTIES

3.1. UTA's Representations and Warranties. UTA hereby represents, covenants, and warrants to the County as follows:

(a) Use of Transportation Funds. Any Transportation Funds disbursed to UTA by the County under this Agreement will be used by UTA: (1) solely to reimburse UTA for costs actually incurred by UTA for the Project during the Reimbursement Term and consistent with the allowable uses for Transportation Funds described in Utah Code § 59-12-2212.2; and (2) in accordance with all other applicable federal, state and local laws, rules and regulations.

(b) No Default. No default or Event of Default has occurred and is continuing, and no event has occurred and is continuing which with the lapse of time or the giving of notice, or both, would constitute a default or an Event of Default in any material respect on the part of UTA under this Agreement.

(c) Information. To the best of UTA's knowledge, any information furnished to the County by UTA under this Agreement or in connection with the matters covered in this Agreement are true and correct and do not contain any untrue statement of any material fact and do not omit any material fact.

(d) Relationship of County and UTA. The County is not acting as a lender to UTA. The County has no fiduciary or other special relationship with UTA and therefore no fiduciary obligations are created by this Agreement or are owed to UTA or any third parties.

(e) Effect of Request for Disbursement. Each Request for Disbursement shall constitute a representation and warranty that the information set forth in such Request for Disbursement is true and correct.

3.2. UTA's Additional Representations – Liability and Reliance. Notwithstanding anything to the contrary in this Agreement, UTA further represents that the County has not opined on and will not at any point be deemed to have opined on whether any particular Reimbursable Project Cost for which a disbursement of Transportation Funds is made to UTA under this Agreement is consistent with the allowable uses for Transportation Funds described in Utah Code § 59-12-2212.2 or in accordance with other applicable federal, state and local laws, rules and regulations. As such, notwithstanding anything to the contrary in this Agreement, UTA agrees to be liable for and indemnify the County from any improper use of the Transportation Funds, as indicated in Section 5.1 below. Furthermore, UTA agrees that it will independently determine whether any particular Reimbursable Project Cost for which a disbursement of Transportation Funds is sought by and made to UTA under this Agreement is consistent with the allowable uses for Transportation Funds described in Utah Code § 59-12-2212.2, and, as indicated in Section 4.2(e) below, UTA agrees that it will not rely on the County's review or acceptance of any Request for Disbursement, the Project Description, or any other information submitted to the County by UTA, in making that determination.

ARTICLE 4 - DISBURSEMENTS

4.1. Conditions for Each Disbursement of Transportation Funds. The County will not be obligated to disburse Transportation Funds to UTA to cover Reimbursable Project Costs unless and until the following conditions have been satisfied:

(a) Documents to be Furnished for Each Disbursement. UTA has furnished to the County, for each and every disbursement:

(1) a Request for Disbursement; and

(2) invoices and proof of payment for any Reimbursable Project Cost incurred by UTA for which UTA is seeking reimbursement from the County pursuant to the Request for Disbursement.

(b) Completion of Project Element. UTA has completed or caused to be completed the Project Element or Elements to which the Request for Disbursement relates and for which Reimbursable Project Costs were incurred by UTA.

(c) Reimbursable Project Costs Paid by UTA. The Reimbursable Project Costs included in the Request for Disbursement have actually been paid by UTA.

(d) No Event of Default. No Event of Default has occurred and is continuing beyond any applicable cure period.

(e) Warranties and Representations True. All warranties and representations made by UTA in this Agreement have remained true and correct and all warranties and

representations made by UTA in the Request for Disbursement are true and correct.

4.2. Disbursements.

(a) In General. For any and all desired disbursements of Transportation Funds, UTA shall submit a Request for Disbursement directly to the County. UTA agrees to respond in a timely manner to any reasonable requests made by the County for additional information relating to any Request for Disbursement. In the event that the County declines to make the full disbursement requested in any Request for Disbursement for failure to comply with the terms of this Agreement, the County shall notify UTA promptly and shall provide a written explanation of the specific reasons for such decision. UTA shall submit a Request for Disbursement to the County no more frequently than once every thirty (30) days.

(b) Amount of Disbursement. Subject to compliance with the terms and conditions of this Agreement, the County shall disburse to UTA the amount of Transportation Funds requested by UTA in a Request for Disbursement for Reimbursable Project Costs, but in no event shall the County be required to disburse more than the Maximum Reimbursable Amount, in aggregate, over the Reimbursement Term. However, if the County determines that UTA has not complied with all terms and conditions set forth in this Agreement or determines that UTA's Request for Disbursement is deficient in any respect, the County may, in its sole discretion, decline to make a disbursement, or may make a partial disbursement based on the extent to which UTA has complied with the terms and conditions set forth in this Agreement. Notwithstanding the foregoing, the County will not reimburse UTA for Reimbursable Project Costs to the extent such costs have been funded with non-UTA funds (e.g., other federal, state, or local grant funds).

(c) Payment of Disbursements. The County shall, within ninety (90) days after receiving a Request for Disbursement from UTA, either disburse to UTA the amount requested by UTA or provide a written notice to UTA setting forth the reasons for non-disbursement or partial-disbursement. The County shall have no obligation to accept a Request for Disbursement or to make a disbursement of Transportation Funds to UTA after expiration of the Reimbursement Term. Additionally, following expiration of the Reimbursement Term, the County may, in its sole discretion, reallocate any remaining and undisbursed Transportation Funds (for which a Request for Disbursement has not been submitted and is not pending) toward other projects within Salt Lake County.

(d) Acquiescence Not a Waiver. To the extent that the County may have acquiesced in noncompliance with any conditions precedent to the disbursement of Transportation Funds, such acquiescence shall not constitute a waiver by the County and the County at any time after such acquiescence may require UTA, as to future requests for disbursements, to comply with all such applicable conditions and requirements under this Agreement.

(e) Disclaimer of Liability.

(1) The County will not be responsible in any manner to UTA or any third-party for the quality, design, construction, structural integrity, or health or safety features of any Project for which Transportation Funds are disbursed to UTA to reimburse Reimbursable Project Costs, notwithstanding the County's review and/or approval of UTA's Requests for Disbursement, the Project Description, or any other information submitted to the County under this Agreement.

(2) Furthermore, UTA acknowledges and agrees that the County's review and/or approval of UTA's Request for Disbursement, the Project Description, or any other information submitted to the County under this Agreement will not be deemed to be a review by the County as to whether any particular Reimbursable Project Cost for which a disbursement of Transportation Funds is sought by and made to UTA under this Agreement is consistent with the allowable uses for Transportation Funds described in Utah Code § 59-12-2212.2 or in accordance with other applicable federal, state and local laws, rules and regulations. As such, UTA agrees to be liable for and to indemnify the County from any improper use of the Transportation Funds, as indicated in Section 5.1 below.

ARTICLE 5 - COVENANTS AND AGREEMENTS

5.1. Indemnification and Liability.

(a) Liability. Both Parties are governmental entities under the Governmental Immunity Act of Utah, UTAH CODE §§ 63G-7-101 to -904 (the "Immunity Act"). Neither Party waives any defenses or limits of liability available under the Immunity Act and other applicable law. Both Parties maintain all privileges, immunities, and other rights granted by the Immunity Act and all other applicable law.

(b) Indemnification. Both UTA and County are governmental entities protected under the Utah Governmental Immunity Act and neither Party waives its rights and defenses under the Act. Therefore, UTA's indemnity obligation under this agreement is subject to its immunity protections under the Act. Therefore in light of the foregoing and without waiving its rights and defenses under the Utah Governmental Immunity Act, UTA agrees to indemnify, hold harmless, and defend the County, its officers, agents, and employees from and against any and all actual or threatened claims, losses, damages, injuries, debts, and liabilities of, to, or by third Parties, including demands for repayment or penalties, however allegedly caused, resulting directly or indirectly from, or arising out of (i) UTA's breach of this Agreement; (ii) any acts or omissions of or by UTA, its agents, representatives, officers, employees, or subcontractors in connection with the performance of this Agreement; (iii) any improper use of the Transportation Funds; or (iv) UTA's breach of the Certificate of Grant Recipient attached hereto as **Exhibit A**. UTA agrees that its duty to defend and indemnify the County under this Agreement includes all attorney's fees, litigation and

court costs, expert witness fees, and any sums expended by or assessed against the County for the defense of any claim or to satisfy any settlement, arbitration award, debt, penalty, or verdict paid or incurred on behalf of the County. UTA further agrees that UTA's indemnification obligations in this Section 5.1 will survive the expiration or termination of this Agreement.

5.2. Recordkeeping. UTA agrees to maintain its books and records in such a way that any Transportation Funds received from the County will be shown separately on UTA's books. UTA shall maintain records adequate to identify the use of the Transportation Funds for the purposes specified in this Agreement. Upon request of the County, UTA shall make its books and records related to the Transportation Funds available to the County at reasonable times.

5.3. Assignment and Transfer of Transportation Funds. UTA shall not assign or transfer its obligations under this Agreement nor its rights to the Transportation Funds under this Agreement without prior written consent from the County. UTA shall use the Transportation Funds provided pursuant to this Agreement exclusively and solely for the purposes set forth in the Agreement.

ARTICLE 6 - DEFAULTS AND REMEDIES

6.1. UTA Event of Default. The occurrence of any one or more of the following shall constitute an "Event of Default" as such term is used herein:

(a) Failure of UTA to comply with any of the material terms, conditions, covenants, or provisions of this Agreement that is not fully cured by UTA on or before the expiration of a sixty (60) day period (or, if the County approves in writing, which approval shall not be unreasonably withheld, conditioned or delayed, such longer period as may be reasonably required to cure a matter which, due to its nature, cannot reasonably be cured within 60 days) commencing upon the County's written notice to UTA of the occurrence thereof.

6.2. County's Remedies in the Event of Default. Upon the occurrence of any Event of Default, the County may, in its sole discretion, and in addition to all other remedies conferred upon the County by law or equity or other provisions of this Agreement, pursue any one or more of the following remedies concurrently or successively, it being the intent hereof that none of such remedies shall be to the exclusion of any other:

(a) Withhold further disbursement of Transportation Funds to UTA; and/or

(b) Reduce the amount of any future disbursement of Transportation Funds to UTA by the amount incurred by the County to cure such default; and/or

(c) Terminate this Agreement.

ARTICLE 7 - MISCELLANEOUS

7.1. Interlocal Cooperation Act. In satisfaction of the requirements of the Interlocal Act in connection with this Agreement, the Parties agree as follows:

(a) This Agreement shall be approved by each Party pursuant to Section 11-13-202.5 of the Interlocal Act.

(b) This Agreement shall be reviewed as to proper form and compliance with applicable law by a duly authorized attorney in behalf of each Party pursuant to and in accordance with Section 11-13-202.5 of the Interlocal Act.

(c) A duly executed original counterpart of this Agreement shall be filed immediately with the keeper of records of each Party pursuant to Section 11-13-209 of the Interlocal Act.

(d) Except as otherwise specifically provided herein, each Party shall be responsible for its own costs of any action done pursuant to this Agreement, and for any financing of such costs.

(e) No separate legal entity is created by the terms of this Agreement. Pursuant to Section 11-13-207 of the Interlocal Act, to the extent this Agreement requires administration other than as set forth herein, the County Mayor and UTA's Executive Director are hereby designated as the joint administrative board for all purposes of the Interlocal Act.

7.2. Term of Agreement. This Agreement shall take effect immediately upon the completion of the following: (a) the approval of the Agreement by the governing bodies of the County and UTA, including the adoption of any necessary resolutions or ordinances by the County and UTA authorizing the execution of this Agreement by the appropriate person or persons for the County and UTA, respectively, (b) the execution of this Agreement by a duly authorized official of each of the Parties, (c) the submission of this Agreement to an attorney for each Party that is authorized to represent said Party for review as to proper form and compliance with applicable law, pursuant to Section 11-13-202.5 of the Interlocal Act, and the approval of each respective attorney, and (d) the filing of a copy of this Agreement with the keeper of records of each Party. This Agreement shall terminate upon expiration of the Reimbursement Term. If upon expiration of the Reimbursement Term, the County has not disbursed to UTA the Maximum Reimbursable Amount, then all such undisbursed Transportation Funds may be used by the County as the County deems appropriate.

7.3. Non-Funding Clause.

(a) The County has requested or intends to request an appropriation of Transportation Funds to be paid to UTA for the purposes set forth in this Agreement. If Transportation Funds are not appropriated and made available beyond December 31 of the county fiscal year in which this Agreement becomes effective, the County's obligation to contribute Transportation Funds to UTA under this Agreement beyond that

date will be null and void. This Agreement places no obligation on the County to Contribute Transportation Funds to UTA in succeeding fiscal years. The County's obligation to contribute Transportation Funds to UTA under this Agreement will terminate and become null and void on the last day of the county fiscal year for which funds were budgeted and appropriated, except as to those portions of payments agreed upon for which funds are budgeted and appropriated. The Parties agree that such termination of the County's obligation under this Paragraph will not be construed as a breach of this Agreement or as an event of default under this Agreement, and that such termination of the County's obligation under this Paragraph will be without penalty and that no right of action for damages or other relief will accrue to the benefit of UTA, its successors, or its assigns as to this Agreement, or any portion thereof, which may terminate and become null and void.

(b) If Transportation Funds are not appropriated and made available to fund performance by the County under this Agreement, the County shall promptly notify UTA of such non-funding and the termination of this Agreement. However, in no event, shall the County notify UTA of such non-funding later than thirty (30) days following the expiration of the county fiscal year for which Transportation Funds were last appropriated for contribution to UTA under this Agreement.

7.4. Force Majeure. Neither Party will be considered in breach of this Agreement to the extent that performance of their respective obligations is prevented by an Event of Force Majeure that arises after this Agreement becomes effective. "Event of Force Majeure" means an event beyond the control of the County or UTA that prevents a Party from complying with any of its obligations under this Agreement, including but not limited to: (i) an act of God (such as, but not limited to, fires, explosions, earthquakes, drought, tidal waves and floods); (ii) war, acts or threats of terrorism, invasion, or embargo; or (iii) riots or strikes. If an Event of Force Majeure persists for a period in excess of sixty (60) days, the County may terminate this Agreement without liability or penalty, effective upon written notice to UTA.

7.5. Notices. Any notice required or permitted to be given hereunder shall be deemed sufficient if given by a communication in writing and shall be deemed to have been received (a) upon personal delivery or actual receipt thereof, or (b) within three days after such notice is deposited in the United States mail, postage pre-paid, and certified and addressed to the Parties at their respective addresses.

7.6. Ethical Standards. UTA represents that it has not: (a) provided an illegal gift in connection with this Agreement to any County officer or employee, or former County officer or employee, or to any relative or business entity of a County officer or employee, or relative or business entity of a former County officer or employee; (b) retained any person to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, other than bona fide employees of bona fide commercial agencies established for the purpose of securing business; (c) breached any of the ethical standards in connection with this Agreement set forth in State statute or Salt Lake County Code of Ordinances § 2.07; or (d) knowingly influenced, and hereby promises that it will not knowingly influence, in connection with this Agreement, any County officer or employee or former County

officer or employee to breach any of the ethical standards set forth in State statute or Salt Lake County Ordinances.

7.7. Entire Agreement. This Agreement and the documents referenced herein, if any, constitute the entire Agreement between the Parties with respect to the subject matter hereof, and no statements, promises, or inducements made by either Party, or agents for either Party, that are not contained in this written Agreement shall be binding or valid; and this Agreement may not be enlarged, modified or altered, except in writing, signed by the Parties.

7.8. Amendment. This Agreement may be amended, changed, modified or altered only by an instrument in writing signed by both Parties.

7.9. Governing Law and Venue. The laws of the State of Utah govern all matters arising out of this Agreement. Venue for any and all legal actions arising hereunder will lie in the District Court in and for the County of Salt Lake, State of Utah.

7.10. No Obligations to Third Parties. The Parties agree that UTA's obligations under this Agreement are solely to the County and that the County's obligations under this Agreement are solely to UTA. The Parties do not intend to confer any rights to third parties unless otherwise expressly provided for under this Agreement.

7.11. Agency. No officer, employee, or agent of UTA or the County is intended to be an officer, employee, or agent of the other Party. None of the benefits provided by each Party to its employees including, but not limited to, workers' compensation insurance, health insurance and unemployment insurance, are available to the officers, employees, or agents of the other Party. UTA and the County will each be solely and entirely responsible for its acts and for the acts of its officers, employees, or agents during the performance of this Agreement.

7.12. No Waiver. The failure of either Party at any time to require performance of any provision or to resort to any remedy provided under this Agreement will in no way affect the right of that Party to require performance or to resort to a remedy at any time thereafter. Additionally, the waiver of any breach of this Agreement by either Party will not constitute a waiver as to any future breach.

7.13. Severability. If any provision of this Agreement is found to be illegal or unenforceable in a judicial proceeding, such provision will be deemed inoperative and severable, and, provided that the fundamental terms and conditions of this Agreement remain legal and enforceable, the remainder of this Agreement shall remain operative and binding on the Parties.

7.1. Counterparts. This Agreement may be executed in counterparts and all so executed will constitute one agreement binding on all the Parties, it being understood that all Parties need not sign the same counterpart. Further, executed copies of this Agreement delivered by facsimile or email will be deemed an original signed copy of this Agreement.

IN WITNESS WHEREOF, the Parties execute this Agreement as of the latest date indicated below.

SALT LAKE COUNTY:

_____
Mayor or Designee

Date:_____

Recommended for Approval:

By:_____
Department Director

Date: _____

Reviewed as to Form:

By: Adam Miller 2025.03.12 10:43:39 -06'00'
Deputy District Attorney

UTAH TRANSIT AUTHORITY:

By: _____

Name:_____

Title:_____

Date:_____

Approved as to Form:

By: DocuSigned by: Mike Bell 70E33A415BA44F6...
UTA Attorney
Date: 4/2/2025

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT A

Certificate of Grant Recipient

CERTIFICATE OF RECIPIENT

Under the terms of Utah Code § 59-12-2219 and the Interlocal Cooperation Agreement (the "*Agreement*") between Salt Lake County and the Utah Transit Authority (the "*Recipient*"), the County has committed to provide up to Fifty Thousand Dollars ($50,000) of the Transportation Funds to the Recipient to reimburse the Recipient for certain costs incurred by the Recipient to complete the transportation project described in the Agreement (the "*Project*" or "*Projects*"). The undersigned officer or agent of the Recipient hereby certifies that all applicable requirements have been met for distribution of the Transportation Funds and that the Transportation Funds will be used solely for the Project or Projects.

IN WITNESS WHEREOF, the Utah Transit Authority has caused this certificate to be executed as of the day and year first above written.

UTAH TRANSIT AUTHORITY

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT B

Request for Disbursement Form

REQUEST FOR DISBURSEMENT

To: Salt Lake County

Re: TRAX Ambassador Program – Interlocal Agreement for Transportation Funds (DA Log No. 25CIV000152)

Terms not otherwise defined herein shall have the meaning ascribed to such terms in the Interlocal Cooperation Agreement (the "Agreement") between the Salt Lake County (the "County") and the Utah Transit Authority ("UTA") (DA Log No. 25CIV000152). In connection with said Agreement, the undersigned hereby states and certifies that:

1. Each item listed on **Schedule 1** attached hereto is a Reimbursable Project Cost and was incurred in connection with the Project.

2. These Reimbursable Project Costs have been paid by UTA and are reimbursable under the Agreement.

3. Each item listed on **Schedule 1** has not previously been paid or reimbursed from money obtained from the County.

4. Invoices and proof of payment for each item listed on **Schedule 1** is attached hereto.

5. There has not been filed with or served upon UTA any notice of any lien, right of lien or attachment upon or claim affecting the right of any person, firm, or corporation to receive payment of the amounts stated in this request, except to the extent any such lien is being contested in good faith.

6. All work for which reimbursement is requested has been performed in a good and workmanlike manner and in accordance with the Agreement.

7. UTA is not in default or breach of any term or condition of the Agreement, and no event has occurred and no condition exists which constitutes an Event of Default under the Agreement.

8. All of UTA's representations set forth in the Agreement remain true and correct as of the date hereof.

9. UTA acknowledges and agrees that the County's review and/or approval of this Request for Disbursement will not be deemed to be a review by the County as to whether any particular Reimbursable Project Cost for which a disbursement of Transportation Funds is sought hereunder is consistent with the allowable uses for Transportation Funds described in the Utah

Code or in accordance with other applicable federal, state and local laws, rules and regulations. As such, UTA agrees to be liable for and to indemnify the County from any improper use of the Transportation Funds, as indicated in Section 5.1 of the Agreement.

Dated this ____ day of _____, 20___.

UTAH TRANSIT AUTHORITY

By: _____

Name: _____

Title: _____

Approved for Payment this ____ day of _____, 20 ___.

SALT LAKE COUNTY

By: _____

Name: _____

Title: _____

SCHEDULE 1
Reimbursable Project Costs (RPC) Request for Disbursement

Project Title: TRAX Ambassador Program

Reimbursable Project Costs Request Detail:

Vendor Name	Date of Service	Date Paid by UTA	Reimbursable Project Cost Description	Requested Amount

Total RPC Request $_____

This portion above is to be filled out by UTA.
This portion below is to be filled out by the County.

RPC Approved – This Request _____

(plus) RPC Approved/Paid to Date _____

Total Approved/Paid to Date _____

Maximum Reimbursable Amount _____

(less) Total Approved/Paid to Date _____

Remaining Transportation Funds _____

_____ _____

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Contract: Vendor Managed Inventory Supply Services (The Aftermarket Parts Company, LLC)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute contract 25-03927 with The Aftermarket Parts Company, LLC (New Flyer) with a Not-To-Exceed amount of $5,300,000 over a period of up to five (5) years, which consists of a three (3) year base agreement and two (2) one-year options.

BACKGROUND:
In 2019 UTA, San Diego MTS, and Portland TriMet partnered together to combine buying power and leverage better pricing with suppliers for a Vendor Managed Inventory (VMI) supply contract. Two procurements were conducted: one for bus parts, and one for light rail parts. The current contract for bus parts has expired and this contract is to establish a new VMI contract. The same partnership process conducted in 2019 was conducted in 2024 and UTA partnered with San Diego MTS for this procurement.

DISCUSSION:
Supply Chain staff evaluated parts usage over the past 2 years and solicited bids for over 200 high usage parts. Bids were evaluated based on a per-part evaluation of price and lead-time. Of these parts, 144 are being awarded to The Aftermarket Parts Company, LLC in this VMI contract.

Having this part's contract allows UTA to set up the inventory system to automatically send an order to the supplier when a requisition is generated. Parts are stocked by New Flyer and are shipped within 24 hours of receiving an order. This reduces UTA's inventory, buyer workload, invoice processing, eliminates order creation

errors, and increases parts availability in maintenance shops.

Staff will continue to conduct quarterly business reviews with New Flyer to ensure they are meeting on-time delivery performance and order fulfillment rates.

CONTRACT SUMMARY:

Contractor Name:	The Aftermarket Parts Company, LLC (New Flyer)
Contract Number:	25-03927
Base Contract Effective Dates:	Effective after last signature - May 14, 2030
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$5,300,000
Procurement Method:	RFP
Budget Authority:	Approved 2025 Operating Budget

ALTERNATIVES:

Bid parts individually and place orders as needed. Orders are shipped when they become available based on on-hand stock and lead-times from the manufacturer.

FISCAL IMPACT:

Parts are purchased and added to UTA inventory; they are then expensed to the maintenance division's "Parts Expense" budget when they are issued to a Work Order.

- 2025 Contract Not-To-Exceed Total: $618,333 (8 months)
- 2026 Contract Not-To-Exceed Total: $1,060,000
- 2027 Contract Not-To-Exceed Total: $1,060,000
- 2028 Contract Not-To-Exceed Total: $1,060,000
- 2029 Contract Not-To-Exceed Total: $1,060,000
- 2030 Contract Not-To-Exceed Total: $441,667 (4 months)

Total Contract Not-To-Exceed Amount: $5,300,000

ATTACHMENTS:

- Contract: Vendor Managed Inventory Supply Services (The Aftermarket Parts Company, LLC)

UTA GOODS AND SERVICES SUPPLY AGREEMENT

UTA CONTRACT #25-03927

VENDOR MANAGED INVENTORY SUPPLY CONTRACT

THIS VENDOR MANAGED INVENTORY SUPPLY CONTRACT ("Contract") is entered into and made effective as of the date of last signature below. ("Effective Date") by and between UTAH TRANSIT AUTHORITY, a public transit district organized under the laws of the State of Utah ("UTA"), and THE AFTERMARKET PARTS COMPANY, LLC, (the "Contractor").

RECITALS

WHEREAS, on April 15, 2024, UTA received competitive proposals to provide vendor managed inventory services including, without limitation, providing inventory management, procurement, warehousing, receiving, stocking, order processing, supply, delivery, and warranty processing, and (as applicable) all associated hardware, software, tools, installation services, commissioning and testing services, training and documentation (the "Goods and Services") according to the terms, conditions and specifications prepared by UTA in a Joint Procurement with San Diego Transit B0762.0-24 (the "RFP"); and

WHEREAS, UTA wishes to procure the Goods and Services according to the terms, conditions and specifications listed in the RFP (as subsequently amended through negotiation by the parties); and

WHEREAS, the Aftermarket parts Company Proposal dated April 15, 2024, proposal submitted by the Contractor in response to the RFP ("Contractor's Proposal) was deemed to be the most advantageous to UTA; and

WHEREAS, Contractor is willing to furnish the Goods and Services according to the terms, conditions and specifications of the Contract.

AGREEMENT

NOW, THEREFORE, in accordance with the foregoing Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants and agreements hereafter set forth, the mutual benefits to the parties to be derived here from, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. **GOOD AND SERVICES TO BE PROVIDED BY CONTRACTOR**

   Contractor hereby agrees to furnish and deliver the Goods and/or Services in accordance with the Contract as described in Exhibit A (Scope of Work.

2. **TERM**

This Contract shall commence as of the Effective Date. The Contract shall remain in full force and effect for purchases of Goods and Services (made via purchase order or other agreed order method) during a 3 year period expiring 3 years from the effective date. UTA may, at its sole election and in its sole discretion, extend the initial term for up to 2 additional one-year option periods, for a total Contract period not to exceed FIVE (5) years. Extension options may be exercised by UTA upon providing Contractor with notice of such election at least thirty (30) days prior to the expiration of the initial term or then-expiring option period (as applicable). The Contract may be further extended if the Contractor and UTA mutually agree to an extension evidenced in writing. The rights and obligations of UTA and Contractor under the Contract shall at all times be subject to and conditioned upon the provisions of the Contract.

3. **COMPENSATION AND FEES**

a. UTA shall pay Contractor for Goods shipped to UTA in accordance with the unit prices identified in Exhibit "B". No price increases shall occur during the first year following the Effective Date. Thereafter, price increases shall be limited to one-year intervals With the first allowable price increase to occur no earlier than the one year anniversary of the effective date of the contract. Should UTA elect to accept a price increase, Contractor may increase unit price to UTA by an amount not to exceed the changes in Contractor's actual costs. Sixty (60) days prior to the effective date of price increase, Contractor shall submit all data necessary to demonstrate to UTA's satisfaction the actual changes in Contractor's cost of obligating or manufacturing each item since the date of Contractor's Proposal. UTA reserves the right to remove any part(s) from the contract if it is found to not be in the best interest of UTA.

4. **INCORPORATED DOCUMENTS**

a. The following documents hereinafter listed in chronological order, with most recent document taking precedence over any conflicting provisions contained in prior documents (where applicable), are hereby incorporated into the Contract by reference and made a part hereof:

    1. The terms and conditions of this Goods and Services Supply Agreement (including any exhibits and attachments hereto).
    2. Contractor's Proposal including, without limitation, all federal certifications (as applicable);
    3. UTA's RFP including, without limitation, all attached or incorporated terms, conditions, federal clauses (as applicable), drawings, plans, specifications and standards and other descriptions of the Goods and Services;

b. The above-referenced documents are made as fully a part of the Contract as if hereto attached or herein repeated. The Contract (including the documents listed above) constitute the complete contract between the parties.

5. **ORDER OF PRECEDENCE**

The Order of Precedence for this contract is as follows:

1. UTA Contract including all attachments
2. UTA Terms and Conditions
3. UTA Solicitation Terms

4. Contractor's Bid or Proposal including proposed terms or conditions

Any contractor proposed term or condition which is in conflict with a UTA contract or solicitation term or condition will be deemed null and void.

6. **LAWS AND REGULATIONS**

Contractor and any and all Goods and/or Services furnished under the Contract will comply fully with all applicable Federal and State laws and regulations, including those related to safety and environmental protection. Contractor shall also comply with all applicable licensure and certification requirements.

7. **INSPECTION, DELIVERY AND TRANSFER OF TITLE**

a. Contractor shall ship Goods to UTA within the later of the following: (i) twenty four (24) hours of receipt of a purchase order from UTA; (ii) the end of the succeeding business day.]

b. Delivery of the Goods is a substantial and material consideration under the Contract. Unless otherwise specifically set forth in the pricing schedule: (i) Contractor shall be solely responsible for the delivery of the Goods FOB to the delivery point specified in the Contract (or otherwise designated by UTA) and all costs related thereto are included in the pricing; and (ii) Contractor shall retain all liabilities and risk of loss with respect to the Goods until the Goods are delivered to, and accepted by, UTA.

c. After delivery, the Goods shall be subject to inspection, testing and acceptance by UTA, including any testing or commissioning process described in the specifications. UTA shall have the right to reject any Goods or Services that are defective or do not conform to the specifications or other Contract requirements. Goods or Services rejected shall be replaced, repaired or re-performed so as to conform to the Contract (and to UTA's reasonable satisfaction). If Contractor is unable or refuses to correct such Goods within a time deemed reasonable by UTA, then UTA may cancel the order in whole or in part. Any inspection and testing performed by UTA shall be solely for the benefit of UTA. Neither UTA's inspection of the production processes, production progress and/or Goods or Services (nor its failure to inspect) shall relieve Contractor of its obligations to fulfill the requirements of the Contract, or be construed as acceptance by UTA.

Contractor warrants that title to all Goods covered by an invoice for payment will pass to UTA no later than the time of payment. Contractor further warrants that upon submittal of an invoice for payment, all Goods and/or Services for which invoices for payment have been previously issued and payments received from UTA shall be free and clear of liens, claims, security interests or encumbrances in favor of Contractor or any subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided equipment, materials, and labor related to the equipment and/or work for which payment is being requested.

8. **INVOICING PROCEDURES**

a. Contractor shall invoice UTA after achievement of contractual milestones or delivery of all Goods and satisfactory performance of all Services or in accordance with an approved progress or periodic billing schedule. Contractor shall submit invoices to

ap@rideuta.com for processing and payment. In order to timely process invoices, Contractor shall include the following information on each invoice:

i. Contractor Name
ii. Unique Invoice Number
iii. PO Number
iv. Invoice Date
v. Detailed Description of Charges
vi. Total Dollar Amount Due

b. UTA shall have the right to disapprove (and withhold from payment) specific line items of each invoice to address non-conforming Software or Services. Approval by UTA shall not be unreasonably withheld. UTA shall also have the right to offset (against payments) amounts reasonably reflecting the value of any claim which UTA has against Contractor under the Contract. Payment for all invoice amounts not specifically disapproved or offset by UTA shall be provided to Contractor within thirty (30) calendar days of invoice submittal to ap@rideuta.com . Invoices not submitted electronically will shall be paid thirty (30) calendar days from date of receipt by UTA's accounting department.

c. Invoices must include a unique invoice number, UTA's Purchase Order number, a description of the Good or Service provided, line-item pricing, total amount due, and must be submitted electronically to ap@rideuta.com.

9. **WARRANTY OF GOODS AND SERVICES**

a. Contractor warrants that all Goods (including hardware, firmware, and/or software products that it licenses) and Services shall conform to the specifications, drawings, standards, samples, and other descriptions made a part of (or incorporated by reference into) the Contract. Contractor further warrants that all Goods and Services shall be of the quality specified, or of the best grade if no quality is specified, and, unless otherwise provided in the Contract, will be new, and free from defects in design, materials and workmanship.

b. Contractor warrants that all Goods and Services shall be in compliance with applicable federal, state, and local laws and regulations including, without limitation, those related to safety and environmental protection.

c. At any time for a period of two (2) years from the date that all Goods have been delivered and all Services have been performed in accordance with the Contract, Contractor shall at its own expense promptly repair, replace and/or re-perform any Goods or Services that are defective or in any way fail to conform to the Contract requirements.

d. If Contractor fails to promptly make any repair, replacement or re-performance as required herein, UTA may conduct the necessary remedial work at Contractor's expense. Contractor cannot void the warranty for repair, replacement or re-performance performed under these circumstances. Provided that such repair, replacement or re-performance is conducted in a reasonable manner and with workmanship and care consistent with industry standards, Contractor shall reimburse UTA for the cost of any warranty repair, replacement or re-performance self-performed by UTA.

e. The foregoing warranties are not intended as a limitation but are in addition to all other express warranties set forth in the Contract and such other warranties as are implied

by law, custom, and usage of trade. Contractor (seller) acknowledges that all warranties granted to the buyer by the Uniform Commercial Code of the State of Utah apply to the Contract. Product liability disclaimers and/or warranty disclaimers from the seller are not applicable to the Contract unless otherwise specified and mutually agreed upon elsewhere in the Contract. In general, Contractor warrants that: (1) the Good will do what the salesperson said it would do, (2) the Good will live up to all specific claims that the manufacturer makes in their advertisements, (3) the Goods will be suitable for the ordinary purposes for which such items are used, (4) the Goods will be suitable for any special purposes that UTA has relied on Contractor's skill or judgment to consider when it advised UTA about the Good, (5) the Goods have been properly designed and manufactured, and (6) the Goods are free of significant defects or unusual problems about which UTA has not been warned. Nothing in this warranty will be construed to limit any rights or remedies UTA may otherwise have under the Contract.

10. **ENGINEERING AND SOURCING SUPPORT**

Contractor(s) must provide maintenance engineering services to help achieve UTA' s long term objectives regarding cost-effectiveness and reliability. Contractor shall review parts usage and provide technical recommendations and solutions to help reduce long-term costs, and/or improve the operational capability of the rolling stock and infrastructure.

Contractor must assist in analyzing repetitive part/equipment failures, providing alternatives for review to allow for streamlining of maintenance costs, assist in assessing the needs for parts and equipment replacement, establishing replacement programs and assist in the assessing and reporting of safety hazards associated with rolling stock and infrastructure material. Contractor must have the resources to assist the UTA maintenance and technical services team in sourcing alternatives to parts that are either difficult to obtain, no longer available or excessively priced. Any alternative part must be inspected and approved by UTA Technical Services/Engineering team prior to implementing any part substitution. Contractor(s) shall negotiate a process for the approval/disapproval of alternatives including the anticipated time period for such review and appropriate forms. UTA reserves the right to verify specifications and test results prior to approval of the specific alternate. UTA reserves the right to approve/disapprove based on the risk to UTA for using an alternate. The Contractor(s) will provide, on a quarterly basis, or approved time period, the specific items that are being considered for the approval/disapproval process.

11. **UNIQUE PARTS RAMP DOWN**

At the end of the contract term, UTA agrees to purchase inventory quantities either not to exceed 3 months of the average consumption volumes calculated from the past rolling 12 months average of monthly consumption or where UTA has formally instructed the Contractor in writing to increase stock levels of any unique items to the quantity requested.

The Contractor will carry out the responsibility to provide UTA with quarterly data detailing the usage of unique parts within the program. UTA shall review and where necessary, formally alert the Contractor to make any adjustments to the stocking requirements

12. **LABELING AND SHIPPING**

a. Minimum part label and barcode requirements for all products
b. Manufacturer product number

c. UTA product number
d. Product description
e. Serial number (where applicable)
f. PO number
g. Date shipped
h. Shelf-Life expiry date (where applicable)
i. Contractor may not substitute products that have not been tested and approved by UTA Engineering Team.
j. UTA may, at its option, require weather resistant labeling and packaging across certain products as agreed.

13. **SHIPPING REQUIREMENTS**

All shipments shall be FOB destination. All materials shall be packaged sufficiently to arrive undamaged at its destination. Material received in damaged condition will be rejected and returned to the Contractor at Contractor's cost. Materials packaged in crates, palletized material or heavy-duty boxes shall be indelibly labeled as directed by UTA. All shipments of products shall contain a packing list that will minimally state UTA specific purchase order and release number, supplier product number, UTA product identification number, quantity ordered, shipped, and backordered, as well as bar codes that express the same information. UTA will provide the specific bar code format required

.

14. **PRICE ADJUSTMENTS**

Unit price adjustments may be made annually from the start of each contract year and not again for 365 days. Price is subject to annual escalation based on the "LOWER" of Producer Price Index (PPI) for the preceding 12-months, up to a 3% cap. Contractor is responsible for notifying UTA each year of the PPI percentage change that will be applicable each contract year. Failure to do so may result in a forfeiture or shortening of annual PPI escalation.

The applicable Index shall be Producer Price Index for Transportation Equipment: Motor Vehicles Parts, Series No. WPU1412, published by the United States Department of Labor, Bureau of Labor Statistics, or if such Index is no longer in use, then such replacement that is most comparable to the Index as may be designated by the Bureau of Labor Statistics, or as agreed by the parties.

In the event there are any extra-ordinary price increases or decreases of the Contractor "base rate" over and above 8% for parts under contract with a third party or 12% for uncontracted parts, the Contractor may submit these changes along with all supporting documentation to UTA for review and acceptance.

Acceptable documentation may include but not limited to excerpts of contract with parts list and cost and/or quotes from third party suppliers.

Upon receipt of each request with acceptable supporting documentation, UTA will commit to the Contractor a maximum period of 30 days in responding to the proposed price change in which time it may accept, negotiate or remove the part/s from the contract. In the event UTA does not respond within the timeframe, the Contractor may at its discretion apply the proposed price.

Such requests that are outside the annual price escalation are limited to three requests throughout each contract year.

15. **MOST FAVORED CUSTOMER PRICING**

During the term of this agreement, Contractor shall at all times make sure that all prices charged to UTA for each part are the lowest offered by Contractor to UTA based on same parts and quantities.

16. **CUSTOMER SERVICE**

Contractor shall identify a point of contact for all customer service needs, including but not limited to; providing quotations, simple contracts, product returns and technical requests for customers; implementing/supporting customer-strategy within the customer team; and traveling/meeting with customers to execute tasks and gather information.

17. **KEY PERFORMANCE INDICATOR (KPI)**

Contractor shall be graded using various Key Performance Indicator (KPI) reports. UTA will analyze and run periodic reports of the Contractor's performance against the KPIs identified below:

a) MONTHLY REVIEW

1) Purchase Order On-Time Delivery:

(a) Purchase Order (PO) On-Time Delivery performance measures the actual delivery time for all POs against the delivery due date, which is seven (7) days from the order date. This allows twenty-four (24) hours to ship part(s) and five (5) days shipping. This report is designed to demonstrate the Contractor's planning preparedness as reflected in the delivery successful percentage across each contracted part. This will apply to orders that are equal to or less than 125% of a rolling 12-month average monthly consumption for any given month. The Contractor's performance will not be measured against orders that exceed 125% of the average monthly consumption. In the event that the calculated number is not a whole number, then the calculation should always round the number up to the next whole number.

Montor:	• Rolling 12-month Consumption/12-month • Vendor should support 125% of above QTY within 5 business days from PO issued date

2) Recovery Purchase Order on Time Delivery: (b) Recovery Purchase Order On-Time Delivery measures the actual delivery time for all Pos that failed the Purchase Order On-Time Delivery against a five (5) business day recovery period. This report is designed to demonstrate the Contractor's planning and recovery preparedness as reflected in the successful recovery delivery percentage across each contracted part.

	If Vendor fails "On-Time Delivery "

Montor:	• Rolling 12-month Consumption/12-month • Vendor should support 125% of above QTY within 10 business days from PO issued date

3) Total items transacted

Montor:	• Total # of materials that POs were issued in previous Month

4) Top ten items transacted

Montor:	• Previous Month's issued PO Extended Value, top 10 material

5) Products Spend

Montor:	• Previous Month's issued PO Extended Value

6) Average days to ship

Montor:	• GR date - PO issued date

7) RMA's

Montor:	• When warehouse informs Supply Chain (Vendor shipped wrong product, QTY shortage etc.)

18. **QUARTERLY REVIEW**

a. Over/Under performing products (to be measured quarterly and year-to-date on products that exceeds 25%).

Montor:	• We measure only No consumption items for last 15 months

b. Products added and removed to capture part numbers and value.

Montor:	• We used "Non-contract items" list

19. **DELIVERY LOCATION**

Utah Transit Authority
3600 South 700 West
Salt Lake City, Utah 84119

20. **OWNERSHIP OF DESIGNS, DRAWINGS, AND WORK PRODUCT**

Any deliverables prepared or developed pursuant to the Contract including without limitation drawings, specifications, manuals, calculations, maps, sketches, designs, tracings, notes, reports, data, computer programs, models and samples, shall become the property of UTA when prepared, and, together with any documents or information furnished to Contractor and its employees or agents by UTA hereunder, shall be delivered to UTA upon request, and, in any event, upon termination or final acceptance of the Goods and Services. UTA shall have full rights and privileges to use and reproduce said items. To the extent that any deliverables include or incorporate preexisting intellectual property of Contractor, Contractor hereby grants UTA a fully paid, perpetual license to use such intellectual property for UTA's operation, maintenance, modification, improvement and replacement of UTA's assets. The scope of the license shall be to the fullest extent necessary to accomplish those purposes, including the right to share same with UTA's contractors, agent, officers, directors, employees, joint owners, affiliates and consultants.

21. **GENERAL INDEMNIFICATION**

Contractor shall indemnify, hold harmless and defend UTA, its officers, trustees, agents, and employees (hereinafter collectively referred to as "Indemnitees") from and against all liabilities, claims, actions, damages, losses, and expenses including without limitation reasonable attorneys' fees and costs (hereinafter referred to collectively as "claims") related to bodily injury, including death, or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of the failure of such Contractor to conform to federal, state, and local laws and regulations. If an employee of Contractor, a subcontractor, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable brings a claim against UTA or another Indemnitee, Contractor's indemnity obligation set forth above will not be limited by any limitation on the amount of damages, compensation or benefits payable under any employee benefit acts, including workers' compensation or disability acts. The indemnity obligations of Contractor shall not apply to the extent that claims arise out of the sole negligence of UTA or the Indemnitees.

22. **INSURANCE REQUIREMENTS**

Standard Insurance Requirements

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The Utah Transit Authority in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this contract by the Contractor, his agents, representatives, employees or subcontractors and Contractor is free to purchase additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Contractor shall provide coverage with limits of liability not less than those Stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a "following form" basis.

1. Commercial General Liability – Occurrence Form

   Policy shall include bodily injury, property damage and broad form contractual liability coverage.

   - General Aggregate $4,000,000
   - Products – Completed Operations Aggregate $1,000,000
   - Personal and Advertising Injury $1,000,000
   - Each Occurrence $2,000,000

   a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor".

2. Automobile Liability

   Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

   Combined Single Limit (CSL) $2,000,000

   a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

   Workers' Compensation Statutory

   Employers' Liability

   Each Accident $100,000

   Disease – Each Employee $100,000

   Disease – Policy Limit $500,000

   a. Policy shall contain a waiver of subrogation against the Utah Transit Authority.

   b. This requirement shall not apply when a contractor or subcontractor is exempt under UCA 34A-2-103, AND when such contractor or subcontractor executes the appropriate waiver form.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include the following provisions:

1. On insurance policies where the Utah Transit Authority is named as an additional insured, the Utah Transit Authority shall be an additional insured to the full limits of liability purchased by the Consultant. Insurance limits indicated in this agreement are minimum limits. Larger limits may be indicated after the consultant's assessment of the exposure for this contract; for their own protection and the protection of UTA.

2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

C. NOTICE OF CANCELLATION: Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the Utah Transit Authority, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice shall be sent directly to (Utah Transit Authority agency Representative's Name & Address).

D. ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers duly licensed or authorized to do business in the State and with an "A.M. Best" rating of not less than A-VII. The Utah Transit Authority in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERIFICATION OF COVERAGE: Contractor shall furnish the Utah Transit Authority with certificates of insurance (on standard ACORD form) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be sent to utahta@ebix.com and received and approved by the Utah Transit Authority before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be emailed directly to Utah Transit Authority's insurance email address at utahta@ebix.com. The Utah Transit Authority project/contract number and project description shall be noted on the certificate of insurance. The Utah Transit Authority reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE UTAH TRANSIT AUTHORITY'S CLAIMS AND INSURANCE DEPARTMENT.

F. SUBCONTRACTORS: Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. Sub-contractors maintaining separate insurance shall name Utah Transit Authority as an additional insured on their

policy. Blanket additional insured endorsements are not acceptable from sub-contractors. Utah Transit Authority must be scheduled as an additional insured on any sub-contractor policies.

G. APPROVAL: Any modification or variation from the insurance requirements in this Contract shall be made by Claims and Insurance Department or the UTA Legal Services, whose decision shall be final. Such action will not require a formal Contract amendment but may be made by administrative action.

23. **OTHER INDEMNITIES**

a. Contractor shall protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all claims of any kind or nature whatsoever on account of infringement relating to Contractor's performance under the Contract. If notified promptly in writing and given authority, information and assistance, Contractor shall defend, or may settle at its expense, any suit or proceeding against UTA so far as based on a claimed infringement and Contractor shall pay all damages and costs awarded therein against UTA due to such breach. In case any Good or Service is in such suit held to constitute such an infringement or an injunction is filed that interferes with UTA's rights under the Contract, Contractor shall, at its expense and through mutual agreement between UTA and Contractor, either procure for UTA any necessary intellectual property rights, or modify Contractor's Goods and Services such that the claimed infringement is eliminated.

b. Contractor shall: (i) protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all liens or claims made or filed against UTA on account of any Goods or Services furnished by subcontractors of any tier; and (ii) keep UTA property free and clear of all liens or claims arising in conjunction with any Goods or Services furnished under the Contract by Contractor or its subcontractors of any tier. If any lien arising out of the Contract is filed in conjunction with any Goods or Services furnished under the Contract, Contractor, within ten (10) calendar days after receiving from UTA written notice of such lien, shall obtain a release of or otherwise satisfy such lien. If Contractor fails to do so, UTA may take such steps and make such expenditures as in its discretion it deems advisable to obtain a release of or otherwise satisfy any such lien or liens, and Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA in obtaining such release or satisfaction. If any non-payment claim is made directly against UTA arising out of non-payment to any subcontractor, Contractor shall assume the defense of such claim within ten (10) calendar days after receiving from UTA written notice of such claim. If Contractor fails to do so, Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA to satisfy such claim.

c. Contractor will defend, indemnify and hold UTA, its officers, agents and employees harmless from liability of any kind or nature, arising from Contractor's use of any copyrighted or un-copyrighted composition, trade secret, patented or un-patented invention, article or appliance furnished or used in the performance of the Contract.

24. **INDEPENDENT CONTRACTOR**

The parties agree that Contractor, in the carrying out of its duties hereunder, is an independent contractor and that neither Contractor nor any of its employees is or are agents, servants or employees of UTA. Neither Contractor nor any of Contractor's employees shall be eligible for any workers compensation insurance, pension, health coverage, or fringe benefits which apply to UTA's employees. Neither federal, state, nor local income tax nor payroll tax of any kind shall be withheld or paid by UTA on behalf of Contractor or the employees of Contractor. Contractor acknowledges that it shall be solely responsible for payment of all payrolls, income and other taxes generally applicable to independent contractors.

25. **STANDARD OF CARE.**

Contractor shall perform any Services to be provided under the Contract in a good and workmanlike manner, using at least that standard of care, skill and judgment which can reasonably be expected from similarly situated independent contractors (including, as applicable, professional standards of care).

26. **USE OF SUBCONTRACTORS**

a. Consultant shall give advance written notification to UTA of any proposed subcontract (not indicated in Consultant's Proposal) negotiated with respect to the Work. UTA shall have the right to approve all subcontractors, such approval not to be withheld unreasonably.

b. No subsequent change, removal or substitution shall be made with respect to any such subcontractor without the prior written approval of UTA.

c. Consultant shall be solely responsible for making payments to subcontractors, and such payments shall be made within thirty (30) days after Consultant receives corresponding payments from UTA.

d. Consultant shall be responsible for and direct all Work performed by subcontractors.

e. Consultant agrees that no subcontracts shall provide for payment on a cost-plus-percentage-of-cost basis. Consultant further agrees that all subcontracts shall comply with all applicable laws

27. **CONTRACTOR SAFETY COMPLIANCE**

UTA is an ISO 14001 for Environmental Management Systems, ISO 9001 Quality and Performance Management, and OSHAS 18001 safety systems Management Company. Contractor, including its employees, subcontractors, authorized agents, and representatives, shall comply with all UTA and industry safety standards, NATE, OSHA, EPA and all other State and Federal regulations, rules and guidelines pertaining to safety, environmental Management and will be solely responsible for any fines, citations or penalties it may receive or cause UTA to receive pursuant to this Contract. Each employee, contractor and subcontractor must be trained in UTA EMS and Safety Management principles. Contractor acknowledges that its Goods and Services might affect UTA's Environmental Management Systems obligations. A partial list of activities, products or Services deemed as have a potential EMS effect is available at the UTA website www.rideuta.com. Upon request by UTA, Contractor shall complete and return a *Contractor Activity Checklist*. If UTA determines that the Goods and/or Services under the Contract has the potential to impact the environment,

UTA may require Contractor to submit additional environmental documents. Contractor shall provide one set of the appropriate safety data sheet(s) (SDS) and container label(s) upon delivery of a hazardous material to UTA

28. **ASSIGNMENT OF CONTRACT**

Contractor shall not assign any of its rights or responsibilities, nor delegate its obligations, under this Contract or any part hereof without the prior written consent of UTA, and any attempted transfer in violation of this restriction shall be void.

29. **SUSPENSION OF THE WORK**

UTA may, at any time, by written order to Consultant, require Consultant to suspend, delay, or interrupt all or any part of the Work called for by this Contract. Any such order shall be specifically identified as a "Suspension of Work Order" issued pursuant to this Article. Upon receipt of such an order, Consultant shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of further costs allocable to the Work covered by the order during the period of Work stoppage.

If a Suspension of Work Order issued under this Article is canceled, Consultant shall resume Work as mutually agreed to in writing by the parties hereto.

a. If a Suspension of Work Order is not canceled and the Work covered by such order is terminated for the convenience of UTA, reasonable costs incurred as a result of the Suspension of Work Order shall be considered in negotiating the termination settlement.

b. If the Suspension of Work causes an increase in Consultant's cost or time to perform the Work, UTA's Project Manager or designee shall make an equitable adjustment to compensate Consultant for the additional costs or time, and modify this Contract by Change Order.

30. **TERMINATION**

a. **FOR CONVENIENCE**: UTA shall have the right to terminate the Contract at any time by providing written notice to Contractor. If the Contract is terminated for convenience, UTA shall pay Contractor: (i) in full for Goods delivered and Services fully performed prior to the effective date of termination; and (ii) an equitable amount to reflect costs incurred (including Contract close-out and subcontractor termination costs that cannot be reasonably mitigated) and profit on work-in-progress as of to the effective date of the termination notice. UTA shall not be responsible for anticipated profits based on the terminated portion of the Contract. Contractor shall promptly submit a termination claim to UTA. If Contractor has any property in its possession belonging to UTA, Contractor will account for the same, and dispose of it in the manner UTA directs.

b. **FOR DEFAULT:** If Contractor (a) becomes insolvent; (b) files a petition under any chapter of the bankruptcy laws or is the subject of an involuntary petition; (c) makes a general assignment for the benefit of its creditors; (d) has a receiver appointed; (e) should fail to make prompt payment to any subcontractors or suppliers; or (f) fails to comply with any of its material obligations under the Contract, UTA may, in its discretion, after first giving Contractor seven (7) days written notice to cure such default:

1. Terminate the Contract (in whole or in part) for default and obtain the Goods and Services using other contractors or UTA's own forces, in which event Contractor shall

be liable for all incremental costs so incurred by UTA;

2. Pursue other remedies available under the Contract (regardless of whether the termination remedy is invoked); and/or
3. Except to the extent limited by the Contract, pursue other remedies available at law.

c. CONTRACTOR'S POST TERMINATION OBLIGATIONS: Upon receipt of a termination notice as provided above, Contractor shall (i) immediately discontinue all work affected (unless the notice directs otherwise); and (ii) deliver to UTA all data, drawings and other deliverables, whether completed or in process. Contractor shall also remit a final invoice for all services performed and expenses incurred in full accordance with the terms and conditions of the Contract up to the effective date of termination. UTA shall calculate termination damages payable under the Contract, shall offset such damages against Contractor's final invoice, and shall invoice Contractor for any additional amounts payable by Contractor (to the extent termination damages exceed the invoice). All rights and remedies provided in this Article are cumulative and not exclusive. If UTA terminates the Contract for any reason, Contractor shall remain available, for a period not exceeding 90 days, to UTA to respond to any questions or concerns that UTA may have regarding the Goods and Services furnished by Contractor prior to termination.

31. **CHANGES**

a. UTA's Project Manager or designee may, at any time, by written order designated or indicated to be a Change Order, direct changes in the Work including, but not limited to, changes:

1. In the Scope of Services;
2. In the method or manner of performance of the Work; or
3. In the schedule or completion dates applicable to the Work.

To the extent that any change in Work directed by UTA causes an actual and demonstrable impact to: (i) Consultant's cost of performing the work; or (ii) the time required for the Work, then (in either case) the Change Order shall include an equitable adjustment to this Contract to make Consultant whole with respect to the impacts of such change.

b. A change in the Work may only be directed by UTA through a written Change Order or (alternatively) UTA's expressed, written authorization directing Consultant to proceed pending negotiation of a Change Order. Any changes to this Contract undertaken by Consultant without such written authority shall be at Consultant's sole risk. Consultant shall not be entitled to rely on any other manner or method of direction.

c. Consultant shall also be entitled to an equitable adjustment to address the actual and demonstrable impacts of "constructive" changes in the Work if: (i) subsequent to the Effective Date of this Contract, there is a material change with respect to any requirement set forth in this Contract; or (ii) other conditions exist or actions are taken by UTA which materially modify the magnitude, character or complexity of the Work from what should have been reasonably assumed by Consultant based on the information included in (or referenced by) this Contract. In order to be eligible for equitable relief for "constructive" changes in Work, Consultant must give UTA's Project Manager or designee written notice stating:

1. The date, circumstances, and source of the change; and
2. That Consultant regards the identified item as a change in Work giving rise to an adjustment in this Contract.

Consultant must provide notice of a "constructive" change and assert its right to an equitable adjustment under this Section within ten (10) days after Consultant becomes aware (or reasonably should have become aware) of the facts and circumstances giving rise to the "constructive" change. Consultant's failure to provide timely written notice as provided above shall constitute a waiver of Consultant's rights with respect to such claim.

d. As soon as practicable, but in no event longer than 30 days after providing notice, Consultant must provide UTA with information and documentation reasonably demonstrating the actual cost and schedule impacts associated with any change in Work. Equitable adjustments will be made via Change Order. Any dispute regarding the Consultant's entitlement to an equitable adjustment (or the extent of any such equitable adjustment) shall be resolved in accordance with Article 20 of this Contract.

32. **INFORMATION, RECORDS and REPORTS; AUDIT RIGHTS**

Contractor shall retain all books, papers, documents, accounting records and other evidence to support any cost-based billings allowable under Exhibit B (or any other provision of the Contract). Such records shall include, without limitation, time sheets and other cost documentation related to the performance of labor services, as well as subcontracts, purchase orders, other contract documents, invoices, receipts or other documentation supporting non-labor costs. Contractor shall also retain other books and records related to the performance, quality or management of the Contract and/or Contractor's compliance with the Contract. Records shall be retained by Contractor for a period of at least six (6) years, or until any audit initiated within that six-year period has been completed (whichever is later). During this six-year period, such records shall be made available at all reasonable times for audit and inspection by UTA and other authorized auditing parties including, but not limited to, the Federal Transit Administration. Copies of requested records shall be furnished to UTA or designated audit parties upon request. Contractor agrees that it shall flow-down (as a matter of written contract) these records requirements to all subcontractors utilized in the performance of the Contract at any tier.

33. **FINDINGS CONFIDENTIAL**

Any documents, reports, information, or other data and materials delivered or made available to or prepared or assembled by Contractor or subcontractor under this Contract are considered confidential and shall not be made available to any person, organization,

or entity by Contractor without consent in writing from UTA. If confidential information is released to any third party without UTA's written consent as described above, contractor shall notify UTA of the data breach within 10 days and provide its plan for immediate mitigation of the breach for review and approval by UTA.

a. It is hereby agreed that the following information is not considered to be confidential:

1. Information already in the public domain.

2. Information disclosed to Contractor by a third party who is not under a confidentiality obligation.
3. Information developed by or in the custody of Contractor before entering into this Contract.
4. Information developed by Contractor through its work with other clients; and
5. Information required to be disclosed by law or regulation including, but not limited to, subpoena, court order or administrative order.

34. **PUBLIC INFORMATION.**

Contractor acknowledges that the Contract and related materials (invoices, orders, etc.) will be public documents under the Utah Government Records Access and Management Act (GRAMA). Contractor's response to the solicitation for the Contract will also be a public document subject to GRAMA, except for legitimate trade secrets, so long as such trade secrets were properly designated in accordance with terms of the solicitation.

35. **PROJECT MANAGER**

UTA's Project Manager for the Contract is Todd Mills, or designee. All questions and correspondence relating to the technical aspects of the Contract should be directed to UTA's Project Manager at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 287-3015.

36. **CONTRACT ADMINISTRATOR**

UTA's Contract Administrator for the Contract is Jolene Higgins, or designee. All questions and correspondence relating to the contractual aspects of the Contract should be directed to UTA's Grants & Contracts Administrator at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 287-1925.

37. **CONFLICT OF INTEREST**

Contractor represents that it has not offered or given any gift or compensation prohibited by the laws of the State of Utah to any officer or employee of UTA to secure favorable treatment with respect to being awarded the Contract. No member, officer, or employee of UTA during their tenure or one year thereafter shall have any interest, direct or indirect, in the Contract or the proceeds thereof.

38. **NOTICES OR DEMANDS**

a. Any and all notices, demands or other communications required hereunder to be given by one party to the other shall be given in writing and may be electronically delivered, personally delivered, mailed by US Mail, postage prepaid, or sent by overnight courier service and addressed to such party as follows:

If to UTA:	If to Contractor:
ATTN: Grants & Contracts Administrator	ATTN: Kerri Moloney
669 West 200 South	711 Kernaghan Avenue
Salt Lake City, UT 84101	Winnipeg, Manitoba R2C 3T4

b. Either party may change the address at which such party desires to receive written notice of such change to any other party. Any such notice shall be deemed to have been given, and shall be effective, on delivery to the notice address then applicable for the party to

which the notice is directed; provided, however, that refusal to accept delivery of a notice or the inability to deliver a notice because of an address change which was not properly communicated shall not defeat or delay the giving of a notice.

39. **CLAIMS/DISPUTE RESOLUTION**

a. "Claim" means any disputes between UTA and the Contractor arising out of or relating to the Contract Documents including any disputed claims for Contract adjustments that cannot be resolved in accordance with the Change Order negotiation process set forth in Article 20. Claims must be made by written notice. The responsibility to substantiate claims rests with the party making the claim.

b. Unless otherwise directed by UTA in writing, Contractor shall proceed diligently with performance of the Work pending final resolution of a Claim, including litigation. UTA shall continue to pay any undisputed payments related to such Claim.

c. The parties shall attempt to informally resolve all claims, counterclaims and other disputes through the escalation process described below. No party may bring a legal action to enforce any term of this Contract without first having exhausted such process.

d. The time schedule for escalation of disputes, including disputed requests for change order, shall be as follows:

Level of Authority	Time Limit
UTA's Project Manager, Jolene Higgins/Contractor's Project Manager Michael Kolcun	Five calendar days
UTA's Procurement Manager, Troy Hamilton/Contractor's Customer Service Manager, Tiffany Stanley	Five calendar days
UTA's Director of Supply Chain, Todd Mills/Contractor's VP Customer Service, Kerri Moloney	Five calendar days

Unless otherwise directed by UTA's Project Manager, Contractor shall diligently continue performance under this Contract while matters in dispute are being resolved. If the dispute cannot be resolved informally in accordance with the escalation procedures set forth above, than either party may commence formal mediation under the Juris Arbitration and Mediation (JAMS) process using a mutually agreed upon JAMS mediator. If resolution does not occur through Mediation, then legal action may be commenced in accordance the venue and governing law provisions of this contract.

30. **GOVERNING LAW**

The validity, interpretation and performance of the Contract shall be governed by the laws of the State of Utah, without regard to its law on the conflict of laws. Any dispute arising out of the Contract that cannot be solved to the mutual agreement of the parties shall be brought in a court of competent jurisdiction in Salt Lake County, State of Utah. Contractor consents to the jurisdiction of such courts.

31. **COSTS AND ATTORNEY FEES.**

If any party to this Agreement brings an action to enforce or defend its rights or obligations hereunder, the prevailing party shall be entitled to recover its costs and expenses, including mediation, arbitration, litigation, court costs and attorneys' fees, if any, incurred in connection with such suit, including on appeal

32. **SEVERABILITY**

Any provision of the Contract prohibited or rendered unenforceable by operation of law shall be ineffective only to the extent of such prohibition or unenforceability without invalidating the remaining provisions of the Contract.

33. **AMENDMENTS**

Any amendment to the Contract must be in writing and executed by the authorized representatives of each party.

34. **FORCE MAJEURE**

Neither party to the Contract will be held responsible for delay or default caused by fire, riot, acts of God and/or war which are beyond that party's reasonable control. UTA may terminate the Contract after determining such delay or default will reasonably prevent successful performance of the Contract.

35. **NO THIRD-PARTY BENEFICIARIES**

The parties enter into the Contract for the sole benefit of the parties, in exclusion of any third party, and no third party beneficiary is intended or created by the execution of the Contract.

36. **ENTIRE AGREEMENT**

This Contract shall constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and shall supersede all offers, negotiations and other agreements with respect thereto.

37. **COUNTERPARTS**

This Contract may be executed in any number of counterparts and by each of the parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument. Any signature page of the Contract may be detached from any counterpart and reattached to any other counterpart hereof. The electronic transmission of a signed original of the Contract or any counterpart hereof and the electronic retransmission of any signed copy hereof shall be the same as delivery of an original.

38. **NONWAIVER**

No failure or waiver or successive failures or waivers on the part of either party in the enforcement of any condition, covenant, or article of this Contract shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party to enforce the same in the event of any subsequent breaches by the other party.

39. **SALES TAX EXEMPT**

Purchases of certain materials are exempt from Utah sales tax. UTA will provide a sales tax exemption certificate to Contractor upon request. UTA will not pay Contractor for sales taxes for exempt purchases, and such taxes should not be included in Contractor's Application for Payment.

40. **UTAH ANTI-BOYCOTT OF ISRAEL ACT**

Contractor agrees it will not engage in a boycott of the State of Israel for the duration of this contract.

41. **SURVIVAL**

Provisions of this Contract intended by their nature and content to survive termination of this Contract shall so survive including, but not limited to, Articles 7, 9, 10, 11, 12, 13, 15, 17, 18, 19 ,21, 23, 24,25, 30, 31, 32, and 40.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be executed by officers duly authorized to execute the same as of the date of last signature below.

UTAH TRANSIT AUTHORITY:

By_____

Jay Fox

Executive Director

By_____

Viola Miller

Chief Financial Officer

THE AFTERMARKET PARTS COMPANY, LLC:

By Signed by: John Proven AB4BF992CC5F488... 3/13/2025

John Proven

President

By Signed by: Kerri Moloney 02362D03BE2748D... 3/13/2025

Kerri Moloney

Vice President

Approved as to Form and Content

By DocuSigned by: Mike Bell 70E33A415BA44F6... 3/13/2025

Mike Bell

UTA Legal Counsel

Exhibit A

Scope of Work

General:

Objective:
To provide a Vendor Managed Inventory (VMI) solution to optimize inventory management, reduce costs, and ensure a steady supply of critical parts needed to support operations. (See Exhibit B for parts list).

Scope of Services:

1. **Inventory Management and Planning:**
    - Vendor will manage the procurement, replenishment, and stock levels of pre-approved inventory items based on historical usage data provided by UTA.
2. **Supply Chain Coordination:**
    - Expedited shipment of products to UTA (generally 24 hours) to ensure timely delivery of inventory and avoid stockouts.
    - Collaborate with UTA to align inventory levels with operational requirements.
3. **Reporting and Analytics:**
    - Provide quarterly metrics of Key Performance Indicators.
    - Offer data-driven insights for continuous improvement of inventory management practices.
4. **Quality Assurance:**
    - Ensure all inventory items meet specified quality standards and comply with applicable regulations.
5. **Cost Management:**
    - Propose competitive pricing for inventory items and outline cost-saving strategies.
    - Provide transparent invoicing and cost breakdowns for proposed price increases

Exhibit B

Parts Price List

	Part Number	Part Description	Year 1 Pricing	Year 2 pricing	Year 3 Price	Year 4 Price	Year 5 Price
1	01-63585-001	GASKET, EXHAUST COUPLING	$17.14	$18.43	$19.61	$20.69	$21.62
2	01-63586-000	CLAMP, MUFFLER BOTTOM-INL	$37.76	$40.39	$42.74	$44.76	$46.63
3	051038A	AIR CYLINDER COMPLETE	$402.00	$428.48	$453.50	$476.81	$497.74
4	07-38005N000	SLACK ADJUSTER, LH FRONT	$78.45	$85.67	$92.29	$98.03	$102.67
5	07-38006N000	SLACK ADJUSTER, RH FRONT	$80.26	$87.64	$94.41	$100.29	$105.03
6	08-37209-000N	SPRING AIR FRONT	$132.63	$140.59	$147.62	$154.26	$160.43
7	08-70861-000	SPRING, AIR -FRONT DISC B	$125.65	$127.20	$131.02	$134.94	$139.00
8	08-73702-001	SHOCK ABSORBER, FRONT	$158.22	$168.32	$177.18	$185.53	$193.26
9	100279	KIT, DECAL - BIKE RACK	$75.55	$80.52	$85.22	$89.61	$93.53
10	100588	ARM / HOOK, S/S BIKE RACK	$164.99	$175.85	$186.12	$195.69	$204.28
11	1115595	SWITCH, SOLENOID	$100.56	$107.59	$114.05	$119.75	$124.54
12	12010996	MALE TERMINAL	$0.56	$0.59	$0.62	$0.65	$0.68
13	12124582	MALE PIN	$0.15	$0.15	$0.16	$0.17	$0.18
14	13-41633-005	REGULATOR, VOLTAGE	$463.84	$498.54	$530.86	$559.98	$585.11
15	13-41633-008	VOLTAGE REGULATOR	$667.34	$717.27	$763.77	$805.66	$841.82
16	13-65224-000	MODULE, ISL LOW COOLANT L	$29.38	$31.57	$33.62	$35.46	$37.06
17	16161268	REGULATOR, FUEL (PROHEAT	$133.68	$141.09	$148.20	$154.92	$161.18
18	1988097	LEVER	$10.20	$10.92	$11.58	$12.16	$12.64
19	1989497	BUSHING KIT	$22.14	$23.69	$25.12	$26.37	$27.43
20	21-76489-004	PUMP, COOLANT, EMP WP29	$541.54	$571.32	$599.88	$626.87	$651.95
21	2210L6538	CAMSHAFT, LH REAR	$82.81	$86.11	$89.56	$93.14	$96.87
22	2258P1472	SPRING, BRAKE - REAR	$8.19	$8.52	$8.86	$9.21	$9.58
23	2259326	STRAP, BRAKE HOLD-DOWN	$18.91	$19.66	$20.46	$21.27	$22.12
24	22-68534-000	PULLEY, IDLER A/C	$30.83	$32.99	$34.91	$36.56	$38.09
25	24017	OIL SEAL	$13.56	$14.21	$14.84	$15.48	$16.10
26	2421	COLLET, DRIVERS MIRROR	$42.91	$45.38	$47.75	$50.02	$52.15
27	284358	GOVERNOR, D-2 HIGH TEMP	$93.45	$98.59	$103.52	$108.18	$112.51
28	2888173	DOSER VALVE, AFT INJ	$616.72	$662.85	$705.83	$744.54	$777.96
29	2897539	TEMPERATURE SENSOR	$197.37	$212.14	$225.90	$238.29	$248.98
30	29558328	FILTER KIT, TRANS	$97.92	$104.77	$111.05	$116.61	$121.27
31	30010174	SLACK ADJUSTER, LH REAR	$106.77	$116.61	$125.60	$133.42	$139.73
32	30010175	SLACK ADJUSTER, RH REAR	$106.77	$116.61	$125.60	$133.42	$139.73
33	303734	AIR SPRING, BELLOWS	$111.04	$118.82	$125.95	$132.25	$137.54
34	30568207	PUSH PIN, BLACK PLASTIC	$0.71	$0.74	$0.78	$0.81	$0.84
35	30592707	SWITCH, PNEUMATIC LUMBAR	$12.46	$13.07	$13.67	$14.27	$14.87

36	3075658	SEAL, ORING CYLINDER HEAD	$8.94	$9.61	$10.23	$10.79	$11.27
37	30799507	SWITCH, PNEUMATIC UP/DOWN	$82.35	$86.39	$90.40	$94.38	$98.29
38	30866507	COVER, DRIVER SEAT BACK -	$191.70	$201.09	$210.43	$219.68	$228.79
39	32831	GAS, SPRING 30 LB	$28.27	$32.10	$35.58	$38.45	$40.51
40	335909	SPACER, WHEEL SEPARATOR	$11.56	$12.27	$12.95	$13.57	$14.12
41	35103	HANGER, TAIL PIPE	$3.57	$3.82	$4.05	$4.25	$4.42
42	360035	KNOB, SIDE BOLSTER ADJUST	$10.50	$11.01	$11.52	$12.03	$12.53
43	370035	CYLINDER ASSY	$12.85	$13.49	$14.13	$14.74	$15.35
44	382353	BELT, A/C COMPRESSOR	$68.60	$73.40	$77.80	$81.69	$84.95
45	3926722	ORING, FUEL PUMP MOUNT	$2.39	$2.57	$2.74	$2.88	$3.01
46	3976835	BELT TENSIONER, ALTERNATO	$50.64	$54.93	$58.78	$62.02	$64.49
47	413	CLAMP, CONSTANT TORQUE	$6.95	$7.44	$7.88	$8.28	$8.60
48	415213	COIL, COMPRESSOR AC	$100.56	$105.87	$112.05	$117.81	$122.98
49	45210126	BUSHING, SLACK ADJUSTER	$0.94	$1.03	$1.11	$1.18	$1.24
50	48690	OIL SEAL, REAR INNER	$20.07	$21.92	$23.60	$25.07	$26.26
51	4934278	SEAL, ISB / ISM TURBO TUB	$3.85	$4.13	$4.41	$4.64	$4.86
52	4991240	PULLEY, IDLER	$197.47	$210.61	$224.27	$236.57	$247.19
53	4L4269	BRAKE SHOE ASSY, REAR	$35.02	$36.41	$37.87	$39.38	$40.96
54	5013672	FILTER, PURA GUARD	$125.85	$132.77	$139.41	$145.68	$151.51
55	506200022	ENGINE BELT, 6.8L FORD	$21.13	$22.61	$23.97	$25.16	$26.17
56	509909K	BURNER HEAD, PROHEAT GEN	$3,085.54	$3,256.47	$3,420.58	$3,575.86	$3,720.34
57	51-75490-001	FOZMULA COOLANT SENSOR	$69.83	$74.02	$77.72	$81.22	$84.47
58	53-02231-014	SPRING ASSY, GAS	$10.91	$11.51	$12.09	$12.63	$13.13
59	53-10024-000	CAP, SURGE TANK FILL	$22.19	$24.09	$25.76	$27.18	$28.27
60	53-20347-007	SPRING ASSY, GAS	$9.97	$10.52	$11.05	$11.54	$12.00
61	53-20347-008	SPRING ASSY, GAS	$8.84	$9.35	$9.84	$10.31	$10.75
62	53-20873-000	VALVE, SHUT-OFF 1/4"	$21.38	$22.56	$23.68	$24.74	$25.74
63	53-21338-001	MOUNT, FRONT ENGINE	$75.09	$79.41	$83.57	$87.53	$91.24
64	53-26075-001	CLAMP, CONSTANT TENSION T	$6.20	$6.51	$6.81	$7.11	$7.40
65	53-47678N000	WIPER BLADE, 800MM	$7.09	$7.44	$7.79	$8.13	$8.47
66	54-13118-109	ADAPTER, 3/8" QUICK FITTI	$2.92	$3.13	$3.32	$3.48	$3.62
67	5473296	KIT, ISL EGR VALVE REBUIL	$1,132.35	$1,209.75	$1,281.81	$1,346.69	$1,402.63
68	56-09125-004	HOSE, HUMP, 2.50"X 6"	$19.38	$20.58	$21.71	$22.75	$23.66
69	619913	VALVE KIT, REGENERATION	$9.79	$10.69	$11.52	$12.23	$12.82
70	6329711	WASHER ANCHOR PIN	$0.29	$0.30	$0.32	$0.33	$0.34
71	6337307	BALL, BEARING 1/2'	$1.16	$1.23	$1.29	$1.34	$1.40
72	73240	SEAL, CENTRIFUGE BOWL VIT	$19.55	$20.93	$22.21	$23.34	$24.28
73	82-09261-001	BALL, EXIT DOOR PIVOT STU	$16.04	$16.84	$17.62	$18.39	$19.15
74	82-09261-002	CLIP, EXIT DR PIVOT STUD	$3.65	$3.83	$4.01	$4.19	$4.35
75	82-21418-002	BEARING, ADE	$39.72	$42.69	$45.46	$47.95	$50.10
76	82-27557-000	SEATBELT ASSY,RH W/ WRN S	$230.62	$241.91	$253.15	$264.29	$275.26
77	82-28155-000	MOTOR, SERVO - SMALL	$55.09	$58.26	$61.31	$64.22	$66.94

78	82-28383-134	ARM REST ASSY, RH	$393.54	$412.81	$431.99	$450.99	$469.70
79	82-31245-002	PLUG, LUBE - MAGNETIC	$8.99	$9.82	$10.58	$11.23	$11.76
80	82-32833-004	STUD, REAR WHEEL INNER	$7.35	$7.64	$7.94	$8.26	$8.59
81	82-39383-000	FILTER, AIR - M SERIES PR	$47.86	$50.52	$53.06	$55.47	$57.71
82	82-43756-005	MIRROR, UPPER -STREETSIDE	$34.64	$36.64	$38.55	$40.38	$42.10
83	82-52105-000	PLATE, MIRROR MOTOR - SMA	$2.09	$2.21	$2.33	$2.43	$2.53
84	82-52235-003	GUIDE ASSY, LOWER PIVOT -	$160.53	$168.39	$176.22	$183.97	$191.59
85	82-52882-000	MUFFLER	$16.35	$17.49	$18.53	$19.47	$20.24
86	82-54676-000	SHOE, REAR BRAKE	$84.62	$88.00	$91.52	$95.18	$98.99
87	825730	FILTER, PROHEAT AIR -MCI	$41.49	$43.79	$46.00	$48.09	$50.03
88	82-58304-018	SMALL PARTS KIT	$169.13	$181.77	$193.56	$204.17	$213.34
89	82-65996-016	REGULATOR, PRESSURE	$1,248.35	$1,340.17	$1,425.72	$1,500.76	$1,563.30
90	82-70879-000	DUST COVER, RECEPTACLE FI	$18.85	$19.94	$20.98	$21.97	$22.90
91	82-75964-000	VALVE ASSY, 12 VDC	$69.31	$73.60	$77.65	$81.37	$84.63
92	82-80675-000	O-RING	$3.51	$3.78	$4.01	$4.24	$4.43
93	83-01150-000	ALARM, SEAT CUSHION, w/PI	$243.98	$255.94	$267.81	$279.59	$291.20
94	A2-610	PC BOARD	$46.47	$49.94	$53.18	$56.09	$58.61
95	CT9410B	CLAMP,CONSTANT TORQUE 9/1	$3.48	$3.73	$3.95	$4.15	$4.32
96	CT9416B	CLAMP, CONSTANT TORQUE 13	$3.53	$3.78	$4.00	$4.21	$4.38
97	CT9420B	CLAMP, CONSTANTTORQ .8125	$3.73	$4.01	$4.27	$4.51	$4.71
98	CV52001	FILTER, CRANKCASE ELEMENT	$81.09	$87.15	$92.80	$97.89	$102.29
99	150792000	CLIP, SPRING	$1.08	$1.15	$1.22	$1.28	$1.34
100	30872407	KIT, THIGH EXTENSON MECHA	$20.78	$21.80	$22.81	$23.81	$24.80
101	30874007	KIT, ERGO AM80 TRACK ASSY	$150.94	$158.33	$165.69	$172.98	$180.15
102	30877007	TRIM PANEL, SEAT BACK - L	$41.25	$43.29	$45.30	$47.29	$49.25
103	3341133	WIPER BLADE, 28"	$4.99	$5.28	$5.56	$5.83	$6.08
104	553451	STUD, A/C	$15.22	$16.22	$17.17	$18.04	$18.83
105	6009999	HUBODOMETER	$71.84	$75.78	$79.57	$83.15	$86.48
106	6329674	SEAL, WHEEL OIL (FRONT)	$17.78	$19.29	$20.64	$21.77	$22.64
107	6330167	KIT, BRAKE HARDWARE	$55.93	$77.35	$80.45	$83.67	$87.02
108	6801034	HOLDER, BEVERAGE	$17.23	$18.36	$19.44	$20.44	$21.33
109	73642	KIT, SERVICE - SPINNER II	$104.49	$111.80	$118.51	$124.44	$129.41
110	82-03283-000	PIN, RETURN SPRING	$0.69	$0.72	$0.75	$0.78	$0.80
111	82-15549	SENSOR, ABS	$45.52	$48.71	$51.64	$54.22	$56.39
112	82-16155-000	PIN-LATCH	$53.01	$56.50	$59.81	$62.88	$65.64
113	82-19512-002	END ASSY, RH TIE ROD	$54.56	$56.74	$59.01	$61.37	$63.82
114	82-20910-000	U-JOINT, STEERING SHAFT	$21.55	$23.16	$24.66	$26.01	$27.18
115	82-20974-000	HANDWHEEL, RECLINER	$12.18	$12.78	$13.37	$13.96	$14.54
116	82-28006-000	KNOB, RAKE ADJ KIT - BUS	$26.46	$27.76	$29.06	$30.33	$31.58
117	82-28520-002	MIRROR, LOWER - CONVEX	$39.06	$41.31	$43.46	$45.52	$47.46
118	82-37078-000	VALVE, WATER	$617.34	$658.00	$696.42	$732.22	$764.37
119	82-37399-000	O-RING, A/C COMPRESSOR	$5.33	$5.68	$6.01	$6.32	$6.60

120	82-38659-001	MOTOR ASSY, DUAL - MIRROR	$118.72	$125.54	$132.12	$138.38	$144.26
121	82-39796-001	MIRROR, UPPER -CURBSIDE	$33.89	$35.84	$37.71	$39.50	$41.18
122	82-42443-000	SEAL, INNER OIL/GREASE (R	$80.09	$83.30	$86.62	$90.09	$93.70
123	82-42444-000	ROTOR, BRAKE FRONT & REAR	$197.84	$205.75	$213.98	$222.54	$231.44
124	82-46626-000	BOLT M16X2.00X65	$4.26	$4.42	$4.60	$4.79	$4.97
125	82-48735-000	ROD LATCH ASSY	$22.91	$24.41	$25.84	$27.17	$28.36
126	82-52234-003	GUIDE ASSY, LOWER PIVOT -	$160.53	$168.39	$176.22	$183.97	$191.59
127	82-52413-000	STUD, FRONT WHEEL INNER	$7.46	$7.76	$8.08	$8.40	$8.73
128	82-57865-000	DRUM, BRAKE - FRONT	$248.44	$260.36	$272.08	$283.78	$295.13
129	82-58303-000	HEAD ASSY, MIRROR -STREET	$449.87	$474.61	$498.35	$520.77	$541.59
130	82-58305-002	HOUSING, VALVE - COMPLETE	$566.17	$593.44	$620.28	$647.05	$673.09
131	82-59990-000	BRAKE PAD, FRONT & REAR	$263.82	$274.37	$285.34	$296.76	$308.62
132	82-74712-003	TORQUE ROD, LOWER	$186.00	$202.13	$217.99	$231.83	$243.09
133	82-88051-001	SWITCH, PRESSURE WAVE	$237.39	$249.02	$260.59	$272.06	$283.34
134	850443	GASKET, FILLER CAP	$0.49	$0.57	$0.65	$0.73	$0.80
135	908045701	SENSOR, TEMP - UREA / DEF	$605.90	$688.03	$762.47	$824.14	$868.26
136	A0102512AB	CAP ASSY, HUB (OIL)	$25.59	$26.83	$28.04	$29.25	$30.43
137	A3262A1353	CAP ASSY, HUB (OIL) - FRO	$55.03	$57.23	$59.52	$61.90	$64.37
138	C0202504EC	WASHER, SPIDER GEAR	$1.92	$2.00	$2.08	$2.16	$2.25
139	C0202504ED	SPIDER GEAR	$32.26	$33.54	$34.89	$36.28	$37.73
140	H9	LAMP, HEAD	$13.32	$14.20	$15.03	$15.80	$16.50
141	Q86340	LAP / SHOULDER BELT EXT A	$33.83	$36.95	$39.79	$42.27	$44.27
142	R90T	FILTER ELEMENT, FUEL	$30.09	$32.20	$34.13	$35.83	$37.27
143	T0215	BUSHING, S-CAM (STANDARD	$5.16	$5.37	$5.58	$5.80	$6.03
144	T224P	SEPARATOR, OIL - HD2000	$108.40	$115.32	$121.39	$127.11	$132.41

The anticipated Not to Exceed Amount is $5,300,000.00 (based on yearly usage).

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO: Board of Trustees
THROUGH: Jay Fox, Executive Director
FROM: David Hancock, Chief Capital Services Officer
PRESENTER(S): Kyle Stockley, Director of Capital Vehicles

TITLE:

Contract: Paratransit Vehicles for Special Services (Model 1)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute the contract and associated disbursements with Model 1 via the State of Arizona in the amount of $5,783,362 for 26 low floor paratransit buses.

BACKGROUND:
The 26 buses are replacement vehicles for the Special Services business unit, which has, until now, utilized high-floor cutaway vehicles with wheelchair lifts. Special Services has decided to pivot to low-floor vehicles that overall meet their customers' needs better. Model 1 is a dealer offering the ARBOC low floor product under the State of Arizona's contract CTR054848 with Model 1 (Formerly Creative Bus Sales, Inc.), located in Phoenix, Arizona.

DISCUSSION:
This will be the first order utilizing the Arizona State Contract; however, UTA has experience with Model 1 as a contractor. UTA received a quote for the vehicles at $222,437 each for 26 vehicles configured for paratransit service.

CONTRACT SUMMARY:

Contractor Name: Model 1 (Arizona Cooperative State Contract)
Contract Number: 17487

Base Contract Effective Dates:	Effective after approval thru 5/1/2026
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$5,783,362
Procurement Method:	Assignment of contract rights (State of Arizona contract)
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

Pursue procurement through a different contract or solicitation. This would delay delivery substantially.

FISCAL IMPACT:

This contract for $5,783,362 with Model 1 for the purchase of 26 paratransit vans is contained within the current 2025 approved capital budget as well as the 2025-2029 five-year capital plan. The costs are anticipated to be spread over the 2025 and 2026 calendar years. The capital project for these funds is REV209 - Paratransit Vehicle Replacements.

2025 REV209 Capital Budget $4,851,000

2026 REV209 Capital Plan $3,961,000

The contract amounts per year are shown below:

2025 Contract Total: $4,448,740

2026 Contract Total: $1,334,622

Contract Total : $5,783,362.

ATTACHMENTS:

- Purchase Order: Model 1 Commercial Vehicles, Inc.
- Arizona State Purchasing Cooperative Agreement

Model 1 Commercial Vehicles, Inc **9225 Priority Way West Dr** **Suite 300** **Indianapolis IN 46240**		**Utah Transit Authority**	PURCHASE ORDER NUMBER **OG**	**17487**
			PO Number Must Appear On All Invoices And Shipments	
			VENDOR NUMBER 1513349	**PO DATE** 3/17/2025
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**	Timothy Hodges	1 of 1

Confirmation: Do not Duplicate
Utah Transit Authority Is Tax Exempt Total PO Value: 5,798,000.00

Ship as soon as possible. Early Shipments Allowed
Timothy Hodges

LINE #	REQ #	CONFIRMED DELIVERY DATE	QUANTITY	PART NUMBER ACCOUNT CODE	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1	00015219	5/1/26	20 EA	40-6209.67000.7004	Arboc Low Floor Cutaway Para	223000.0000	4,460,000.00
1	00015219	5/1/26	6 EA	40-6209.67000.7004	Arboc Low Floor Cutaway Para	223000.0000	1,338,000.00

Michael L Bell Digitally signed by Michael L Bell
Date: 2025.05.05 18:02:51 -06'00'

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.

Katie Hobbs
Governor

Elizabeth Alvarado-Thorson
Cabinet Executive Officer
Executive Deputy Director

ARIZONA DEPARTMENT OF ADMINISTRATION

OFFICE OF THE DIRECTOR

100 NORTH FIFTEENTH AVENUE • SUITE 302
PHOENIX, ARIZONA 85007
(602) 542-1500

ARIZONA STATE PURCHASING COOPERATIVE AGREEMENT

State of Arizona Procurement Office

and

Utah Transit Authority

(Organization Name – Eligible Procurement Unit)

This Cooperative State Purchasing Agreement ("Agreement") is entered between the parties in accordance with Arizona Revised Statutes §41-2631, *et seq.,* Article 10 Intergovernmental Procurement, which authorizes cooperative purchasing for public procurement units and nonprofit organizations; and the Arizona Administrative Code R2-7-1001*,* which permits the governing body of any Eligible Procurement Unit to enter into an Agreement with the State for the purpose of utilizing State contracts.

The purpose of this Agreement is to permit the Eligible Procurement Unit named above, hereafter known as the State Cooperative Member, to purchase materials and services from State contractors at the prices and terms expressed in contracts between the State and those State contractors.

In consideration of the mutual promises contained in this Agreement, and of the mutual benefits to result there from, the State and the State Cooperative Member agree as follows:

1. The State shall conduct the procurement in compliance with the Arizona Procurement Code, A.R.S. Title 41, Chapter 23, and its Rules, A.A.C. Title 2, Chapter 7.
2. The specifications for the materials and services will be determined by the State Procurement Administrator or delegated State agencies.
3. The State will identify the State Cooperative Member as an eligible participant in any solicitation intended for general use by State Cooperative Members. In addition, the State may invite the State Cooperative Member to participate in certain exclusive solicitations. Only State Cooperative Members indicating an interest in participating in these exclusive solicitations will be eligible to participate in the resulting State contracts.
4. The State Cooperative Member's use of eligible State contracts is discretionary. Participation in the State Purchasing Cooperative shall not restrict or limit

member's ability to seek competition as needed. However, the State Cooperative Member shall not use a State contract as a means of coercion to obtain improper concessions, including lower prices, from State contractors or any other suppliers for the same or similar materials or services. The State Cooperative Member is also prohibited from participating in any organization or group that seeks to obtain such concessions from State contractors or other suppliers based on State contracts.

5. The State shall provide the State Cooperative Member with access to listings of all eligible State contracts. The original copy of each State contract is a public record on file with the State. The State's eProcurement System shall provide all contract information available and be used for contract purchases.

6. The State Cooperative Member shall:

   a.) Ensure that purchase orders issued against eligible State contracts are in accordance with the terms and prices established in the State contract.

   b.) Make timely payments to the State contractor for all materials and services received in accordance with the terms and conditions of the State contract. Payment for materials or services and inspection and acceptance of materials or services ordered by the State Cooperative Member shall be the exclusive obligation of such unit.

   c.) Be responsible for the ordering of materials or services under this Agreement. The State shall not be liable in any fashion for any violation by the State Cooperative Member of this Agreement and any related agreements and, with the exception of other Arizona State entities subject to A.R.S. §41-621, the State Cooperative Member shall hold the State harmless from any liability which may arise from action or inaction of the State Cooperative Member relating to this Agreement and any related agreements or their subject matter.

   d.) Cooperate and assist the State when requested to validate transactions reported by vendors on quarterly usage reports filed with the State Procurement Office.

7. The exercise of any rights or remedies by the State Cooperative Member shall be the exclusive obligation of such unit; however, the State, as the contract administrator and without subjecting itself to any liability, may join in the resolution of any controversy should it choose to do so.

8. The State Cooperative Member shall endeavor to utilize State contracts to the fullest extent possible. That is, the State Cooperative Member is to make an effort to purchase all items covered under exclusive contracts and shall not fracture

purchases by means of utilizing line items from alternate contracts. Such practices weaken the State's ability to negotiate lowest possible volume prices. Exclusive contracts are those that offer the State Cooperative member the option to participate exclusively, rather than permissively, and shall be identified as such within the contract documents.

9. Failure of the State Cooperative Member to secure performance from the State contractor in accordance with the terms and conditions of its purchase order does not necessarily require the State to exercise its own rights or remedies.
10. This Agreement shall take effect with execution by both Parties on the date signed by the State Procurement authorized signor, and shall remain in effect until cancelled by either party. The State reserves the right to amend the agreement during the term of the Agreement.
11. This Agreement may be canceled pursuant to the provisions of A.R.S. § 38-511.
12. This Agreement is exempt from the provisions of A.R.S. §§ 11-952(D) and 12-1518.
13. The State Cooperative Member certifies that its organization shall comply with the State and Federal Equal Opportunity and Non-Discrimination requirements and conditions of employment in accordance with A.R.S. Title 41 Chapter 9, Article 4 and Executive Order No. 2023-01 dated January 2, 2023.
14. The State Cooperative Member hereby acknowledges that each State contractor shall be remitting an administrative fee to the State, based upon the member's purchasing volume under the state contracts.
15. The State Cooperative Member authorizes State contractors to release usage information to the State. Usage information shall be limited to the State Cooperative Member's purchasing activity and shall generally consist of, but shall not be limited to, purchase order information including purchase date(s); units purchased, their descriptions and quantities; unit prices and aggregate amounts paid for all materials and services purchased off of the State's contract.
16. The State may terminate this Agreement without notice if the State Cooperative Member fails to comply with the terms of a State contract or this Agreement.
17. Except as provided in Paragraph 16, either of the Parties may terminate this Agreement with at least thirty (30) days written notice to the other party.

ARIZONA STATE PURCHASING COOPERATIVE AGREEMENT

IN WITNESS WHEREOF, the Parties of this Agreement, having caused their names to be affixed hereto by their proper officers, hereby execute this Agreement on the dates indicated hereunder.

FOR THE STATE COOPERATIVE MEMBER:

DocuSigned by:
Mike Bell
70E33A415BA44F6...
Signature:

Name: Mike Bell

Title: Utah Assistant Attorney General

Date: 2/6/2025

Signed by:
Kyle Stockley
49857393372242E...
Signature:

Name: Kyle Stockley

Title: Manager of Capital Vehicles

Date: 2/6/2025

DocuSigned by:
Jesse Rogers
20F013B9DE24475...
Signature:

Name: Jesse Rogers

Title: Bus Vehicle Procurement Project Mgr

Date: 2/5/2025

FOR THE STATE:

Julia Ladner
Signature:

Authorized SPO Representative

Title:

Date:

ARIZONA STATE PURCHASING COOPERATIVE AGREEMENT

State Cooperative Member Contact Information

Name of Organization:			
Name of Contact Person:	**Qualification**: *(Click the appropriate Box in either the Political Subdivision or Non-Profit categories)* **Political Subdivision**: ○		**Non-Profit Organization**: ○
Title of Contact Person:	☐ Federal Agency/Gov't ☐ State ☐ County ☐ City/Town ☐ Public School	☐ Other Educational Institution ☐ Tribal Nation ☐ Fire District ☐ Water District ☐ Other: _____	☐ Healthcare Institution ☐ Religous Organization ☐ Charity ☐ Other: _____
Telephone of Contact Person:			
Telephone of Office:			
E-mail address of Primary Contact Person:			
E-mail Address of Secondary Contact: *(If possible, please provide a general email address that can be forwarded to the contact person and that will not change should the contact person leave the organization. The person receiving email from the State Procurement Office at the address above needs to be responsible to forward the information to other interested parties at your organization as needed.)*			
Physical Address: Select...			
Mailing Address *(if different from the physical address)*:			
Federal ID Tax Number:			

***Non-profit entities must attach proof of non-profit status with the agreement**
Please notify the State Procurement Office of any changes to this information.

ARIZONA STATE PUCHASING COOPERATIVE AGREEMENT

Updated 3/13/2024

State Cooperative Member Contact Information

Name of Organization: **UTAH TRANSIT AUTHORITY**		
Name of Contact Person: **Amanda Burton**	**Qualification**: *(Click the appropriate Box in either the Political Subdivision or Non-Profit categories)* **Political Subdivision**:	**Non-Profit Organization**:
Title of Contact Person: **Procurement Supervisor**	☐ Federal ☐ Other Agency/Gov't Educational Institution	☐ Healthcare Institution
Telephone of Contact Person: **(801) 287-3320**	☒ State ☐ Tribal Nation ☐ County ☐ Fire District	☐ Religous Organization
Telephone of Office: 801-287-2414	☐ City/Town ☐ Water District ☐ Public School ☐ Other:	☐ Charity ☐ Other:

E-mail address of Primary Contact Person:

ABurton@rideuta.com

E-mail Address of Secondary Contact:

(If possible, please provide a general email address that can be forwarded to the contact person and that will not change should the contact person leave the organization. The person receiving email from the State Procurement Office at the address above needs to be responsible to forward the information to other interested parties at your organization as needed.)

Physical Address:

669 WEST 200 SOUTH,

SALT LAKE CITY, UT 84101

Mailing Address *(if different from the physical address)*:

Federal ID Tax Number:

87-0284459

***Non-profit entities must attach proof of non-profit status with the agreement**

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Patrick Preusser, Chief Operating Officer
PRESENTER(S):	Bryan Sawyer, Director of Fleet Engineering

TITLE:

Contract: Jordan River Rail Service Center Wheel Truing Machine (NSH USA Corporation)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute contract 24-03900 and associated disbursements with NSH USA Corporation with a not-to-exceed amount of $5,282,074.00.

BACKGROUND:
The current Midvale Rail Service Center (MRSC) wheel truing machine supports UTA's 117 light rail vehicles, 38 bi-level cars, and 18 locomotives.

The MRSC machine is overdue for a major overhaul, which would require the machine to be taken offline for multiple months. UTA's Jordan River Rail Service Center (JRRSC) was built with a provision for the future installation of a wheel truing machine. The procurement of this machine will allow UTA to equip the JRRSC facility with a wheel truing machine and transfer the wheel truing activities to the JRRSC facility, preventing service disruption.

DISCUSSION:
The scope of work for the contract is to design, build, test, deliver, and prepare equipment for fabrication, installation, and commissioning of a CNC Dual Axle Under Floor Wheel Lathe capable of performing wheel truing operations to maintain UTA's current and future rail vehicles. The contractor is also responsible for providing documentation and training for the operation and maintenance of the machine.

The majority of the work is anticipated to be completed in 2025 and 2026, with final activities planned to extend into the first half of 2027.

CONTRACT SUMMARY:

Contractor Name:	NSH USA Corporation
Contract Number:	24-03900
Base Contract Effective Dates:	Effective after last signature - December 31, 2027
Extended Contract Dates:	NA
Existing Contract Value:	NA
Amendment Amount:	NA
New/Total Contract Value:	$5,282,074.00
Procurement Method:	RFP
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

1. UTA could take the MRSC wheel truing machine out of service and defer wheel truing maintenance activities until the machine was back online. This is not recommended due to the high likelihood of revenue service disruption as vehicles will reach condemning limits and be taken out of service until the wheel profiles can be restored to safe operating parameters by conducting wheel truing.

2. UTA could remove light rail vehicle trucks, disassemble the trucks to remove the wheelsets, and ship the wheelsets to a 3rd party contractor for wheel truing. Throughput of this option is anticipated to be insufficient to keep up with wheel truing demand, so this option is also not recommended due to the high likelihood of revenue service disruption.

FISCAL IMPACT:

The originally approved 2025-2029 Five Year Capital Plan included $3,500,000 for FMA685 Wheel Truing Machine JRRSC project, but was temporarily reduced in a previous Technical Budget Adjustment (TBA). It will be adjusted to $3,350,000 following the approval of a TBA on May 14, 2025.

The total contract value is $5,282,074, with fiscal impact over the next two years as follows:

- 2025 Contract Total: $3,327,706.62 for Milestone Payments 1 through 6. The FMA685 project has an Approved 2025 Capital Budget of $3,350,000.

- 2026 Contract Total: $1,954,367.38 for Milestone Payments 7 through 10. The FMA685 project has a planned 2026 Capital Plan budget of $2,000,000.

ATTACHMENTS:

- Contract: Jordan River Rail Service Center Wheel Turning Machine (NSH USA Corporation)

UTAH TRANSIT AUTHORITY

GOODS AND SERVICES SUPPLY AGREEMENT

UTA CONTRACT # 24-03900

Jordan River Rail Service Center Wheel Truing Machine.

THIS GOODS AND NON-PROFESSIONAL SERVICES SUPPLY AGREEMENT ("Contract") is entered into and made effective as of the date of last signature below. ("Effective Date") by and between UTAH TRANSIT AUTHORITY, a public transit district organized under the laws of the State of Utah ("UTA"), and NSH USA Corporation**,** a member of the NSH Group (the "Contractor").

RECITALS

WHEREAS, on January 15th 2025 UTA received competitive proposals to provide The Jordan River Rail Service Center with a Wheel Truing Machine and (as applicable) all associated hardware, software, tools, installation services, commissioning and testing services, training and documentation (the "Goods and Services") according to the terms, conditions and specifications prepared by UTA in 24-03900 (the "RFP"); and

WHEREAS, UTA wishes to procure the Goods and Services according to the terms, conditions and specifications listed in the RFP (as subsequently amended through negotiation by the parties); and

WHEREAS, the NSH, USA Proposal submitted by the Contractor in response to the RFP ("Contractor's Proposal) was deemed to be the most advantageous to UTA; and

WHEREAS, Contractor is willing to furnish the Goods and Services according to the terms, conditions and specifications of the Contract.

AGREEMENT

NOW, THEREFORE, in accordance with the foregoing Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants and agreements hereafter set forth, the mutual benefits to the parties to be derived here from, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. GOOD AND SERVICES TO BE PROVIDED BY CONTRACTOR

Contractor hereby agrees to furnish and deliver the Goods and/or Services in accordance with the Contract as described in Exhibit A (Statement of Work or Services) (including performing any installation, testing commissioning and other Services described in the Contract).

2. TERM

This Contract shall commence as of the Effective Date. The Contract shall remain in full force and effect until all Goods have been delivered and all Services have been performed in accordance with the Contract (as reasonably determined by UTA). Contractor shall deliver all Goods and perform all Services no later than December 31st 2027. This guaranteed completion date may be extended if Contractor and UTA mutually agree to an extension evidenced by a written Change Order. The rights and obligations of UTA and Contractor under the Contract shall at all times be subject to and conditioned upon the provisions of the Contract.

3. COMPENSATION AND FEES

UTA shall pay Contractor in accordance with the payment milestones or other terms described in Exhibit B. If Exhibit B does not specify any milestones or other payment provisions, then payment shall be invoiced after the Goods have been delivered and the Services have been performed. In no event shall advance payments be made.

4. INCORPORATED DOCUMENTS

a. The following documents hereinafter listed in chronological order, with most recent document taking precedence over any conflicting provisions contained in prior documents (where applicable), are hereby incorporated into the Contract by reference and made a part hereof:

   1. The terms and conditions of this Goods and Services Supply Agreement (including any exhibits and attachments hereto).

   2. Contractor's Proposal including, without limitation, all federal certifications (as applicable);

   3. UTA's RFP including, without limitation, all attached or incorporated terms, conditions, federal clauses (as applicable), drawings, plans, specifications and standards and other descriptions of the Goods and Services;

b. The above-referenced documents are made as fully a part of the Contract as if hereto attached or herein repeated. The Contract (including the documents listed above) constitute the complete contract between the parties.

5. ORDER OF PRECEDENCE

The Order of Precedence for this contract is as follows:

1. UTA Contract including all attachments
2. UTA Terms and Conditions
3. UTA Solicitation Terms
4. Contractor’s Bid or Proposal including proposed terms or conditions

Any contractor proposed term or condition which is in conflict with a UTA contract or solicitation term or condition will be deemed null and void.

6. LAWS AND REGULATIONS

Contractor and any and all Goods and/or Services furnished under the Contract will comply fully with all applicable Federal and State laws and regulations, including those related to safety and environmental protection. Contractor shall also comply with all applicable licensure and certification requirements.

7. INSPECTION, DELIVERY AND TRANSFER OF TITLE

a. Upon UTA's request, UTA's representative shall be provided access to Contractor's facilities to obtain information on production progress and to make inspections during the manufacturing or assembly process. Contractor will make reasonable efforts to obtain, for UTA, access to subcontractor facilities for the purposes described above. If the specifications include pre-shipment inspection requirements, Goods shall not be shipped until UTA or its designee has inspected the Goods, and authorized Contractor to proceed with the shipment.

b. Delivery of the Goods is a substantial and material consideration under the Contract. Unless otherwise specifically set forth in the pricing schedule: (i) Contractor shall be solely responsible for the delivery of the Goods FOB to the delivery point specified in the Contract (or otherwise designated by UTA) and all costs related thereto are included in the pricing; and (ii) Contractor shall retain all liabilities and risk of loss with respect to the Goods until the Goods are delivered to, and accepted by, UTA.

c. After delivery, the Goods shall be subject to inspection, testing and acceptance by UTA, including any testing or commissioning process described in the specifications. UTA shall have the right to reject any Goods or Services that are defective or do not conform to the specifications or other Contract requirements. Goods or Services rejected shall be replaced, repaired or re-performed so as to conform to the Contract (and to UTA's reasonable satisfaction). If Contractor is unable or refuses to correct such Goods within a time deemed reasonable by UTA, then UTA may cancel the order in whole or in part. Any inspection and testing performed by UTA shall be solely for the benefit of UTA. Neither UTA's inspection of the production processes, production progress and/or Goods or Services (nor its failure to inspect) shall relieve Contractor of its obligations to fulfill the requirements of the Contract, or be construed as acceptance by UTA.

d. Contractor warrants that title to all Goods covered by an invoice for payment will pass to UTA no later than the time of payment. Contractor further warrants that upon submittal of an invoice for payment, all Goods and/or Services for which invoices for payment have been previously issued and payments received from UTA shall be free and clear of liens, claims, security interests or encumbrances in favor of Contractor or any subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided equipment, materials, and labor related to the equipment and/or work for which payment is being requested.

8. INVOICING PROCEDURES

a. Contractor shall invoice UTA after achievement of contractual milestones or delivery of all Goods and satisfactory performance of all Services or in accordance with an approved progress or periodic billing schedule. Contractor shall submit invoices to ap@rideuta.com for processing and payment. In order to timely process invoices, Contractor shall include the following information on each invoice:
    i. Contractor Name
    ii. Unique Invoice Number
    iii. PO Number
    iv. Invoice Date

v. Detailed Description of Charges
vi. Total Dollar Amount Due

b. UTA shall have the right to disapprove (and withhold from payment) specific line items of each invoice to address non-conforming Software or Services. Approval by UTA shall not be unreasonably withheld. UTA shall also have the right to offset (against payments) amounts reasonably reflecting the value of any claim which UTA has against Contractor under the Contract. Payment for all invoice amounts not specifically disapproved or offset by UTA shall be provided to Contractor within thirty (30) calendar days of invoice submittal to ap@rideuta.com . Invoices not submitted electronically will shall be paid thirty (30) calendar days from date of receipt by UTA's accounting department.

c. Invoices must include a unique invoice number, UTA's Purchase Order number, a description of the Good or Service provided, line-item pricing, total amount due, and must be submitted electronically to ap@rideuta.com.

9. WARRANTY OF GOODS AND SERVICES

a. Contractor warrants that all Goods (including hardware, firmware, and/or software products that it licenses) and Services shall conform to the specifications, drawings, standards, samples, and other descriptions made a part of (or incorporated by reference into) the Contract. Contractor further warrants that all Goods and Services shall be of the quality specified, or of the best grade if no quality is specified, and, unless otherwise provided in the Contract, will be new, and free from defects in design, materials and workmanship.

b. Contractor warrants that all Goods and Services shall be in compliance with applicable federal, state, and local laws and regulations including, without limitation, those related to safety and environmental protection.

c. At any time for a period of two (2) years from the date that all Goods have been delivered and all Services have been performed in accordance with the Contract, Contractor shall at its own expense promptly repair, replace and/or re-perform any Goods or Services that are defective or in any way fail to conform to the Contract requirements.

d. If Contractor fails to promptly make any repair, replacement or re-performance as required herein, UTA may conduct the necessary remedial work at Contractor's expense. Contractor cannot void the warranty for repair, replacement or re-performance performed under these circumstances. Provided that such repair, replacement or re-performance is conducted in a reasonable manner and with workmanship and care consistent with industry standards, Contractor shall reimburse UTA for the cost of any warranty repair, replacement or re-performance self-performed by UTA. Contractor will have the right to review and approve warranty work prior to the work being performed by UTA.

e. The foregoing warranties are not intended as a limitation, but are in addition to all other express warranties set forth in the Contract and such other warranties as are implied by law, custom, and usage of trade. Contractor (seller) acknowledges that all warranties granted to the buyer by the Uniform Commercial Code of the State of Utah apply to the Contract. Product liability disclaimers and/or warranty disclaimers from the seller are

not applicable to the Contract unless otherwise specified and mutually agreed upon elsewhere in the Contract. In general, Contractor warrants that: (1) the Good will do what the salesperson said it would do, (2) the Good will live up to all specific claims that the manufacturer makes in their advertisements, (3) the Goods will be suitable for the ordinary purposes for which such items are used, (4) the Goods will be suitable for any special purposes that UTA has relied on Contractor's skill or judgment to consider when it advised UTA about the Good, (5) the Goods have been properly designed and manufactured, and (6) the Goods are free of significant defects or unusual problems about which UTA has not been warned. Nothing in this warranty will be construed to limit any rights or remedies UTA may otherwise have under the Contract.

10. OWNERSHIP OF DESIGNS, DRAWINGS, AND WORK PRODUCT

Any deliverables and related materials prepared or developed pursuant to the Contract shall become the property of UTA when prepared, and, together with any documents or information furnished to Contractor and its employees or agents by UTA hereunder, shall be delivered to UTA upon request, and, in any event, upon final acceptance of the Goods and Services. UTA shall have full rights and privileges to use and reproduce said deliverables and related materials.

Any Contractor preexisting intellectual property, proprietary information, or trade secrets, including but not limited to software, subassembly drawings, calculations, and vehicle interface component drawings that may be included in the deliverables and related materials will remain the sole property of Contractor and will not be considered property of UTA.

11. GENERAL INDEMNIFICATION

Contractor shall indemnify, hold harmless and defend UTA, its officers, trustees, agents, and employees (hereinafter collectively referred to as "Indemnitees") from and against all liabilities, claims, actions, damages, losses, and expenses including without limitation reasonable attorneys' fees and costs (hereinafter referred to collectively as "claims") related to bodily injury, including death, or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of the failure of such Contractor to conform to federal, state, and local laws and regulations. If an employee of Contractor, a subcontractor, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable brings a claim against UTA or another Indemnitee, Contractor's indemnity obligation set forth above will not be limited by any limitation on the amount of damages, compensation or benefits payable under any employee benefit acts, including workers' compensation or disability acts. The indemnity obligations of Contractor shall not apply to the extent that claims arise out of the sole negligence of UTA or the Indemnitees.

12. INSURANCE REQUIREMENTS

Standard Insurance Requirements

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The Utah Transit Authority in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from

liabilities that might arise out of the performance of the work under this contract by the Contractor, his agents, representatives, employees or subcontractors and Contractor is free to purchase additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Contractor shall provide coverage with limits of liability not less than those Stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a "following form" basis.

1. Commercial General Liability – Occurrence Form

   Policy shall include bodily injury, property damage and broad form contractual liability coverage.

   - General Aggregate $4,000,000
   - Products – Completed Operations Aggregate $1,000,000
   - Personal and Advertising Injury $1,000,000
   - Each Occurrence $2,000,000

   a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor".

2. Automobile Liability

   Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

   Combined Single Limit (CSL) $2,000,000

   a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

   Workers' Compensation Statutory

   Employers' Liability

   Each Accident $100,000

   Disease – Each Employee $100,000

   Disease – Policy Limit $500,000

a. Policy shall contain a waiver of subrogation against the Utah Transit Authority.

b. This requirement shall not apply when a contractor or subcontractor is exempt under UCA 34A-2-103, AND when such contractor or subcontractor executes the appropriate waiver form.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the Utah Transit Authority is named as an additional insured, the Utah Transit Authority shall be an additional insured to the full limits of liability purchased by the Contract. Insurance limits indicated in this agreement are minimum limits. Larger limits may be indicated after the Contractor's assessment of the exposure for this contract; for their own protection and the protection of UTA.

2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

C. NOTICE OF CANCELLATION: Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the Utah Transit Authority, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice shall be sent directly to (Utah Transit Authority agency Representative's Name & Address).

D. ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers duly licensed or authorized to do business in the State and with an "A.M. Best" rating of not less than A-VII. The Utah Transit Authority in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERIFICATION OF COVERAGE: Contractor shall furnish the Utah Transit Authority with certificates of insurance (on standard ACORD form) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be sent to utahta@ebix.com and received and approved by the Utah Transit Authority before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be emailed directly to Utah Transit Authority's insurance email address at utahta@ebix.com. The Utah Transit Authority

project/contract number and project description shall be noted on the certificate of insurance. The Utah Transit Authority reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE UTAH TRANSIT AUTHORITY'S CLAIMS AND INSURANCE DEPARTMENT.

F. SUBCONTRACTORS: Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. Sub-contractors maintaining separate insurance shall name Utah Transit Authority as an additional insured on their policy. Blanket additional insured endorsements are not acceptable from sub-contractors. Utah Transit Authority must be scheduled as an additional insured on any sub-contractor policies.

G. APPROVAL: Any modification or variation from the insurance requirements in this Contract shall be made by Claims and Insurance Department or the UTA Legal Services, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

13. OTHER INDEMNITIES

a. Contractor shall protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all claims of any kind or nature whatsoever on account of infringement relating to Contractor's performance under the Contract. If notified promptly in writing and given authority, information and assistance, Contractor shall defend, or may settle at its expense, any suit or proceeding against UTA so far as based on a claimed infringement and Contractor shall pay all damages and costs awarded therein against UTA due to such breach. In case any Good or Service is in such suit held to constitute such an infringement or an injunction is filed that interferes with UTA's rights under the Contract, Contractor shall, at its expense and through mutual agreement between UTA and Contractor, either procure for UTA any necessary intellectual property rights, or modify Contractor's Goods and Services such that the claimed infringement is eliminated.

b. Contractor shall: (i) protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all liens or claims made or filed against UTA on account of any Goods or Services furnished by subcontractors of any tier; and (ii) keep UTA property free and clear of all liens or claims arising in conjunction with any Goods or Services furnished under the Contract by Contractor or its subcontractors of any tier. If any lien arising out of the Contract is filed in conjunction with any Goods or Services furnished under the Contract, Contractor, within ten (10) calendar days after receiving from UTA written notice of such lien, shall obtain a release of or otherwise satisfy such lien. If Contractor fails to do so, UTA may take such steps and make such expenditures as in its discretion it deems advisable to obtain a release of or otherwise satisfy any such lien or liens, and Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA in obtaining such release or satisfaction.

If any non-payment claim is made directly against UTA arising out of non-payment to any subcontractor, Contractor shall assume the defense of such claim within ten (10) calendar days after receiving from UTA written notice of such claim. If Contractor fails to do so, Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA to satisfy such claim.

c. Contractor will defend, indemnify and hold UTA, its officers, agents and employees harmless from liability of any kind or nature, arising from Contractor's use of any copyrighted or un-copyrighted composition, trade secret, patented or un-patented invention, article or appliance furnished or used in the performance of the Contract.

14. INDEPENDENT CONTRACTOR

The parties agree that Contractor, in the carrying out of its duties hereunder, is an independent contractor and that neither Contractor nor any of its employees is or are agents, servants or employees of UTA. Neither Contractor nor any of Contractor's employees shall be eligible for any workers compensation insurance, pension, health coverage, or fringe benefits which apply to UTA's employees. Neither federal, state, nor local income tax nor payroll tax of any kind shall be withheld or paid by UTA on behalf of Contractor or the employees of Contractor. Contractor acknowledges that it shall be solely responsible for payment of all payrolls, income and other taxes generally applicable to independent contractors.

15. STANDARD OF CARE.

Contractor shall perform any Services to be provided under the Contract in a good and workmanlike manner, using at least that standard of care, skill and judgment which can reasonably be expected from similarly situated independent contractors (including, as applicable, professional standards of care).

16. USE OF SUBCONTRACTORS

a. Contractor shall give advance written notification to UTA of any proposed subcontract (not indicated in Contractor's Proposal) negotiated with respect to the Work. UTA shall have the right to approve all subcontractors, such approval not to be withheld unreasonably.

b. No subsequent change, removal or substitution shall be made with respect to any such subcontractor without the prior written approval of UTA.

c. Contractor shall be solely responsible for making payments to subcontractors, and such payments shall be made within thirty (30) days after Contractor receives corresponding payments from UTA.

d. Contractor shall be responsible for and direct all Work performed by subcontractors.

Contractor agrees that no subcontracts shall provide for payment on a cost-plus-percentage-of-cost basis. Contractor further agrees that all subcontracts shall comply with all applicable laws

17. CONTRACTOR SAFETY COMPLIANCE

Contractor, including its employees, subcontractors, authorized agents, and representatives, shall comply with all UTA and industry safety standards, NATE, OSHA, EPA and all other State and Federal regulations, rules and guidelines pertaining to safety and environmental management, and will be solely responsible for any fines, citations or

penalties it may receive or cause UTA to receive pursuant to this Contract. Each employee, contractor and subcontractor must be trained in UTA environmental and Safety Management principles. Contractor acknowledges that its Goods and Services might affect UTA's environmental obligations. A partial list of activities, products or Services deemed as have a potential environmental effect is available at the UTA website www.rideuta.com. Upon request by UTA, Contractor shall complete and return a *Contractor Activity Checklist*. If UTA determines that the Goods and/or Services under the Contract has the potential to impact the environment, UTA may require Contractor to submit additional environmental documents. Contractor shall provide one set of the appropriate safety data sheet(s) (SDS) and container label(s) upon delivery of a hazardous material to UTA.

18. ENVIRONMENTAL RESPONSIBILITY

Contractor acknowledges that its Goods and/or Services might affect UTA's ability to maintain environmental obligations. A partial list of activities, products or Services deemed as have a potential environmental effect is available at the UTA website www.rideuta.com. Upon request by UTA, Contractor shall complete and return a *Contractor Activity Checklist*. If UTA determines that the Goods and/or Services under the Contract has the potential to impact the environment, UTA may require Contractor to submit additional environmental documents. Contractor shall provide one set of the appropriate safety data sheet(s) (SDS) and container label(s) upon delivery of a hazardous material to UTA.

19. ASSIGNMENT OF CONTRACT

Contractor shall not assign any of its rights or responsibilities, nor delegate its obligations, under this Contract or any part hereof without the prior written consent of UTA, and any attempted transfer in violation of this restriction shall be void.

20. SUSPENSION OF WORK

a. UTA may, at any time, by written order to Contractor, require Contractor to suspend, delay, or interrupt all or any part of the Work called for by this Contract. Any such order shall be specifically identified as a "Suspension of Work Order" issued pursuant to this Article. Upon receipt of such an order, Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of further costs allocable to the Work covered by the order during the period of Work stoppage.

b. If a Suspension of Work Order issued under this Article is canceled, Contractor shall resume Work as mutually agreed to in writing by the parties hereto.

c. If a Suspension of Work Order is not canceled and the Work covered by such order is terminated for the convenience of UTA, reasonable costs incurred as a result of the Suspension of Work Order shall be considered in negotiating the termination settlement.

d. If the Suspension of Work causes an increase in Contractor's cost or time to perform the Work, UTA's Project Manager or designee shall make an equitable adjustment to compensate Contractor for the additional costs or time, and modify this Contract by Change Order.

21. TERMINATION

a. **FOR CONVENIENCE**: UTA shall have the right to terminate the Contract at any time by providing written notice to Contractor. If the Contract is terminated for convenience, UTA shall pay Contractor: (i) in full for Goods delivered and Services fully performed prior to the effective date of termination; and (ii) an equitable amount to reflect costs incurred (including Contract close-out and subcontractor termination costs that cannot be reasonably mitigated) and profit on work-in-progress as of to the effective date of the termination notice. UTA shall not be responsible for anticipated profits based on the terminated portion of the Contract. Contractor shall promptly submit a termination claim to UTA. If Contractor has any property in its possession belonging to UTA, Contractor will account for the same, and dispose of it in the manner UTA directs.

b. **FOR DEFAULT:** If Contractor (a) becomes insolvent; (b) files a petition under any chapter of the bankruptcy laws or is the subject of an involuntary petition; (c) makes a general assignment for the benefit of its creditors; (d) has a receiver appointed; (e) should fail to make prompt payment to any subcontractors or suppliers; or (f) fails to comply with any of its material obligations under the Contract, UTA may, in its discretion, after first giving Contractor seven (7) days written notice to cure such default:

1. Terminate the Contract (in whole or in part) for default and obtain the Goods and Services using other contractors or UTA's own forces, in which event Contractor shall be liable for all incremental costs so incurred by UTA;
2. Pursue other remedies available under the Contract (regardless of whether the termination remedy is invoked); and/or
3. Except to the extent limited by the Contract, pursue other remedies available at law.

c. **CONTRACTOR'S POST TERMINATION OBLIGATIONS :** Upon receipt of a termination notice as provided above, Contractor shall (i) immediately discontinue all work affected (unless the notice directs otherwise); and (ii) deliver to UTA all data, drawings and other deliverables, whether completed or in process. Contractor shall also remit a final invoice for all services performed and expenses incurred in full accordance with the terms and conditions of the Contract up to the effective date of termination. UTA shall calculate termination damages payable under the Contract, shall offset such damages against Contractor's final invoice, and shall invoice Contractor for any additional amounts payable by Contractor (to the extent termination damages exceed the invoice). All rights and remedies provided in this Article are cumulative and not exclusive. If UTA terminates the Contract for any reason, Contractor shall remain available, for a period not exceeding 90 days, to UTA to respond to any questions or concerns that UTA may have regarding the Goods and Services furnished by Contractor prior to termination.

22. CHANGES

a. UTA's Project Manager or designee may, at any time, by written order designated or indicated to be a Change Order, direct changes in the Work including, but not limited to, changes:

1. In the Scope of Services;
2. In the method or manner of performance of the Work; or
3. In the schedule or completion dates applicable to the Work.

To the extent that any change in Work directed by UTA causes an actual and demonstrable impact to: (i) C's cost of performing the work; or (ii) the time required for the Work, then (in either case) the Change Order shall include an equitable adjustment to this Contract to make Contractor whole with respect to the impacts of such change.

b. A change in the Work may only be directed by UTA through a written Change Order or (alternatively) UTA's expressed, written authorization directing Contractor to proceed pending negotiation of a Change Order. Any changes to this Contract undertaken by Contractor without such written authority shall be at Contractor's sole risk. Contractor shall not be entitled to rely on any other manner or method of direction.

c. Contractor shall also be entitled to an equitable adjustment to address the actual and demonstrable impacts of "constructive" changes in the Work if: (i) subsequent to the Effective Date of this Contract, there is a material change with respect to any requirement set forth in this Contract; or (ii) other conditions exist or actions are taken by UTA which materially modify the magnitude, character or complexity of the Work from what should have been reasonably assumed by Contractor based on the information included in (or referenced by) this Contract. In order to be eligible for equitable relief for "constructive" changes in Work, Contractor must give UTA's Project Manager or designee written notice stating:

1. The date, circumstances, and source of the change; and
2. That Contractor regards the identified item as a change in Work giving rise to an adjustment in this Contract.

Contractor must provide notice of a "constructive" change and assert its right to an equitable adjustment under this Section within ten (10) days after Contractor becomes aware (or reasonably should have become aware) of the facts and circumstances giving rise to the "constructive" change. Contractor's failure to provide timely written notice as provided above shall constitute a waiver of Contractor's rights with respect to such claim.

d. As soon as practicable, but in no event longer than 30 days after providing notice, Contractor must provide UTA with information and documentation reasonably demonstrating the actual cost and schedule impacts associated with any change in Work. Equitable adjustments will be made via Change Order. Any dispute regarding the Contractor's entitlement to an equitable adjustment (or the extent of any such equitable adjustment) shall be resolved in accordance with Article 20 of this Contract.

23. INFORMATION, RECORDS and REPORTS; AUDIT RIGHTS

Contractor shall retain all books, papers, documents, accounting records and other evidence to support any cost-based billings allowable under Exhibit B (or any other provision of the Contract). Such records shall include, without limitation, time sheets and other cost documentation related to the performance of labor services, as well as subcontracts, purchase orders, other contract documents, invoices, receipts or other documentation supporting non-labor costs. Contractor shall also retain other books and records related to the performance, quality or management of the Contract and/or Contractor's compliance with the Contract. Records shall be retained by Contractor for a period of at least six (6) years, or until any audit initiated within that six-year period has been completed (whichever is later). During this six-year period, such records shall be made available at all reasonable times for audit and inspection by UTA and other authorized auditing parties including, but not limited to, the Federal Transit Administration. Copies of requested records shall be furnished to UTA or designated audit parties upon request. Contractor agrees that it shall flow-down (as a matter of written contract) these records requirements to all subcontractors utilized in the performance of the Contract at any tier.

24. FINDINGS CONFIDENTIAL

Any documents, reports, information, or other data and materials delivered or made available to or prepared or assembled by Contractor or subcontractor under this Contract are considered confidential and shall not be made available to any person, organization,

or entity by Contractor without consent in writing from UTA. If confidential information is released to any third-party without UTA's written consent as described above, contractor shall notify UTA of the data breach within 10 days and provide its plan for immediate

mitigation of the breach for review and approval by UTA.

a. It is hereby agreed that the following information is not considered to be confidential:
    1. Information already in the public domain.
    2. Information disclosed to Contractor by a third-party who is not under a confidentiality obligation.
    3. Information developed by or in the custody of Contractor before entering into this Contract.
    4. Information developed by Contractor through its work with other clients; and
    5. Information required to be disclosed by law or regulation including, but not limited to, subpoena, court order or administrative order.

25. PUBLIC INFORMATION.

Contractor acknowledges that the Contract and related materials (invoices, orders, etc.) will be public documents under the Utah Government Records Access and Management Act (GRAMA). Contractor's response to the solicitation for the Contract will also be a public document subject to GRAMA, except for legitimate trade secrets, so long as such trade secrets were properly designated in accordance with terms of the solicitation.

26. PROJECT MANAGER

UTA's Project Manager for the Contract is Ryan Gardner, or designee. All questions and correspondence relating to the technical aspects of the Contract should be directed to UTA's Project Manager at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 514-6453.

27. CONTRACT ADMINISTRATOR

UTA's Contract Administrator for the Contract is Jackie Marra, or designee. All questions and correspondence relating to the contractual aspects of the Contract should be directed to UTA's Grants & Contracts Administrator at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 287-3059.

28. CONFLICT OF INTEREST

Contractor represents that it has not offered or given any gift or compensation prohibited by the laws of the State of Utah to any officer or employee of UTA to secure favorable treatment with respect to being awarded the Contract. No member, officer, or employee of UTA during their tenure or one year thereafter shall have any interest, direct or indirect, in the Contract or the proceeds thereof.

29. NOTICES OR DEMANDS

a. Any and all notices, demands or other communications required hereunder to be given by one party to the other shall be given in writing and may be electronically delivered , personally delivered, mailed by US Mail, postage prepaid, or sent by overnight courier service and addressed to such party as follows:

If to UTA:	If to Contractor:
Utah Transit Authority	NSH USA Corporation
ATTN: Jackie Marra	ATTN: Curtis Goffinski
669 West 200 South	1700 North Broadway
Salt Lake City, UT 84101	Albany, NY 12204
Jackie.marra@rideuta.com	Cgoffinski@nsh-usa.com

b. Either party may change the address at which such party desires to receive written notice of such change to any other party. Any such notice shall be deemed to have been given, and shall be effective, on delivery to the notice address then applicable for the party to which the notice is directed; provided, however, that refusal to accept delivery of a notice or the inability to deliver a notice because of an address change which was not properly communicated shall not defeat or delay the giving of a notice.

30. CLAIMS/DISPUTE RESOLUTION

a. "Claim" means any disputes between UTA and the Contractor arising out of or relating to the Contract Documents including any disputed claims for Contract adjustments that cannot be resolved in accordance with the Change Order negotiation process set forth in Article 20. Claims must be made by written notice. The responsibility to substantiate claims rests with the party making the claim.

b. Unless otherwise directed by UTA in writing, Contractor shall proceed diligently with performance of the Work pending final resolution of a Claim, including litigation. UTA shall continue to pay any undisputed payments related to such Claim.

c. The parties shall attempt to informally resolve all claims, counterclaims and other disputes through the escalation process described below. No party may bring a legal action to enforce any term of this Contract without first having exhausted such process.

d. The time schedule for escalation of disputes, including disputed requests for change order, shall be as follows:

Level of Authority	Time Limit
UTA's Project Manager /Contractor's Project Manager	Five calendar days
UTA's Director of Fleet Engineering/ Contractor's Director, Project Management	Five calendar days
UTA's Chief Operating Officer]/Contractor's President & COO	Five calendar days

Unless otherwise directed by UTA's Project Manager, Contractor shall diligently continue performance under this Contract while matters in dispute are being resolved.

If the dispute cannot be resolved informally in accordance with the escalation procedures set forth above, than either party may commence formal mediation under the Juris Arbitration and Mediation (JAMS) process using a mutually agreed upon JAMS mediator. If resolution does not occur through Mediation, then legal action may be commenced in accordance the venue and governing law provisions of this contract.

31. **GOVERNING LAW**

The validity, interpretation and performance of the Contract shall be governed by the laws of the State of Utah, without regard to its law on the conflict of laws. Any dispute arising out of the Contract that cannot be solved to the mutual agreement of the parties shall be brought in a court of competent jurisdiction in Salt Lake County, State of Utah. Contractor consents to the jurisdiction of such courts.

32. COSTS AND ATTORNEY FEES.

If any party to this Agreement brings an action to enforce or defend its rights or obligations hereunder, the prevailing party shall be entitled to recover its costs and expenses, including mediation, arbitration, litigation, court costs and attorneys' fees, if any, incurred in connection with such suit, including on appeal

33. SEVERABILITY

Any provision of the Contract prohibited or rendered unenforceable by operation of law shall be ineffective only to the extent of such prohibition or unenforceability without invalidating the remaining provisions of the Contract.

34. AMENDMENTS

Any amendment to the Contract must be in writing and executed by the authorized representatives of each party.

35. FORCE MAJEURE

Neither party to the Contract will be held responsible for delay or default caused by fire, riot, acts of God and/or war which are beyond that party's reasonable control. UTA may terminate the Contract after determining such delay or default will reasonably prevent successful performance of the Contract.

36. NO THIRD-PARTY BENEFICIARIES

The parties enter into the Contract for the sole benefit of the parties, in exclusion of any third-party, and no third-party beneficiary is intended or created by the execution of the Contract.

37. ENTIRE AGREEMENT

This Contract shall constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and shall supersede all offers, negotiations and other agreements with respect thereto.

38. COUNTERPARTS

This Contract may be executed in any number of counterparts and by each of the parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument. Any signature page of the Contract may be detached from any counterpart and reattached to any other counterpart hereof. The electronic transmission of a signed original of the Contract or any counterpart hereof and the electronic retransmission of any signed copy hereof shall be the same as delivery of an original.

39. NONWAIVER

No failure or waiver or successive failures or waivers on the part of either party in the enforcement of any condition, covenant, or article of this Contract shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party to enforce the same in the event of any subsequent breaches by the other party.

40. SALES TAX EXEMPT

Purchases of certain materials are exempt from Utah sales tax. UTA will provide a sales tax exemption certificate to Contractor upon request. UTA will not pay Contractor for sales taxes for exempt purchases, and such taxes should not be included in Contractor's Application for Payment.

41. UTAH ANTI-BOYCOTT OF ISRAEL ACT

Contractor agrees it will not engage in a boycott of the State of Israel for the duration of this contract.

42. SURVIVAL

Provisions of this Contract intended by their nature and content to survive termination of this Contract shall so survive including, but not limited to, Articles 7, 9, 10, 11, 12, 13, 15, 17, 18, 19 ,21, 23, 24,25, 30, 31, 32, and 40.

43. Tariff Pass-Through Clause

Contractor pricing does not contain any mechanism for changes to tariff rates assessed by any government or import authority. Pricing from Contractor's vendors to Contractor may increase thereby causing Contractor costs to increase. Applicable taxes, tariffs, duties, etc. imposed on third-party equipment and/or services will be passed through to UTA.

Hence, any increased tariffs imposed by any government(s) or import authorities after contract signing will be passed through to UTA. In the event of any new or increased tariffs, duties, or trade restrictions imposed by any government(s) or import authorities affecting the cost of materials or finished goods, the contract price shall be adjusted accordingly. In the event of a decrease in tariffs or duties, the price decrease shall be passed along to UTA.

In order to be reimbursed under this section, contractor shall submit a proposal for price increase accompanied by sufficient justification and documentation demonstrating that the increased taxes, tariffs, or duties are the proximate cause of the price increase with no additional markup of any type. The justification shall include an explanation of mitigating measure taken by contractor to avoid cost impact to the project.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be executed by officers duly authorized to execute the same as of the date of last signature below.

UTAH TRANSIT AUTHORITY:

By_____
Jay Fox
Executive Director

By_____
Patrick Preusser
Chief Operating Officer

DocuSigned by:
By Mike Bell
70E33A415BA44F6...
Mike Bell
UTA Legal Counsel

NSH USA Corporation:

Signed by:
By David William Davis 4/15/2025
8b5a6310bc9b4d2...
David William Davis
President and CEO

Signed by:
By 4/15/2025
26B471A5C237453...
Brandon Teal
Director Railway Machine Systems

Exhibit A

UTAH TRANSIT AUTHORITY

2264 S 900 West

Salt Lake City, UT 84119

Jordan River Rail Service Center Wheel Truing Machine Technical Specifications

Rev : 2

Release Date : 3/21/2025

TABLE OF CONTENTS

1.00 System Overview

A UTA's Jordan River Rail Service Center (JRRSC) was built with a provision for the future installation of a wheel truing machine. The purpose of this procurement is to equip the JRRSC with a state of the art underfloor dual axle CNC wheel lathe.

B The wheel truing machine will be operated by UTA personnel to service UTA's fleet of rail vehicles. The truing machine shall be capable of completing necessary turning operations for all applicable wheels, tires, and brake discs on UTA rail vehicle applications.

C UTA has in operation the following rail vehicles:

- i 23 Siemens SD-100 Light Rail Vehicles
- ii 17 Siemens SD-160 Light Rail Vehicles
- iii 77 Siemens S70 Light Rail Vehicles
- iv 18 Motive Power MP36PH-3C Locomotives
- v 16 Bombardier Bi-Level Coach Cars
- vi 5 additional used Bombardier Bi-Level Coach Cars (procured from North County Transit District)
- vii 22 Bombardier Bi-Level Cab Cars
- viii Replacement of the SD-100 and SD-160 light rail vehicles is currently in process. The planned replacement vehicle is a Stadler CITYLINK light rail vehicle.

2.00 Scope of Work

A The Contractor shall provide design, build, test, deliver, prepare equipment for installation, install equipment, and commission a state-of-the-art CNC Dual Axle Under Floor Wheel Lathe capable of performing all operations required to maintain UTA's current and future rail vehicles.

B The Contractor shall be responsible for roughing-in, installation of equipment, and final connection of utilities, with labor, services, and incidentals necessary for complete and operational equipment installation at the JRRSC.

C The Contractor shall be responsible for Piping, wiring, and switching between equipment and utilities.

D The Contractor shall provide slings, cradles, and other lifting equipment as applicable.

E All adapters required to perform work as outlined in this specification shall be provided as part of this Contract.

F The Contractor shall provide all necessary tooling required to perform work as outlined in this specification, that is not commercially available, as part of this Contract.

G A list of Tooling that is commercially available, shall be provided with the information, including but not limited to, description of tool, supplier, model #, specification, cost etc. UTA may choose to procure these tools on its own.

H The Contractor shall demonstrate that all machine operations meet or exceed the specifications and tolerances of the carbuilder or equipment manufacturer for the equipment being serviced.

I The Contractor shall provide training to UTA employees on the operation of the wheel truing machine.

J The Contractor shall provide training to UTA employees on the maintenance of the wheel truing machine.

K The Contractor shall provide documentation for maintaining and operating the wheel truing machine.

L The design, documentation, and turning operations shall be compliant with Association of American Railroads (AAR), Federal Railroad Administration (FRA), American Public Transportation Association (APTA), and manufacturer's recommendations applicable to the equipment being serviced. The Contractor shall be responsible for demonstrating conformance to relevant standards for each machine operation.

M The Proposer shall provide a description of its recent design and manufacturing experience in providing a wheel truing machine for the service of Light Rail and Commuter Rail vehicles.

3.00 Wheel Truing Machine Operations:

The wheel truing machine shall, at minimum, be equipped to perform all operations as outlined in this section.

A UTA Siemens S70, SD-100, SD-160 and Stadler CITYLINK Light Rail Vehicle Operations:

- i Wheel truing of power truck wheels
- ii Wheel truing of center truck wheels
- iii Turning power truck friction brake discs
- iv Turning center truck friction brake discs

B UTA Bombardier Bi-Level, MP36PH-3C Locomotive, and Future DMU Operations[1]:

- i Wheel truing of all wheelsets
- ii Turning of all friction brake discs

[1] UTA is in the process of procuring Diesel Multiple Unit (DMU) trainsets. The details of these trainsets are unknown at the time of writing this specification. The Contractor is responsible for providing equipment that is capable of servicing common DMU trainsets in operation in North America.

C UTA Commuter Rail wheel truing machine operations will be conducted with the axles or trucks removed from the vehicle and transported to the truing machine.

D UTA Light Rail Vehicle wheel truing machine operations will typically be conducted with the complete vehicle driven onto the truing machine. The machine shall be designed to minimize or eliminate the need for truck components to be removed or adjusted to achieve clearance to interface with the wheel truing machine and accomplish the truing operations.

E UTA Light Rail Vehicle wheel truing machine operations may be conducted with the truck or individual axles placed directly onto the wheel truing machine.

4.00 General Requirements

A The Contractor shall be responsible for the successful installation, integration, and commissioning of the wheel truing machine at UTA's facility to provide UTA with a fully operational wheel truing machine capable of performing all operations outlined in section 3.00.

B The wheel truing machine shall be designed for a minimum of a 30-year service life.

C The wheel truing machine design shall take into consideration the human factors engineering of the U.S. adult population anthropomorphic data and be based on human factors engineering, with the range of people from the fifth percentile female to the 95th percentile male as defined by "The Measure of Man and Woman," revised edition, at a minimum. The design shall accommodate the widest range of people where feasible.

i Design ergonomics, and other system design requirements of this sections shall be demonstrated in the CDR, PDR, and FDR package.

D Hydraulic connections shall be made using corrosion resistant rigid piping, except in locations where relative motion between components occurs. Flexible hoses may be used to prevent the transmission of vibration between components. All flexible hoses shall be protected against abrasion.

E Oils, greases, additives, and other consumables required to service and maintain the wheel truing machine shall be readily available for purchase in the United States.

F Electrical systems shall be designed in conformance with NFPA 70.

G All wiring and cabling shall be placed inside of suitable hard conduit for cable runs external to the equipment. Exceptions may be made on a case by case basis provided an equivalent level of protection is provided, subject to UTA review and approval during CDR.

H The machine shall be designed to maximize operator safety, designed with features to automatically prevent chip buildup, prevent operator exposure to sharp machining chips, and provide the operator a safe workspace protected from falling dislodged wheelsets.

I The machine and installation shall be compliant with all relevant OSHA safety requirements.

J The control system shall be equipped and programmed to detect system faults. The Contractor shall provide a functional description of the fault detection system and a list of all faults, as applicable, for UTA review and approval (CDRL 01).

K All components shall be treated to prevent corrosion, with the exception of components which must remain unfinished or uncoated due to their function, such as drive rollers, guide rollers, ball screws, guideways, probes, tool block guarding, etc. All unfinished components must be identified during CDR, including justification for why the component is unfinished for UTA review and approval. The use of dissimilar metals in contact is prohibited.

The machine colors shall be as follows:

Light Grey RAL 7035:

- Stand
- Crossbeam
- Rails and vertical supports
- Hydraulic unit
- Machine covering
- Electrical cabinet
- Lifting devices
- Chip conveyor
- Chip protection door

Signal Yellow RAL 1003:

- Longitudinal slide
- Surface lathe tool
- Moving parts

Bauhaus Blue RAL 2604035:

- Roller carriers and positioning mechanism
- Gear for the friction roller drive
- Outer or inner bearing fixing

Jet Black RAL 9005:

- Hold down adapter

L The wheel truing machine shall be equipped with an electric jib crane or equivalent device(s) to remove and install tooling and adapters.

M The Contractor shall provide a design package demonstrating the wheel truing machine design for each machine operation as outlined in section 3.00 for UTA review and approval. The design package shall include at a minimum:

i Fully dimensioned drawings for wheel truing machine detailed to the sub-assembly level.

ii Fully dimensioned drawings for all adapters required to interface with each piece of equipment.

iii Electrical and hydraulic schematics.

iv Fully dimensioned drawings detailing the interfaces for each operation outlined in section 3.00.

v A stress analysis demonstrating no permanent deformation of the machine, adapters, or work piece will occur during any wheel truing machine operation.

vi An overload analysis demonstrating no permanent deformation, buckling, or overload of any machine element when operated at maximum capacity.

vii The design package shall provide analysis demonstrating that all reaction forces are transmitted through the machine frame, and not the building foundation.

viii Detailed functional descriptions of each operation outlined in section 3.00.

ix The design package shall be reviewed according to the following review phases: Conceptual Design Review (CDR) (CDRL 02), Preliminary Design Review (PDR) (CDRL 03), and Final Design Review (FDR) (CDRL 04).

a The primary objectives of the conceptual design review (CDR) phase shall be to affirm the basis of design with the Contractor.

b The preliminary design review (PDR) shall confirm the design concept. The PDR shall contain the preliminary design package, a preliminary hazard analysis (PHA), and a requirements traceability matrix clearly demonstrating how all technical specifications will be met.

c The final design review (FDR) shall confirm the design is conformant with all specifications and ready for manufacturing. The FDR shall demonstrate the completion of the requirements traceability matrix, resolution of all items from the PHA, and finalize the design package.

d Manufacturing shall not commence until the Contractor receives written approval of the FDR from UTA, and all comments from previous design review phases have been addressed.

e CDR and PDR may be combined if sufficient design information is available with written approval from UTA.

f If the Contractor decides to proceed with material procurement and/or manufacturing prior to FDR approval, any non-conformance shall be corrected at the Contractor's expense.

N The Contractor shall develop a wheel truing machine facility integration plan (CDRL 05). At a minimum this plan shall contain the following:

i Engineering drawings demonstrating the machine placement and interfaces with the JRRSC facility. The drawings shall consider all aspects of wheel truing machine operation including jib crane access for installation of adapters.

ii All facility requirements such as electrical requirements, network requirements, structural reinforcement, structural modifications, etc, shall be defined in the plan.

iii The integration plan shall contain a detailed installation plan and procedure including details for material offload, storage, and transport into the facility.

iv The integration plan shall clearly define any necessary facility modifications that must be conducted prior to the wheel truing machine installation, if applicable. All necessary facility modifications shall be clearly identified at the proposal phase for UTA review and approval. UTA responsibilities were identified during the proposal phase of the project, and have been added to section 22.00. Facility modifications that have not received prior approval by UTA shall be at the Contractor's expense.

O The Contractor shall be responsible for programming, verifying, and validating all necessary machine operations. The Contractor shall supply "go/no-go" gauges to physically verify the conformance of all wheel profiles.

P The Contractor shall be responsible for verifying the accuracy of any drawings, dimensions, or other information provided by UTA.

5.00 Product Requirements: Wheel Truing Machine, Dual Axle with Chip Removal, and Dust Collection

5.01 General Information:

A The base machine shall be a tandem, CNC controlled lathe, and designed to lift, measure and machine two-wheel sets together in the configurations listed in section 3.00. The following components, or approved equivalent, belong to the standard unit:

- base frame,
- crossbeams,
- 4 tool blocks with integrated wear probes,
- 4 friction roller drives (roller carrier with drive unit),
- electrical equipment,
- hydraulics,
- machine housing,
- CNC control in English language,
- outer or inner bearing support with adapters,
- rail system, and
- chip disposal system.
- dust collection system, and
- necessary extensions for machining tasks.

5.02 Main Dimensions and Operational Data:

A Wheel Set and Vehicle Data:

- Shall have the ability to machine wheel sets as defined in section 3.00.

B Machining Accuracy:

- max . diameter difference of two wheels on one axle: 0.1 mm (0.004 inch) in the case of rubber-cushioned wheel sets, max. diameter difference of two wheels on one axle: 0.3mm (0.012 inch)
- max. diameter difference of four wheels on two axles: 0.3 mm (0.012 inch) in the case of rubber-cushioned wheel sets, the value may increase by up to 0.3 mm (0.012 inch).
- radial run-out measured at the taping line: 0.1 mm (0.004 inch) in the case of rubber-cushioned wheel sets, the value may increase by up to 0.3 mm (0.012 inch).
- axial run-out: 0.3 mm (0.012 inch)

- profile conformity: 0.2 mm (0.008 inch) in the case of rubber cushioned wheel sets, the value may increase by up to 0.3 mm (0.012 inch).
- surface finish, profile machining: Rz < 60 µm.
- If tighter tolerance requirements are identified for any of the equipment during the design review phase, the machine shall be designed to meet the most stringent requirements.

C Machine Data, minimum requirements:

- drive rating: 2 x 30 kW (2 x 40 hp)
- cutting force (if axle load is sufficient): 23 kN (5170 lbs)
- max. cutting cross-section, approximate: 10 mm² (0.0155-inch²)
- cutting speed (re-profiling): 40 – 120 m/min (131 – 394 ft/min)
- max. cutting speed (taping line): 305 m/min (1000 ft/min)
- tool block rapid traverse (longitudinal and cross): 4.7 m/min (15.4 ft/min)
- feed range (infinitely variable from – to): 0 - 2.5 mm/rev (0 – 0.1 inch/rev)
- max. noise level of the machine: < 80 dB (A) (except cutting noise)
- measuring system of the machine: metric
- language: CNC screen, signs; documentation: English.

D Connection Data:

i Unless otherwise approved, equipment shall be designed in accordance to prevailing specifications:

- operating voltage (controls): 480 V
- operating voltage (main drive): 415 V
- voltage tolerance: Contractor shall coordinate with utility.
- frequency: 60 Hz
- type of main power source: 3P 1N connected power, depending on the equipment, approximately: 96 kVA
- maximum machine weight: As dictated by facility structure, and other project constraints such as shipping and movement for assembly. Contractor's responsibility to conduct the necessary analysis.
- Available space to install the machine, approximately: 22.5ft x 20.5ft x 91in depth.
- Available foundation pit depth, approximately: 91 inch
- Exact truing pit dimensions to be verified by the Contractor.

5.03 Technical Specifications

5.03.01 Machine General Description and Requirements

A The machine shall be of a durable construction designed for reliable operation under UTA's service conditions.

B The machine shall be designed to machine 100 wheelsets per month with machine service necessary no more frequently than annually, and greater than 95% availability.

C Annual machine service shall take less than 1 week.

D The machine shall be designed for a major service no less than every 10 years.

E All moving equipment shall be equipped with provisions for grease lubrication with service locations accessible without machine disassembly.

F Machining operations shall be conducted without the removal of any surrounding truck or vehicle equipment. Sanding nozzles and rail clearers may be adjusted to accommodate necessary machine clearances, but a machine design requiring no adjustments to vehicle equipment to accommodate machine operations is preferrable.

G The machining operations shall be an automated sequence, minimizing manual operator setup. All automated aspects of the sequence shall also have a manual operating mode with built in fail safes.

H The system shall be designed with features to optimize process times and minimize the material removal requirements.

I Critical systems shall be designed with redundancy to minimize machine down time.

J Machine Bases:

- i The machine shall be designed with adequate adjustment to accommodate proper machine alignment with the facility, and rails.
- ii The machine shall allow for seamless operation of the vehicle and/or transfer of wheelset to and from the existing facility track to the machine.

K Crossbeam:

- i The machine shall be equipped with a crossbeam, or equivalent which allows the cutting and measurement tools to reach from axle center to axle/brake disc end (whichever is further) to accommodate reprofiling all wheelsets as well as reconditioning all brake disk types required of this specification.
- ii The crossbeam for all tool blocks shall be built of spheroid graphite cast iron GGG 40 with rigid longitudinal and cross ribbing, or approved equivalent.
- iii The guide tracks shall be adequately lubricated and covered with reinforced telescoping covers to protect the tracks, spindles, and other mechanisms from dust and chips.

L Friction Roller Drives:

- i Rotation of a wheelset on an Underfloor wheel lathe shall be accomplished by the use of a friction roller drive assembly.
- ii Each roller drive shall have four drive rollers (per wheelset).
- iii The drive rollers shall make secure contact to the tread surface minimizing the risk of dislodged wheelsets.
- iv The drive rollers shall be designed to prevent interference with machine operations.
- v The machine shall be equipped with a provision to safely and automatically transfer the wheelset from the running rail to the drive rollers and vise versa.

vi The friction roller drives shall be designed to precisely support the wheelset with adequate loading during machining operations to prevent any machining abnormality.

vii The friction roller drives shall be equipped with transducers to monitor the axle load.

M Axial Guide Rollers

i The machine shall be equipped with axial guide rollers to ensure the wheelset is securely retained horizontally in position during machine operations.

ii Axial guide rollers shall guide the wheels (monoblock)/ tires (resilient) from the inner surface. The guide roller interface location shall be designed to ensure it does not interfere with any machine operation, and shall be adjustable to prevent interference with stamped serial numbers.

iii The axial guide rollers shall follow an automated synchronized clamping sequence to ensure the wheelset is secure and does not shift during machine operations.

N Inner Axle Centering Units for radial centering of wheelsets equipped with inner or outer bearings commonly used on light and heavy rail passenger transit.

i The machine shall be equipped with axle centering units which attach to the inboard portion of the axle. This provision will be used to interface with the S70 center truck axle bridge assembly.

ii The Equipment Comprises:

- two fixing devices per wheelset, mounted to the crossbeam,
- two sets of hold down equipment.
- The Contractor shall provide two additional spare sets of fixing devices and hold down equipment.

O Tailstock/ Outer Axle Box Centering Units:

i The machine shall be equipped with two tailstock centering units per wheelset, one on either side of each wheel set.

ii The units shall be adjustable in height, and be manually swiveled from the parallel-to-the-rail-track-position into 90°-to-the-rail-track-position (parallel to machine center line) via a handheld pendant in a location providing the operator access to safely view the alignment and positioning of the centering unit and adapters.

iii The units shall be equipped with removable adapters to clamp the wheel set via hold down clamps interfacing with either the journal bearing housing, or directly on the journal bearing, or live centers, dependent on the design of the application. Adapters shall be designed to be positively retained in position.

iv The tailstock centering units and adapters shall be designed to allow the operator to swap adapters in the parallel to the rail track position using a built in jib crane or equivalent to support the load and transfer the adapter from the storage location to the tailstock centering unit. The adjustment and geometry of the tailstock centering units and adapters shall be designed to move into position without the requirement to remove any vehicle equipment to provide clearance for the positioning operation.

v The machine shall be equipped with platforms to provide the operator access and clear viewing of the work. The platforms shall be gated and interlocked to prevent access during machine operation.

vi Tailstock centering units and adapters shall be designed to resist the forces developed during the machine operation with a minimum safety factor of 3.

vii The Contractor shall be responsible for providing 4 sets of each adapter type, two sets for operation, and two spare sets.

viii Tailstock centering unit positioning drive shall be of an electro-mechanical, hydraulic, or hybrid design, ensuring the mechanism safely and reliably retains the wheelset.

P CNC Turning Tool Blocks

i The CNC turning tool block shall be of a rigid design meeting all machine tolerances across the full range of travel.

ii The machine shall be designed to simultaneously re-profile both wheels (monoblock) or tires (resilient) on a wheelset e.g. be equipped with a minimum of two independently operating CNC tools per wheelset.

iii The CNC turning tool blocks shall be equipped with a quick-change tool holder, which may be either automatic or manual.

iv The assembly shall be protected against dirt, debris, and chips, accomplished by solid wipers for all guideways, or approved equivalent.

v The design shall have necessary provision to make adjustments to compensate for wear and minor defects to ensure free play is minimized.

vi The system shall be design for rapid movement to optimized and minimize machine process times.

vii Feed drives shall be controlled by a multi-axis CNC control system.

viii Actuation of each feed axis shall be by precision ball screw spindle with enclosed spindle nut, or approved equivalent.

Q Turning Tools

i Turning tools and inserts shall be designed to optimize tool life.

ii The equipment shall be designed to utilize indexable inserts.

iii The Contractor shall provide 12 complete sets of all turning tools.

iv The Contractor shall provide a 2-year supply of consumables, calculated on the basis of processing 100 wheelsets per month.

R Automatic Measuring Devices

i The machine shall be equipped with automatic measuring devices to simultaneously measure the profile of both wheels (monoblock) or tires (resilient) on a wheelset.

ii The Contractor shall demonstrate the accuracy and precision of the measurement equipment is adequate to reliably verify all tolerances have been met, and are representative of the requirements of the equipment, wheel profile, or brake disc design.

iii Pre-machining automatic measurements shall be used to identify special machine operations required to maintain acceptable material removal rates. Examples: false flanges and deformed wheel profile.

iv The automatic measuring devices shall be used to conduct a pre-machining measurement to be used in a calculation which minimizes the required material removal to meet the re-profiling tolerances. The machine shall be designed to present the calculated optimum plan to the machine operator, and allow the machine operator to make modifications to the planned re-profiling operation.

v The automatic measurement system shall be designed and calibrated to provide results equivalent and consist to a Winchester Finger Gauge for pre-machining measurements.

vi The automatic measurement system shall be designed and calibrated to output measurements consistent with the callouts on the corresponding wheel profile drawing, post re-profiling operations.

vii The automatic measuring equipment shall be designed with compensation parameters to account for equipment wear.

viii The wheel profile shall be measured with a minimum of 100 measurement points. Measurement points may be evenly distributed across the profile or with increased density in certain locations as required, subject to UTA review and approval.

S Rail System

i The machine shall be equipped with a complete rail system to allow seamless transition between the facility (shop) rails and the truing machine.

ii The strength of the machine and rail system shall be designed to support worst-case loading with a minimum safety factor of 3.

iii The rail system shall allow a vehicle to pass completely across the machine e.g. vehicle enters from the South travels across the machine, and exits out of the North of the shop and vise versa.

iv The machine rail system shall be integrated with the overhead catenary system (OCS) to allow the LRV to safely operate under it's own power to position and travel across the machine. UTA will take the responsibility to provision controls hardware on the OCS control side. The Contractor will provide the connection point in the machine electrical panel located in the wheel truing pit.

v The machine shall be equipped with OCS interlocks to prevent any unsafe conditions.

vi The rail system will be used to position and support a vehicle (train), individual wheelsets, and truck assemblies over the lathe.

vii The machine rails shall be designed to safely transition between the wheelset being supported by the machine rails to being supported by the drive rollers and holding clamps and vise versa using an automated electro-mechanical or hydraulic drive system.

viii The machine rails shall be mechanically locked into position.

ix The machine shall be equipped with audible alarms for e-stop conditions.

x The position of wheelsets shall be monitored by the machine with the information provided to the operator through visual indicators or HMI monitor as appropriate.

xi The machine shall tolerate wheelset positioning +/- 2" of centered at a minimum.

T Machine Enclosures, Covers, and Safety Features

i The machine shall be equipped with machine enclosures to protect the operator.

ii Machine enclosures shall allow the operator to have adequate viewing of the machine operation while providing protection from machining chips, tool breakage, dislodged and/or falling wheelsets, and all other hazards identified in the preliminary hazard analysis (PHA).

iii The viewing windows shall be equipped with an interlock which allows the operator to access the work.

iv All interlocks shall be equipped with a keyed override function to support maintenance activities.

v Electrical equipment shall be installed into enclosures designed, labeled, and positioned appropriately to the service environment to ensure reliability and minimize hazards.

vi The Contractor shall provide UTA with the necessary information to ensure the machine is properly interfaced with UTA's facility to mitigate hazards associated with the placement of the wheelsets onto the machine. The scenarios shall be reviewed and addressed with the PHA.

vii The machine shall be in conformance with relevant OSHA regulations.

viii All enclosures and covers shall be designed to be easily removed for equipment maintenance access.

ix All hazardous machine locations shall be equipped with interlocked light barriers or gates as necessary to prevent personnel from accessing hazardous areas during machine operation.

x System controls shall display a fault in the event of a tripped interlock condition.

xi Chip disposal conveyers and equipment shall be adequately covered with metal plates to prevent unintended personnel exposure.

Automatic Chip Disposal System

i The machine shall be equipped with an automatic chip disposal system which automatically and continuously carries the chips away from all turning operations.

ii The chip disposal system shall be coordinated with the turning operation to minimize operator intervention and exposure to hazardous machining chips, including the incorporation of chip breakers as necessary.

iii A chip conveyor system shall be provided to carry the chips out of the pit area into exterior chip bins. The chip bins shall be located at the shop floor level, positioned in a location to allow removal by forklift to facilitate emptying the chip bin.

iv The conveyer system shall be equipped with a chip shredder which shreds and reduces the chip size prior to discharging into the chip bin.

v The chip disposal system shall automatically start and stop, and be integrated into the machine electrical control system.

vi The chip conveyer shall be equipped with two chip bins and a diverter chute to allow the selection between the two chip bins to allow for continued operation while the chip bin is being emptied.

vii The chip conveyer shall be equipped with removable covers to allow access to the entire length of the conveyer system without conveyer disassembly.

viii The system shall be designed to accommodate maximum material removal rates, and shall not impose any constraints on the machining process times.

ix The chip disposal system shall be of a durable construction with a minimum of 10 year service life without the need for major overhaul.

x Minimum Requirements:

- conveying speed: 6 m/min, 20 ft/min
- drive rating: 0.5 kW, 0.67 hp
- conveying capacity (short chips): 250 kg/h, 550 lbs/hour

U Hydraulic Unit System to supply and control the entire machine hydraulics.

i Hydraulic system components and control equipment shall be designed to be easily accessible for maintenance in a central location for like-equipment.

ii Critical system functions shall have built in redundancy to minimize single point failures.

iii Equipment shall be adequately sized and protected for the service environment to ensure reliable operation.

iv Hydraulic systems shall be equipped with both pressure transducers for monitoring by the machine control system, as well as test ports and installed mechanical pressure gauges for maintenance and troubleshooting activities.

v Oil tanks shall be equipped with manual and electronic/electrical oil level indicators for maintenance and automatic fault detection.

vi The oil tank and hydraulic filters shall be located with easy access for replacement and cleaning.

V Machine Control System

i The machine shall be equipped with networked controls systems to automate and monitor machine operation, ensuring co-ordination between the various machine functions such as computerized numerical control (CNC), and Human Machine Interfaces (HMI).

ii The control system shall be designed with diagnostic fault messages to support the operator diagnosis of system fault.

iii The Contractor shall submit a complete machine control function description for UTA review and approval.

iv The machine control system shall guide the operator with step-by-step procedures through the control panel which result in successful machine operation.

v The control system shall allow the operator to make adjustments to the machining process or configuration from the control panel, within pre-determined failsafe parameters.

vi Fault Handling and Diagnostics:

- Fault messages shall be displayed to the machine operator through the control panel.
-

vii Functions:

The following tasks and control functions are performed in automatic cycles by the machine control system.

- wheelset clamping procedure with automatic determination and control of additional load to the roller carriers (permanent pressure). The movement of the hold-down equipment is performed manually or automatically, depending on the selected machining type,
- control of profile wear and diameter measurements,
- data transfer, storage and processing of profile wear and diameter measurements,
- input of variables via the numeric keyboard,
- determination of the wheelset position by the use of the measuring devices,
- calculation of nominal wheelset diameter in order to remove a minimum of material off the wheelset,

- calculation of the maximum cutting depth with automatic subdividing of the cuts when preset machining limits are exceeded,
- intermediate measurement of the wheel diameter before proceeding to the final cut. This measurement allows the control system to recalculate the depth of the final cut. This recalculation assures the achievement of precise diameter conformity between two wheels on a wheelset.
- complete profile machining or machining of profile sections, if necessary,
- program control for automatic tool wear corrections,
- in the event of a tool insert fracture a manual tool retraction can be triggered by the operator. An automatic re-positioning to the spot of retraction will take place after the operator continues the machining process.
- availability of measurements data, nominal calculations and profile data on the operator screen or via the record printer,
- fault monitoring of all important machine functions, such as motor protection, limit switches, hydraulic valves, electrical and electronically control devices. The fault messages shall be displayed as text messages on the operator control panel.

viii At a minimum, the Equipment Comprises:

- a modular micro-processed CNC control system
- a control panel component with keyboard and TFT color screen, minimum 15" with 16-menu softkeys for operator support,
- high resolution color graphics for operator support,
- screen shall be of an industrial design protected against damage
- input/output modules,
- tool radius compensation,
- tool correction memory,
- continuously adjustable feeds for the vertical and horizontal axis, independent from wheelset revolution, adjustable up to rapid traverse speed,
- override of axis feeds and drive speeds,
- universal interface, V 24 (RS 232 C), or equivalent
- screen texts in the English language.

W Machining Programs for the CNC Control System.

i The Programs Contain:

- Automated clamping and unclamping programs
- measuring programs
- basic machining programs
- special machining programs, if required
- support of at least three profile subroutines

X Wheel Truing Records

i The final configuration shall be agreed upon between the Contractor and UTA during the design review process. The existing report format shall be the basis

for the report, and shall have the ability to create the provided example as a minimum.

ii Example for record data. Manual numeric data input via the numeric keyboard of the CNC in interactive mode:

- Date / Time
- Operator ID
- Reason For Machining
- Mileage
- Machining Type
- Profile Type
- Wheel Set Id
- Wheel Set Position
- Wheel Set Direction
- Bogie ID
- Vehicle ID
- Vehicle Direction
- Vehicle Type
- Workorder

iii In addition to the manually entered data, the following data will be printed and displayed on the control panel:
Before machining:

- Back To Back
- Gauge
- Diameter Difference
- Diameter Left
- Diameter Right
- Axial Runout Left
- Axial Runout Right
- Radial Runout Left
- Radial Runout Right
- Flange Height Left
- Flange Height Reft
- Flange Thickness Left
- Flange Thickness Right
- Qr Cross Measure Left
- Qr Cross Measure Right
- Variant
- Diameter Nominal

- Flange Thickness Nominal Left
- Flange Thickness Nominal Left

After Machining:

- Back To Back
- Gauge
- Diameter Difference
- Diameter Left
- Diameter Right
- Axial Runout Left
- Axial Runout Right
- Radial Runout Left
- Radial Runout Right
- Flange Height Left
- Flange Height Right
- Flange Thickness Left
- Flange Thickness Right
- QR Cross Measure Left
- QR Cross Measure Right
- Variant
- Diameter Nominal
- Flange Thickness Nominal Left
- Flange Thickness Nominal Left

- Diagram of the final wheel profile, including the profile limits as a reference to demonstrate compliance. Profile tolerance shall developed in accordance with ASME Y14.5.

iv The Equipment Comprises:

- an ink jet printer,
- driver software for CNC,
- 500 pages printing paper,
- connecting cable between CNC and printer.
- TCP / FTP data storage capability and connections
- Data storage capability with local removable and networked storage

Y Central control panel:

i The machine shall be equipped with a central control panel for each workstation, which panel integrates the operating elements of the CNC control system (axis and drives). It shall also allow the input of production data and the operation of standard and optional machine functions. The enclosure of the control panel shall be located at the front right hand side of the base frame and

can be swiveled for more convenient viewing during machine operation. Alternative locations will be considered, subject to UTA review and approval.

ii The Equipment Comprises:
- control panel including CNC control system, monitor and keyboard,
- necessary operation elements and indicator lights,
- auxiliary control panels for the wheelset centering equipment
- Emergency-stop button at an easy accessible position,
- USB drive.

iii The machine reports generated shall save the files locally to the machine, and shall also have the capability of automatically saving the files to a network storage location.

iv The machine shall save the raw data in .CSV , or JSON, or XML format. Each machine operation shall add a new data file that can be stored on local removable and network storage, and shall have the ability to also add the data to a single file combining the data.

v Reports and data files saved locally shall be able to be downloaded using a USB drive, as well as be sent to a network file location.

vi The Contractor shall provide a sample report demonstrating the documentation generated by each wheel truing machine operation, as well as a sample .csv file to demonstrate the tabular data storage (CDRL 06).

vii Displayed messages including:
- CNC functions in English,
- Software functions including the operator guide in English.

Z Electrical Enclosure for the Electrical Power and Control Units

i The machine shall be equipped with an electrical cabinet constructed in a dust-proofed sheet metal construction.

ii The electrical cabinet comprises:
- a completely installed and wired control unit with contacts for the additional electrical components to be controlled,
- the input and output modules of the PLC control system, or equivalent
- the logic parts of the machine control system,
- the feed and main drive control system.
- temperature monitoring of the cabinet interiors shall be regulated by an integrated air conditioner,
- the enclosure shall be equipped with a service hour counter,
- pre-wired terminals to hook up OCS interlock system.

AA Lighting

i The machine shall be equipped with lighting to sufficiently illuminate the machining area and wheel truing pit.

ii Lighting shall be provided in areas requiring access for equipment maintenance.

BB Wheel Set Positioning Indicators

i The machine shall be equipped with two wheelset positioning indicators to monitor wheelset positioning, centered to the machine.

ii An optical signal shall be given if a wheelset is located on the center of the machine.

iii The equipment comprises of two light barrier systems with fasteners and electrical control, and two clearly visible optical indicators, or approved equivalent.

CC Machine Grounding

i The machine shall be adequately grounded and designed for operation with the OCS system.

ii The machine shall be equipped with an adequately sized grounding bar with connecting cables to the machine and the rail system.

DD Wheelset Lubrication

i The Contractor shall provide a machine with the ability to allow the lubrication of flanges following the completion of the re-profiling operations.

ii Lubrication may be manually applied by the operator with the machine providing the rotation and re-position of the wheelset, but a fully automatic system is preferred.

EE Dust and Fume Extractor Systems

i Function:

Equipment for extraction of dust and fumes generated during the wheelset re-profiling operation and for minor housekeeping.

ii Description:

This unit is anticipated to be placed within the pit and can be operated in either an automatic or manual operating mode. The suction pipes are to be positioned close to the working area of the tooling. The equipment shall provide a suction diversion valve to accommodate vacuum hose connection when lathe is not in use, or if the suction diversion valve is not feasible a standalone commercial vacuum shall be provided by the Contractor.

iii Minimum Technical Requirements:

- Power rating: 5.5 kW
- Operating voltage: same as basic machine
- Suction volume: 720 m^3/h
- Vacuum: 22,000 Pa
- Noise level: ≤ 80 dB (A), measured in conjunction with fully operational truing machine

iv The Equipment Comprises:

- Connection diameter: 70 mm
- Effective filter area: 2.8 m^2
- Noise level: ≤ 80 dB (A)
- Weight: 166 kg

- A moveable unit with steering rollers
- One pressure and vacuum gauge for checking the filter saturation with indicating range.
- One set of suction pipe mains for connecting the extracting system with the suction nozzles.
- 2-inch diameter 30-foot long crushable hose with cuff and hand tool, two total.
- Alternative designs will be considered, subject to UTA review and approval.

6.00 Design Verification and Validation Requirements

A The Contractor shall submit a Requirements Traceability Matrix (RTM) that proposes a process for the verification and validation of all requirements. The RTM shall be submitted in the PDR, and the finalized and completed RTM shall be submitted in the FDR.

B At a minimum, the Requirements Traceability Matrix shall include the following information:

i Subsystem;
ii Test type (component or system level);
iii Subject;
iv Verification method (e.g., analysis, test, etc.);
v Test or process number. The test number shall be coordinated with and referenced to the project schedule;
vi Date performed;
vii Status (e.g., passed, failed); and
viii Technical specification section reference

C The Contractor shall track and report progress on requirements verification to UTA and submit a revised RTM at an interval of no greater than every 60 days (CDRL 07).

7.00 System Documentation Requirements

A The manuals shall be submitted at 90% completion, and again at final completion to allow for an incremental review processes for the manuals. The 90% manuals shall be submitted with a cover page describing the planned additions and changes to facilitate an efficient review process for UTA.

B The Contractor shall provide an operation and maintenance manual (CDRL 08).

i The manual shall contain detailed instructions for the general operation of the wheel truing machine.
ii The manual shall contain a periodic maintenance index defining the required maintenance tasks for the wheel truing machine. To maintain warranty coverage, UTA must adhere to the time-based maintenance chart provided by the Contractor in the O&M manual.
iii The manual shall contain work instructions for the maintenance, troubleshooting, and repair of all wheel truing machine system components. Replacement and adjustment/calibration instructions shall be included for all

major components. The Contractor shall provide a sample manual demonstrating their approach for UTA review and comment.

iv The manual shall contain detailed instructions for each wheel truing machine operation listed under section 3.00.

v The manual shall contain hydraulic system diagrams, electrical wiring diagrams.

vi Specific safety cautions, special procedures, warnings, or other information needed to maintain safe conditions shall be included in the manual.

vii The Contractor shall provide 5 hard copies of the operation and maintenance manual.

C The Contractor shall provide an illustrated parts catalog (CDRL 09).

i The Illustrated Parts Catalog (IPC) shall identify and describe every component with its related parts, including:

a The OEM name and part number;

b The Contractor's part number; and

c Quantities per assembly.

d Engineering drawings with detailed component/part identification callouts relating to an accompanying parts lists may be provided in lieu of the illustrated parts catalog, subject to UTA review and approval.

ii Diagrams, cutaways and exploded drawings or a mix of two dimensional and isometric drawings shall be used to identify and index every removable or replaceable part, including breakdowns of each subcomponent of each LRU.

iii Each illustration shall be accompanied by a corresponding page listing every item in the associated diagram and providing complete ordering data for every item.

iv Materials purchased commercially for hydraulic and electrical systems shall include manufacturer and manufacturer part numbers.

v Assigned part numbers shall not exceed 19 alphanumeric characters.

vi Space shall be provided for UTA to insert its own 26-digit code.

vii The shelf life of certain parts shall be listed in the catalog as appropriate and as specified during the design review process. The parts shall include but not be limited to consumables, elastomeric and rubber parts, gaskets, adhesives, paints, oils, greases, additives as applicable.

viii The Contractor shall provide 5 hard copies of the Illustrated Parts Catalog.

D The Contractor shall provide the Agency with a complete list of as-built drawings to be supplied by the Contractor (CDRL 10).

i As a minimum, the list of drawings is to include drawings down to the subassembly level.

ii Component-level drawings for items specific to UTA's vehicles shall also be included.

iii Drawings for all special Tooling and adapters shall be included.

iv Drawings shall contain all material specifications, dimensions, tolerances, relevant standards the components are manufactured to, and inspection drawings.

E The Contractor shall provide the Agency a complete set of all drawings identified in the as-built drawing list (CDRL 11).

- i Drawings shall include all interfaces and interaction with the UTA facility.
- ii Drawings shall be supplied in electronic .DWG format, and pdf or alternate file formats as approved by the Agency.
- iii The media for drawing submittal shall be agreed upon by the Contractor and the Agency.
- iv Two complete sets of as-built drawings shall be provided in hard copy.

F Documents shall be developed using editable publishing software that is commercially available for the narrative text and vector format software for illustrations.

G Raster illustrations and artwork will not be acceptable.

H Photographs will be permitted in lieu of illustrations when applicable and appropriate. The Agency shall have the final decision in accepting photographs.

I In addition to the hard copies, all documentation shall be delivered in a searchable PDF file. Non-searchable documentation provided by sub-suppliers, and outside of the Contractor's control is allowed.

J All printed material shall be clearly reproducible, without loss of resolution when copied using common high-contrast copying machines.

K The Agency shall have all rights to these drawings for, but not limited to rail vehicle and wheel truing equipment maintenance, refurbishment, repairs and replacement of parts. The Agency shall have the right to reproduce all manuals, drawings and other submittal documents.

L The Contractor shall provide calibration certificates for all measurement instruments integrated into the wheel truing machine as well as instruments used to construct or calibrate the wheel truing machine or supporting equipment. Reports generated by automatic quality assurance tracking software are considered acceptable documentation, provided they include the necessary information for UTA to verify the tools are calibrated, subject to UTA review and approval.

M All documents shall be supplied in English. If the source document is not in English, a translated version shall be submitted, subject to UTA review and approval of the quality of the translation.

8.00 Installation, Testing, and Final Acceptance

A The Contractor shall be responsible for the installation, testing, and commissioning of the wheel truing machine at UTA's JRRSC facility in accordance with plans, shop drawings and manufacturer's instructions.

B The Contractor shall ensure the wheel truing machine is installed, configured, calibrated, and operating with full functionality prior to conducting commissioning.

C Upon completion of the work, finished surfaces shall be free of tool marks, scratches, blemishes and stains. The Contractor shall be responsible for disposal of all packing

materials and removal of debris from the work site. Equipment shall be wiped clean of any oil, grease, and solvents to make ready for use.

D UTA will provide vehicles and materials for the Contractor to demonstrate each machine application.

E The Contractor shall demonstrate the equipment is fully functional by successfully completing each machine operation for all UTA vehicle applications (CDRL 12-b).

i The Contractor shall conduct a factory acceptance testing (FAT) to demonstrate the equipment is fully functional by successfully completing each machine operation. The Contractor shall submit a test procedure detailing the test procedure for UTA review and approval. The FAT shall be designed to cover the same items as the site acceptance test to the greatest extent practical. (CDRL 12-a).

F The site acceptance testing plan shall be submitted to UTA for review and approval prior to conducting the testing. All testing shall be conducted with UTA personnel present.

G The Contractor shall provide UTA with a completed commissioning report, including test results with a clear pass/fail criteria, and a final calibration certificate.

9.00 Materials and Workmanship

A The Contractor shall design the equipment and perform all work at their facilities in accordance with all Federal, State and Local regulatory requirements.

B The Contractor shall ensure that the wheel truing machine is functioning and operating properly, was inspected, measured, and painted according to the procedures and specifications mutually agreed upon with UTA.

C Manufacturer shall securely attach in a prominent location on each major item of equipment a noncorrosive nameplate showing manufacturer's name, address, model number, serial number, and pertinent utility or operating data.

D All electrical equipment and materials shall be new and shall be listed by Underwriter's Laboratories, Inc. (U.L.) in categories for which standards have been set by that agency and labeled as such in the manufacturer's plant.

E The Contractor shall submit tool and equipment calibration certificates for the equipment used to construct the machine, as well as the instrumentation the machine is equipped with (CDRL 13).

F Materials and workmanship standards for manufacturing, installation, and maintenance of the equipment shall be submitted to UTA for review and approval with the Quality Plan.

10.00 Shipment

A The wheel truing machine shall be prepared for shipping and securely packaged to prevent damage and rust/corrosion during shipping.

B All containers, including those contained in others, shall be indelibly labeled on the outside with item description(s) per title and contract number with vendor and UTA contact information.

C The Contractor shall deliver the wheel truing machine and all necessary installation hardware, tooling, and adapters to UTA's Jordan River Rail Service Center at 2264 South 900 West, Salt Lake City, 84119, unless otherwise advised by UTA.

D Any damage incurred in shipping to UTA is the sole responsibility of the Contractor.

E Shipping costs of all materials, equipment, or other shipments during the course of the project to and from UTA's facility shall be the responsibility of the Contractor.

F Shipment and installation shall be coordinated to minimize disruption at UTA's facility. If storage is unable to be accommodated, the equipment shall be shipped in partial shipments and installed prior to receipt of the next shipment.

G The Contractor is responsible of all aspects of transporting the equipment into the building to the installation site, including any necessary structural analysis for transportation of the equipment into the facility.

11.00 Training

A The Contractor shall provide UTA with training on the operation and maintenance of the wheel truing machine (CDRL 14). The training shall include both classroom and hands-on training.

B The training shall include, but not limited to, the following:

- i The classroom training shall cover all machine applications listed under section 3.00.

C The hands-on training shall cover all application for UTA's current fleet.

- i The training shall include a course covering the required maintenance task for the wheel truing machine.
- ii Training shall include a section covering operator safety and the safety features of the wheel truing machine.
- iii The training shall cover the interpretation of the reports generated by the machine, including how to troubleshoot and correct errors that could occur during machine operation.

D The training shall assume that the maintenance personnel have no knowledge of the new wheel truing machine, but do have the skills required of their employment classification.

E Conduct of the training course shall be supported by the direct use of the manuals developed for the project. See Section 7.00, System Documentation Requirements.

F A primary objective of the program shall be to develop within UTA the capability to perform similar training under its own training program subsequent to the Contractor's involvement.

- i All training materials, including but not limited to training aids, lesson plans, models, mock-ups, video recordings, drawings, procedures, or other documents shall become the property of UTA at the completion of the training program. UTA shall have unrestricted rights to reproduce, distribute and modify all materials.

ii UTA shall have the right to video record any classroom training sessions. UTA will retain the ownership of the recordings, and will have the right to use them for future training sessions.

G The formal classroom instruction will be conducted in a suitable classroom furnished by UTA in its facilities. The location and class times shall be at the convenience of UTA.

H The Contractor shall submit a training program plan and course training materials for UTA review and approval a minimum of 30 days prior to the scheduled training date. All UTA comments shall be resolved and the training materials updated prior to conducting the training.

I The Contractor shall provide pricing for additional training required for UTA's future LRVs.

J Up to three (3) 40 hour training courses will be provided by the Contractor. The maximum class size shall be five (5), accommodating a total of fifteen (15) UTA personnel.

12.00 Project Documentation Requirements

A Prior to the commencement of work the Contractor shall submit the following documentation in a UTA approved format:

i Project Schedule – NTP + 30 days
ii Quality Assurance Plan – NTP + 30 days
iii Receiving Inspection and Test Procedures – NTP + 60 days
iv Pre-shipment Inspection and Test Procedures – NTP + 60 days
v Shipping preparation and securement procedures – NTP + 60 days
vi Inspection and Test Reports – 10 days prior to Shipment to UTA

13.00 Milestone Payments

See Exhibit B

14.00 Project Schedule

A The wheel truing machine shall be installed, commissioned, and all project deliverables completed and invoiced prior to 4/30/2027.

B The project schedule submitted for evaluation by Proposers shall assume NTP occurs 5/1/2025

15.00 Quality Requirements

A Experience: Equipment shall be produced by a manufacturer of established reputation with a minimum of 10 years' experience supplying specified equipment.

B Installation: The Contractor shall provide a qualified manufacturer's representative at site to supervise work related to equipment installation, testing, start up and training.

C UTA shall have the right to inspect the Contractor's facility and processes at any time. UTA shall also have the right to witness any step of the manufacturing, adjustment, testing, commissioning, or any other project processes.

D The Contractor shall prepare and submit a Quality Assurance plan for UTA review and approval (CDRL 15).

16.00 Spare Parts

A The Contractor shall provide a list of recommended spare parts. The list shall include sensors, transducers, solenoids, valves, encoders, switches, and other long lead time items with a long shelf life (CDRL 16).

B Spare parts costs shall not exceed $200,000.

C Spare parts shall be provided with machine delivery to UTA. Verification of receipt of the spare material delivery will be completed by UTA during the site acceptance testing. (CDRL 21)

17.00 Program Management Requirements

A The Contractor shall develop a Project Management Plan (PMP) describing their approach. The PMP shall describe management approaches to provide UTA insight into the project management structure and to describe the mechanisms that ensure the project requirements will be met. The approaches described in the Project Management Plan shall be tailored to fit this project

CDRL 17 Project Management Plan (PMP).

B The Contractor shall enter discussions with UTA to agree on the concept of the PMP. Contractor shall draft the detailed plan including the information listed below. It shall be used to guide and track the project through to successful completion. The Project Management Plan shall as a minimum provide the following:

- Detailed Project Organization chart
- Identifies key individuals and their roles in the project
- Includes both UTA and Contractor
- Describes the major activities as well as the roles and responsibilities by individual to accomplish them
- Authority level and decision process definition
- Schedule/time management
- Project schedule showing key milestones for project phases, deliverables, critical action points, decision hold points, UTA and Contractor reviews, major action points.

The PMP shall be kept up to date, and shall be re-submitted to UTA when details of the plan change, such as a change in personnel assigned to the project.

C A monthly progress report shall be submitted no later than 10 working days after the end of the reported month. Reports shall be based upon actual progress of the work, including any problems that have been identified and material affecting the project schedule. The monthly progress report shall include two schedules. The first schedule is the baseline project schedule in the form of a Gantt chart with all current project schedule deviations shown, and the second a current and up-to-date schedule. The monthly progress report shall include photographic progress of the work and include all work sign-offs, engineering activities, quality inspection documentation, and other work completed during the reporting period. Completion status of monthly progress reports will be reviewed prior to each milestone payment. In the event of missing progress reports, UTA may request documentation to fulfill any missing information prior to payment of milestone payments.

CDRL 18 Monthly Progress Reports

D Project Review Meetings shall be held as required to review progress, respond to open action items, discuss design problems and issues, to witness tests and discuss their results, to review fabrication and assembly status, and to conduct equipment and/or facility inspections as required. Meetings shall be held monthly at a minimum, unless otherwise directed by UTA. Progress meetings may be held more frequently if requested by UTA. The Contractor shall submit meeting minutes including the meeting agenda, discussion notes, and actions and assignments at a minimum.

18.00 Warranty

A Additional warranty information is covered under the standard contract terms.

B The Contractor shall warrant that all labor and materials supplied under the Contract shall:

i. Conform to the Specifications and all other requirements of the Contract.

ii. Fulfill their design function and be fit for both their ordinary and intended purposes.

iii. Be free of all patent and latent defects in design, materials, and workmanship.

iv. Perform satisfactorily.

v. Be of the quality specified, or of the best grade if no quality specified.

C Unless a longer warranty period is identified in the RFP or the Contract, The Contractor warrants all Materials furnished and Work performed by the Contractor to be free of defects and faults for a period of two (2) years from UTA's approval of the commissioning and acceptance test following installation at UTA's facility.

D The Contractor's warranty shall apply regardless of any lesser period of warranty provided by the manufacturer of Materials furnished by Contractor.

E UTA shall not be required to perform unusual or extraordinary maintenance or overhauls to keep warranties in effect.

F Defects shall include, but not be limited to noisy, rough or substandard operation, loose, damaged, and missing parts, and abnormal deterioration of finish.

G Warranty shall include materials and labor necessary to correct defects.

H All parts shall be readily available in a reasonable amount of time, not to exceed 30 days.

I The Contractor shall provide a clear process, including names and contact information, for UTA to submit warranty claims. This process shall be delivered to UTA prior to equipment delivery (CDRL 20).

19.00 Wheel Truing Machine Preventive Maintenance Service

A The Proposer shall provide UTA with pricing for an optional service agreement to support the preventive maintenance requirements of the wheel truing machine. The duration of the agreement shall be 2 years with the option of two 1-year extensions.

B The Contractor shall propose an onsite service visit interval in accordance with the needs of the machine maintenance and calibration requirements. The determined interval shall be justified by a clear description of system and component service and calibration needs.

C The visit shall include completion of any and all necessary checks, calibration adjustments, and minor repairs.

D The final visit at the end of the service agreement shall be used for any necessary major repairs.

E Any parts or consumable materials required shall be used from UTA's customer shelf stock, or invoiced separately. If not provided by UTA, any and all parts must either be OEM certified OR an acceptable equivalent approved in advance by UTA's Project Manager.

F UTA may provide a minimum of one Facilities mechanic to assist with any and all preventive maintenance work required during each visit.

G Upon completion of each visit, the Contractor shall provide a complete, concise summary of all work, checks, adjustments, repairs, and recommendations, including suggestions for parts and materials that will be required for the next maintenance interval.

H If the service call identifies a serious problem, and the parts needed are not available on site, then either of these two solutions would be determined by both the supplier and jointly with the UTA Project Manager, to occur as soon as possible after the required parts become available on site.

- i A one-time visit would need to be scheduled and repairs made as soon as possible.
- ii Determine IF the repair could wait until the next scheduled onsite service/inspection.
- iii If a one-time visit is needed, then budgetary approval and appropriate authorization must be obtained prior to any follow-on costs of parts, labor or transportation.

20.00 CDRL List

CDRL#	Title	Reference	Additional CDRL Notes:	Associated Milestone Payment
01	Functional Description of Fault Detection System	4.00J	FDR approval dependency.	3
02	Conceptual Design Review (CDR)	4.00M		2
03	Preliminary Design Review (PDR)	4.00M		2
04	Final Design Review (FDR)	4.00M		3
05	Facility Integration Plan	4.00N	FDR approval dependency.	3
06	Wheel Truing Machine Report	5.03.01Yvi	FDR approval dependency.	3
07	Requirements Traceability Progress Reports	6.00C	60 day interval max, final completed matrix approved at FDR	3
08	Operation and Maintenance Manual	7.00A	90% Manuals are FDR approval dependency.	4, 10
09	Illustrated Parts Catalog	7.00B	90% Manuals are FDR approval dependency.	4, 10
10	As-Built Drawing List	7.00C	FDR approval dependency.	3
11	As-Built Drawings	7.00D	FDR approval dependency.	3
12a	Factory Acceptance Testing	8.00E	Completed prior to shipment of machine at Contractor's facility.	7
12b	Site Acceptance Testing	8.00E		8
13	Tool and Equipment Calibration Certificates	9.00E	Submit prior to initiation of machine construction	5
14	Wheel Truing Machine Operation and Maintenance Training	11.00		9
15	Quality Assurance Plan	15.00D	NTP +30 days	1
16	Spare Parts List Delivery	16.00	NSH Delivery of tooling to occur with the machine delivery.	5
17	Project Management Plan (PMP)	17.00A	Review and approval prior to PDR.	2
18	Monthly Progress Reports	17.00C	Monthly Submittal	All
19	Project Review Meetings	17.00D	Monthly Meeting at a minimum.	
20	Warranty Process	18.00I	Submit prior to equipment delivery.	5
21	Spare Parts Delivery	5.03.01N, 5.03.01Q	To ship with equipment delivery	8

21.00 JRRSC Shop Information

A The JRRSC Shop was built with a provision for the installation of a wheel truing machine on track 11 (see Figure 1).

B Details are provided in the attached Truing Pit drawing.

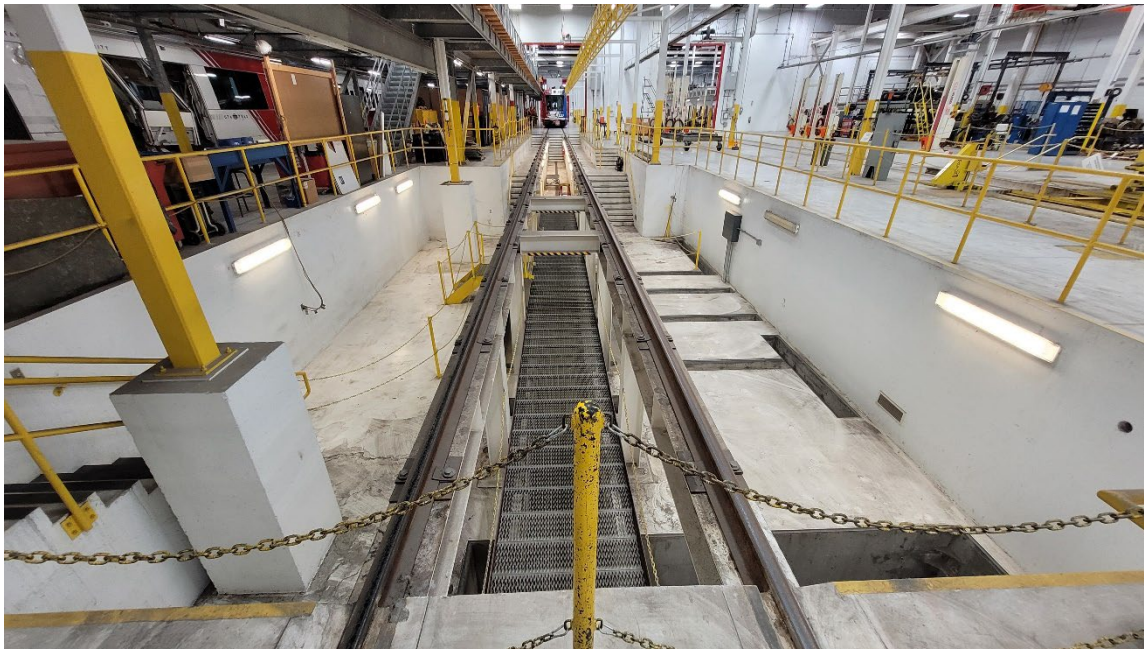


Figure 1 - JRRSC Truing Pit

22.00 Wheel Truing Machine Installation Responsibilities Matrix

	UTA Responsibilities
1	UTA will be responsible to provision any controls hardware on the OCS control side. NSH will provide the connection point in the machine electrical panel located in the wheel truing pit.
2	UTA will be responsible for the main power cables in the JRRSC wheel truing pit. Main power cables must be delivered to the pit and tied off with a 10' long pigtail of extra cable.
3	UTA will be responsible for providing any UTA specific training for NSH personnel.
4	UTA will provide a storage area for the heavy lift equipment, to be delivered by NSH personnel.
5	UTA will provide personnel to sawcut the shop rail with instruction from the NSH representative. There will be a rough cut to fit the equipment, and a final cut of the rail to provide the shop rail/ wheel truing machine interface. UTA is responsible for both cuts, under the instruction of the NSH representative.
6	UTA will be responsible for the disposal of the removed rail.
7	UTA will be responsible for OCS shutdown in the yard and shop to facilitate the delivery and movement of the equipment into track 10.

UTA Responsibilities	
8	UTA will be responsible for providing the shop space to unpack and store the equipment while installation is taking place.
9	UTA technicians will be jointly responsible for the termination of the main power in the two locations of the main power cabinets of the machine.
10	UTA will be required to provide vehicles and operator for the drive-over test of the machine.
11	UTA will be required to provide a vehicle of each type to test all machine functions.
12	UTA will be required to provide personnel for the training class, and a training classroom and access to the equipment. Training is planned for 3 weeks to meet the RFP requirements, the majority of the time will be spent at the machine.

Exhibit B

Price Form

Base Order

Ref	Scope	Price
1.	Unit Cost of Wheel Truing Machine including all requirements of this RFP	$5,282,074.00

All shipping costs must be included in the price above.

Milestone Payments

No	Milestone	Percentage (%)	Estimated Invoicing Date
1	Project Documentation Approval (Schedule, QA Plan, Test Procedures, Shipping Procedures)	5.0%	NTP + 60 days
2	CDR/PDR Approval	5.0%	NTP + 60 days
3	FDR Approval	7.0%	NTP + 120 days
4	90% Manuals Approval (Operation, Maintenance, IPC)	7.0%	NTP + 60 days
5	Receipt of all Documentation Deliverables	5.0%	NTP + 60 days
6	Purchase of raw materials	34.0%	NTP + 120 days

No	Milestone	Percentage (%)	Estimated Invoicing Date
7	UTA approval of successful factory acceptance testing	15.0%	NTP + 18 months
8	Final acceptance - UTA approval of successful site acceptance test	14.0%	NTP + 22 months
9	Completion of UTA Training	4.5%	NTP + 22 months
10	Final Manuals Approvals (Operation, Maintenance, IPC)	3.5%	NTP + 18 months

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Patrick Preusser, Chief Operating Officer
PRESENTER(S):	Bryan Sawyer, Director of Fleet Engineering

TITLE:

Contract: Light Rail Vehicle Repair Services (Siemens Mobility Inc.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute contract 20-03236, and associated disbursements, with Siemens Mobility Inc., with a not-to-exceed amount of $2,245,974 for Light Rail Vehicle (LRV) repair.

BACKGROUND:
Light Rail Vehicle 1122 was involved in a major accident resulting in significant damage that is beyond UTA's ability to repair in-house. As the original manufacturer of the vehicle and the only vendor able to make the full repairs and provide a warranty for the repair work, Siemens Mobility Inc. was engaged to conduct a structural evaluation and develop a scope of work and proposal for repair of the vehicle to the OEM specifications.

DISCUSSION:
As the manufacturer of UTA's S70 LRV fleet, Siemens Mobility is the only vendor able to make the repairs needed to the LRV.

A summary of the scope of the repairs is as follows:

Truck Repairs: Disassembly, repair of structural elements, refurbishment of components, reassembly, and testing of both power trucks and the center truck.

Vehicle Repairs: disassembly, structural repair, reassembly, refinishing and repainting, and testing.

To provide best value to UTA, the replacement door leaves and ramps were removed from the scope of work

and will be supplied by UTA due to favorable pricing handling the items as free-issue materials.

The total not-to-exceed contract value for the repairs to the vehicle is $2,245,974 and work is anticipated to be completed over two years, beginning once the contract is executed in 2025 and extending into 2026.

Completion of this work is necessary to allow UTA to return LRV 1122 to revenue service.

CONTRACT SUMMARY:

Contractor Name:	Siemens Mobility Inc
Contract Number:	20-03236
Base Contract Effective Dates:	Effective after approval - April 16, 2026
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$2,245,974
Procurement Method:	Sole Source
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

UTA could choose not to repair the vehicle which would decrease the fleet size.

FISCAL IMPACT:

The total contract not-to-exceed amount is $2,245,974 with a fiscal impact over the next two years as follows:

- 2025 Contract Total: $1,572,182 for Milestone Payments 1 through 3. The SGR386 project has an approved 2025 Capital Budget of $2,000,000.
- 2026 Contract Total: $673,792 for Milestone Payments 4 and 5. The SGR386 project has a planned 2026 Capital Plan budget of $1,600,000.

This contract is funded via SGR386 Light Rail Vehicle Repairs program. These funds are included in the Approved 2025 budget.

ATTACHMENTS:

- Contract: Light Rail Vehicle Repair Services (Siemens Mobility Inc.)

UTA CONTRACT # 20-03236

LIGHT RAIL VEHICLE REPAIR SERVICES AGREEMENT

This Light Rail Vehicle Repair Services Agreement (the "**Contract**") is hereby entered into by and between UTAH TRANSIT AUTHORITY, a public transit district organized under the laws of the State of Utah ("**UTA**"), and SIEMENS MOBILITY INC., a Delaware corporation having an office located at 7464 French Road, Sacramento, California 95828 ("**Contractor**"). UTA and Contractor are hereinafter collectively referred to as "**parties**" and either may be referred to individually as a "**party**," all as governed by the context in which such words are used.

RECITALS

A. UTA Vehicle No. 1122 (the "**LRV**") sustained substantial physical damage and require comprehensive repairs;

B. Contractor has completed detailed damage assessment and prepared scope of work and bill of material for the LRV as set forth in Exhibit B; and

C. UTA and Contractor have agreed to not-to-exceed prices (based on materials unit prices and established labor rates) for the services described in Exhibit B; and

D. UTA and Contractor have agreed to the following terms and conditions regarding the manner in which the services set forth in Exhibit B (the "**Work**") will be performed.

AGREEMENT

Therefore, the parties agree as follows:

1. Scope of Work; Standard of Care. The "Work" is generally described in Exhibit B as to the condition of damage of the vehicle that falls outside of original manufacturer specifications. The final product will be the repair of the vehicle's structure and trucks to original manufacturer specifications and shall be further defined and detailed in complementary drawings, product data and descriptions and other submittals documents furnished by Contractor from time-to-time in accordance with the Contract and approved by UTA. Contractor shall perform the Work in accordance with the Contract Documents and applicable industry standards, and in full compliance with all applicable laws, regulations and permits.

2. Schedule. Contractor shall commence the Work after the execution of this Contract and shall achieve Substantial Completion of the Work in accordance with the agreed upon Schedule in Exhibit B. As used herein and in the General Conditions, the term "**Schedule**" shall refer to the dates set forth above, as well as any baseline critical path schedule, Gantt chart or other scheduling documentation prepared by Contractor (to describe Contractor's plan to complete the work by required dates) and approved by UTA. Time is of the essence with respect to the completion dates.

3. Price and Payment. As full compensation for completing the Work, UTA shall pay Contractor in accordance with the unit prices and labor rates detailed in Exhibit C, and subject to

the not-to-exceed caps set forth therein (the "**Contract Price**"). Payments shall be made in accordance with the following milestones:

Milestone 1 – Full Vehicle & Bogie Teardown and purchase order placement for complete bill of materials with all suppliers. 30% of the Estimated Contract Price.

Milestone 2 – Delivery and UTA approval of Repair Procedure: 10% of the Estimated Contract Price.

Milestone 3 – Vehicle structural repair completed, ready to start re-assembly: 30% of the Estimated Contract Price.

Milestone 4 – Completion of Final Assembly of LRV, including installation of completed power and center trucks: 25% of the Estimated Contract Price.

Milestone 5 – Vehicle and Bogie Delivery to UTA facility and final acceptance: 5% of the Estimated Contract price.

Payment terms shall be in accordance with the General Conditions.

4. **Contract Documents**. (a) The Contract Documents consist of the following:

(1) All written amendments and Change Orders to this Contract executed in accordance with the General Conditions attached as Exhibit A;

(2) The terms and conditions of this Contract, including the exhibits attached hereto; and

(3) Applicable provisions of UTA's Construction Safety and Security Program Manual attached as Exhibit D;

(b) The parties intend that the Contract Documents include and provide for all aspects of the Work that are necessary for the proper initiation, performance, and completion of the Work. The parties intend that the Contract Documents be interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards.

(c) If any terms of the Contract Documents contradict any other terms, the terms contained in the more recent Contract Document will govern.

(d) Contractor acknowledges that, prior to the execution of this Contract, it has carefully reviewed the
Contract Documents for errors, omissions, conflicts or ambiguities (each, a "**Discrepancy**"), and is not aware of any Discrepancies as of the execution of this Contract. If the Contractor becomes aware of a Discrepancy, the Contractor shall immediately notify UTA's Engineer of that Discrepancy in writing. UTA's Engineer shall promptly resolve the Discrepancy in writing. Contractor's failure to promptly notify UTA of an apparent discrepancy will be deemed a waiver of Contractor's right to seek an adjustment of the Contract Price and Schedule due to the discrepancy.

(e) The Contract Documents form the entire contract between UTA and the Contractor and by incorporation in this Contract are as fully binding on the parties as if repeated in this Contract. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

5. Representatives of the Parties. UTA designates Ryan Gardner as its Engineer. Contractor designates Bruno Meza its Project Manager.

6. Notices. (a) To be deemed valid, all notices, requests, claims, demands and other communications between the parties ("**Notices**") must be in writing and addressed as follows:

If to the Utah Transit Authority:

Utah Transit Authority
Attn: Ryan Gardner
2264 South 900 West
Salt Lake City, UT 84119

With a required copy to:

Utah Transit Authority
Attn: General Counsel
669 West 200 South
Salt Lake City, UT 84101.

If to the Contractor

Bruno Meza
5301 Price Ave.
McClellan, CA 95652

(b) To be deemed valid, Notices must be given by one of the following methods: (i) by delivery in person (ii) by a nationally recognized next day courier service, (iii) by first class, registered or certified mail, postage prepaid.

(c) Either party may change the address at which that party desires to receive written notice by delivery of Notice of such change to the party as set forth above. Notices will be deemed effective on delivery to the notice address then applicable for the party to which the Notice is directed, provided, however, that refusal to accept delivery of a Notice or the inability to deliver a Notice because of an address change that was not properly communicated shall not defeat or delay the effectiveness of a Notice.

7. Audit Rights. Contractor shall retain all books, papers, documents, accounting records and other evidence to support any cost-based billings allowable under the Contract. Contractor shall also retain other books and records related to the performance, quality or management of this Contract and/or Contractor's compliance with this Contract. Records shall be retained by Contractor for a period of at least six (6) years, or until any audit initiated within that six-year period has been completed (whichever is later). During this six-year period, such cost records shall be made available at all reasonable times for audit and inspection by UTA and other authorized auditing parties including, but not limited to, the Federal Transit Administration. Copies of requested cost records shall be furnished to UTA or designated audit parties upon request.

Contractor agrees that it shall flow-down (as a matter of written contract) these records requirements to all subcontractors utilized in the performance of this Contract at any tier.

8. Governing Law. The Contract and all Contract Documents are governed by the laws of the State of Utah, without giving effect to its conflict of law principles. Actions to enforce the terms of this Contract may only be brought in the Third District Court for Salt Lake County, Utah.

9. Severability. If any provision or any part of a provision of the Contract Documents is finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable legal requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

10. No Waiver. The failure of either Contractor or UTA to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

11. Assignment. Contractor acknowledges that the Work to be performed by Contractor is considered personal by UTA. Contractor shall not assign or transfer its interest in the Contract Documents without prior written approval by UTA.

12. Successors. Contractor and UTA intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and permitted assigns.

13. Counterparts. The parties may execute this Contract in any number of counterparts, each of which when executed and delivered will constitute a duplicate original, but all counterparts together will constitute a single agreement.

14. Effectiveness; Date. This Contract will become effective when all parties have fully signed it. The date of this Contract will be the date it is signed by the last individual to sign it (as indicated by the date associated with that individual's signature).

Each individual is signing this Contract on the date stated opposite that individual's signature.

UTAH TRANSIT AUTHORITY:

By: _____ Date: _____
Jay Fox
Executive Director

By: _____ Date: _____
Patrick Preusser
Chief Operating Officer

Approved as to form and content

DocuSigned by:
Mike Bell
70E33...
Michael Bell
Assistant Attorney General
UTA Counsel

SIEMENS MOBILITY INC.:

Signed by:
By: Ash Evans Date: 4/10/2025
A7ED182F6E1B4C1...
Ash Evans
Accident Repair Segment Lead

DocuSigned by:
By: Charles Hollman Date: 4/10/2025
C21A5B8F93174B5...
Charlie Hollman
Segment Controller

Exhibit A

UTAH TRANSIT AUTHORITY

669 West 200 South
Salt Lake City, UT 84101

[Title]

LRV #1122
20-03236

September 13, 2024

TABLE OF CONTENTS

GC 1.00 Terms and Definitions

A. "**Change Order**" - A written document signed by UTA, issued to the Contractor which alters the scope of the Work to be performed by the Contractor, changes the Schedule of the Work, increases or decreases the Contractor's compensation, or makes any other change to the Contract.

B. "**Change Request**" - A document issued by the Contractor requesting that a Change Order be issued.

C. **"Conditional Acceptance"** - A written certificate issued by UTA, acknowledging that an LRV delivered by the Contractor has reached Substantial Completion and is accepted by UTA, subject to the completion of the open items identified in such notice. Such notice shall include owner supplied materials.

D. "**Contract**" - The written agreement covering the performance of the work and the furnishing of shipping, labor, materials, tools and equipment in the construction of the work.

E. "**Contractor**" - Any individual, partnership, corporation, or combination, thereof, entering into this Contract for the performance of the Work required by the Contract.

F. **"Engineer**" - UTA's authorized representative charged with the administration of this Contract.

G. "**Final Acceptance**" - With respect to any individual LRV, a written certificate issued by UTA acknowledging that the Contractor has completed all open items and fulfilled all of its obligations with respect to such LRV.

H. "**Final Completion**" - Final Completion of the Work will occur when each of the LRVs has reached Final Acceptance and when the Contractor has delivered written releases of liens from all subcontractors and suppliers.

I. "**LRV**" - Each UTA light rail vehicle to be repaired in accordance with the Contract.

J. "**Materials**" - All materials, equipment, systems, components, parts, and other items to be incorporated into the LRV by Contractor as part of the Work.

K. "**Product Data**" - Written or printed descriptions, illustrations, standard schedules, performance charts, instructions, brochures, diagrams, software or other information furnished by the Contractor to describe Materials to be used for some portion of the Work.

L. "**Scope of Work**" - The attachment to the Contract which defines the scope and requirements for the Work to be performed by Contractor

M. **"Substantial Completion"** - The completion of all Work in accordance with all the conditions specified in the Scope of Work as included in Annex B subject to punch-list items agreed between the parties.

UTA will acknowledge the Substantial Completion of each LRV by issuing a separate certificate of Conditional Acceptance.

N. "**UTA**" - Utah Transit Authority.

O. **"Work"** - Furnishing of all of the supervision, labor, Materials, equipment, software, services, and incidentals necessary to complete any individual repair item identified in the Scope of Work.

GC 2.00 Scope of Work

GC 2.01 General

A. The Contractor shall perform the Work described in the Scope of Work in strict accordance with the Contract. Except for items specified to be provided by UTA under the Contract, the Contractor shall provide and pay for all supervision, labor, Materials, tools, equipment, machinery and any other costs necessary to complete the Work.

GC 2.02 Relationship of Contract Documents

A. The Contract Documents referenced in the Contract are essential and a requirement occurring in one is as binding as though occurring in all.

B. The Contractor shall notify UTA immediately of any ambiguity or conflict, within or between documents, any error, omission, lack of necessary detailed description, or a detail which is a potential code violation which is discovered in the Contract Documents and request clarification and direction. UTA will provide clarification and direction as required to fulfill the intent of the Contract Documents.

C. Proceeding without the required notification and request for clarification or instruction shall be at the Contractor's risk and any work performed may be determined to be non-conforming.

GC 2.03 Changes to Scope of Work

GC 2.03.01. Contractor Responsibility

A. UTA acknowledges that during the course of performance there may be deviations between the Work actually required and the Work specified in the Scope of Work.

B. After inspection and/or testing and before any additional or differing Work is performed, the Contractor shall provide immediate written notice to UTA of any latent, unknown conditions that were not reasonably identifiable during prior damage inspections performed with respect to the LRVs.

C. UTA shall investigate the latent, unknown conditions promptly after receiving the notice. If the conditions cause an actual and demonstrable increase or decrease in the Contractor's cost of, or the time required for performing any part of the work under this Contract, an equitable adjustment shall be made under this Section and the Contract modified in writing accordingly.

D. No request by the Contractor for an equitable adjustment to the Contract for latent, unknown conditions shall be allowed if made after final payment under this Contract.

GC 2.03.02. Change Orders

A. UTA may order additions, deletions, or revisions to the Work. Prior to ordering an addition, deletion, or revision, UTA may request that the Contractor submit a proposal for the change. The Contractor shall submit a proposal for the change within 30 calendar days after receipt of UTA's request or such shorter reasonable time as UTA may set forth in its request. The Contractor's proposal for the change must provide UTA with an itemized breakdown of any effects to the Contract Price including, without limitation effects to the following aspects of the Contract Price:

1. Engineering costs;
2. Labor costs;
3. Equipment costs;
4. Overhead and profit; and
5. Materials quantities and unit prices.

B. The Contractor's proposal for the change must also identify any changes to the Schedule that result from the proposed modification. If UTA orders the Contractor to proceed with the modification, UTA will issue a Change Order modifying the Contract Price, the Schedule, and/or other aspects of the Contract Documents. UTA may order the Contractor to proceed in advance of the execution of a Change Order. In such event, the Contractor shall proceed with the changed Work upon receipt of written notice from UTA to do so. UTA and the Contractor will thereafter negotiate a settlement of the time and cost related impacts of the changed Work.

C. The Contractor shall promptly notify UTA, by a written Change Request, when the Contractor receives any direction, instruction, comment, interpretation, or determination

from any source which the Contractor believes to constitute a change to the Contract. Such a Change Request must state the following information:

1. The date, circumstances, and source of the direction, instruction, comment, interpretation, or determination; and

2. That Contractor regards the direction, instruction, comment, interpretation, or determination as a change to the Contract.

D. Such notice must be given to UTA before the Contractor acts on said direction, instruction, comment, interpretation, or determination, and within 10 calendar days after the Contractor becomes aware of the asserted change. The Contractor may request additional time, additional compensation, or both, through a Change Request issued under this Section. For any Change Request which UTA agrees to have merit, UTA will make an equitable adjustment and modify the Contract Documents by written Change Order. The execution of a Change Order by both parties will be deemed as an accord and satisfaction of all potential Claims of any nature arising from or relating to the asserted change.

E. Any Change Orders issued on a cost reimbursement basis must, at a minimum, comply with the federal cost principles set forth in 48 CFR Part 31. In addition to the general rights to audit and inspect records as set forth in the Contract Documents, UTA will have the specific right to audit all expenditures, payrolls, audited overhead, and other records related to a Change Order issued on a cost reimbursement basis. The Contractor shall use its best efforts to facilitate any such audit of cost records.

F. Nothing in this provision shall be deemed to require a Change Order when the Contractor performs additional Work as the result of its own estimating, contracting, or engineering error.

G. In no event shall the Contractor be entitled to compensation for loss of anticipated profits resulting from deletions to the Work.

GC 2.04 Warranty of Work

A. The warranties set forth in the Contract are in lieu of any warranties set forth in statute or implied by law, including any implied warranties of merchantability or fitness for a particular purpose"

B. The Contractor provides the following warranties:

1. All Work will conform to the Scope of Work and other requirements of the Contract Documents;

2. Incorporated Materials will fulfill their design function;

3. All Work will be free of all patent and latent defects;

C. Unless a longer warranty period is identified elsewhere in the Contract, the Contractor will warranty all labor performed and Materials furnished to be free of defects and faults for a period of two years from the date of Conditional Acceptance on a per LRV basis (except that, with respect to components, systems, major assemblies, subassemblies, products, parts, apparatuses, articles and other Materials with identified open items at Conditional Acceptance, the warranty period on such items will not commence until Final Acceptance).

D. The Contractor's warranties and guarantees will apply regardless of any lesser period of warranty provided by the manufacturer of Materials.

E. If UTA detects a defect with respect to any Work or Materials supplied pursuant to this Contract within the applicable warranty period, UTA will notify the Contractor within a reasonable time after detection. Within seven calendar days of notification, the Contractor's Project Manager and the Engineer will meet to determine the most appropriate course for the corrective Work and the exact scope of the corrective Work to be performed under the warranty. The Contractor shall redesign, repair, or replace the defect or malfunction to meet the Contract requirements as soon as reasonably possible. The Contractor shall also perform such tests as UTA may require verifying that such redesign, repair, or replacement complies with the requirements of the Contract Documents. In addition to other warranties that may be in effect, the Contractor warrants the redesigned, repaired, or replaced work for a period of one year after the acceptance of the completed corrective work by UTA or for the remainder of the original warranty period, whichever is greater. All costs incidental to such corrective Work will be borne by the Contractor.

F. To the extent practicable, UTA will allow the Contractor or its designated representative to perform the repair work. All repair work must be performed at a LRV maintenance facility approved by UTA. At its discretion, UTA may perform warranty work if UTA determines the need to do so based on transit needs or other requirements. Any work so performed by UTA must be reimbursed by the Contractor, including the cost of any force account labor supplied by UTA. If UTA performs the warranty-covered repairs, it may correct or repair the defect and any related defects utilizing parts supplied by the Contractor. At its discretion, UTA may also use parts available from UTA's stock-on-hand if deemed in UTA's best interest. Reports of all repairs performed by UTA and covered by the warranty must be submitted to the Contractor for reimbursement and replacement of parts on a periodic basis determined by UTA.

G. The Contractor shall obtain all subcontractor and supplier warranties in the name of UTA and shall deliver the same to UTA; provided, however, that the delivery of such subcontractor and supplier warranties will in no respect relieve the Contractor of its

obligations under the preceding warranty provisions. Unless expressly waived in writing by UTA, no subcontractor and supplier warranty will expire prior to the date of expiration of the warranty provided by the Contractor for such item under the Contract Documents. Nor will any subcontractor or supplier warranty contain terms substantially different than as required under this Section. UTA, by accepting the subcontractor and supplier warranties provided by the Contractor, in no respect waives any rights against the Contractor and, should there be a failure of the applicable subcontractor or supplier to honor the guarantee or warranty, UTA may, at its discretion, enforce any such rights against the Contractor. UTA will not be required to perform unusual or extraordinary maintenance or overhauls to keep the warranties in effect. UTA will not be required to purchase spare parts or other replacement Materials from a sole source if such Materials are otherwise available from equal or superior sources.

H. Nothing in the preceding provisions intends or implies that the Contractor shall be required to warranty items that do not perform satisfactorily because of misuse, abuse, repairs not conducted in accordance with Contractor's clear written recommendations, Contractor's published manuals or because repairs were not performed by personnel adequately trained in accordance with recognized industry standards, or lack of routine maintenance by UTA or from vandalism or accidents.

GC 3.00 Control of the Work

GC 3.01 UTA Inspectors

A. UTA may designate in writing and utilize one or more inspectors who shall be representatives of the Engineer and who shall have access to the Work at all times wherever it is in preparation or progress.

B. Inspectors are utilized solely for UTA's benefit and are not intended as a source of advice for the Contractor's employees or subcontractors.

C. The inspector has UTA authority to reject defective Work or Work not in conformance with Contract requirements.

D. UTA will, when practical, conduct all inspections jointly with the Contractor in a manner that does not unreasonably disrupt the progress of the Work.

GC 3.02 UTA Inspection, Sampling and Testing

A. UTA may inspect and test all or any part of the Work at any time over and above any testing by the Contractor. Inspection and testing by UTA does not relieve the Contractor of responsibility for the quality and conformance of the Work with Contract requirements.

B. The Contractor shall give UTA sufficient notice of the location and availability of

elements of the Work to allow for inspection, sampling and testing prior to incorporation of Materials or covering of the Work.

C. UTA may at any time prior to Final Acceptance require the Contractor to uncover portions of the Work for inspection and testing. The Contractor shall restore these portions of Work to the standard required by the Contract. If the Work uncovered does not comply with the Contract, was done without required documentation, or if UTA was given insufficient notice to allow adequate time for inspection, sampling or testing, the uncovering and restoration shall be done at the Contractor's expense. If the Work uncovered meets Contract requirements and was done with sufficient notice to UTA, the costs of uncovering and restoration shall be paid by UTA.

GC 3.03 Project Manager

A. The Contractor shall have competent foremen present on the Work at all times during its progress.

B. The Contractor shall appoint one competent Project Manager who shall have full authority to act on behalf of the Contractor and any or all subcontractors in all matters within the scope of the Contract including execution of Change Orders. The Project Manager or a designated assistant, competent to direct the Work and authorized to act on behalf of the Contractor, shall be present on the job site at all times when work is being performed by the Contractor or a subcontractor of any tier. The Contractor shall furnish UTA with a written confirmation of the Project Manager's authority to act for the Contractor.

C. If the Contractor wishes to replace its Project Manager at any time during the performance of this Contract, it shall first submit the resume of its new candidate to UTA for UTA's approval and shall not make the substitution without UTA's approval, which shall not be unreasonably withheld.

GC 3.04 Contractor Submitted Drawings, Product Data, Samples and Submittals

A. The Contractor shall prepare and deliver to UTA such working drawings, shop drawings, Product Data, samples, or submittals as necessary for performance of the Work or as required by the Contract. All such drawings, documents and samples shall be submitted to UTA in a timely manner and in a sequence that facilitates review and causes no delay in the Work. All submittal documents shall be created in English or be provided with a complete translation.

B. Prior to submitting drawings, Product Data, samples, and other documents, the Contractor shall ensure all information upon which a submittal is based complies with all Contract requirements. The Contractor shall also check, coordinate and verify the compatibility of the various required submittals prior to transmitting them to UTA.

C. Drawings, Product Data, samples, and similar submittals shall not modify any Contract requirement, except as expressly allowed by this Contract. The purpose of their submittal is to demonstrate details that are not fully developed by the Contract Documents or the manner in which Contractor proposes to comply with the Contract.

D. The Contractor shall not be relieved of responsibility for any deviation or non-compliance from the requirements of this Contract by UTA's review or approval of shop drawings, Product Data, samples, or submittals. The Contractor shall not be relieved of responsibility for errors or omissions in shop drawings, Product Data, samples, or submittals by UTA's review of the submittal. The Contractor shall not deviate from a reviewed shop drawing, Product Data, samples, or submittals without submitting the proposed deviation for UTA's review.

E. Submittals offered to demonstrate methods, procedures, sequence or durations for performing the Work or to detail temporary elements shall be checked by UTA for compliance with applicable requirements of the Contract. Such checking will not include a detailed analysis of the design or an evaluation of the adequacy of the method, procedure, resource commitments or time allocated for performance.

F. Submittals which demonstrate that Materials to be used or incorporated in the Work comply with Contract requirements or which establish a level of quality and performance will be reviewed for approval by UTA.

GC 3.05 Contract Records

A. The Contractor shall keep and maintain comprehensive records and documentation relating to the Work under this Contract, all of which shall be subject to audit in accordance with the Contract. The records shall include, but are not limited to Contract documents, subcontracts, purchase orders, employment records, plans, specifications, addenda, shop drawings, Change Orders, quality control documents, submittals and as-built drawings and records.

GC 3.06 Claims

A. It is an express condition of the Contractor's right to make a claim or to receive any recovery or relief under or in connection with the Contract, that the Contractor submit a written Notice of Intent to Claim to UTA in accordance with the provisions of this Section. Failure to comply with the provisions hereof shall constitute a waiver by the Contractor of any right, equitable or otherwise, to bring any such claim against UTA.

B. The written Notice of Intent to Claim shall set forth:

1. The reasons for which the Contractor believes additional compensation will or may be due;

2. The nature of the costs involved;

3. The Contractor's plan for mitigating such costs; and

4. The amount of the potential claim, or estimate thereof.

C. The Notice provided above shall be given within 14 calendar days after the happening of the event or occurrence giving rise to the potential claim. If the event or occurrence is claimed to be an act or omission of UTA, notice shall be given prior to commencing the portion of the Work to which such alleged act or omission relates.

D. The notice requirements of this Section are in addition to any other notice requirements set forth in the Contract.

E. Within 30 calendar days of the event or occurrence giving rise to the claim, Contractor shall provide any additional detail required for UTA to reasonable ascertain the basis and estimated magnitude of said claim. It will be the responsibility of the Contractor to furnish, when requested by UTA, such further information and details as may be required to determine the facts or contentions involved in said claim.

F. The Contractor's failure to submit any claim in writing within the relevant time and in the manner prescribed above shall waive any relief that might otherwise be due with respect to such claim. Depending upon the grounds for relief and the nature of relief sought, additional submittals and conditions upon submitting claims may be required elsewhere in the Contract.

G. Each claim the Contractor may submit for an adjustment on account of delay for any cause shall be accompanied by a revised Schedule reflecting the effects of the delay and Proposals to minimize these effects. If no Schedule has been submitted to UTA reflecting conditions prior to the delay for which relief is sought, then a Schedule so reflecting these conditions shall be prepared and submitted with the claim.

H. UTA shall be entitled to a reasonable time, in no case more than 90 calendar days, after it receives each claim in writing and accompanied by supporting documents and evidence, in which to investigate, review and evaluate such claim. When UTA has completed its investigation, review, and evaluation, it will advise the Contractor of the relief, if any, to which it has found the Contractor to be entitled.

I. In no event shall claims be made after Final Payment is made.

J. A claim will cease to be a claim if, at any time, a change order or Contract amendment resolving the issue is signed by all parties.

GC 4.00 Materials

GC 4.01 General

A. The Contractor has submitted to UTA, a bill of Materials identifying all Materials to be furnished by Contractor in conjunction with the Work (see Exhibit B). Unless a substitution is specifically approved by UTA, all Materials shall comply with the approved bill of Materials.

GC 4.02 UTA-Furnished Materials

A. Materials listed in the Contract as UTA-furnished will be available to the Contractor free of charge at the times and locations indicated in Contract.

B. With respect to UTA furnished Materials, the Contractor shall:

1. Install and make the Material fully operational, in accordance with the Contract and manufacturer's requirements, including furnishing all incidental parts and Materials, and scheduling inspections and tests.

2. Notify UTA immediately upon discovery of any deficiency or defect in Materials furnished.

C. All Materials furnished by UTA will remain the property of UTA. All Material will be required to be tracked through the Engineer or designated representative.

GC 4.03 Handling and Storage of Materials

A. Materials shall be securely stored, so as to preserve their quality and fitness for the Work. Stored Materials, even though determined acceptable before storage, may again be inspected prior to their use in the Work.

B. Stored Materials shall be arranged so as to facilitate their prompt inspection.

C. Approved portions of the right of way or other UTA property may be available for use by the Contractor at the Contractor's own risk. Any additional space required therefore must be provided by the Contractor at the Contractor's expense.

D. Private property shall not be used for storage purposes without written permission of the owner or lessee. Any use of private property by the Contractor shall comply with all applicable zoning, land use restrictions, and other regulatory requirements. Copies of such written permission shall be furnished to UTA upon request.

E. All Materials shall be handled and transported in such a manner as to preserve their quality and fitness for the Work.

GC 5.00 Legal Relations and Responsibility to Public

GC 5.01 Compliance with Laws and Regulations

A. The Work performed and LRVs returned by the Contractor must conform and comply with all applicable federal, state, and local laws and regulations. The Contractor acknowledges that it has familiarized itself with all applicable legal requirements and the Contractor agrees to perform the Work in full compliance with such requirements.

B. The Contractor shall comply with all applicable laws and regulations in effect as of the date of Contractor's price proposal without any increase in the Contract Price or adjustment to the Schedule on account of such compliance.

C. To the extent any change to applicable laws and regulations after the date of Contractor's price proposal requires an increase in the Contract Price or adjustment to the schedule, UTA shall issue a Change Order to account for such change. The Contractor shall substantiate any claim under this provision by submitting to UTA sufficient documentation demonstrating that the change to applicable laws or regulations caused the increase in time or cost of performance. If the Contractor seeks reimbursement under this clause, they must submit a proposal showing how each line-item cost increased due to a change in law. The Contractor must also provide proof that the increase relates only to that legal change and does not include any markup or profit.

D. The Contractor shall adhere to all applicable federal, state, and local laws and regulations. The Contractor shall be liable for and shall pay all fines, assessments, and other costs resulting from the Contractor's violation of any applicable federal, state, or local laws or regulations.

E. The Contractor shall not be entitled to any additional compensation or extension of time as a result of the Contractor's violation of applicable legal requirements. If a delay results from such a violation, the Contractor shall be responsible for all costs including, but not limited to, overtime premium associated with regaining the time lost as a result of such delay, and any damages, including liquidated damages, which may result from the Contractor's failure to comply with the Schedule as a result of such delay.

GC 5.02 Taxes

A. Unless otherwise provided in the Contract, the Contractor shall pay all sales, use, and other similar taxes that are enacted as of the effective date of the Contract.

GC 5.03 Liens Prohibited

A. The Contractor shall not permit any lien or claim to be filed or prosecuted against UTA, its property or its right-of-way on account of any labor or Materials furnished or any other reason for Work arising out of this Contract. If any lien shall be filed, the

Contractor shall satisfy and discharge or cause such lien to be satisfied and discharged immediately.

B. Payment of Claims by UTA. If the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with this Contract as the claim becomes due, UTA may pay the claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due to the Contractor pursuant to this Contract. UTA's payment of a claim under this paragraph shall not relieve the Contractor from responsibility for such claims.

GC 5.04 Indemnification

A. The Contractor shall protect, defend, release, indemnify and hold UTA and its officers, employees and agents, including consultants, (collectively "Indemnitees") harmless from and against any and all liabilities, damages, claims, demands, liens, encumbrances, judgments, awards, losses, costs, expenses and suits or actions or proceedings asserted against UTA by third parties, including reasonable expenses, costs and attorneys' fees incurred by the Indemnitees, in the defense, settlement or satisfaction thereof, for any injury, death, loss or damage to persons or property of any kind whatsoever, arising out of or resulting from the intentional misconduct or negligent acts, errors or omissions of the Contractor in the performance of the Contract, including intentional misconduct, negligent acts, errors or omissions of its officers, employees, servants, agents, subcontractors and suppliers.

GC 5.05 Insurance

A. The Contractor is an independent Contractor and is responsible to provide and pay the cost of all its employees' benefits. For the duration of this Agreement, the Contractor shall maintain at its own expense, and provide proof of said insurance to UTA, the following types of insurance:

1. Occurrence type Commercial General Liability Insurance ISO CG001, with an edition date of 11-88 or later, covering the indemnity and other liability provisions of this Agreement, with no exclusions of explosion, collapse, underground hazards, or contractual liability for railroads. The limits shall be $2,000,000 per occurrence with an annual aggregate of $5,000,000. This coverage shall be amended to show Utah Transit Authority as an Additional Insured by the use of ISO form CG 2033 with an edition date of 07-04.

2. Professional Liability insurance with the following limits and coverage:

   a. Minimum Limits:

      $2,000,000 each claim

$5,000,000 annual aggregate

b. Coverage:

i. Insured's interest in joint ventures

ii. Punitive damages coverage (where not prohibited by law)

iii. Limited Contractual liability

iv. Retroactive date prior to date

v. Extended reporting period of 36 months

vi. Coverage which meets or exceeds the minimum requirements will be maintained, purchased annually in full force and effect until 3 years past completion of the Scope of Services unless such coverage becomes unavailable to the market on a commercially reasonable basis, in which case the Contractor will notify UTA. If UTA agrees, such coverage is not commercially reasonably available, the Contractor may elect not to provide such coverage.

3. Automobile insurance covering owned, non-owned, and hired automobile with limits not less than $1,000,000 combined single limit of coverage.

4. Workers' Compensation insurance conforming to the appropriate states' statutory requirements covering all employees of the Contractor, and any employees of its subcontractors, representatives, or agents as long as they are engaged in the work covered by this Agreement or such subcontractors, representatives, or agents shall provide evidence of their own Worker's Compensation insurance. The policy shall also cover Employers Liability with limits no less than $500,000 each accident, and each employee for disease.

B. The Contractor warrants that this Contract has been thoroughly reviewed by its insurance agent, broker or consultant, and that said agent/broker/ consultant has been instructed to procure for the Contractor the insurance coverage and endorsements required herein.

C. UTA, as a self-insured governmental entity, shall not be required to provide additional commercial insurance coverage for the risk of loss to UTA property and improvements or equipment owned by UTA.

GC 5.06 Intellectual Property

A. UTA, including its successors in interest, shall have the right, within the scope of the Contract, or for the purposes of operating and maintaining LRVs, to use, duplicate and

disclose all technical data, including computer software and documentation, developed under this Contract, and the information conveyed therein in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so. This does not include trade secret of proprietary information developed at private expense outside this contract or a former UTA contract.

B. The Contractor warrants that the Materials used on or incorporated in the Work shall be delivered free of any rightful claim of any third party for infringement of any patent or copyright. If notified promptly in writing and given authority, information, and assistance, the Contractor shall defend, or may settle, at its expense, any suit or proceeding against UTA, its staff, consultants and their staffs, so far as it is based on a claimed patent or copyright infringement which would result in a breach of this warranty and the Contractor shall pay all costs, damages, and attorneys' fees awarded therein against UTA, its staff, consultants, and their staffs due to such breach. The Contractor shall promptly report to UTA in writing in reasonable detail, each notice or claim of patent or copyright infringement, arising out of the performance this Contract, of which the Contractor has knowledge. In the event of any claim or suit against UTA on account of any alleged patent or copyright infringement arising out of the performance of this Contract, the Contractor shall furnish to UTA all evidence and information in the possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Contractor.

C. The Contractor shall bear all costs arising from the use of patented or proprietary Materials or processes used on or incorporated in the Work. If the use of such Materials or processes is held to constitute an infringement and is enjoined, the Contractor shall, at its own expense:

1. Secure for UTA the right to continue using said Materials or processes by lifting the injunction or by procuring a license or licenses; or

2. Replace the infringing Materials or processes with non-infringing Materials or processes; or

3. Modify the Materials or processes so that they become non-infringing or remove the enjoined Materials or processes and refund the sum paid by UTA therefor without prejudice to any other rights of UTA.

D. The preceding paragraphs of this Section shall not apply to any Materials or processes specified by UTA or its consultants; and as to such Materials and processes the Contractor assumes no liability whatsoever for patent or copyright infringement.

GC 5.07 Ownership of Materials

A. As security for partial, progress, or other payments, title to Work for which such

payments are made shall pass to UTA at the time of the payment. To the extent that title has not previously been vested in UTA by reason of payments, full title shall pass to UTA at delivery of the Work at the location specified in the Contract.

B. Unincorporated work to which UTA has received title by reason of progress, partial or other payments shall be segregated from other Contractor or subcontractor materials and clearly identified as UTA property.

C. The title transferred as above shall in each case be good, and free and clear of any and all security interests, liens, or other encumbrances. The Contractor promises and agrees that it will not pledge, hypothecate, or otherwise encumber the items in any way that would result in any lien, security interest, charge, or claim upon or against said items.

D. The transfer of title as provided above shall not imply acceptance by UTA, nor relieve the Contractor from the responsibility to strictly comply with the Contract, and shall not relieve the Contractor of responsibility for any loss of or damage to such items while they are in the possession of the Contractor.

E. The Contractor shall insert provisions in its subcontracts sufficient to ensure compliance with the content of this Section.

GC 5.08 Conflict of Interest

A. An organizational conflict of interest means that because of other activities, relationships, or Contracts, a contractor is unable, or potentially unable, to render impartial assistance or advice to UTA; a contractor's objectivity in performing the work identified in the Contract is or might be otherwise impaired; or a contractor has an unfair competitive advantage. If the Contractor ascertains that it has, or may have, a real or perceived organizational conflict of interest, it must disclose such real or perceived organizational conflict of interest exists and the appropriate measures that will be taken in response to such determination, including a plan to mitigate the real or perceived organizational conflict of interest.

B. The Contractor shall not use any consultant who concurrently is employed by UTA or by UTA's consultants, including, but not limited to, surveyors, engineers, architects, and testing laboratories without first obtaining UTA's approval in writing.

GC 5.09 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take necessary precautions for the safety of, and shall provide necessary protection to prevent damage, injury or loss to the following: (i) all Contractor, Subcontractor, UTA employees, the public and other persons who may be affected thereby; (ii) all Work and all Materials to be incorporated into the Work; and (iii) any property of UTA affected

by the Work. In conjunction with any Work to be performed on UTA property, Contractor shall comply with the minimum standards imposed by UTA's Construction Safety and Security Program Manual, as updated from time to time (UTA's Construction Safety and Security Program Manual is incorporated into the Contract Documents by reference). However, Contractor shall be responsible for all additional as necessary to comply protect persons and property and comply with applicable legal requirements related to safety.

B. All Contractor employees working on UTA property will be required to undertake a training needs assessment and complete the necessary training. Where UTA is the provider of the training, instructors, classrooms and training documentation will be provided at no cost to the Contractor. All training that is provided by an external vendor shall be arranged and provided by the Contractor and at the Contractor's cost.

C. UTA's Safety Coordinator may perform random checks to ensure that all Contractor employees on UTA property have training certification applicable to the work they are performing.

D. Training may include, but is not limited to, the following:

Training	Computer Based Training	Classroom training	Provider
Roadway Worker Protection	X	X	UTA
Blue Flag Signal Protection		X	UTA
Lock out / Tag out	X		UTA
Forklift Certification		X	Vendor
Crane Certification		X	Vendor
Welding Certification		X	Vendor
Respirator Training	X	X	UTA
Duramix Product Cert Adhesives		X	Vendor
Paint Certification		X	Vendor
Positive Respiratory System		X	UTA

Table 1 Worker Training

GC 5.10 Time of Completion

A. The Contractor shall proceed with performance of the Work under this Contract upon the effective date of each Notice to Proceed, and shall continuously and diligently prosecute the Work and specified portions thereof to completion on or before the time or times set forth in this Contract.

GC 5.11 Delays and Extension of Time

A. The Contractor shall be granted an extension of time for any delay on the critical path to completion of the Work, based on the Schedule, arising from acts of God, acts of the public enemy, acts of the government in either its sovereign or contractual capacity, fires, floods, earthquake, epidemics, quarantine restrictions, strikes, freight embargoes, unusually or severe weather, provided that:

1. The aforesaid causes were not foreseeable and did not result from the fault or negligence of the Contractor

2. That the Contractor has taken reasonable precautions to prevent further delays owing to such causes

B. If the Contractor is delayed in the progress of the Work by an act, omission, or neglect of UTA, its agents or representatives, or an act or omission of another Contractor in the performance of a Contract with UTA, the Contractor shall, within 3 calendar days after the commencement of such delay, file with UTA a written notice of delay together with a request for an extension of the Contract period for the portion of the Work so delayed. The notice shall set forth in detail the reasons for the delay, and the period for which an extension is requested.

GC 5.12 Suspension of Work

A. UTA may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the Work of this Contract for the period of time that UTA determines appropriate for its own convenience.

B. If the performance of all or part of the Work is, suspended, delayed, or interrupted for an unreasonable period of time:

1. By an act of UTA in the administration of this Contract, if not attributable to actions, inactions or defaults of the Contractor; or

2. By UTA's failure to act within the time specified in this Contract (or within a reasonable time if not specified),

Then (in either case) an adjustment will be made for any increase in the cost of performance of this Contract (including profit and home office overhead) necessarily

caused by the unreasonable suspension, delay, or interruption, and the Contract modified by issuance of a Change Order. However, no adjustment shall be made under this Section for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this Contract.

GC 5.13 Subcontractors and Suppliers

A. No subcontract shall relieve the Contractor of any of the Contractor's obligations or liabilities under the Contract. The Contractor shall be fully responsible and liable for the acts or omissions of all subcontractors and suppliers including persons directly or indirectly employed by them, their guests and invitees. The Contractor shall have sole responsibility for managing and coordinating the operations of its subcontractors and suppliers, including the settlement of disputes with or between them.

B. Nothing contained in this Contract shall be deemed to create a contractual relationship between any subcontractor or supplier and UTA.

GC 5.14 Subcontract Provisions

A. The Contractor shall include in each subcontract and require each subcontractor to include in any lower tier subcontract, all of the provisions necessary to make this Contract fully effective. The Contractor shall provide all necessary plans, specifications, and instructions to its suppliers and subcontractors to enable them to properly perform their work.

GC 5.15 Dispute Resolution

A. UTA and the Contractor agree to use their best efforts to resolve disputes arising out of or related to the Contract using good faith negotiations and the principles of project partnering by engaging in the following dispute escalation process should any such disputes arise:

1. Level One - The UTA Engineer and the Contractor's Project Manager, who will meet to discuss and attempt to resolve the dispute in a timely manner. If they cannot do so, they will pass the dispute to Level Two.

2. Level Two- The Director of Fleet Engineering, for UTA and the Director of Projects for the Contractor will meet to discuss and attempt to resolve the dispute in a timely manner. If they cannot do so, they will pass the dispute to Level Three.

3. Level Three – Chief Operating Officer for UTA and the General Manager - Rolling Stock Division for the Contractor will meet to discuss and attempt to

resolve the dispute in a timely manner. If they cannot do so, they will pass the dispute to Level Four.

4. Level Four - The Executive Director for UTA and the President for the Contractor will meet to discuss and attempt to resolve the dispute, in a timely manner.

B. Any dispute arising out of the Contract that cannot be resolved to the mutual satisfaction of the parties as set forth above may proceed to litigation in the forum established by the Contract. "Any court review shall be conducted de novo."

GC 5.16 Termination in the Public Interest

A. UTA may terminate performance of work under this Contract, in whole or in part, at any time and without cause. UTA shall terminate this Contract for convenience upon delivery to the Contractor a Notice of Termination specifying the extent of termination and the effective date thereof.

B. After receipt of a Notice of Termination, and except as directed by UTA, the Contractor shall: (i) stop work as specified in the notice; (ii) place no further subcontracts or orders (referred to as subcontracts in this clause) for Materials, services, or facilities, except as necessary to finally complete the continued portion of the Contract; (iii) terminate all subcontracts or orders to the extent they relate to the Work terminated; (iv) transfer possession and to all completed Work and Work in process, completed work, supplies, and other Materials produced or acquired for the work terminated as of the date of termination; (v) continue the performance of the Work not terminated; and (vi) use its best efforts to mitigate the potential damages arising from the termination.

C. UTA shall pay Contractor its costs, including contract close-out costs, and profit on work performed up to the effective date of the termination notice, plus costs reasonably and necessarily incurred by Contractor to effect such termination. UTA shall not be responsible for anticipated profits based on Work not performed as of the effective date of termination. Contractor shall promptly submit a termination claim to UTA.

GC 5.17 Termination for Default

A. UTA may terminate this Contract for default by the Contractor if:

1. Except as provided below, the Contractor is in material breach of any material provision of the Contract and has not remedied the breach within 10 calendar days after receiving written notice from UTA (provided; however, that with respect to a material breach that is not subject to cure within ten calendar days, the Contractor shall not be deemed in default if it commences appropriate curative actions within the ten-day period and thereafter diligently prosecutes such actions to completion);

2. The Contractor abandons the Contract;

3. The Contractor makes a general assignment of this Contract for the benefit of creditors;

4. The Contractor repeatedly fails to make prompt payment to subcontractors or for Material or labor;

5. The Contractor disregards laws, regulations, ordinances, the orders of a legal authority, or the instructions of UTA;

B. In addition to its right to terminate the Contract for the reasons set forth in Paragraph A of this Section, if the Contractor refuses or fails to prosecute the Work or any separable part, with reasonable diligence, UTA may, by written notice to the Contractor, terminate the right to proceed with the Work (or the separable part of the Work) that has been delayed. In this event, UTA may take over the Work and complete it by Contract or otherwise, for which UTA has already paid through milestone payments. The Contractor and its sureties shall be liable for any damage to UTA resulting from the Contractor's refusal or failure to complete the Work in accordance with the contract completion date. This liability includes any increased costs incurred by UTA in completing the Work.

C. If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued in the Public Interest.

D. The rights and remedies of UTA in this Section are in addition to any other rights and remedies provided by law or under this Contract. HOWEVER, NOTWITHSTANDING THE FORGOING CONTRACTOR SHALL NOT BE LIABILE TO UTA FOR ANY INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED BY INCLUDING BUT NOT LIMITED TO, LOST PROFITS OR REVENUE AND BUSINESS INTERRUPTION. ", AND THE TOTAL AGGREGATE LIABILITY OF CONTRACTOR TO UTA SHALL NOT EXCEED THE CONTRACT PRICE.

E. THE FORGOING LIMITATION SHALL NOT BE CONSTRUED SO AS TO LIMIT CONTRACTOR’S OBLIGATION TO INDEMNIFY UTA WITH RESPECT TO THIRD PARTY CLAIMS OR FOR CONTRACTOR’S GROSS NEGLIGENCE OR WILLFUL DISREGARD.

GC 6.00 Payment

GC 6.01 Payment Procedures

A. UTA shall pay to the Contractor, at the times and in the manner hereinafter provided, the amount set forth in the Schedule for the Work satisfactorily performed, contingent upon the Contractor's satisfactory compliance with the terms and conditions of the Contract. The Contractor agrees to accept that amount as full and final payment for all labor, Materials, supplies, equipment, overhead, profit, taxes, duties, and charges of whatever nature incurred by the Contractor in performing its obligations under the Contract.

B. UTA will not accept more than one invoice in any 30 calendar day period, unless prior approval is granted by UTA.

C. Invoices shall be submitted in triplicate and shall include a cover summary sheet provided to UTA. The form and content of invoices are subject to review and approval by UTA. All of the Contractor's invoices shall be sent directly to the attention of the Engineer and shall contain a reference to the Contract Number.

D. UTA shall have the right to disapprove specific elements of each invoice, to address non-conforming or incomplete Work or invoicing deficiencies. Approval by UTA shall not be unreasonably withheld. UTA shall also have the right to offset any amounts payable to UTA under the Contract against Contractor invoices.

E. The Contractor warrants that:

    1. Title to all Materials furnished by the Contractor or incorporated into the Work by the Contractor and covered by the progress payment shall pass to UTA at the time the Contractor receives the progress payment;

    2. All Materials are free and clear of all liens, claims, security interests, or encumbrances; and

    3. No Materials have been acquired by the Contractor, or by any other person performing Work at the site or furnishing Materials for the Work under this Contract, that are subject to an agreement under which an interest in, or encumbrance on, the materials or equipment is retained by the seller or otherwise imposed. Notwithstanding the provisions of this Paragraph, the risk of loss of all Materials incorporated in the Work shall remain with the Contractor until delivery of the Work at the location specified in the Contract and acceptance by UTA.

    4. All invoices shall be accompanied by certificate that all Materials, workmanship, etc. are in accordance with Contract documents.

F. No approval for payment, nor any payment, nor any partial or entire use or occupancy of any portion of the Work by UTA, shall constitute an acceptance of any Work that is not in accordance with the Contract.

G. UTA will pay all undisputed amounts of each invoice within 30 calendar days after receipt and successful verification of completion of the invoiced work by UTA's Engineer.

GC 6.02 Final Completion and Final Payment

Whenever the Contractor deems its obligations under the Contract have been fulfilled, the Contractor shall notify UTA in writing. Upon receipt of the Contractor's notice, UTA shall inspect the Work and within 15 calendar days after receiving the Contractor's notice either finally accept the Work or notify the Contractor in writing of Work yet to be performed on the Contract. Upon receipt of UTA's written final acceptance of the Work, the Contractor shall invoice UTA for any amounts due under the Contract. UTA shall pay the Contractor within 30 calendar days after receipt of the approved final invoice

Exhibit B

Scope of Work

The Scope of Work is to remove and repair both power trucks and center truck, disassemble vehicle, repair structural elements, vehicle reassembly and truck re-installation, and full vehicle paint due to current paint condition. The scope will include the following:

Phase 1: Vehicle Repair – disassembly, structural repair, and reassembly

- Complete teardown of LRV 1122 damaged components.
- Procurement, installation, and testing of materials listed in the agreed upon accident repair bill of materials.
- The damage is concentrated on the A-car (right), B-car (left) and adjoining C-car. Structurally, the door portals, sidewall assemblies and door thresholds will be replaced in kind with manufactured assemblies from the French Road factory.
- Structural damage above the C-car windows will be repaired.
- Deflections in the subfloor structure will require repair. Subsequently, all low-floor subfloor and tiles will be replaced in the A and B-car.
- All door leaves, operators, and door glass on the accident side of the vehicle will be replaced in kind. Door leaves were identified as a long lead time item. To accelerate the project schedule, door leaves will be provided by UTA.
- Two ramps were damaged in the accident, and two ramps were removed by UTA. UTA will provide 4 ramps for installation into LRV 1122.
- 8 door leaves were damaged in the accident. Replacement door leaves will be provided by UTA to replace the damaged door leaves.
- Cladding will be replaced in kind and subsequently, all vehicle glass where cladding was removed will be replaced.
- Fiberglass and composite interior panels at the damaged section will be replaced in kind.
- C-car high voltage cabling for the latent heat system will be replaced.
- Reassemble all removed components.
- Prepare surface, paint, and buff complete vehicle in preparation for application of vehicle wrap and decals.
- Following the vehicle repair, static testing of ADA ramps, doors and c-car latent heat will be completed.

Phase 2: Bogie Set -disassembly, repair structural elements, reassembly and testing.

- Disassembly and cleaning
- Engineering Analysis
- Drive units overhaul and testing
- Repair frames and bolsters;
- Quality Assurance (Non-Destructive Test – NDT);
- Painting of affected areas
- Reassembly
- Static and load testing
- Re-installation of trucks onto LRV 1122

- Previously missing materials will be handled by UTA. Previously missing materials are as follows:

  Serial Number: US00102
  Missing Axle 1 Caliper
  Missing Axle 2 Caliper
  Track Brake Canister Holder
  Right Side Track Brake
  Wheel 2 Ground

  Serial Number: US00043
  Missing Axle 1 Caliper
  Missing Axle 2 Caliper

- All the rework procedures and material lists are attached to this exhibit. Work will be according to the technical assessment performed for each truck. Based on that, the specific repair scope will be the following:

Platform:	S/N Affected:	Repair Scope (highlights)	Drawing(s)	Rework Procedure	Material List
Bogie	US00102	[1] Rework of PT Head Beam Console Bracket [2] Rework of Bolster Rotation Stops [3] Rework of Bolster Lateral Buffer Bracket [4] Miscellaneous Damage	A2V00001441496 A2V00397258998	RW-SLC4-PT-US00102 - Rev A	US00102 BOM Rev001
Bolster	US00195				
Bogie	US00043	[1] Rework of Bolster Lateral Buffer Bracket	A2V00001441496 A2V00397258998	RW-SLC4-PT-US00043 - Rev A	US00043 BOM Rev001
Bolster	US00612				
Bogie	US00138	[1] Rework of CT Lifting Device Bracket [2] Rework of track brake Bracket	A2V00397218495	RW-SLC4-CT-US00138 - Rev A	US00138 BOM Rev001

  - For the drive units overhaul and testing, the scope is as follows:
    - Separate traction motor from gearbox
    - Disassemble traction motor
    - Clean all parts
    - Balance rotor to Siemens specifications
    - Overhaul motor to Siemens specifications using new bearing, hardware and seals
    - Disassemble gearbox
    - Replace gearbox bearings and required hardware
    - Reaffix gearbox to traction motor
    - Final electrical and vibration testing
    - Touch up paint
    - Install transport lock

Bogie SN	Item	Manuf.	Serial #	Preliminary Tests Findings
US00043	Gearbox; Axle 1	Voith	1264774	w/ transport lock w/o motor terminal box cover results were with specification
US00043	Motor; Axle 1	Siemens	N-1244428-230-001	
US00043	Gearbox; Axle 2	Voith	1263264	w/ transport lock w/o motor terminal box cover excessive vibrations were observed.
US00043	Motor; Axle 2	Siemens	N-1244428-230-003	
US00102	Gearbox; Axle 1	Voith	1273126	w/ transport lock w/o motor terminal box cover above normal vibrations were observed.
US00102	Motor; Axle 1	Siemens	N-1244428-550-004	
US00102	Gearbox; Axle 2	Voith	1273999	w/ transport lock w/o motor terminal box cover excessive readings noted. Vibration test stopped.
US00102	Motor; Axle 2	Siemens	N-1244428-600-001	

Phase 3: Additional Materials and Installation, Vehicle Preparation, and Shipment to UTA

- It is recognized that certain materials have been removed from the vehicle by UTA personnel prior to shipment.
- In general, missing materials are not included in this scope of work unless the materials are required to complete the scope of work as described in this Contract, and purchase and installation has previously been negotiated and agreed upon.
- Missing materials shall be handled as follows:
    - UTA furnished material stock shipped to Contractor for installation.
    - Purchase of materials from Contractor for Contractor installation; or
    - UTA personnel will install missing materials following completion of repair work and return of LRV to UTA's facility and acceptance of the LRV.
    - The Contractor shall notify UTA of all missing materials at the earliest possible opportunity to allow UTA to determine the necessary course of action.
    - All additional materials and installation shall be subject to UTA review and approval.
    - All currently known additional materials to be covered under this Contract have been identified separately in the attached project bill of material.
- Vehicle preparation for return shipment to UTA.
- Return shipment of LRV to UTA

Program Management Requirements:

1. The Contractor shall develop a Project Management Plan (PMP) describing their approach. The PMP shall describe management approaches to provide UTA insight into the project management structure and to describe the mechanisms that ensure the project requirements will be met. The approaches described in the Project Management Plan shall be tailored to fit this project.

    CDRL 1 Project Management Plan (PMP)

2. The Contractor shall enter discussions with UTA to agree on the concept of the PMP. Contractor shall draft the detailed plan including the information listed below. It shall be

used to guide and track the project through to successful completion. The Project Management Plan shall as a minimum provide the following:

- Detailed Project Organization chart
- Identifies key individuals and their roles in the project
- Includes both UTA and Contractor
- Describes the major activities as well as the roles and responsibilities by individual to accomplish them
- Authority level and decision process definition
- Schedule/time management
- Project schedule showing key milestones for project phases, deliverables, critical action points, decision hold points, UTA and Contractor reviews, major action points.

The PMP shall be kept up to date and shall be re-submitted to UTA when details of the plan change, such as a change in personnel assigned to the project.

3. A monthly progress report shall be submitted no later than 10 working days after the end of the reported month. Reports shall be based upon actual progress of the work, including any problems that have been identified and material affecting the project schedule. The monthly progress report shall include the baseline project schedule in the form of a Gantt chart with all current project schedule deviations shown, and a current and up-to-date schedule. The monthly progress report shall include photographic progress of the work and include all work sign-offs, engineering activities, quality inspection documentation, and other work completed during the reporting period. The monthly progress reports will serve as the basis for the Final Repair Report. Completion status of monthly progress reports will be reviewed prior to each milestone payment. In the event of missing progress reports, UTA may request documentation to fulfill any missing information prior to payment of milestone payments.

CDRL 2 Monthly Progress Reports

4. Project Review Meetings shall be held as required to review progress, respond to open action items, discuss design problems and issues, to witness tests and discuss their results, to review fabrication and assembly status, and to conduct vehicle inspections. Meetings shall be held monthly at a minimum, unless otherwise directed by UTA. Progress meetings may be held as frequently as weekly if requested by UTA. The Contractor shall submit meeting minutes including the meeting agenda, discussion notes, and actions and assignments at a minimum.

CDRL 3 Project Review Meetings

5. The Contractor shall develop and submit a repair procedure for UTA review and approval prior to commencement of the work.

CDRL 4 Repair Procedure

6. The Contractor shall develop and submit a Final Repair Report upon completion of the work for UTA review and approval. The report shall contain a certification of conformance to original specifications, and all supporting repair, quality assurance, and other documentation developed throughout the project. The report shall include photo documentation of each phase of the repair processes, essentially organizing and combining the deliverables developed for the monthly progress reports chronologically into

a single document. The final repair report shall be submitted to UTA a minimum of 15 days prior to the vehicle final inspection, which is to be conducted at the Contractor's facility.

CDRL 5 Final Repair Report

Siemens Mobility, Inc.

Damage Report

Utah Transit Authority, S70 Type 4

Engineering Review

Document Number: A4D10000089059	**Release Date:** **07/19/2022**
Title: LRV Damage Report UTA S70 Vehicle 1122, Engineering Review	**Revision: A**

Table of Contents

Table of Figures

1 Overview/Purpose

This document is to give an engineering review of the damage that occurred to the Utah Transit Authority's Light Rail Vehicle number 1122 and a high-level overview of the required repairs. LRV 1122 was involved in a collision with another UTA LRV, the collision resulted in a derailment along with major structural damage to the A, B, and C cars. The Inspection was performed at the Jordan River UTA Maintenance facility in Salt Lake City, Utah on Friday July 8th, 2022. Some bogie components are mentioned in this report but were not individually inspected as they will require removal and evaluation later. Laser scanning was performed using a faro Focus X130 laser scanner and data was compiled using Polyworks software. The scope of this evaluation only covers the damage due to the accident and not the components that were robbed and are missing due to use on other vehicles.

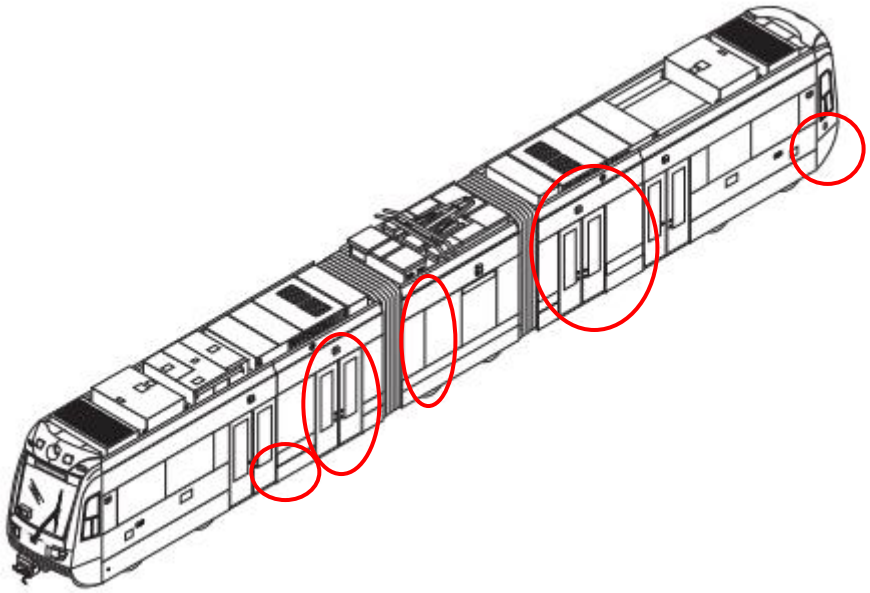


Figure 1: Overview of Damages

2 Acronyms/Definitions

3D	3-Dimensional
CAD	Computer-Aided Design
LH	Left Hand
LRV	Light Rail Vehicle
MPI	Magnetic Penetrant Inspection
NDT	Non-Destructive Testing
RH	Right Hand
SMI	Siemens Mobility Inc.
UT	Ultrasonic Testing
VT	Visual Testing

3 Damages Evaluation

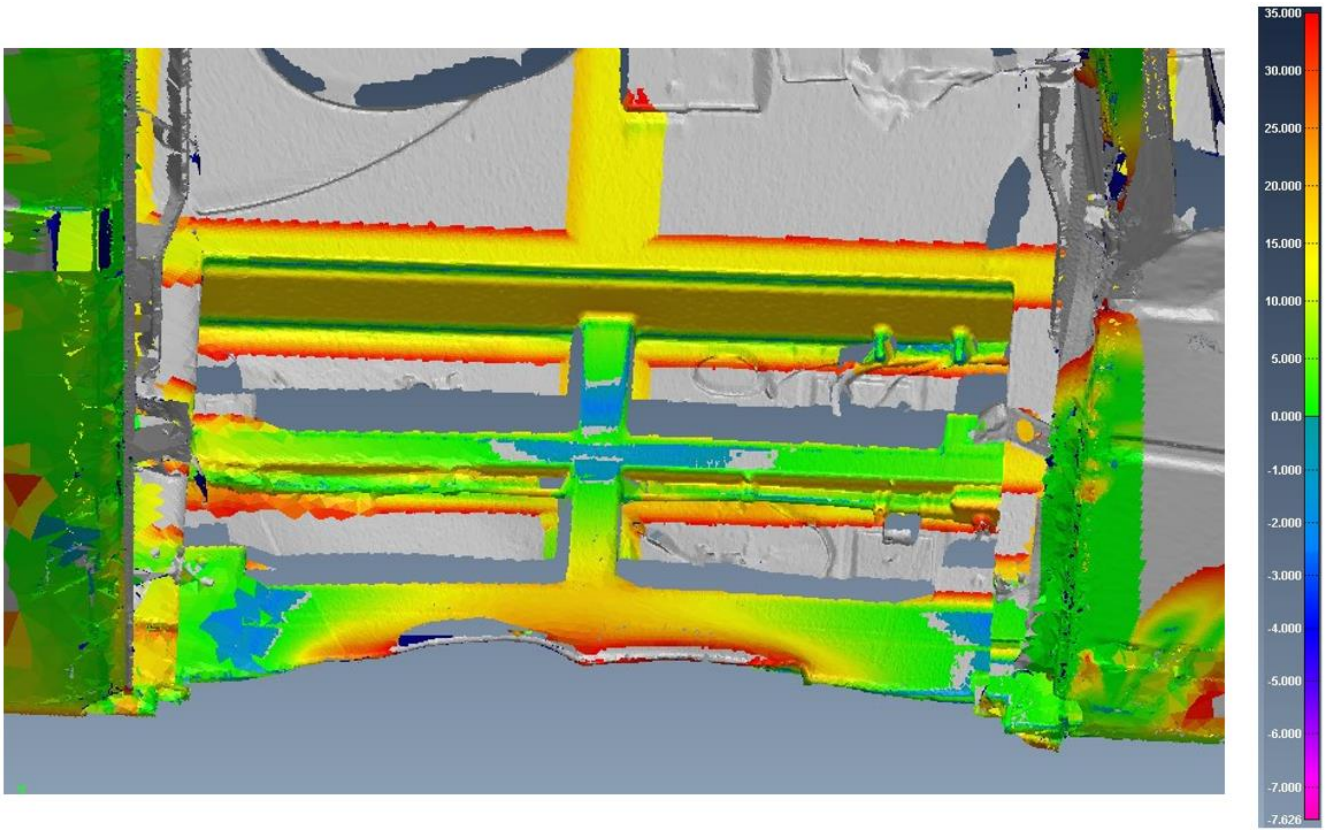
3.1 Scanning Evaluation

3.1.1 Alignment

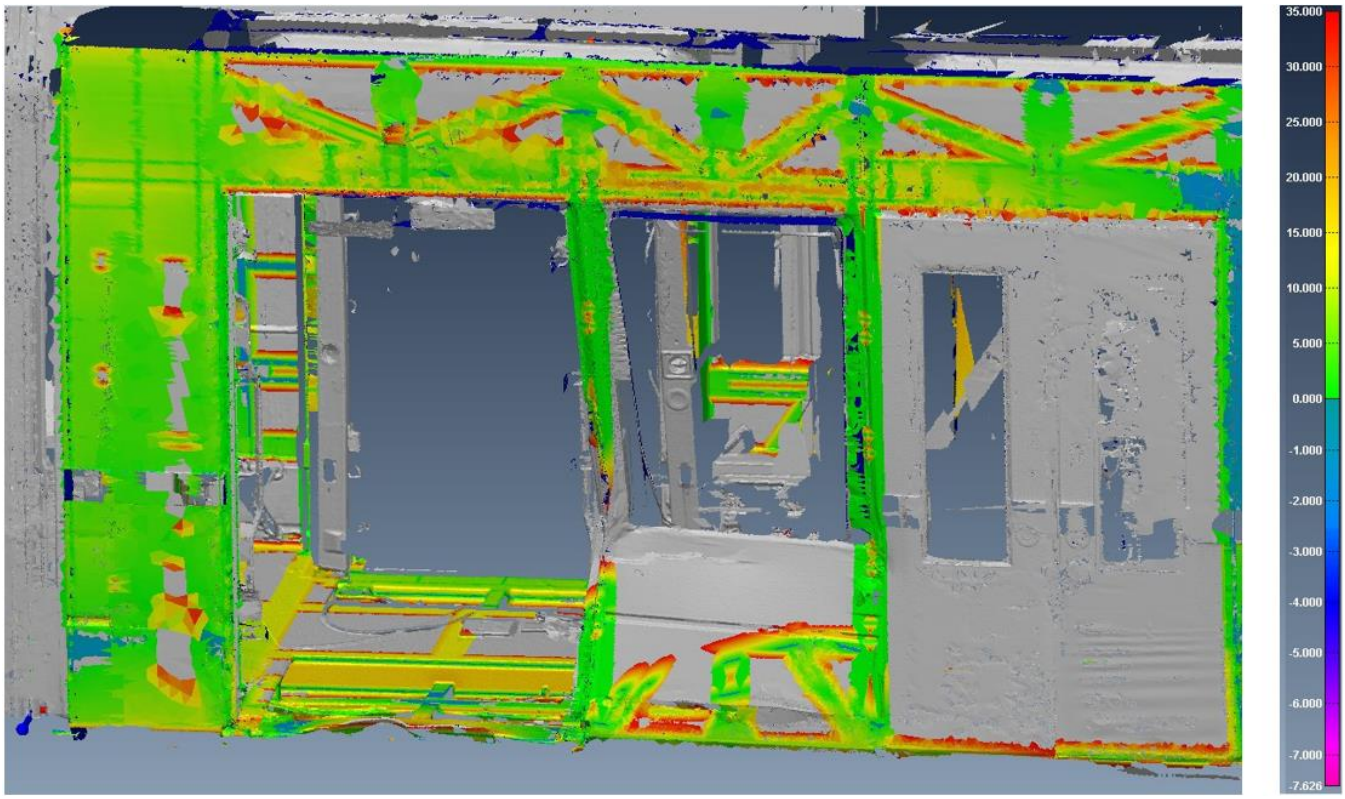
See scanning images in next section.

3.1.2 Damages

As seen in Scanning Eval (Begin Next Page)



Laser Scan (Top) and View of Scanned Damaged Area (Bottom)



Door 2 Structural Damage Scan

3.2 Visual Evaluation

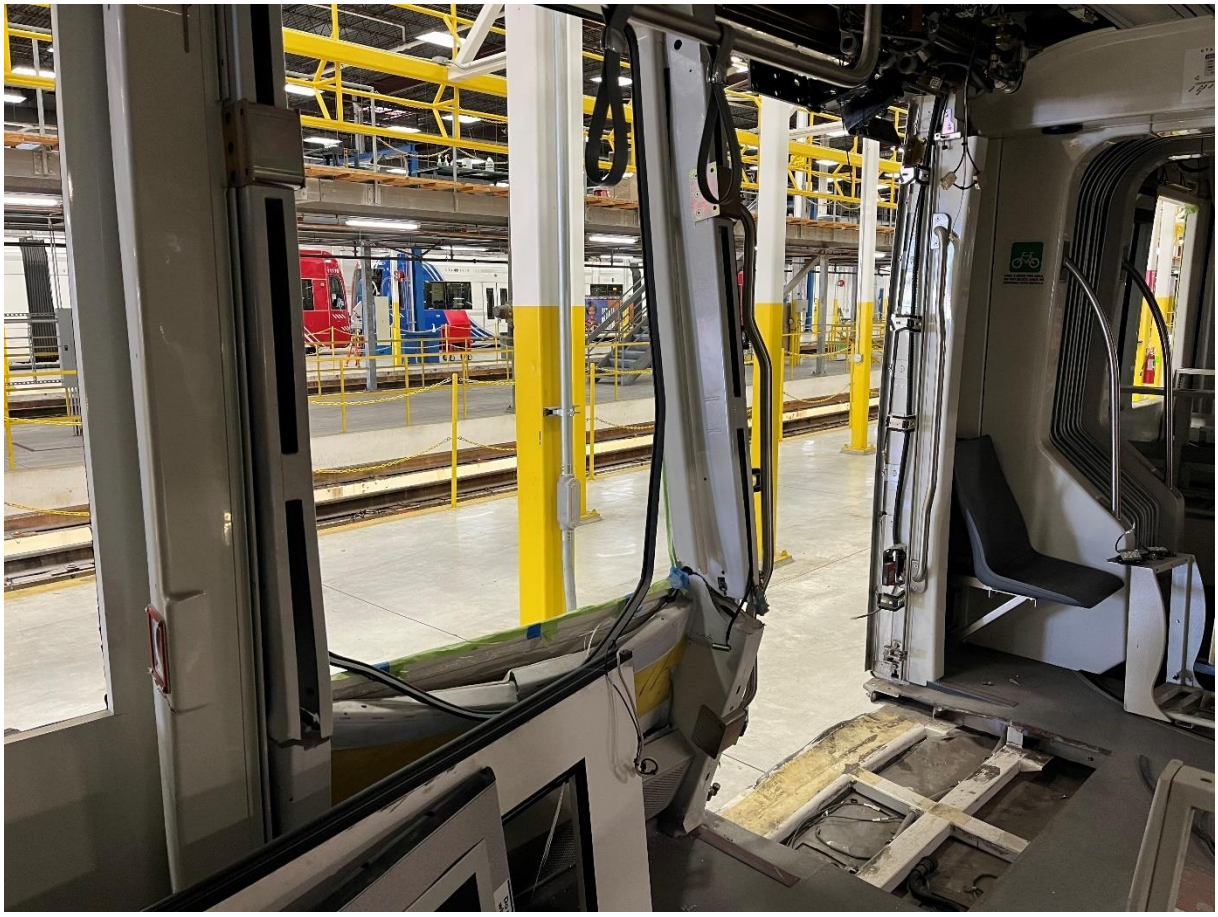
Documentation of damages through Images

Right Hand Side Door 2 Primary Impact Area of “A” Car

RH Side Door 2 threshold/Ramp Impact Area of “A” Car

RH Side Door 2 Frame and Window

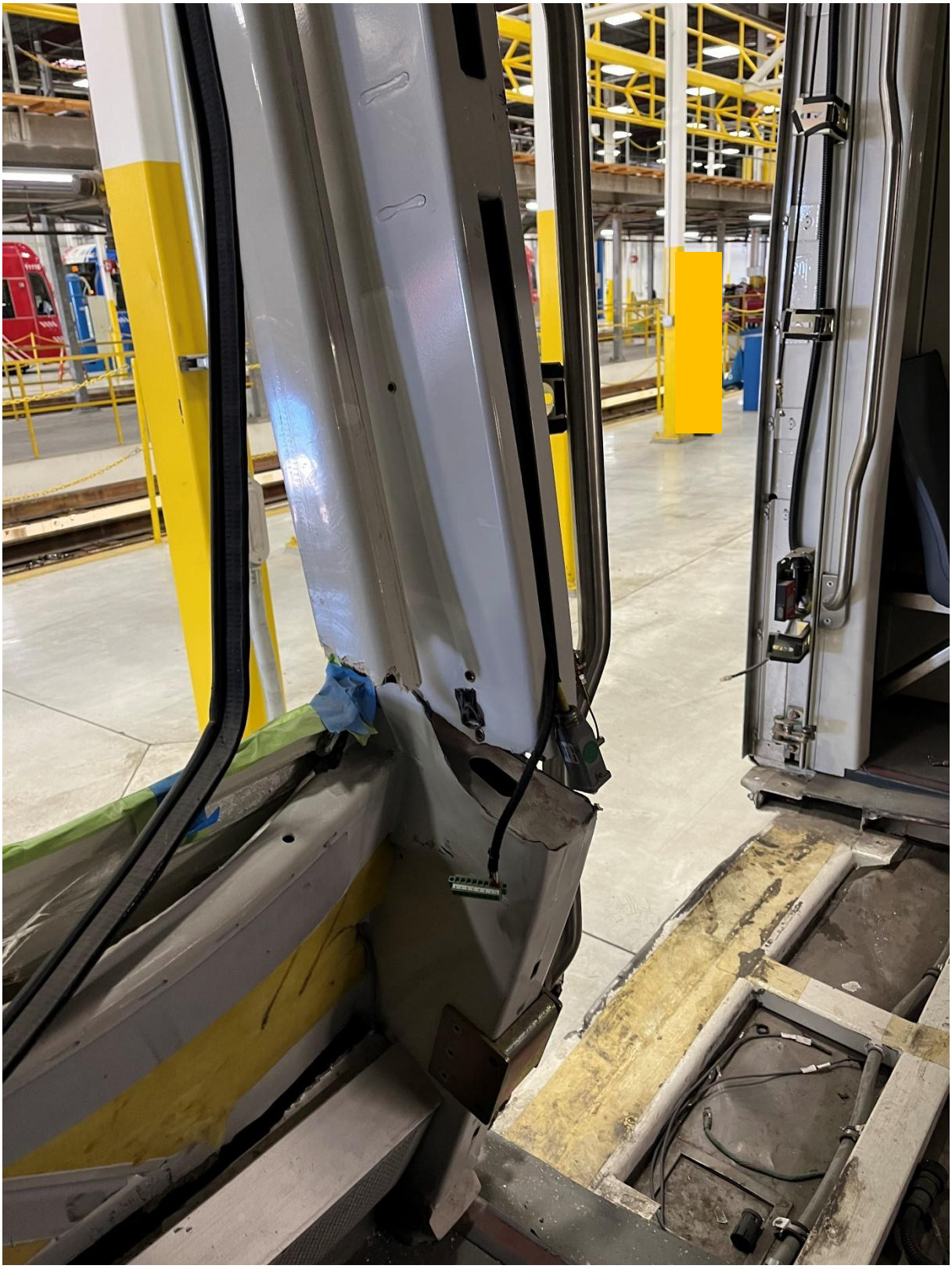
RH Side Door 1 and Carshell minor scrapes to “A” Car coatings – cosmetic damage



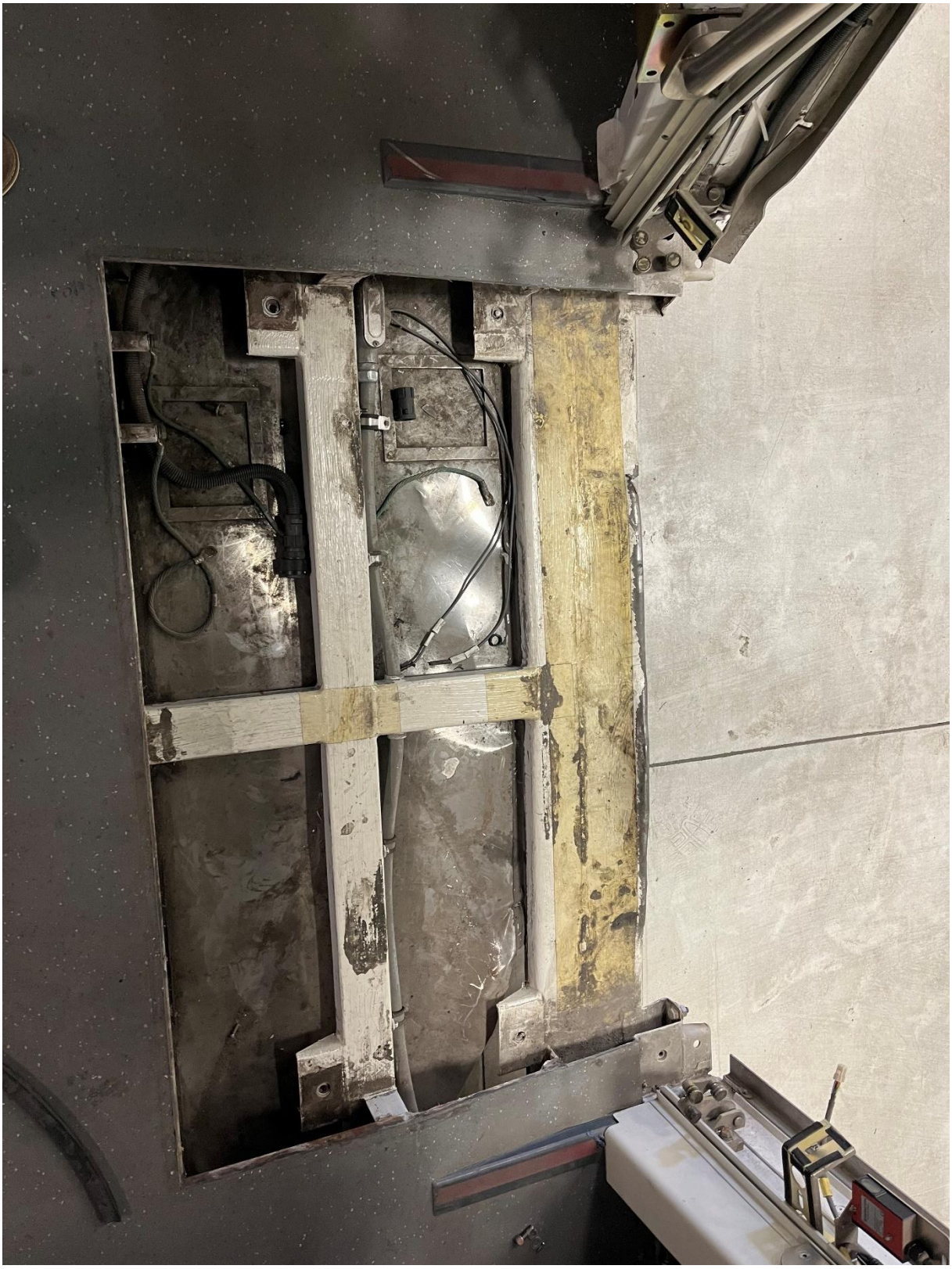
RH Side Door 2 Interior View of Impact Damage

RH Side Door 1 Interior Frame/Trim Damaged Adjacent to Window in Between Door 1 and 2

Window in Between Door 1 and 2 Interior View of Impact Damage



Door 2 Frame Interior View of Impact



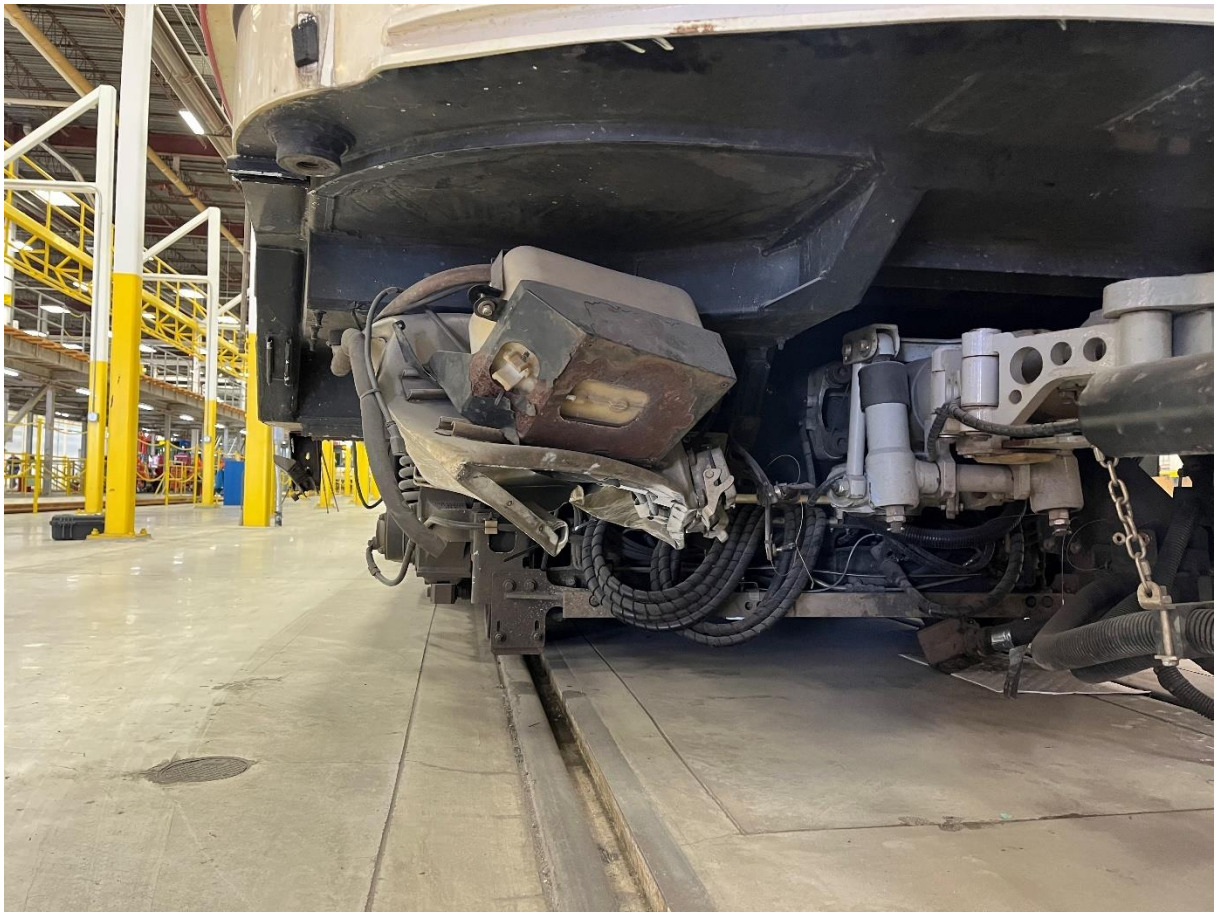
Door 2 Threshold and exposed frame

Door 2 Ramp/Threshold Impact Side

Impact Side View of Car body Between Doors 1-2

“A” Car Overall view of Impact Side

RH side 162 Box – damaged, including windshield washer reservoir



RH side 162 Box – damaged, including windshield washer reservoir FWD View

RH side 162 Box – damaged, including windshield washer reservoir

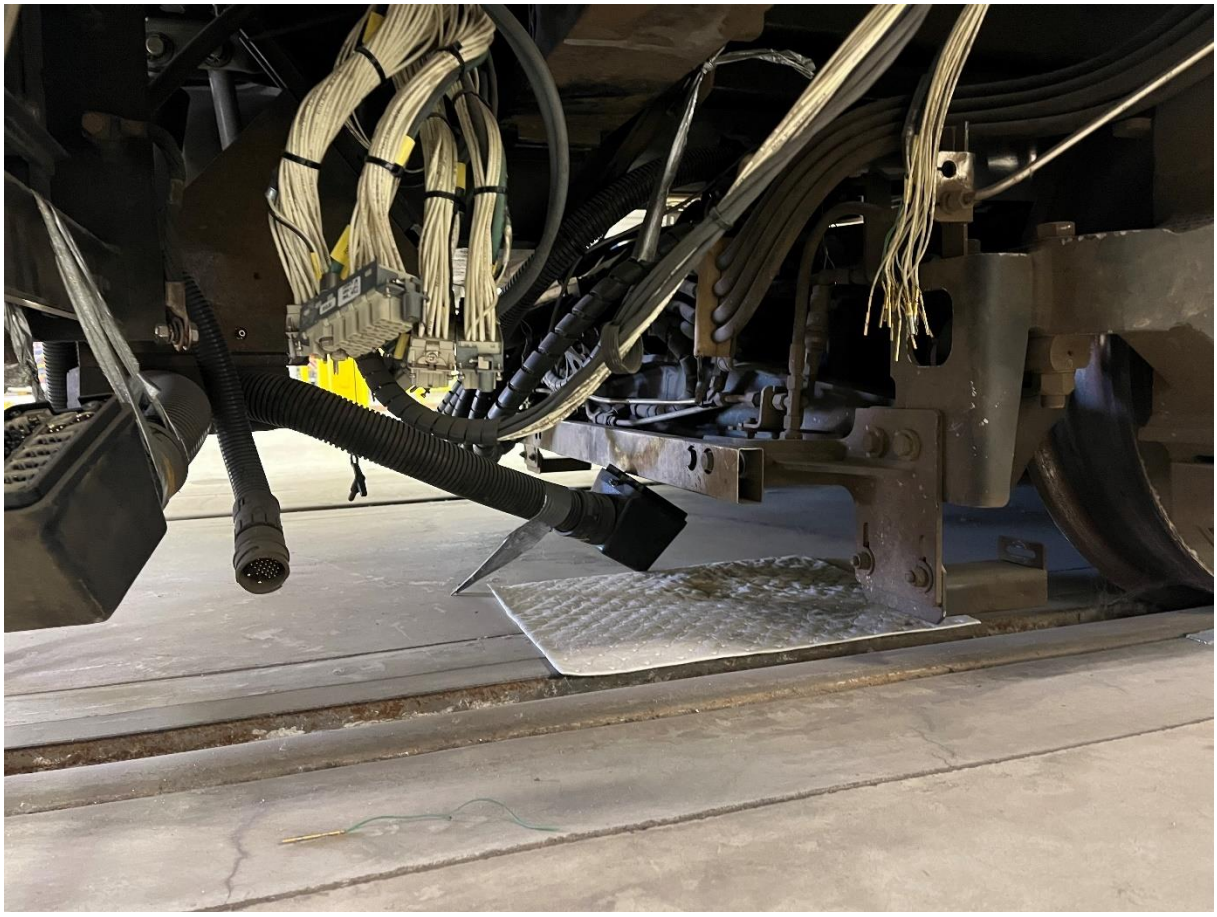
LH side “B” Car Minor Cosmetic Damage to Doors and Carshell

LH side “B” Car Damage to Doors and Carshell

LH side “A” Car Damage to Door Threshold/Ramp A

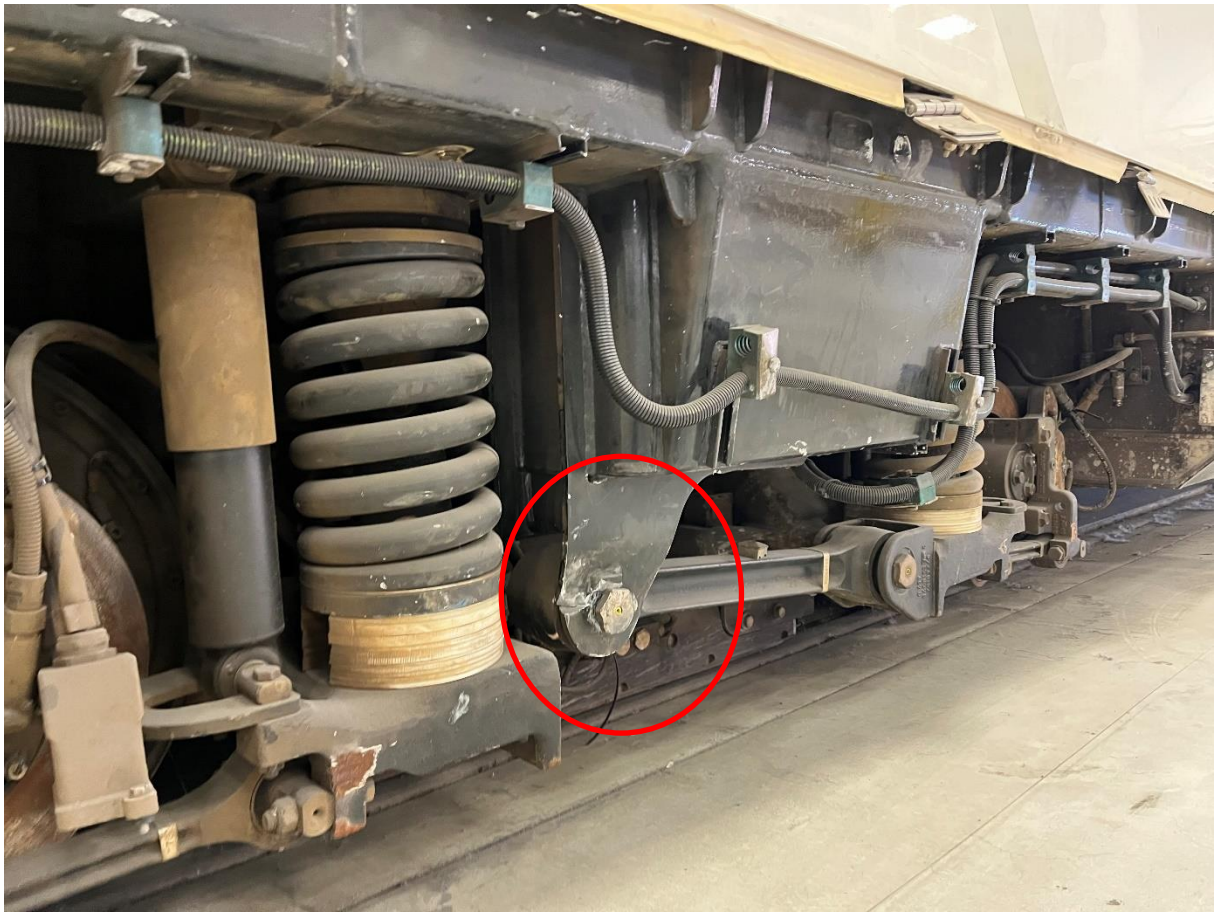
Slight Bending Observed Due to Impact on the Opposite Side

LH side “A” Car Damage to Door 11 Area Underside Bellypans



LH side 172 Box – damaged and removed

Truck traction rod RH bracket eye has a large crack/torn metal visible where the attachment bolt installs through the rod eye.



Truck traction rod RH bracket eye has a large crack/torn metal visible where the attachment bolt installs through the rod eye.

4 Observations

Summary of visual damage assessment observations

Derailment:

Due to derailment, cars will require new articulation area bearings. A-C car upper bearings as well as all lower area articulation bearings.

A Car Damage:

Door 11 damage to threshold transition area (LH side)

Damage to belly pans(LH/RH side)

LH side 172 Box – damaged and removed

RH side 162 Box – damaged, including windshield washer reservoir

Main impact area between doors 1-2 on RH side car shell. This area has major structural damage protruding inward to the passenger area. Window section in between A car RH side doors will need to completely removed and replaced.

Door 2 threshold/ramp area is severely damaged at the frame (Door plate and angle frame) and will require removal and replacement. Cross girders will require straightening.

Door 2 frame and trim pieces around door opening are damaged, including door motors and track

Roof area: A-C car Summing Link Bracket is bent and will require replacement, RH side roof battery box lid damaged (damaged from Pantograph falling and impacting it as a result of the accident.

Damaged car shell/body skirts and hinges need to be replaced.

C Car Damage:

Truck/bogie will need to be removed and inspected, visible damage

Truck traction rod RH bracket eye has a large crack/torn metal visible where the attachment bolt installs through the rod eye.

Structural damage on cladding and carshell body and windows.

Body skirt and hinges damaged and require replacement.

B Car Damage:

Door 3 operating equipment(motors) damaged as well as door frame and track. Carbody and structural damage in between doors 3-4, Door 3 and 4 threshold/ramp area damaged due to impact.

4.1 Next Steps

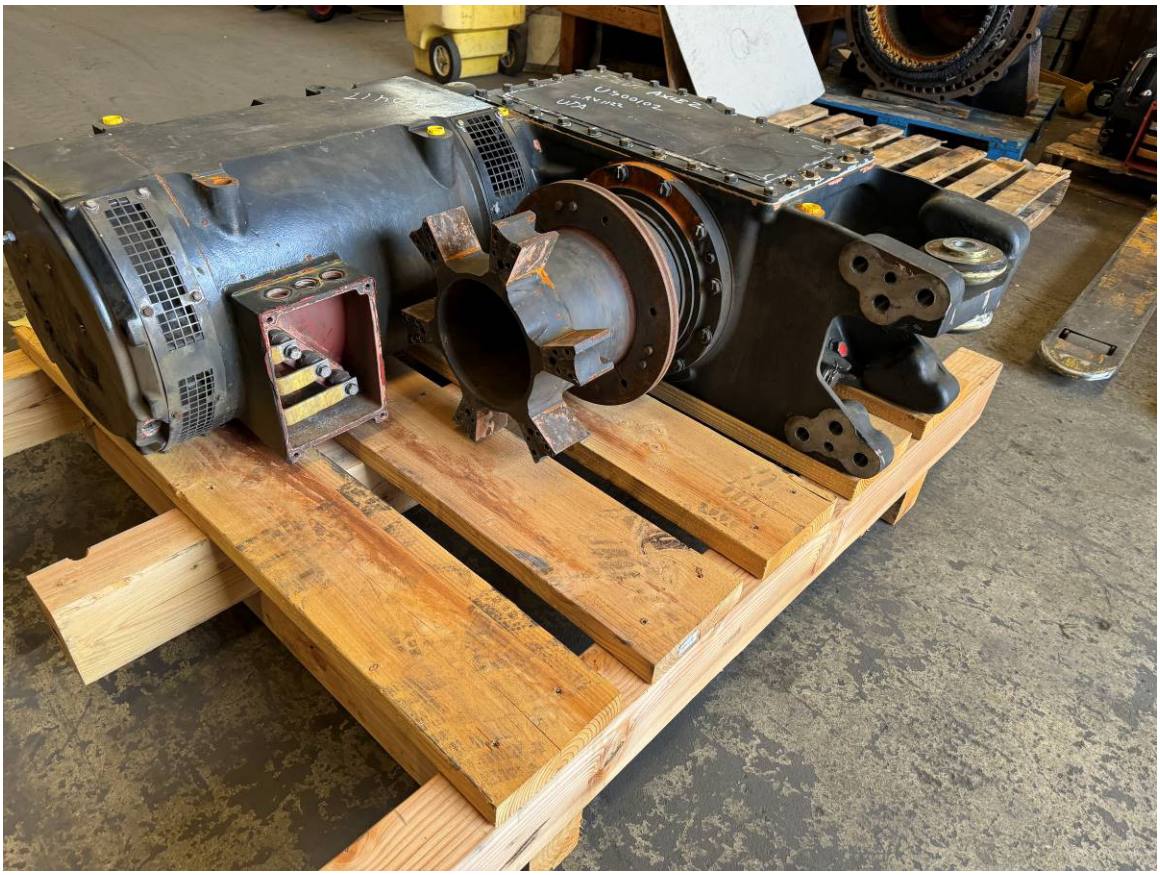
Siemens recommends that due to the extent of cannibalized components, that commissioning level testing should be performed prior to returning to service.

NOTE: The scope of this evaluation only covers the damage due to the accident and not the components that were robbed and are missing due to use on other vehicles.

Siemens Mobility
Traction Drives
West Coast Service Center

Drive Unit Report

Siemens AC Traction Motor S70 – Voith Gearbox



MOTOR S/N	**N-124426-600-001**		
Gearbox S/N	**1273999**		
Date	**6/12/2024**		
MOTOR TYPE	1TB1622-0JG03	**VEHICLE TYPE**	S70
CUSTOMER	UTA 1122 Accident	**Rep.-Shop JOB No**	RJ24-0416 & RJ24-0417

RJ24-0416 & RJ24-0417

Image 1: Motor Serial Number

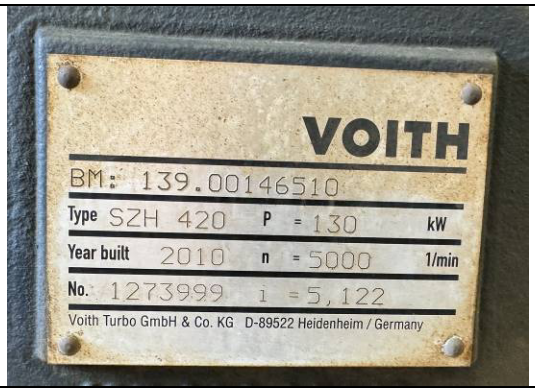


Image 2: Gearbox Serial Number

Image 3: Stator condition

Image 4: Stator condition

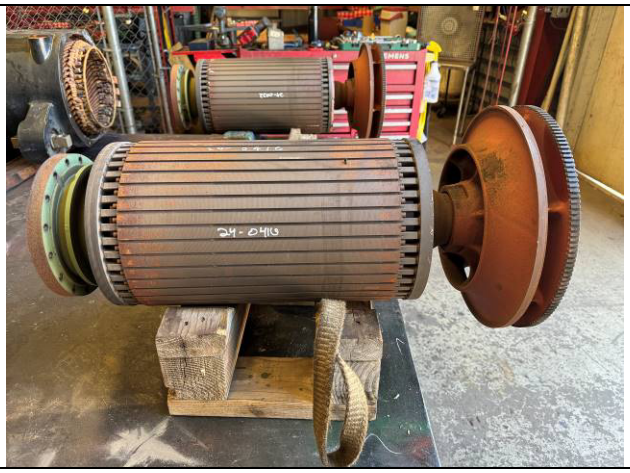


Image 5: Rotor condition

Image 6: Endshield condition

Image 7: Bearing condition

Image 8: Gearbox condition

Equipment Test Report
Customer: SIEMENS SALT LAKE CITY

Equipment Information			
Motor ID	N-124426-006-001	**Operating Volts**	600
Equipment Tag	Stator	**RPM**	1588
Location	DB	**Power**	145 kW
Manufacturer	Siemens	**AC/DC**	AC

Test Information Test Date/Time: 6/6/2024 - 08:36:36 Winding Temp: 20 °C	
Job #	RJ24-0416
Test Description	Surge and Hipot Stator
Test Stage	As Found
Operator	ZK
Test Equipment #	Electrom # 780105
PP ID#	

Off-line Test Data Winding Resistance @20 °C			
Lead 1-2 Ohms			0.035
Lead 2-3 Ohms			0.035
Lead 1-3 Ohms			0.035
Max Delta R (%)			0.0
	Volts	µAmps	MOhms@40°C
Meg. Test	520	1.15	113
	Volts	µAmps	
Hipot	1505	0.51	

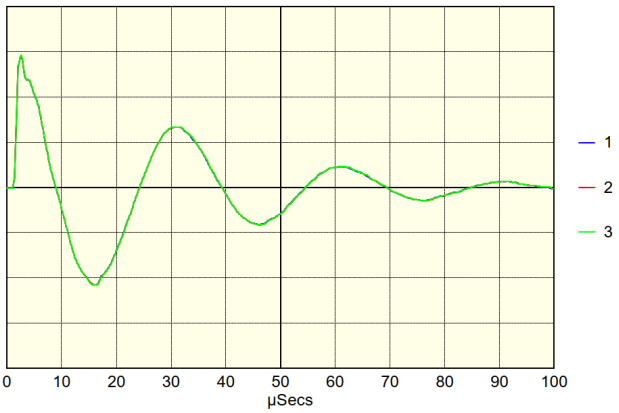
Pass/Fail Results	
Surge	PASS
MegOhm	PASS
Hipot	PASS
Hipot Step Test	
Ohms Balance	PASS
Off-line Equip. Rating	PASS

Equipment Test Report

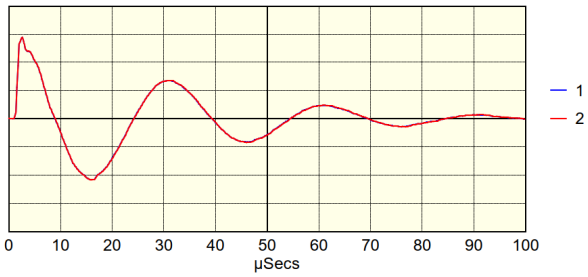
AC Off-line Surge - Summary

Recommended Voltage: 1500
Voltage Reached:
1490 / 1490 / 1497
Wave Difference L1-L2: 1.0%
Wave Difference L2-L3: 0.6%
Wave Difference L3-L1: 1.0%

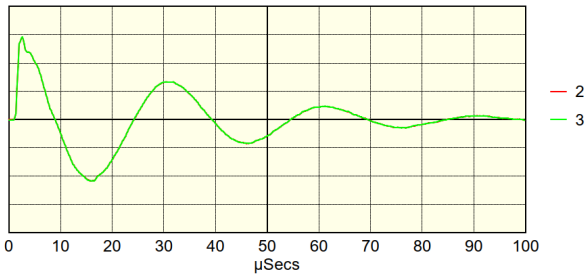
Surge Result: **PASS**



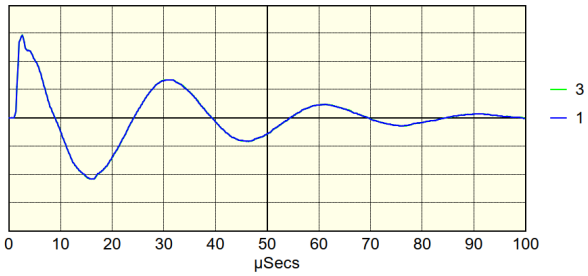
Lead 1-2



Lead 2-3



Lead 3-1



SIEMENS Mobility, Inc **Salt Lake City (UTA)**

Vibration test Results for S70 Drive Unit:

Motor Job Number: 24-0416
Motor SN: N-124426-600-001
Gear Job Number: RJ 24-0417
Gear SN: 1273999
Date: 5/21/24

Allowable Drive Unit Vibration Limits

Hz	Motor RPM	in/sec	mm/sec
90	1800	0.14	3.5
180	3600	0.14	3.5
250	5000	0.21	5.25

Warm Up Run: 15 minutes at 60 Hz - Across the line

Clockwise Rotation (Motor - looking at DE) Measured in inches per second

			Motor NDE			Motor DE		Gear Unit Output Shaft		
Hz	**Motor rpm**	⟹	⇩	⊗	⟹	⇩	⊗	⟹	⇩	⊗
90	**1800**	0.19	0.095	0.185	0.116	0.081	0.144	0.163	0.103	0.156
180	**3600**	**Technician suspended test due to high readings**								
250	**5000**									

Duration of each speed run no more than 10 minutes:

Summary:

It was reported that the drive unit was involved in an accident. It was sent to the repair shop for investigation. The motor arrived at the repair shop with the transport lock installed. The unit arrived without the motor terminal box cover installed.
The motor has been visually inspected and initial electrical testing has been performed. During the as-found vibration test, the technician noted excessive readings. The vibration test was stopped at that time.

Proposed repair scope:

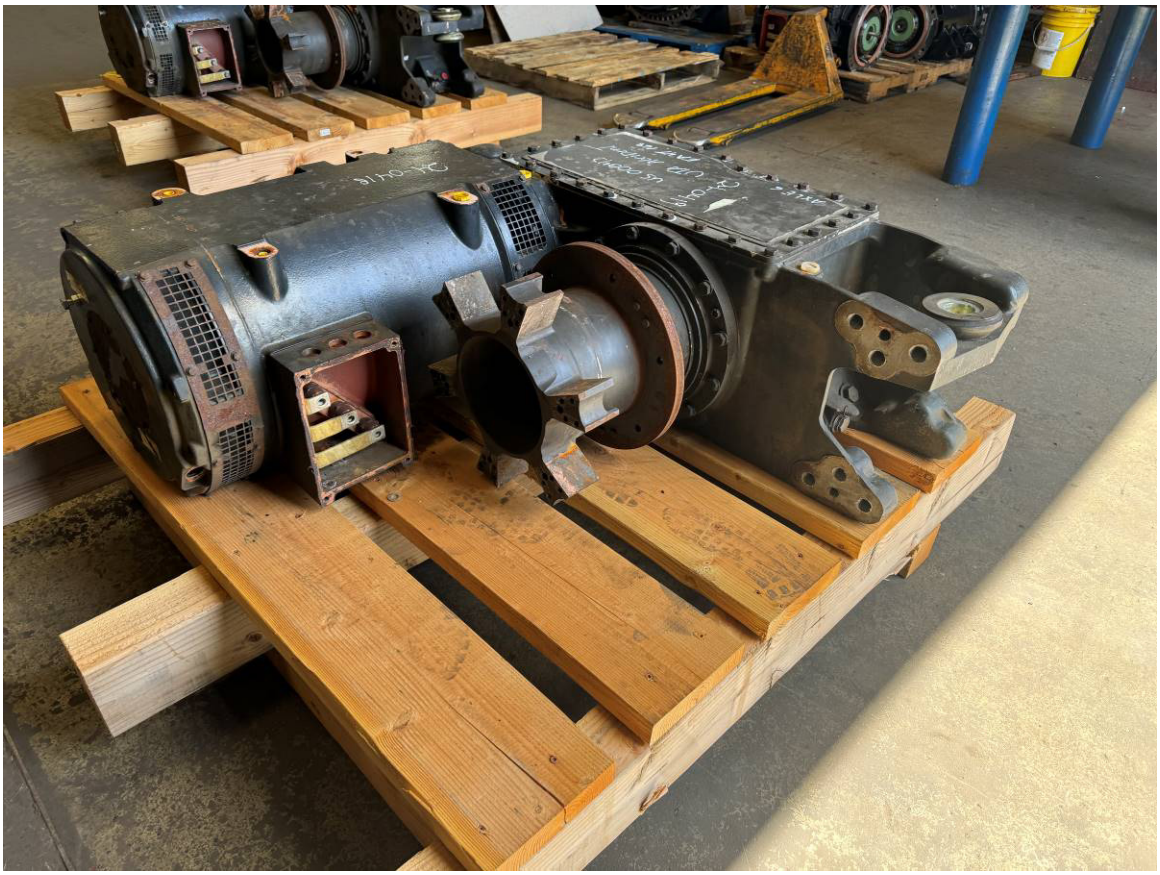
1) Separate traction motor from gearbox
2) Disassemble traction motor
3) Clean all parts
4) Balance rotor to Siemens specifications
5) Overhaul motor to Siemens specifications using new bearing, hardware and seals
6) Disassemble gearbox
7) Replace gearbox bearings and required hardware (Gearbox OH-Kit to be supplied by SMO CS)
8) Reaffix gearbox to traction motor
9) Final electrical and vibration testing
10) Touch up paint
11) Install transport lock
12) Package for shipment

Report prepared by:
Gabi Ostrander

Siemens Mobility
Traction Drives
West Coast Service Center

Drive Unit Report

Siemens AC Traction Motor S70 – Voith Gearbox



MOTOR S/N	**N-124428-230-001**		
Gearbox S/N	**1264774**		
Date	**6/12/2024**		
MOTOR TYPE	1TB1622-0JG03	**VEHICLE TYPE**	S70
CUSTOMER	UTA 1122 Accident	**Rep.-Shop JOB No**	RJ24-0418 & RJ24-0419

RJ24-0418 & RJ24-0419

Image 1: Motor Serial Number

Image 2: Gearbox Serial Number

Image 3: Stator condition

Image 4: Stator condition

Image 5: Rotor condition

Image 6: Endshield condition

Image 7: Bearing condition

Image 8: Gearbox condition

Equipment Test Report
Customer: SIEMENS SALT LAKE CITY

Equipment Information			
Motor ID	N-124428-230-001	**Operating Volts**	600
Equipment Tag	Stator	**RPM**	1588
Location	DB	**Power**	145 kW
Manufacturer	Siemens	**AC/DC**	AC

Test Information Test Date/Time: 6/6/2024 - 08:56:35 Winding Temp: 20 °C	
Job #	RJ24-0418
Test Description	Surge and Hipot Stator
Test Stage	
Operator	
Test Equipment #	Electrom # 780105
PP ID#	

Off-line Test Data Winding Resistance @20 °C			
Lead 1-2 Ohms			0.035
Lead 2-3 Ohms			0.035
Lead 1-3 Ohms			0.035
Max Delta R (%)			0.0
	Volts	µAmps	MOhms@40°C
Meg. Test	510	0.48	266
	Volts	µAmps	
Hipot	1515	0.69	

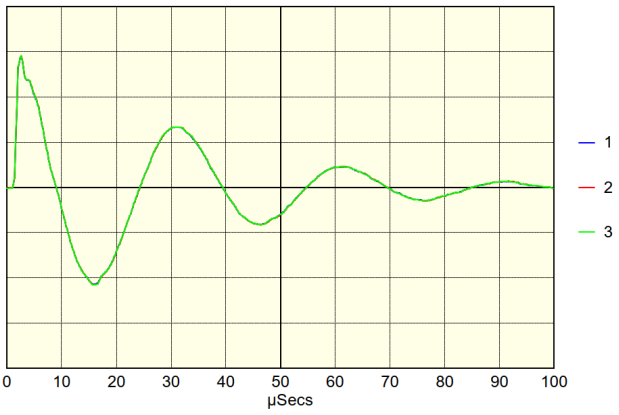
Pass/Fail Results	
Surge	PASS
MegOhm	PASS
Hipot	PASS
Hipot Step Test	
Ohms Balance	PASS
Off-line Equip. Rating	PASS

Equipment Test Report

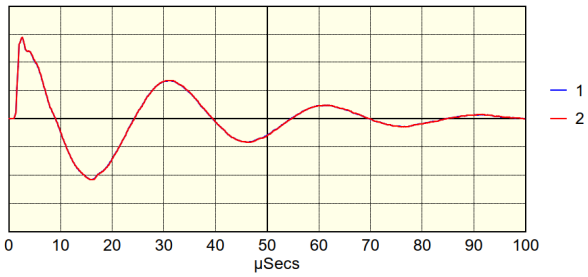
AC Off-line Surge - Summary

Recommended Voltage: 1500
Voltage Reached:
1490 / 1490 / 1490
Wave Difference L1-L2: 1.0%
Wave Difference L2-L3: 0.8%
Wave Difference L3-L1: 0.6%

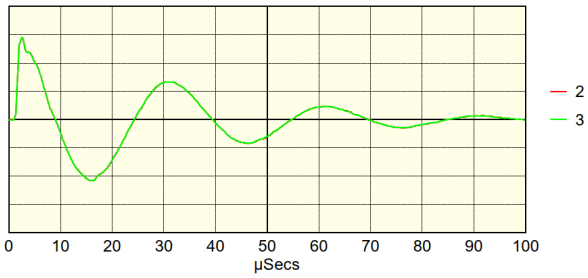
Surge Result: PASS



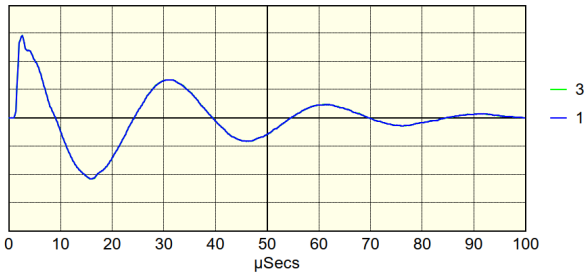
Lead 1-2



Lead 2-3



Lead 3-1



SIEMENS Mobility, Inc **Salt Lake City (UTA)**

Vibration test Results for S70 Drive Unit:

Motor Job Number: 24-0418
Motor SN: n-1244428-230-001
Gear Job Number: RJ 24-0419
Gear SN:1264774
Date: 5/21/24

Allowable Drive Unit Vibration Limits

Hz	Motor RPM	in/sec	mm/sec
90	1800	0.14	3.5
180	3600	0.14	3.5
250	5000	0.21	5.25

Warm Up Run: 15 minutes at 60 Hz - Across the line

Clockwise Rotation (Motor - looking at DE) Measured in inches per second

			Motor NDE			Motor DE		Gear Unit Output Shaft		
Hz	**Motor rpm**	⟹	⇩	⊗	⟹	⇩	⊗	⟹	⇩	⊗
90	**1800**	0.055	0.048	0.066	0.049	0.042	0.032	0.047	0.065	0.076
180	**3600**	0.085	0.089	0.085	0.067	0.079	0.073	0.065	0.078	0.081
250	**5000**									

Duration of each speed run no more than 10 minutes:

Summary:

It was reported that the drive unit was involved in an accident. It was sent to the repair shop for investigation. The motor arrived at the repair shop with the transport lock installed. The unit arrived without the motor terminal box cover installed.
The motor has been visually inspected and initial electrical tests have been performed. The unit has been vibration tested and the results were with specification.

Proposed repair scope:

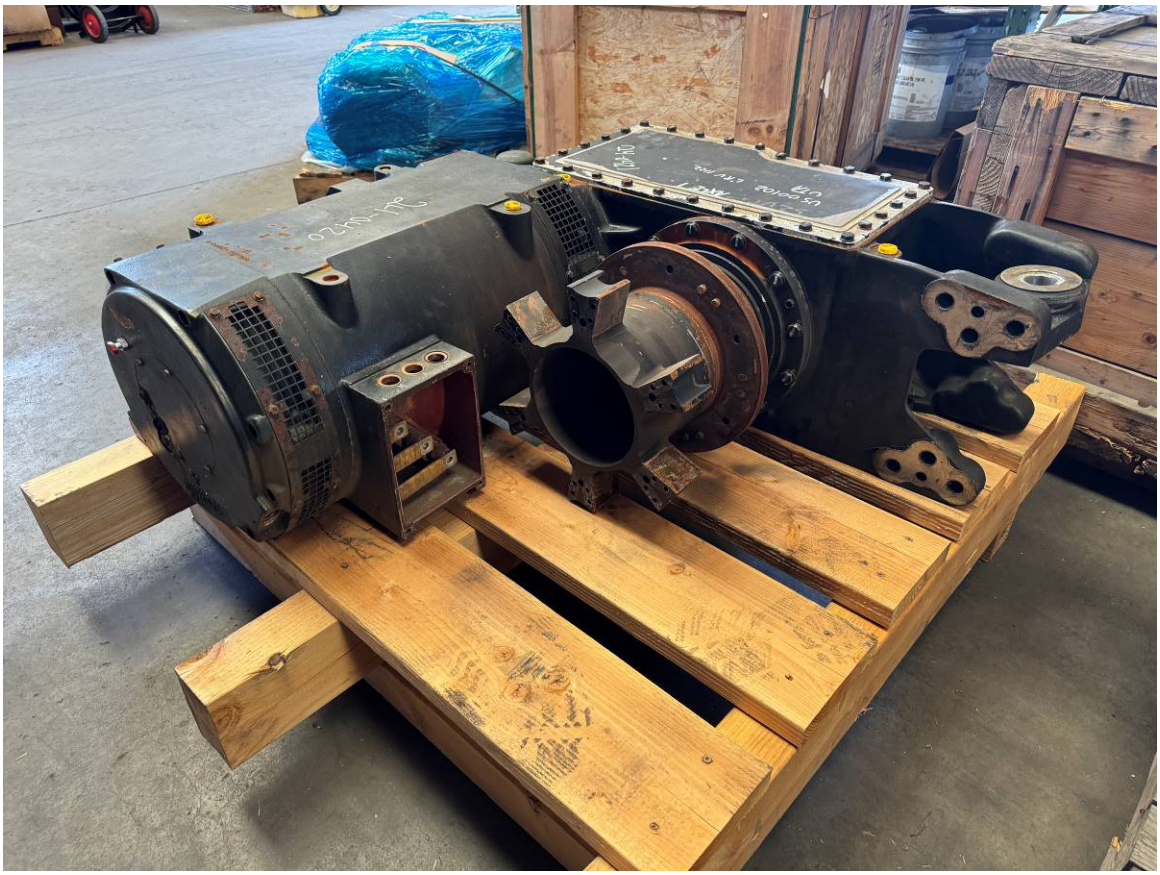
1) Separate traction motor from gearbox
2) Disassemble traction motor
3) Clean all parts
4) Balance rotor to Siemens specifications
5) Overhaul motor to Siemens specifications using new bearing, hardware and seals
6) Disassemble gearbox
7) Replace gearbox bearings and required hardware (Gearbox OH-Kit to be supplied by SMO CS)
8) Reaffix gearbox to traction motor
9) Final electrical and vibration testing
10) Touch up paint
11) Install transport lock
12) Package for shipment

Report prepared by:
Gabi Ostrander

	Siemens Mobility **Traction Drives** **West Coast Service Center**

Drive Unit Report

Siemens AC Traction Motor S70 – Voith Gearbox



MOTOR S/N	**N-124428-550-004**		
Gearbox S/N	**1273126**		
Date	**6/12/2024**		
MOTOR TYPE	1TB1622-0JG03	**VEHICLE TYPE**	S70
CUSTOMER	UTA 1122 Accident	**Rep.-Shop JOB No**	RJ24-0420 & RJ24-0421

RJ24-0420 & RJ24-0421

Image 1: Motor Serial Number

Image 2: Gearbox Serial Number

Image 3: Stator condition

Image 4: Stator condition

Image 5: Rotor condition

Image 6: Endshield condition

Image 7: Bearing condition

Image 8: Gearbox condition

Equipment Test Report
Customer: SIEMENS SALT LAKE CITY

Equipment Information			
Motor ID	N-124428-550-004	**Operating Volts**	600
Equipment Tag	Stator	**RPM**	1588
Location	DB	**Power**	145 kW
Manufacturer	Siemens	**AC/DC**	AC

Test Information Test Date/Time: 6/6/2024 - 08:24:06 Winding Temp: 20 °C	
Job #	RJ24-0420
Test Description	Surge and Hipot Stator
Test Stage	As Found
Operator	ZK
Test Equipment #	Electrom # 780105
PP ID#	

Off-line Test Data Winding Resistance @20 °C			
Lead 1-2 Ohms			0.036
Lead 2-3 Ohms			0.036
Lead 1-3 Ohms			0.036
Max Delta R (%)			0.0
	Volts	µAmps	MOhms@40°C
Meg. Test	510	0.99	129
	Volts	µAmps	
Hipot	1505	0.79	

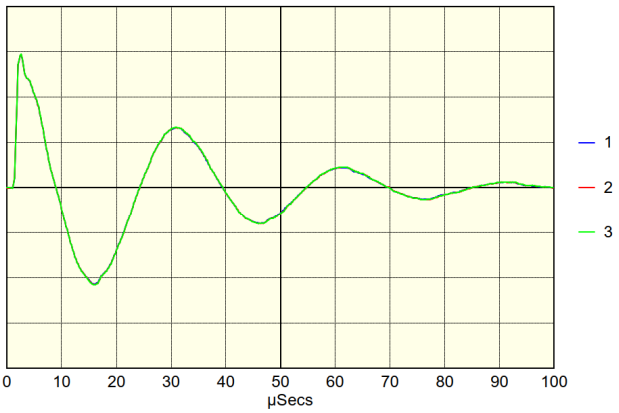
Pass/Fail Results	
Surge	PASS
MegOhm	PASS
Hipot	PASS
Hipot Step Test	
Ohms Balance	PASS
Off-line Equip. Rating	PASS

Equipment Test Report

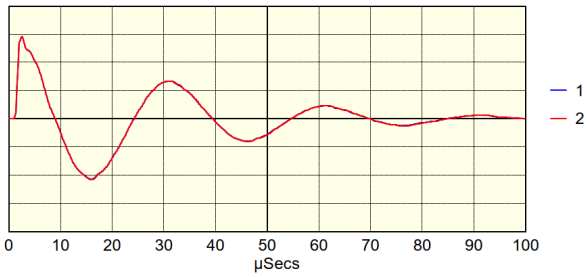
AC Off-line Surge - Summary

Recommended Voltage: 1500
Voltage Reached:
1493 / 1497 / 1500
Wave Difference L1-L2: 1.0%
Wave Difference L2-L3: 0.6%
Wave Difference L3-L1: 1.1%

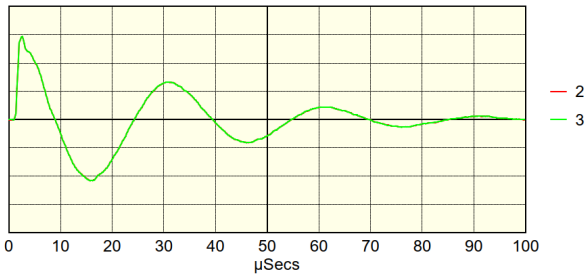
Surge Result: PASS



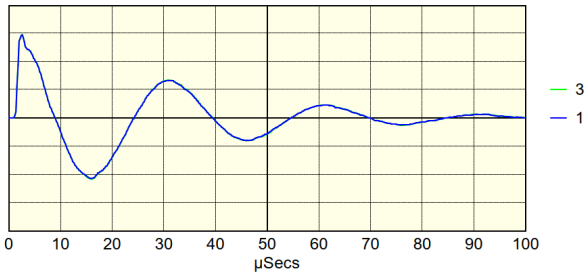
Lead 1-2



Lead 2-3



Lead 3-1



SIEMENS Mobility, Inc **Salt Lake City (UTA)**

Vibration test Results for S70 Drive Unit:

Motor Job Number: 24-0420
Motor SN: N124428-550-004
Gear Job Number: RJ 24-0421
Gear SN: 1273126
Date: 5/21/24

Allowable Drive Unit Vibration Limits

Hz	Motor RPM	in/sec	mm/sec
90	1800	0.14	3.5
180	3600	0.14	3.5
250	5000	0.21	5.25

Warm Up Run: 15 minutes at 60 Hz - Across the line

Clockwise Rotation (Motor - looking at DE) Measured in inches per second

			Motor NDE			Motor DE		Gear Unit Output Shaft		
Hz	**Motor rpm**	⟹	⇩	⊗	⟹	⇩	⊗	⟹	⇩	⊗
90	**1800**	0.12	0.066	0.05	0.08	0.054	0.099	0.069	0.084	0.081
180	**3600**	0.2	0.3	0.26	0.16	0.23	0.18	0.22	0.26	0.25
250	**5000**									

Duration of each speed run no more than 10 minutes:

Summary:

It was reported that the drive unit was involved in an accident. It was sent to the repair shop for investigation. The motor arrived at the repair shop with the transport lock installed. The unit arrived without the motor terminal box cover installed.
The motor has been visually inspected and initial electrical tests have been performed. The unit has been vibration tested and above normal vibrations were observed.

Proposed repair scope:

1) Separate traction motor from gearbox
2) Disassemble traction motor
3) Clean all parts
4) Balance rotor to Siemens specifications
5) Overhaul motor to Siemens specifications using new bearing, hardware and seals
6) Disassemble gearbox
7) Replace gearbox bearings and required hardware (Gearbox OH-Kit to be supplied by SMO CS)
8) Reaffix gearbox to traction motor
9) Final electrical and vibration testing
10) Touch up paint
11) Install transport lock
12) Package for shipment

Report prepared by:
Gabi Ostrander

Siemens Mobility
Traction Drives
West Coast Service Center

Drive Unit Report

Siemens AC Traction Motor S70 – Voith Gearbox

MOTOR S/N	**N-124428-230-003**		
Gearbox S/N	**1263264**		
Date	**6/12/2024**		
MOTOR TYPE	1TB1622-0JG03	**VEHICLE TYPE**	S70
CUSTOMER	UTA 1122 Accident	**Rep.-Shop JOB No**	RJ24-0422 & RJ24-0423

RJ24-0422 & RJ24-0423

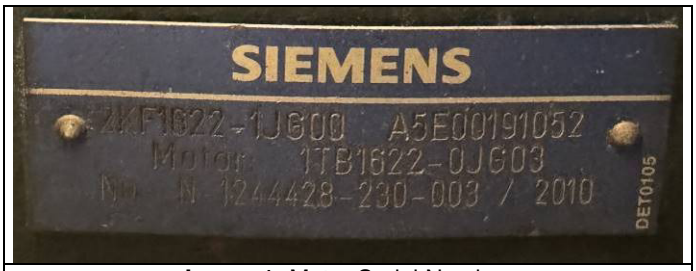


Image 1: Motor Serial Number

Image 2: Motor Serial Number

Image 3: Stator condition

Image 4: Stator condition

Image 5: Rotor condition

Image 6: Endshield condition

Image 7: Bearing condition

Image 8: Gearbox condition

Equipment Test Report
Customer: SIEMENS SALT LAKE CITY

Equipment Information			
Motor ID	N-124428-230-003	**Operating Volts**	600
Equipment Tag	Stator	**RPM**	1588
Location		**Power**	145 kW
Manufacturer	Siemens	**AC/DC**	AC

Test Information Test Date/Time: 6/6/2024 - 08:47:36 Winding Temp: 20 °C	
Job #	RJ24-0422
Test Description	Surge and Hipot Stator
Test Stage	As Found
Operator	ZK
Test Equipment #	Electrom # 780105
PP ID#	

Off-line Test Data Winding Resistance @20 °C			
Lead 1-2 Ohms			0.035
Lead 2-3 Ohms			0.035
Lead 1-3 Ohms			0.035
Max Delta R (%)			0.0
	Volts	µAmps	MOhms@40°C
Meg. Test	505	1.05	120
	Volts	µAmps	
Hipot	1515	1.34	

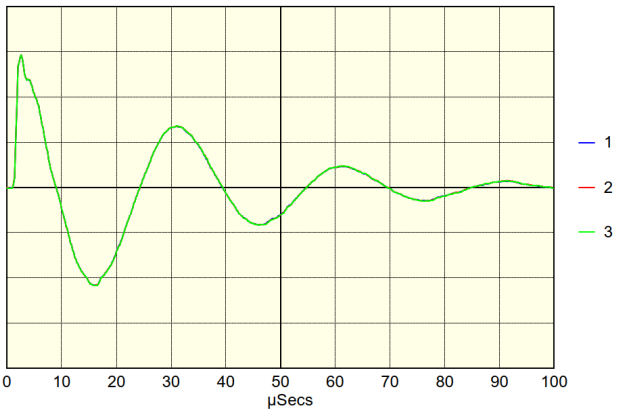
Pass/Fail Results	
Surge	PASS
MegOhm	PASS
Hipot	PASS
Hipot Step Test	
Ohms Balance	PASS
Off-line Equip. Rating	PASS

Equipment Test Report

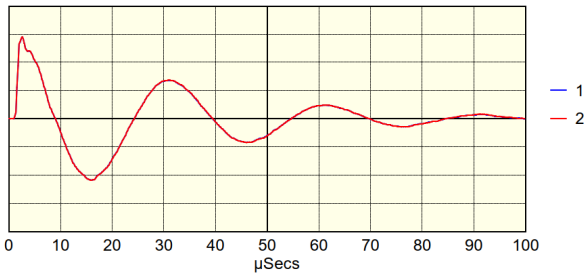
AC Off-line Surge - Summary

Recommended Voltage: 1500
Voltage Reached:
1497 / 1503 / 1497
Wave Difference L1-L2: 0.7%
Wave Difference L2-L3: 0.5%
Wave Difference L3-L1: 0.8%

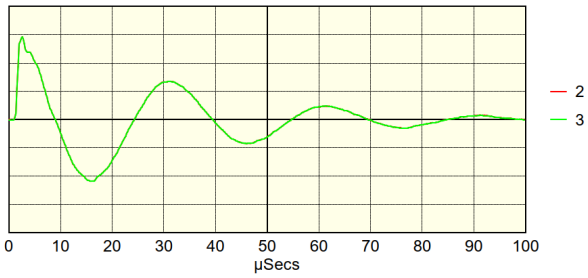
Surge Result: **PASS**



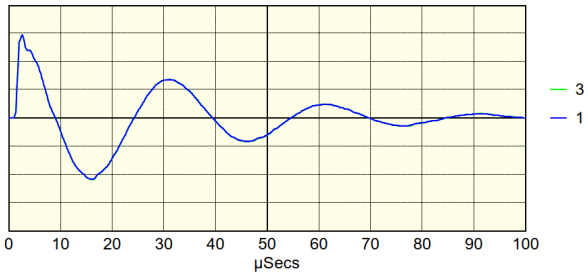
Lead 1-2



Lead 2-3



Lead 3-1



SIEMENS Mobility, Inc **Salt Lake City (UTA)**

Vibration test Results for S70 Drive Unit:

Motor Job Number: 24-0423
Motor SN: N-1244428-230-003
Gear Job Number: RJ 24-0423
Gear SN:1263264
Date: 5/21/24

Allowable Drive Unit Vibration Limits

Hz	Motor RPM	in/sec	mm/sec
90	1800	0.14	3.5
180	3600	0.14	3.5
250	5000	0.21	5.25

Warm Up Run: 15 minutes at 60 Hz - Across the line

Clockwise Rotation (Motor - looking at DE) Measured in inches per second

			Motor NDE			Motor DE		Gear Unit Output Shaft		
Hz	**Motor rpm**	⟹	⇩	⊗	⟹	⇩	⊗	⟹	⇩	⊗
90	**1800**	0.094	0.12	0.11	0.059	0.067	0.071	0.1	0.1	0.12
180	**3600**	1.42	0.14	0.22	0.097	0.098	0.08	0.154	0.155	0.199
250	**5000**									

Duration of each speed run no more than 10 minutes:

Summary:

It was reported that the drive unit was involved in an accident. It was sent to the repair shop for investigation. The motor arrived at the repair shop with the transport lock installed. The unit arrived without the motor terminal box cover installed.
The motor has been visually inspected and initial electrical tests have been performed. The unit has been vibration tested and excessive vibrations were observed.

Proposed repair scope:

1) Separate traction motor from gearbox
2) Disassemble traction motor
3) Clean all parts
4) Balance rotor to Siemens specifications
5) Overhaul motor to Siemens specifications using new bearing, hardware and seals
6) Disassemble gearbox
7) Replace gearbox bearings and required hardware (Gearbox OH-Kit to be supplied by SMO CS)
8) Reaffix gearbox to traction motor
9) Final electrical and vibration testing
10) Touch up paint
11) Install transport lock
12) Package for shipment

Report prepared by:
Gabi Ostrander

SIEMENS

RW-SLC4-CT-00138

Rework Procedure	Project:	SLC4 S70 CT

Distribution:

☒ ATM	☒ Prod. Mgr	☒ Prod. Engr	☒ PM	☒ QA
☐ Calculations	☐ Prod. Ctrl.	☒ QM	☒ Customer	☐ Subcontractor

Responsible Function: Bogie Service Center				
Platform:	**S/N Affected:**	**ECN#:**	**NCR#:**	**Drawing(s)/Part Number(s)**
☒ Bogie	US00138	N/A	200176587	A2V00397218495
☐ Bolster				

Implementation/Inspection Sign-off:

1. Production to inform Quality Assurance (QA) Inspector before repair work starts.
2. If Required Parent Material to be NDT Tested by ACFM, MT, or PT, prior to start of welding.

Problem Report Number: _____

Production Signature: _____ **Date:** _____

QA/CWI Signature: _____ **Date:** _____

Preparation:

1. Welder and Inspector shall be qualified in the rework process and required inspection methods (MT/PT/RT/VT). Reference QAI-057, QAI-043, BGI-002, BGI-003.
2. Part should be placed in a position that allows for base material repairs if required.

Rework Procedure:

NOTE:

- Production and Inspector shall sign off Implementation/ Inspection section above upon completion of their work.
- Where applicable adhere to SII-MNP-007 Workmanship Standard at all times.

APPROVALS:

Production Engineer _____ Originator

PQM _____ Project Quality Manager

Project Manager _____

Customer (if required) _____

Unrestricted Note: A **Repair Procedure** is used to document actions taken on nonconforming product so that it fulfills its intended use, although it may not conform to the original specifications.

Table of Contents

References:

a) SII CT bogie frame shell drawing A6Z00375103203
b) SII CT lifting device bracket drawing A6Z00375080006.
c) SII track brake bracket drawing A6Z00375101644.
d) SII CT measurement drawing A6Z00375105933.
e) SII CT measurement report S70-CT-US00138-MA_REF.
f) SII CT frame ACFM report

INTENDED USE

Rework of SLC4 S70 CT US00138 and bolster.

1. Measurement Taken:

- Measurements report S70-CT-US00138-MACH.pdf was NOT approved.

2. Visual Inspection

- See separate Quality Inspection Report for details.

3. Non-Destructive Test (NDT)

- ACFM has been performed and passed for center truck frame.

4. Rework of SLC4 S70 Center Truck

4.1 Rework of CT Lifting Device Bracket

1. During receiving inspection, Siemens production team found that wheel 1 lifting device bracket was bent inward.

2. Place CT frame on a fixture which allows for heat to be applied to required areas.

3. The lifting device bracket at first quadrant was bent. Manually straighten lifting device bracket using heat or porta power to within the tolerance according to drawing A6Z00375080006 and QAP-042 Flame straightening procedure.

Note- Heat may be applied as an aide to the Straightening process, the following is provided for guidance:

- Line Heat is employed to repair a bend in a plate about its weak axis.
- Line heat consists of a single straight pass of the torch.
- Line heat is applied to the underside of a plate element subjected to bending.
- Only one heat cycle is allowed.
- The maximum temperature of material is 500 Deg C (932 Deg F)
- The use of heat sticks or equivalent method of determining temperature during straightening is required.

Figure 1: Track Clearer Bent Lifting Device Bracket

4.2 Rework of track brake Bracket

1. During receiving inspection, the first and second quadrant track brake brackets were found to be bent upward. In the frame measurement report, X6.1.2/4 dimension out of tolerance is also suggesting that these brackets need straightening before returning to service.

2. Place CT frame on a fixture which allows for heat to be applied to required areas.

Figure 2: Damaged track brake brackets.

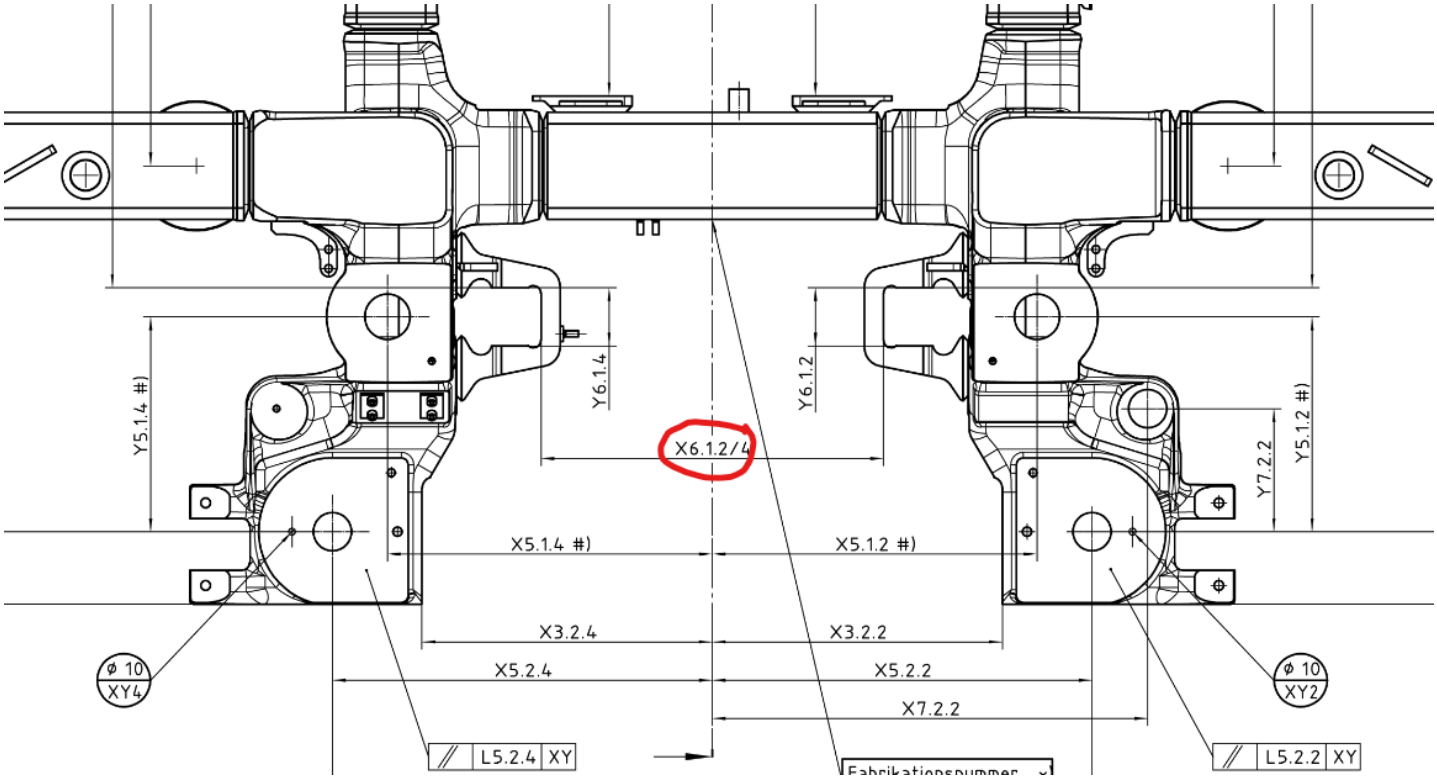


Figure 3: Affected dimensional measurement locations.

Table 1: Affected dimensional measurements and out of tolerance value.

	Nominal (MM)	+ (MM)	- (MM)	Actual (MM)	OoT
X6.1.2/4	456.0	0.5	-0.5	453.94	-1.56

3. The track brake brackets were bent upward. Manually straighten the bracket using heat or porta power according to frame shell drawing A6Z00375103203 and track brake bracket drawing A6Z00375101644. Refer to QAP-042 for flame straightening work instruction.

Note- Heat may be applied as an aide to the Straightening process, the following is provided for guidance:

- Line Heat is employed to repair a bend in a plate about its weak axis.
- Line heat consists of a single straight pass of the torch.
- Line heat is applied to the underside of a plate element subjected to bending.
- Only one heat cycle is allowed.
- The maximum temperature of material is 500 Deg C (932 Deg F).
- The use of heat sticks or equivalent method of determining temperature during straightening is required.
- Oxy-acetylene torch to be set to a neutral flame.
- Only cooling with still air is allowed. Forced cooling is not allowed.

5. Post Repair Non-Destructive Test (NDT)

- After all repairs are completed, perform ACFM test to check all new welds.

6. Painting

- After repairs and NDT are completed and found to be satisfactory, paint affected areas using ENS-333 most current rev for guidance.

7. Document Review

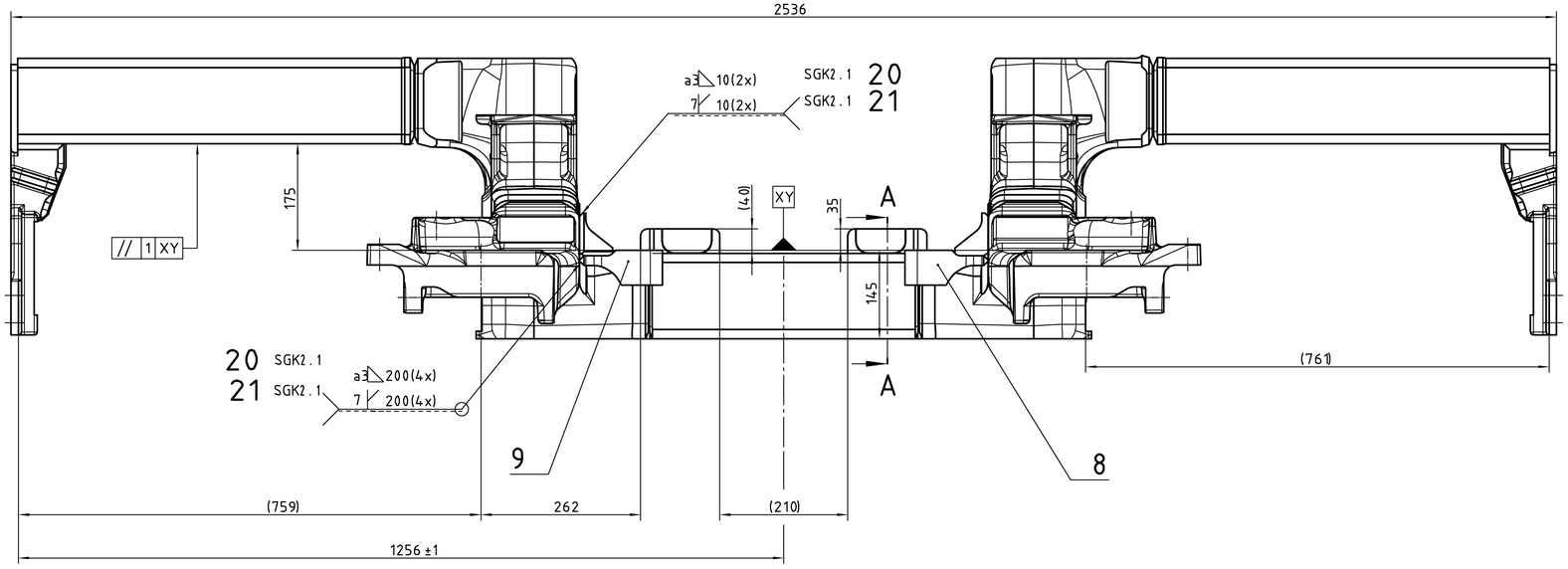
- QA review documentation for completeness and verify rework is complete.

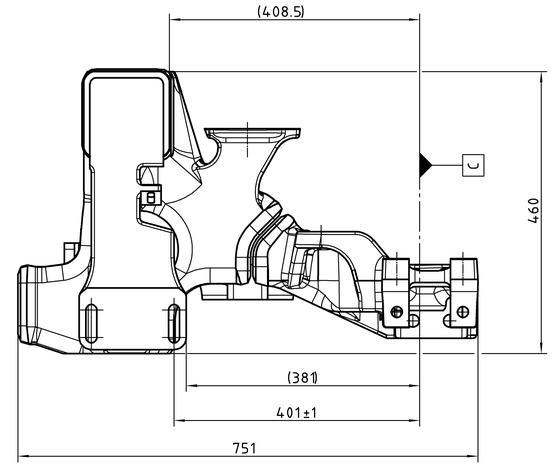
Verification Sign-off Sheet

NOTE: Separate sign-off sheet must be provided for each part being reworked using this procedure.

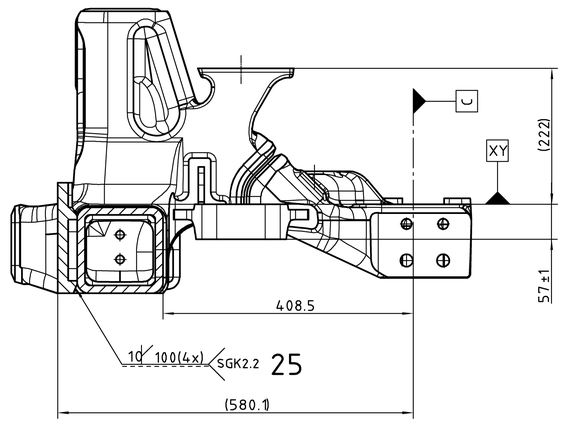
Serial Number: US00138

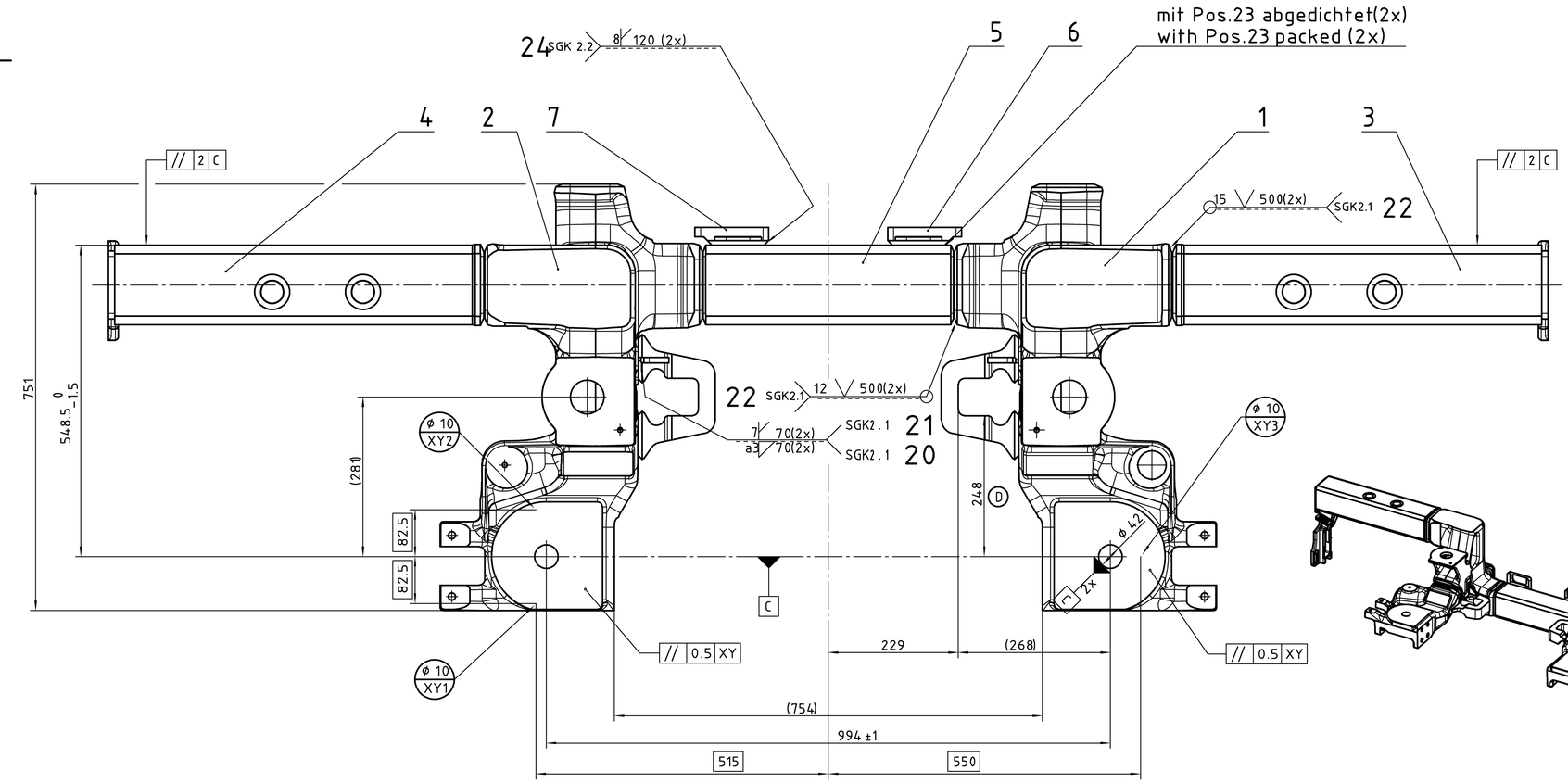
Step:	Description:	Signature:	Date:	Note/Comments:
4.1	Rework of CT Lifting Device Bracket			
4.2	Rework of track brake Bracket			
5	Post Repair NDT	QA:		
6	Painting	Prod:		
7	Document Review	QA:		
(Use space below if more room is needed for comments)				

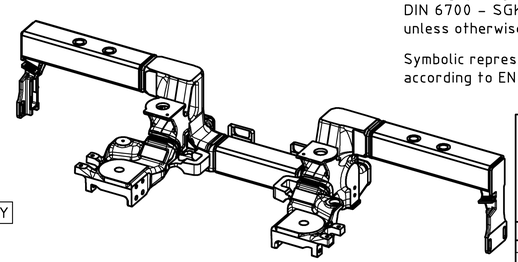




A-A
1:5







Gueteanforderungen an
Schweissverbindungen allgemein:
DIN 6700 – Schweissnahtgueteklasse 2.3
Anforderungen nach SGK2.2 oder SGK2.1
sind an der Schweissnaht angegeben.

Schweiss – Symbole nach EN 22553

welding quality class (SGK) generally:
DIN 6700 – SGK 2.3
unless otherwise stated

Symbolic representation of welding
according to EN 22553

(E)

Achtung:
Die Arbeitspapiere und/oder technischen Spezifikationen sind zu beachten!

Attention:
Refer to additional manufacturing instructions and/or technical specifications!

Bauteilklassifizierung nach DIN 6700 – 2 C1

classification of the components
according to DIN 6700 – 2 C1

Part no.	Siemens no.
A2V00397230933	G04_75103203

DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

Avanto/S70

Index	Revision no.	Date	Name
A	K333-625696	10-02	HOI
B	K333-627393	01-03	HOI
C	500000004656	02-05	SCH
D	500000010518	05-05	B
E	500000106460	06-09	F

ISO 2768-mK
ISO 13920-BF

400.500KG | A1 | 1 MO
460X751X2536
MTB008
TS_REA03

1:5	Prepared	2002-10-04	SCHOBEG
	Checked	2002-10-16	DIEMLIN
	Approved	2002-10-16	SCHOENW
	Date		Name
	EN/DE		

Longitudinal beam
trailer bogie
LFW Langtraeger

SIEMENS

A6Z00375103203 | E | 01/01

A1–A3 Punkte zur Bestimmung der Bezugsebebne A

A1–A3 Points to define the main plane A

C1–C4 Punkte zur Bestimmung der Bezugsebebne C

C1–C4 Points to define the main plane C

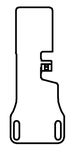
ALLE UNBEMASSTEN RADIEN R=5

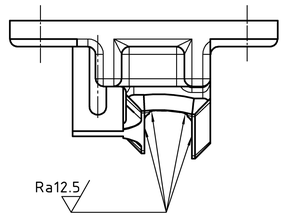
RADII WITHOUT DIMENSIONS R=5

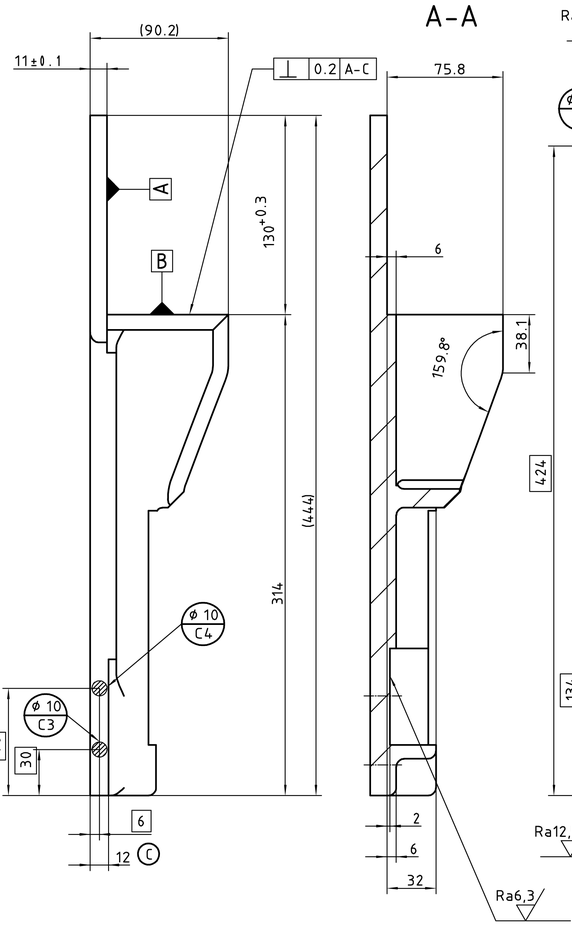
× genaue Abmasse und Position nach Wahl des Herstellers

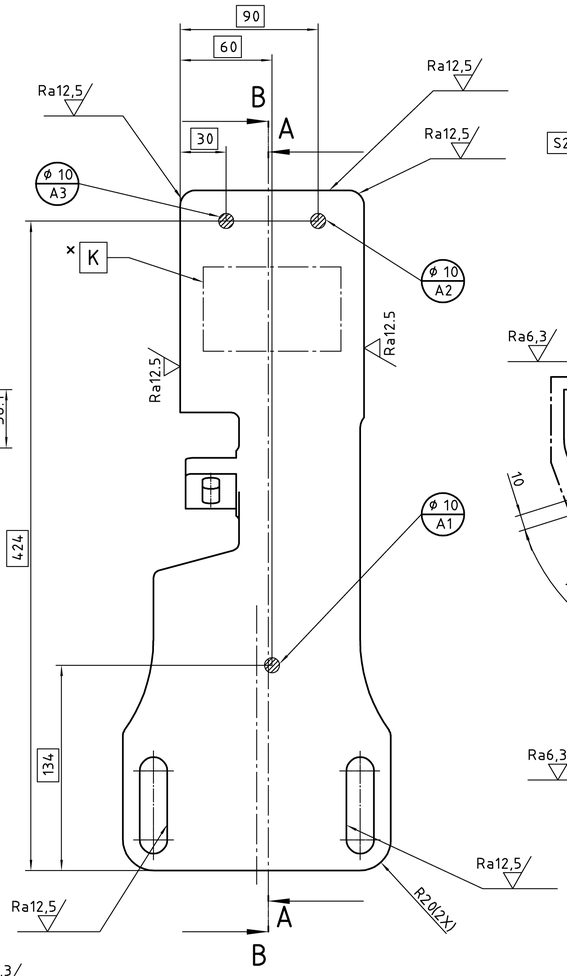
× exact dimensions and positioning according to choice of supplier

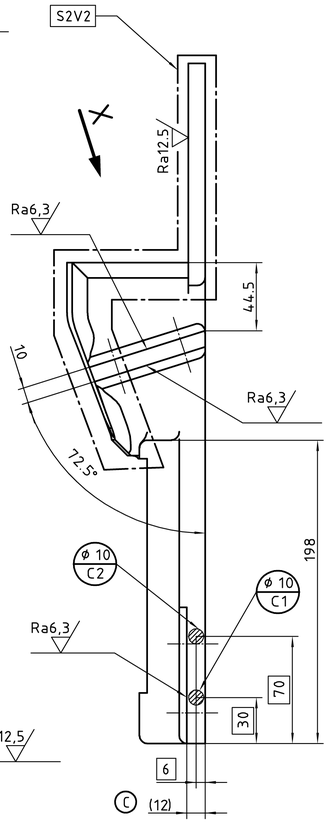
W.G. as drawn	97227034	SP.G opposite as drawn	97239654

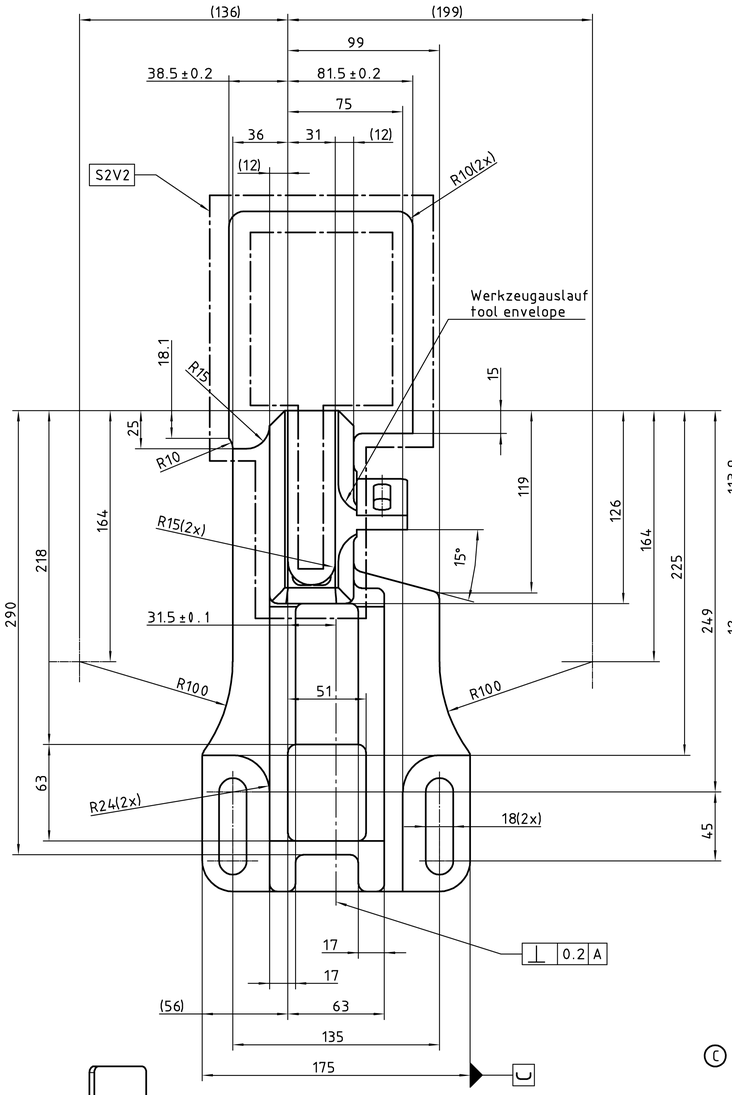


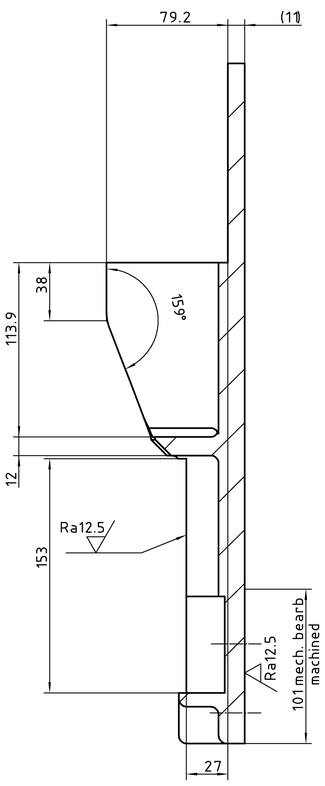












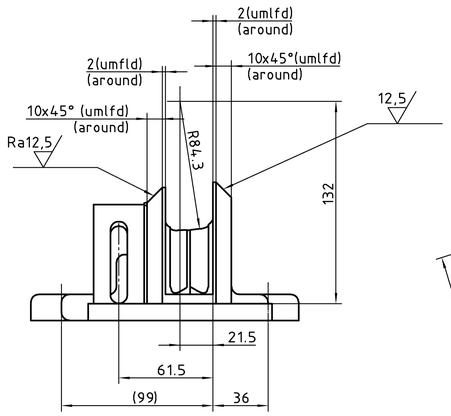
Achtung:
Die Arbeitspapiere und/oder technischen Spezifikationen sind zu beachten!

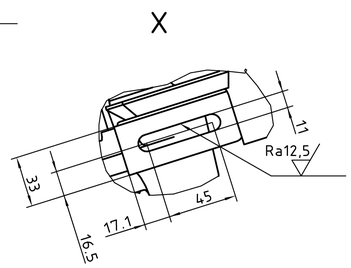
C Attention:
Refer to additional manufacturing instructions and/or technical specifications!

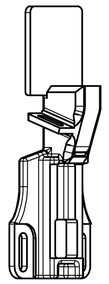
Werkstoff / Norm Material / Standard	GS21Mn5N/SEW 685
Güteklasse 1) quality class 1)	B
Fertigungsschweissungen nicht erlaubt production welding not allowed	S
Feld fuer Kennzeichnung 1) marking area 1)	K
Bereiche die s3v3 abweichen areas differ from s3v3	S.V
Wandstaerkentoleranz fuer s<=16 tolerance of material thickness	-0 / +3
Allgemeintoleranzen ISO 8062 system of dimensional tolerances ISO 8062	CT 11
Massgeblicher Querschnitt limiting cross section	Q

1) nach technischer Spezifikation G04__75060312

according to technical specification G04__75060312







√ (Ra6,3 , Ra12,5)

Part no.	Siemens no.
A2V00397227034	G04_75080006

DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

Index	Revision no.	Date	Name
A	K333-627227	07-02	MAI
B	K333-631309	06-03	MAI
C	500000106460	06-09	

ISO 2768-mK
ISO 1101

13.100 KG | A1 | 1 MO

90.2X115X444
GS21Mn5-N
1.1138-N
SEW685

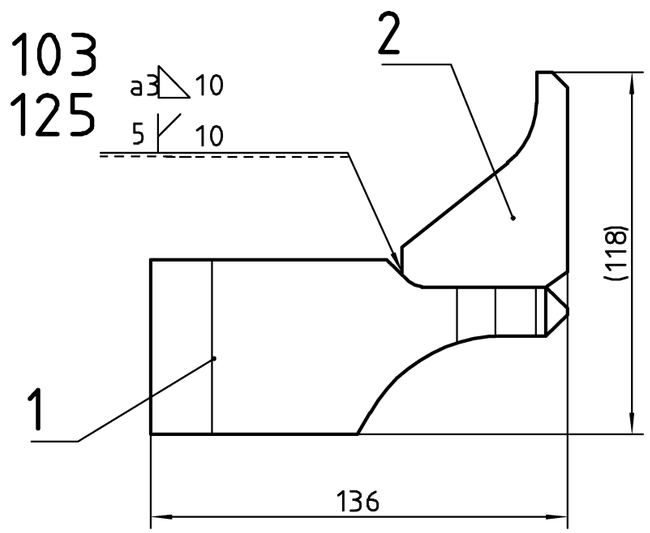
MTB
TS_REA

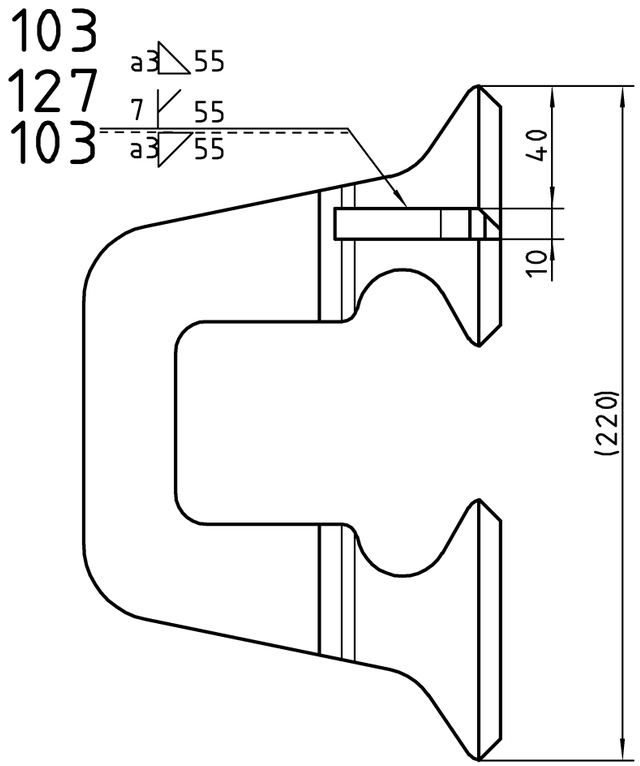
1:2	Prepared	2002-07-09 SCHOBEG_GE
	Checked	
	Approved	2002-07-09 SCHOBEG_GE
	Date	Name
	EN/DE	

SIEMENS

Lifting device
Abhebesicherung

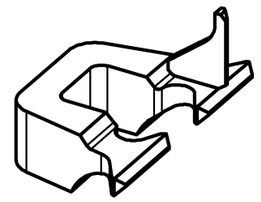
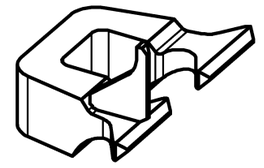
A6Z00375080006 | C | 01/01





Bauteilklassifizierung nach DIN 6700 – 2 C1

classification according to DIN6700 – 2 C1

W.G. as drawn	97239641	SP.G opposite as drawn	97239649
			

Gueteanforderungen an
Schweissverbindungen allgemein:
DIN 6700 – Schweissnahtgueteklasse 2.3
Anforderungen nach SGK2.2 oder SGK2.1
sind an der Schweissnaht angegeben.

Schweiss – Symbole nach EN 22553

welding quality class (SGK) generally:
DIN 6700 – SGK 2.3
unless otherwise stated

Symbolic representation of welding
according to EN 22553

Achtung:
Die Arbeitspapiere und/oder technischen
Spezifikationen sind zu beachten!

Ⓐ

Attention:
Refer to additional manufacturing
instructions and/or technical specifications!

Part no. A2V00397239641

Siemens no. G04__75101644

DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

Index	Revision no.	Date	Name
A	500000106460	06-09	!

ISO 13920-BF
ISO 1101

4.106 KG | A3 | 1 MO

MTB
TS_REA

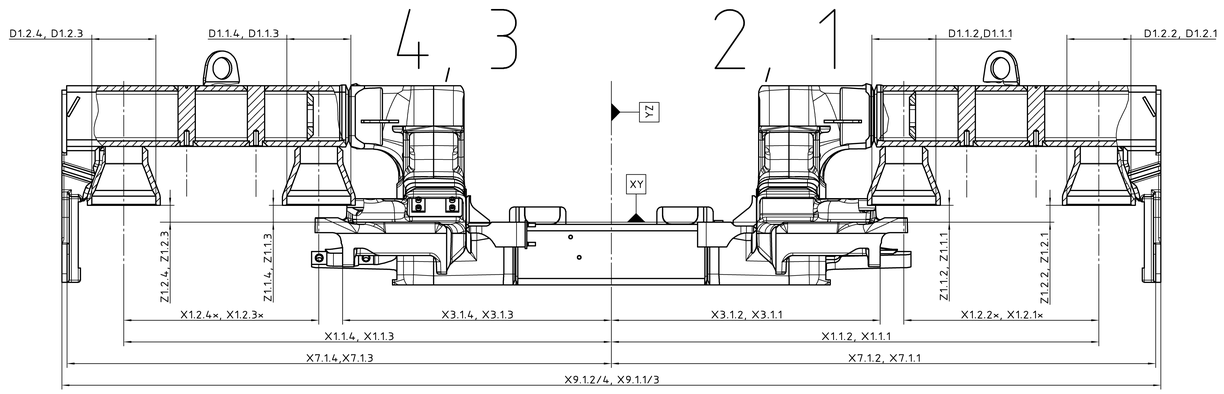
1:2	Prepared	2002-09-30	ROSSMAN_ER
	Checked		
	Approved	2002-09-30	ROSSMAN_ER
	Date		Name
	EN/DE		

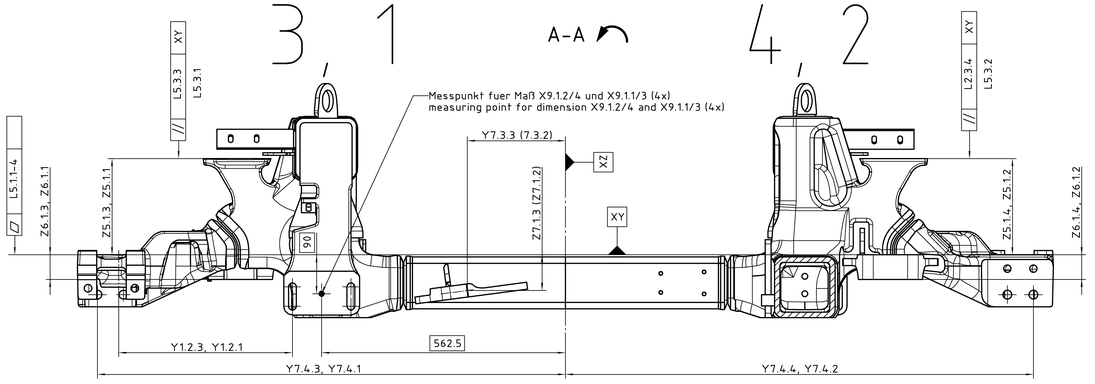
SIEMENS

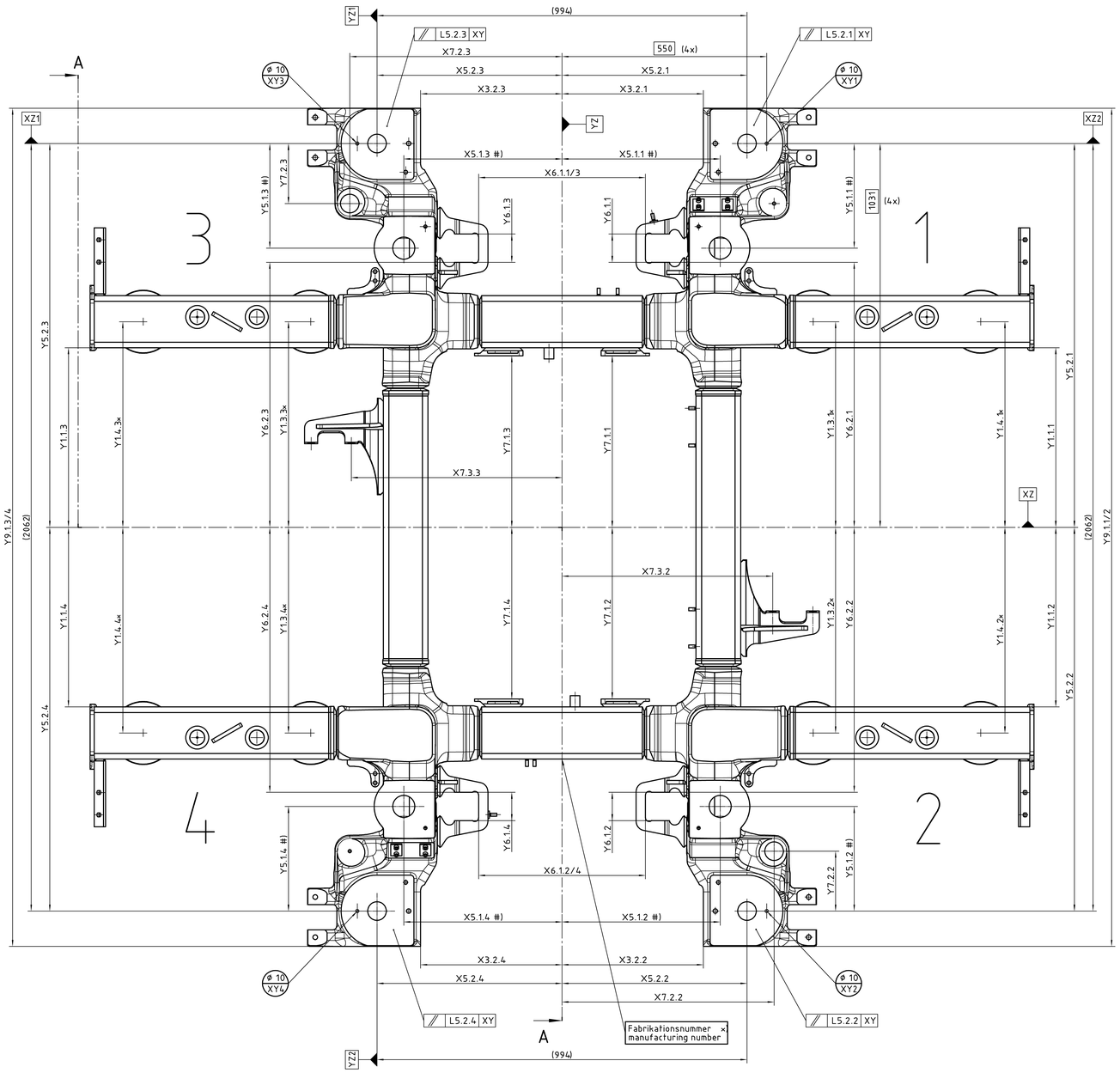
Bracket f. rail brake

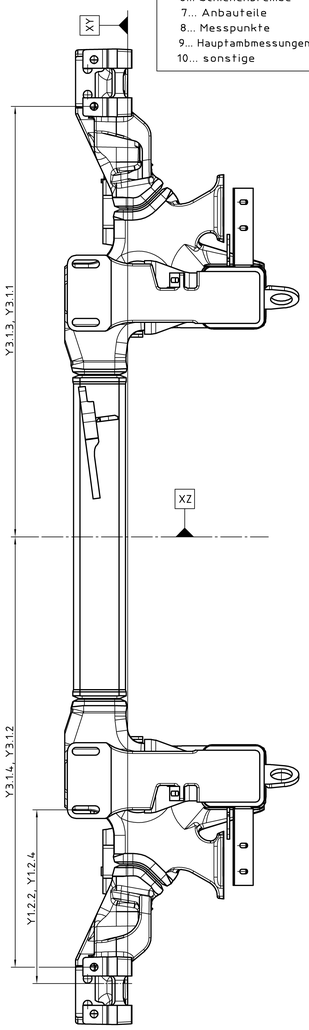
Konsole f. Magnetbremse

A6Z00375101644 | A | 01/01









Legende zu Baugruppen- Zuordnung (erste Zahl der Maßgruppe entspricht der Baugruppe)	legend of component allocation (first number of dimension group equivalent to component)
1... Radsatzführung	1... wheelset steering
2... Antrieb	2... traction unit
3... Laengsmitnahme	3... traction link
4... Bremse	4... brake
5... Sekundaerfeder	5... secondary suspension
6... Schienenbremse	6... track brake
7... Anbauteile	7... assembly components
8... Messpunkte	8... measuring points
9... Hauptambmessungen	9... main dimensions
10... sonstige	10... miscelaneous

Form u. Lagetoleranzen

shape and positional tolerances

Baugruppe Assembly	Maßgruppe dimension-group	Toleranz tolerance
5	L5.1.1-4	2
	L5.2.1	1
	L5.2.2	1
	L5.2.3	1
	L5.2.4	1
	L5.3.1	1
	L5.3.2	1
	L5.3.3	1
	L5.3.4	1

Baugruppe Assembly		Maßgruppe dimension-group	Nennmaß nominal size (sa)	oberes Abmaß upper dev. (es)	unteres Abmaß lower dev. (ei)
1	X	X1.1.1	1125	0.3	0.3
		X1.1.2	1125	0.3	0.3
		X1.1.3	1125	0.3	0.3
		X1.1.4	1125	0.3	0.3
		X1.2.1	450	0.1	0.1
		X1.2.2	450	0.1	0.1
		X1.2.3	450	0.1	0.1
		X1.2.4	450	0.1	0.1
	Y	Y1.1.1	482.5	2	2
		Y1.1.2	482.5	2	2
		Y1.1.3	482.5	2	2
		Y1.1.4	482.5	2	2
		Y1.2.1	401	2	2
		Y1.2.2	401	2	2
		Y1.2.3	401	2	2
		Y1.2.4	401	2	2
		Y1.3.1	552.5	0.3	0.3
		Y1.3.2	552.5	0.3	0.3
		Y1.3.3	552.5	0.3	0.3
		Y1.3.4	552.5	0.3	0.3
		Y1.4.1	552.5	0.3	0.3
		Y1.4.2	552.5	0.3	0.3
		Y1.4.3	552.5	0.3	0.3
		Y1.4.4	552.5	0.3	0.3
	Z	Z1.1.1	39	0.2	0.2
		Z1.1.2	39	0.2	0.2
		Z1.1.3	39	0.2	0.2
		Z1.1.4	39	0.2	0.2
		Z1.2.1	39	0.2	0.2
		Z1.2.2	39	0.2	0.2
		Z1.2.3	39	0.2	0.2
		Z1.2.4	39	0.2	0.2
	D	D1.1.1	ø 150	0.04	0
		D1.1.2	ø 150	0.04	0
		D1.1.3	ø 150	0.04	0
		D1.1.4	ø 150	0.04	0
		D1.2.1	ø 150	0.04	0
		D1.2.2	ø 150	0.04	0
		D1.2.3	ø 150	0.04	0
		D1.2.4	ø 150	0.04	0
3	X	X3.1.1	620.3	0.2	0.2
		X3.1.2	620.3	0.2	0.2
		X3.1.3	620.3	0.2	0.2
		X3.1.4	620.3	0.2	0.2
		X3.2.1	380	0.3	0.3
		X3.2.2	380	0.3	0.3
		X3.2.3	380	0.3	0.3
		X3.2.4	380	0.3	0.3
	Y	Y3.1.1	993.5	1.5	1.5
		Y3.1.2	993.5	1.5	1.5
		Y3.1.3	993.5	1.5	1.5
		Y3.1.4	993.5	1.5	1.5
5	X	X5.1.1	425	2	2
		X5.1.2	425	2	2
		X5.1.3	425	2	2
		X5.1.4	425	2	2
		X5.2.1	497	0.2	0.2
		X5.2.2	497	0.2	0.2
		X5.2.3	497	0.2	0.2
		X5.2.4	497	0.2	0.2
	Y	Y5.1.1	281	1	2
		Y5.1.2	281	1	2
		Y5.1.3	281	1	2
		Y5.1.4	281	1	2
		Y5.2.1	1031	0.3	0.3
		Y5.2.2	1031	0.3	0.3
		Y5.2.3	1031	0.3	0.3
		Y5.2.4	1031	0.3	0.3
(J)	Z	Z5.1.1	222	2	2
		Z5.1.2	222	2	2
		Z5.1.3	222	2	2
		Z5.1.4	222	2	2

Baugruppe Assembly		Maßgruppe dimension-group	Nennmaß nominal size (sa)	oberes Abmaß upper dev. (es)	unteres Abmaß lower dev. (ei)
6	X	X6.1.1/3	456××	0.5	0.5
		X6.1.2/4	456××	0.5	0.5
	Y	Y6.1.1	76	0.3	0.3
		Y6.1.2	76	0.3	0.3
		Y6.1.3	76	0.3	0.3
		Y6.1.4	76	0.3	0.3
		Y6.2.1	712	0.5	0.5
		Y6.2.2	712	0.5	0.5
		Y6.2.3	712	0.5	0.5
		Y6.2.4	712	0.5	0.5
	Z	Z6.1.1	57	2	2
		Z6.1.2	57	2	2
		Z6.1.3	57	2	2
		Z6.1.4	57	2	2
7	X	X7.1.1	1256	1	1
		X7.1.2	1256	1	1
		X7.1.3	1256	1	1
		X7.1.4	1256	1	1
		X7.2.2	570	1	1
		X7.2.3	570	1	1
		X7.3.2	566	2	3
		X7.3.3	566	2	3
	Y	Y7.1.1	461	1	0
		Y7.1.2	461	1	0
		Y7.1.3	461	1	0
		Y7.1.4	461	1	0
		Y7.2.2	161	2	2
		Y7.2.3	161	2	2
		Y7.3.2	226.6	2	2
		Y7.3.3	226.6	2	2
		Y7.4.1	1080	2	2
		Y7.4.2	1080	2	2
		Y7.4.3	1080	2	2
		Y7.4.4	1080	2	2
	Z	Z7.1.2	82.6	2	2
		Z7.1.3	82.6	2	2
9	X	X9.1.1/3	2536	2	4
		X9.1.2/4	2536	2	4
	Y	Y9.1.1/2	2252	2	4
		Y9.1.3/4	2252	2	4

×... Maß bezieht sich auf Mitte Federtoepfe

×... dimension refers to center of suspension pots

××...Maß mit Verschleißplatte

××...Measure with wear plate

#) ..... Die Masze Y5.1.1 – Y5.1.4 / X5.1.1 – X5.1.4 und Z5.1.1 – Z5.1.4 gelten nicht bei der Schraubenfedervariante.

#) ..... The measures Y5.1.1 – Y5.1.4 / X5.1.1 – X5.1.4 and Z5.1.1 – Z5.1.4 do not apply at the coil spring type.

(G)

Part no A2V00375105933 | Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

Index	Revision no	Date	Name
J	5000001846695	01-12	EGT
C	K333-632240	08-03	STS
D	K333-641464	05-04	STS
E	5000000111314	05-05	SCM
F	5000001332470	02-10	BIOTH
G	5000001376226	04-10	EGT
H	5000001519131	10-10	TOC

ISO 2768-mK | ISO 1101 | 0,050 KQ | A0 | 1250X1538X1040 | MTB008 | FS_RB902

1:5 | Prepared 2002-12-12 STEGER | Checked 2003-01-10 DEMLIN | Approved 2003-01-10 SCHOBERG

Trailer bogie frame
Measuring plan
LFW Rahmen Meszplan

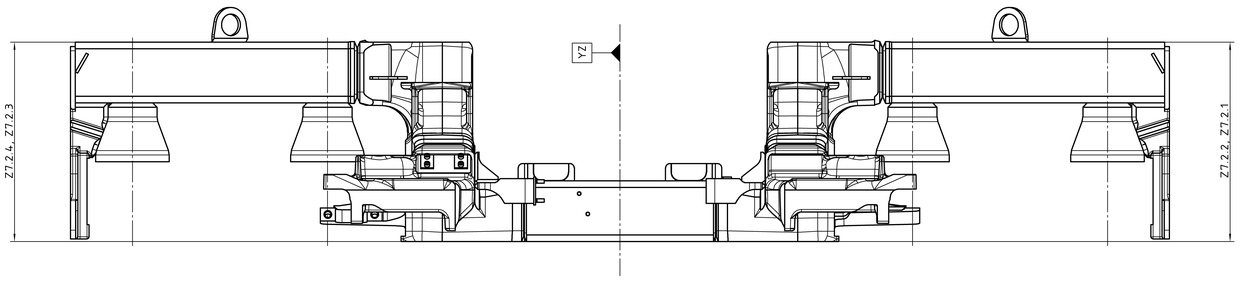
SIEMENS | EN/DE | A6Z00375105933 | J | 01/02

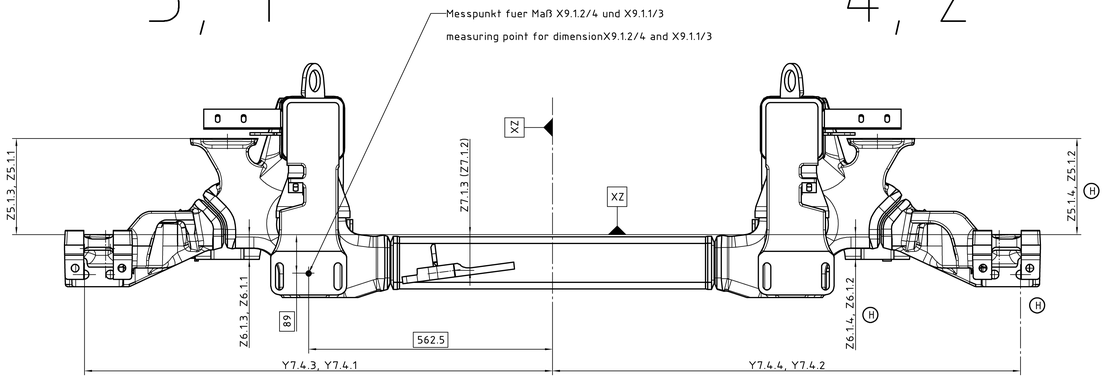
4, 3

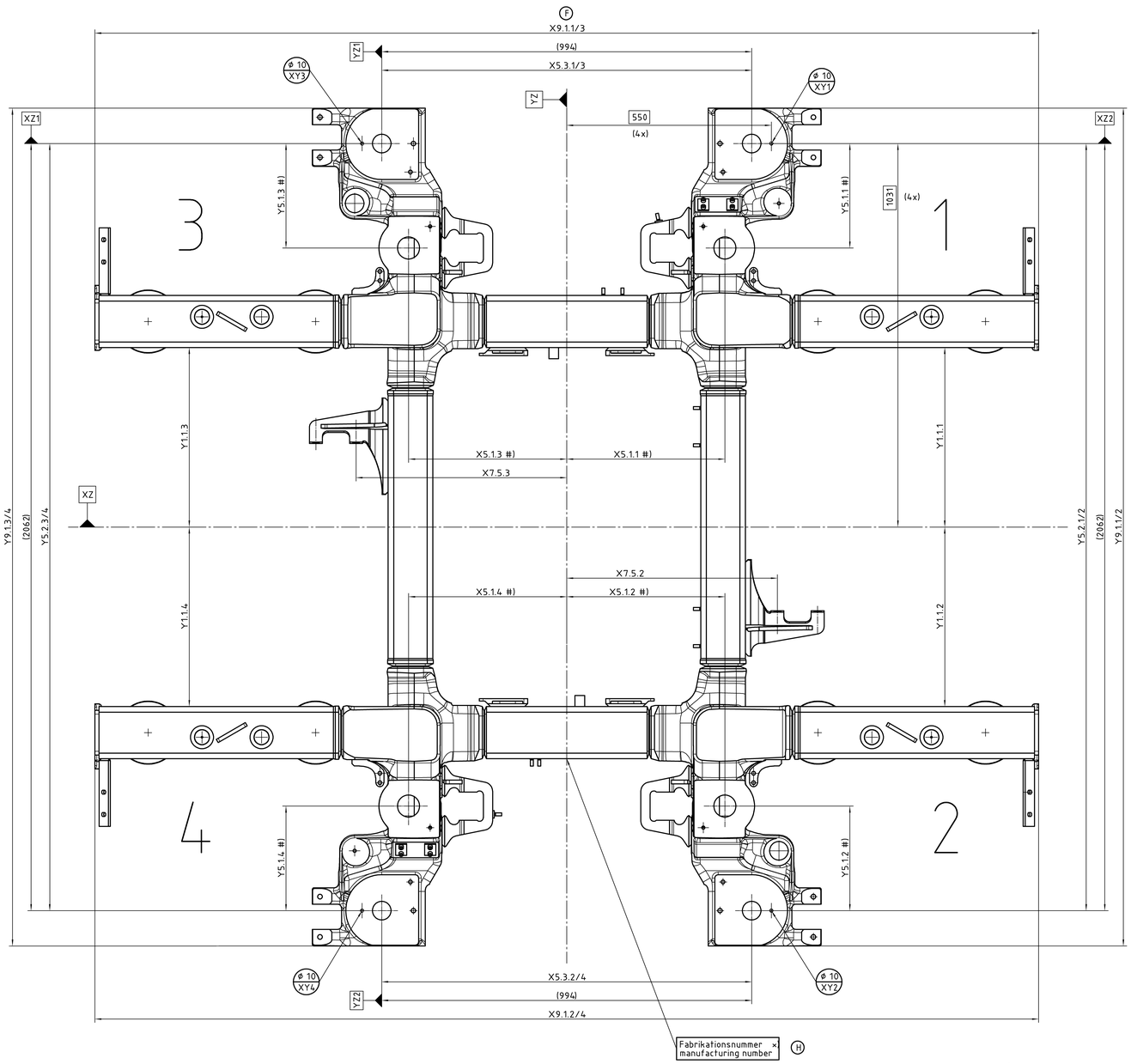
2, 1

3, 1

4, 2







Legende zu Baugruppen- Zuordnung (erste Zahl der Maßgruppe entspricht der Baugruppe)	legend of component allocation (first number of dimension group equivalent to component)
1... Radsatzführung	1... wheelset steering
2... Antrieb	2... traction unit
3... Laengsmitnahme	3... traction link
4... Bremse	4... brake
5... Sekundaerfeder	5... secondary suspension
6... Schienenbremse	6... track brake
7... Anbauteile	7... assembly components
8... Messpunkte	8... measuring points
9... Hauptambmessungen	9... main dimensions
10... sonstige	10... miscelaneous

Baugruppe Assembly		Maßgruppe dimension-group	Nennmaß nominal size (mm)	oberes Abmaß upper dev. (mm)	unteres Abmaß lower dev. (mm)	
		Y1.1.1	482.5	2	2	
		Y1.1.2	482.5	2	2	
		Y1.1.3	482.5	2	2	
		Y1.1.4	482.5	2	2	
5	X	X5.1.1	425	2	2	
		X5.1.2	425	2	2	
		X5.1.3	425	2	2	
		X5.1.4	425	2	2	
		X5.3.1/3	994	2	2	
		X5.3.2/4	994	2	2	
	Y	Y5.1.1	281	1	2	
		Y5.1.2	281	1	2	
		Y5.1.3	281	1	2	
		Y5.1.4	281	1	2	
		Y5.2.1/2	2062	2	2	
		Y5.2.3/4	2062	2	2	
	Z	Z5.1.1	222	1	1	F
		Z5.1.2	222	1	1	
		Z5.1.3	222	1	1	
		Z5.1.4	222	1	1	
6	Z	Z6.1.1	57	2	2	
		Z6.1.2	57	2	2	
		Z6.1.3	57	2	2	
		Z6.1.4	57	2	2	
7	X	X7.5.2	566	2	2	
		X7.5.3	566	2	2	
	Y	Y7.4.1	1080	2	2	
		Y7.4.2	1080	2	2	
		Y7.4.3	1080	2	2	
		Y7.4.4	1080	2	2	
	Z	Z7.1.2	82.6	2	2	
		Z7.1.3	82.6	2	2	
		Z7.2.1	460	3	3	
		Z7.2.2	460	3	3	
		Z7.2.3	460	3	3	
		Z7.2.4	460	3	3	
9	X	X9.1.1/3	2536	2	4	
		X9.1.2/4	2536	2	4	
	Y	Y9.1.1/2	2252	2	4	
		Y9.1.3/4	2252	2	4	

#) ..... Die Masze Y5.1.1 – Y5.1.4 und X5.1.1 – X5.1.4 gelten nicht bei der Schraubenfedervariante.

#) ..... The measures Y5.1.1 – Y5.1.4 und X5.1.1 – X5.1.4 do not apply at the coil spring type.

Meszplan Rahmenrohbau

Part no. A2V00375105933 | Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

ISO 2768-mK | ISO 1101 | B000X5 | A0 | D2502538043 | MTB009 | FS_REB02

Index	Revision no.	Date	Name
J	5000000184695	01-12	EGOT
C	K333-632760	08-03	STS
D	K333-641456	05-04	STS
E	5000001134	05-05	SCM
F	5000001132249	02-10	HOTH
G	5000001131626	04-10	EGOT
H	5000001135931	10-10	TOC

1:5 | Prepared 2002-12-12 STEGER | Checked 2003-01-10 DIEMLIN | Approved 2003-01-10 SCHOREG

Trailer bogie frame
Measuring plan
LFW Rahmen Meszplan

SIEMENS | Date | Name | EN/DE

A6Z00375105933 | J | 02/02 | A0

SIEMENS	PART NAME : S70 CENTER TRUCK, MACHINED REFURBISHMENT		May 24, 2024	08:13
	REV NUMBER : -	SER NUMBER : US00138	STATS COUNT : 1	

DRAWING NUMBER : A6Z00375105933
PART NUMBER : 75074334
INSPECTED BY : Michael Gonzalez
INSTRUMENT : FARO ARM 7 AXIS

⌖	MM	X1.1.1 - CIR1_150_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1125.00	0.30	-0.30	1124.52	-0.48	0.18
⌖	MM	X1.1.2 - CIR1_150_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1125.00	0.30	-0.30	1125.77	0.77	0.47
⌖	MM	X1.1.3 - CIR1_150_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1125.00	0.30	-0.30	1125.48	0.48	0.18
⌖	MM	X1.1.4 - CIR1_150_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1125.00	0.30	-0.30	1124.12	-0.88	0.58
⟷	MM	X1.2.1 - CIR2_150_Q1 TO CIR1_150_Q1 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		450.00	0.10	-0.10	450.02	0.02	0.00
⟷	MM	X1.2.2 - CIR2_150_Q2 TO CIR1_150_Q2 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		450.00	0.10	-0.10	449.99	-0.01	0.00
⟷	MM	X1.2.3 - CIR2_150_Q3 TO CIR1_150_Q3 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		450.00	0.10	-0.10	450.00	0.00	0.00
⟷	MM	X1.2.4 - CIR1_150_Q4 TO CIR2_150_Q4 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		450.00	0.10	-0.10	450.02	0.02	0.00
⌖	MM	X3.1.1 - CIR_18_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		620.30	0.20	-0.20	620.35	0.05	0.00
⌖	MM	X3.1.2 - CIR_18_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		620.30	0.20	-0.20	620.85	0.55	0.35

⌖	MM	X3.1.3 - CIR_18_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		620.30	0.20	-0.20	620.67	0.37	0.17
⌖	MM	X3.1.4 - CIR_18_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		620.30	0.20	-0.20	620.35	0.05	0.00
⌖	MM	X3.2.1 - PLN_2_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		380.00	0.30	-0.30	379.81	-0.19	0.00
⌖	MM	X3.2.2 - PLN_2_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		380.00	0.30	-0.30	380.53	0.53	0.23
⌖	MM	X3.2.3 - PLN_2_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		380.00	0.30	-0.30	380.31	0.31	0.01
⌖	MM	X3.2.4 - PLN_2_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		380.00	0.30	-0.30	379.94	-0.06	0.00
⌖	MM	X5.2.1 - CIR_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		497.00	0.20	-0.20	496.94	-0.06	0.00
⌖	MM	X5.2.2 - CIR_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		497.00	0.20	-0.20	497.36	0.36	0.16
⌖	MM	X5.2.3 - CIR_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		497.00	0.20	-0.20	497.26	0.26	0.06
⌖	MM	X5.2.4 - CIR_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		497.00	0.20	-0.20	497.00	0.00	0.00
↔	MM	X6.1.1/3 - PLN_CIP_Q3 TO PLN_CIP_Q1 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		456.00	0.50	-0.50	456.11	0.11	0.00
↔	MM	X6.1.2/4 - PLN_CIP_Q2 TO PLN_CIP_Q4 (XAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		456.00	0.50	-0.50	453.94	-2.06	1.56
⌖	MM	X7.1.1 - PLN2_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1256.00	1.00	-1.00	1255.83	-0.17	0.00

⌗	MM	X7.1.2 - PLN2_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1256.00	1.00	-1.00	1256.95	0.95	0.00
⌗	MM	X7.1.3 - PLN2_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1256.00	1.00	-1.00	1256.49	0.49	0.00
⌗	MM	X7.1.4 - PLN2_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X		1256.00	1.00	-1.00	1255.68	-0.32	0.00

DIAMETER D1.1.1-4 AND D1.2.1-4 ARE MANUELY INPUTED

1	MM	D1.1.1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.010	0.010	0.000
1	MM	D1.1.2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.000	0.000	0.000
1	MM	D1.1.3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.020	0.020	0.000
1	MM	D1.1.4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.020	0.020	0.000
1	MM	D1.2.1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	149.990	-0.010	0.010
1	MM	D1.2.2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.010	0.010	0.000
1	MM	D1.2.3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	150.010	0.010	0.000
1	MM	D1.2.4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		150.000	0.040	0.000	149.990	-0.010	0.010
⌗	MM	Y1.1.1 - PLN3_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		482.5	2.0	-2.0	485.2	2.7	0.7
⌗	MM	Y1.1.2 - PLN3_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		482.5	2.0	-2.0	484.8	2.3	0.3

⌖	MM	Y1.1.3 - PLN3_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		482.5	2.0	-2.0	485.7	3.2	1.2
⌖	MM	Y1.1.4 - PLN3_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		482.5	2.0	-2.0	484.8	2.3	0.3
⌖	MM	Y1.3.1 - CIR2_150_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.90	0.40	0.10
⌖	MM	Y1.3.2 - CIR2_150_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	553.11	0.61	0.31
⌖	MM	Y1.3.3 - CIR2_150_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.81	0.31	0.01
⌖	MM	Y1.3.4 - CIR2_150_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	553.06	0.56	0.26
⌖	MM	Y1.4.1 - CIR1_150_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.84	0.34	0.04
⌖	MM	Y1.4.2 - CIR1_150_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.91	0.41	0.11
⌖	MM	Y1.4.3 - CIR1_150_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.69	0.19	0.00
⌖	MM	Y1.4.4 - CIR1_150_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		552.50	0.30	-0.30	552.53	0.03	0.00
⌖	MM	Y3.1.1 - CIR_18_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		993.50	1.50	-1.50	993.04	-0.46	0.00
⌖	MM	Y3.1.2 - CIR_18_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		993.50	1.50	-1.50	991.91	-1.59	0.09
⌖	MM	Y3.1.3 - CIR_18_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		993.50	1.50	-1.50	992.61	-0.89	0.00

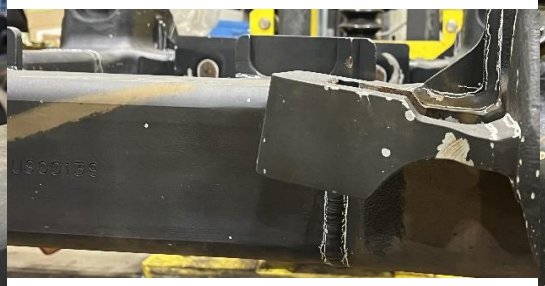
⌗	MM	Y3.1.4 - CIR_18_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		993.50	1.50	-1.50	991.85	-1.65	0.15
⌗	MM	Y5.2.1 - CIR_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		1031.00	0.30	-0.30	1030.79	-0.21	0.00
⌗	MM	Y5.2.2 - CIR_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		1031.00	0.30	-0.30	1030.95	-0.05	0.00
⌗	MM	Y5.2.3 - CIR_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		1031.00	0.30	-0.30	1030.75	-0.25	0.00
⌗	MM	Y5.2.4 - CIR_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		1031.00	0.30	-0.30	1030.91	-0.09	0.00
⟷	MM	Y6.1.1 - PLN_CI_Q1 TO PLN_CO_Q1 (YAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		76.00	0.30	-0.30	76.43	0.43	0.13
⟷	MM	Y6.1.2 - PLN_CO_Q2 TO PLN_CI_Q2 (YAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		76.00	0.30	-0.30	76.59	0.59	0.29
⟷	MM	Y6.1.3 - PLN_CI_Q3 TO PLN_CO_Q3 (YAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		0.00	0.30	-0.30	76.29	76.29	75.99
⟷	MM	Y6.1.4 - PLN_CO_Q4 TO PLN_CI_Q4 (YAXIS)					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M		76.00	0.30	-0.30	76.57	0.57	0.27
⌗	MM	Y6.2.1 - PLN_CI_Q1					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		712.00	0.50	-0.50	712.14	0.14	0.00
⌗	MM	Y6.2.2 - PLN_CI_Q2					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		712.00	0.50	-0.50	712.66	0.66	0.16
⌗	MM	Y6.2.3 - PLN_CI_Q3					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		712.00	0.50	-0.50	712.26	0.26	0.00
⌗	MM	Y6.2.4 - PLN_CI_Q4					
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y		712.00	0.50	-0.50	712.30	0.30	0.00

⌗	MM	Y7.1.2 - PLN_S_Q2						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Y		461.00	1.00	0.00	461.41	0.41	0.00	
⌗	MM	Y7.1.3 - PLN_S_Q3						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Y		461.00	1.00	0.00	461.23	0.23	0.00	
⌗	MM	Z1.2.1 - CIR1_150_Q1						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		39.00	0.20	-0.20	45.73	6.73	6.53	
⌗	MM	Z1.2.2 - CIR1_150_Q2						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		39.00	0.20	-0.20	38.55	-0.45	0.25	
⌗	MM	Z1.2.3 - CIR1_150_Q3						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		39.00	0.20	-0.20	37.30	-1.70	1.50	
⌗	MM	Z1.2.4 - CIR1_150_Q4						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		39.00	0.20	-0.20	47.78	8.78	8.58	
⌗	MM	Z6.1.1 - PLN_CT_Q1						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		57.0	2.0	-2.0	54.2	-2.8	0.8	
⌗	MM	Z6.1.4 - PLN_CT_Q4						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
Z		57.0	2.0	-2.0	44.1	-12.9	10.9	
▱	MM	L5.1.1-4 - PLN_Z						
AX		NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL	
M		0.0	2.0	0.0	4.1	4.1	2.1	

ACFM INSPECTION REPORT

Customer: Utah Transit Authority **Project:** UTA 1122 Accident Inspection	**Inspection:** Andrew Conley **Cert No:** NTC2149 **Inspection:** N/A **Cert No:** N/A **Lizard Registered:** 25222
Unit: Center Truck	**Procedure:** QMP-005
Serial Number: US00138	**DWG:** N/A

Locations: 5301 Price Ave., McClellan Park, CA 95652



Inspection Results / Comments.

There were no reportable weld indications or defects at the time of inspection. Visible damage/deformation was found on one of the four lifting eyes, and on two of the four, track brake alignment blocks.

Inspection Signature: **Date:** 05/21/2024

Andrew Conley

Andrew Conley

cn=Andrew Conley, c=US, o=Siemens Mobility
CS, ou=QA CWI Level II Inspector,
email=andrew.conley@siemens.com
05/16/24

Lizard Registered : 25222

Rework Procedure	Project:	SLC4 S70 PT

Distribution:

☒ ATM	☒ Prod. Mgr	☒ Prod. Engr	☒ PM	☒ QA
☐ Calculations	☐ Prod. Ctrl.	☒ QM	☒ Customer	☐ Subcontractor

Responsible Function: Bogie Service Center				
Platform:	**S/N Affected:**	**ECN#:**	**NCR#:**	**Drawing(s)/Part Number(s)**
☒ Bogie	US00043	N/A	200176452	A2V00001441496 A2V00397258998
☒ Bolster	US00612			

Implementation/Inspection Sign-off:

1. Production to inform Quality Assurance (QA) Inspector before repair work starts.
2. If Required Parent Material to be NDT Tested by ACFM, MT, or PT, prior to start of welding.

Problem Report Number: _____

Production Signature: _____ **Date:** _____

QA/CWI Signature: _____ **Date:** _____

Preparation:

1. Welder and Inspector shall be qualified in the rework process and required inspection methods (MT/PT/RT/VT). Reference QAI-057, QAI-043, BGI-002, BGI-003.
2. Part should be placed in a position that allows for base material repairs if required.

Rework Procedure:

NOTE:

- Production and Inspector shall sign off Implementation/ Inspection section above upon completion of their work.
- Where applicable adhere to SII-MNP-007 Workmanship Standard at all times.

APPROVALS:

Production Engineer _____ Originator

PQM _____ Project Quality Manager

Project Manager _____

Customer (if required) _____

Table of Contents

References:

Ref (a) SII PT Bolster shell drawing A2V00397259000.
Ref (b) SII PT Bolster lateral bumper stop drawing A6Z00375123112.
Ref (c) SII Bolster measurement drawing A6Z00375128344.
Ref (d) SII Bolster measurement report S70-BO_US00612-MA.pdf
Ref (e) SII PT bolster frame ACFM report

INTENDED USE

Rework of SLC4 S70 PT US00043 and bolster.

1. Measurement Taken:

- Measurements report S70-PT-US00043-MACH.pdf was approved.
- Measurements report S70-BO_US00612-MA.pdf was approved.

2. Visual Inspection

- See separate Quality Inspection Report SQ-015 for details.

3. Non-Destructive Test (NDT)

- ACFM has been performed and passed for power truck frame and bolster.

4. Rework of SLC4 S70 Power Truck

4.1 Rework of Bolster Lateral Buffer Bracket

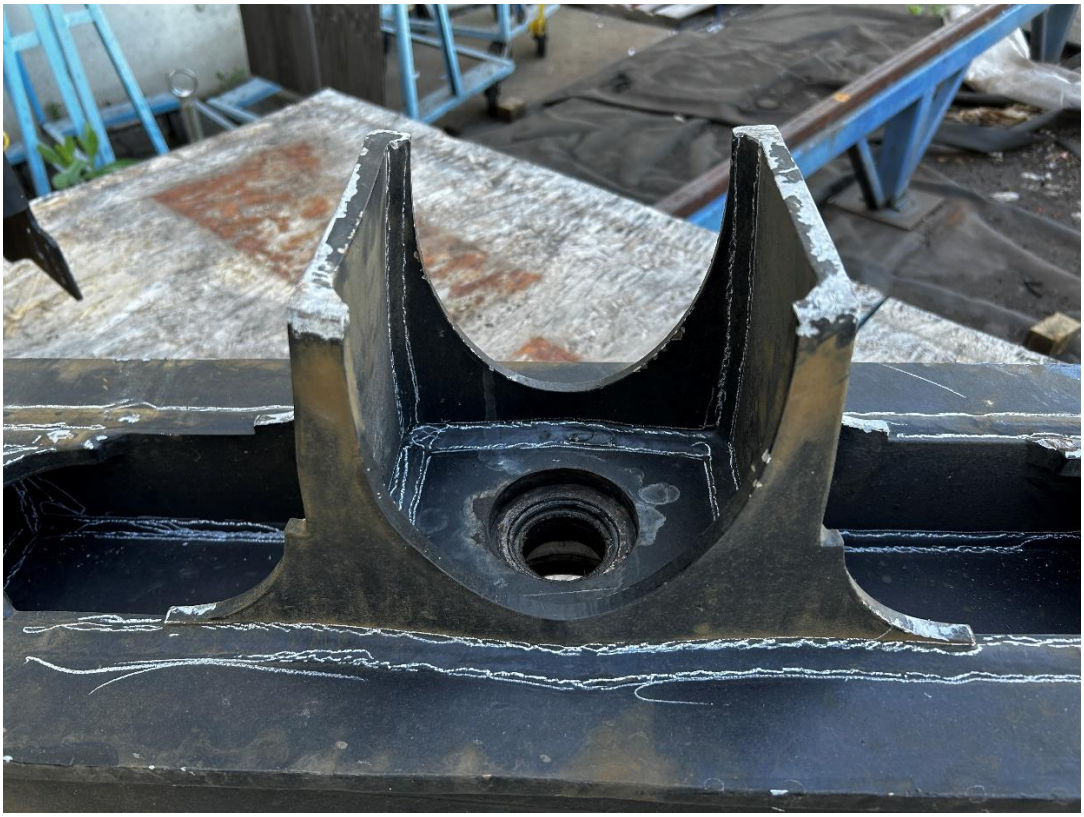


Figure 1: Damaged Bolster Lateral Bumper Stop.

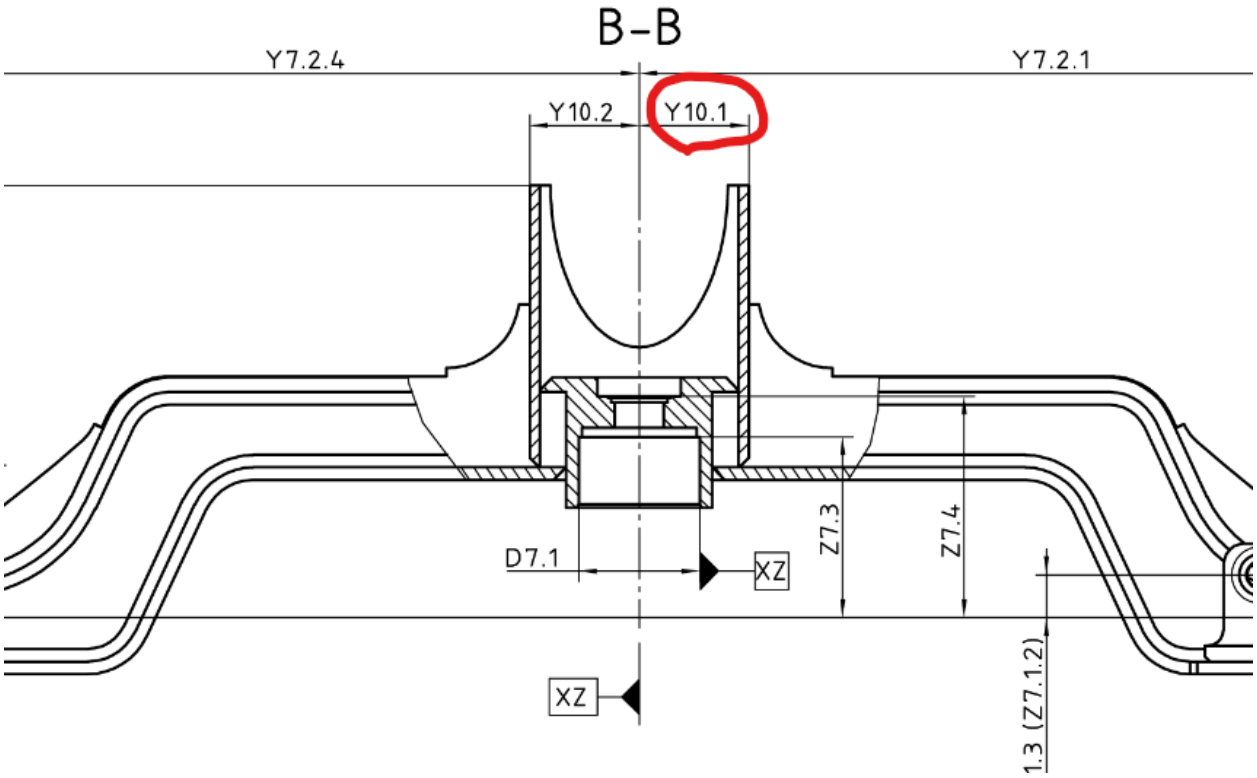


Figure 2: Affected dimensional measurement locations.

Table 1: Affected dimensional measurements and out of tolerance value.

	Nominal (MM)	+ (MM)	- (MM)	Actual (MM)	OoT
Y10.1	105.0	1.0	-1.0	100.1	-3.9
Y10.2	105.0	1.0	-1.0	96.9	-7.1

1. During receiving inspection, the bolster lateral bumper stop was found to be bent. In the bolster measurement report, Y10.1 and Y10.2 dimension out of tolerance is also suggesting that this bracket needs straightening before returning to service.

2. Place bolster on a fixture which allows for heat to be applied to required areas.

3. The bolster lateral bumper stop bracket was bent inward. Manually straighten the bumper bracket using heat or porta power according to bolster shell drawing A2V00397259000 and lateral bumper stop drawing A6Z00375123112. Refer to QAP-042 for flame straightening work instruction.

Note- Heat may be applied as an aide to the Straightening process, the following is provided for Guidance:

- Line Heat is employed to repair a bend in a plate about its weak axis.
- Line heat consists of a single straight pass of the torch.
- Line heat is applied to the underside of a plate element subjected to bending
- Only one heat cycle is allowed.
- The maximum temperature of material is 500 Deg C (932 Deg F).

- The use of heat sticks or equivalent method of determining temperature during straightening is required.
- Oxy-acetylene torch to be set to a neutral flame.
- Only cooling with still air is allowed. Forced cooling is not allowed.

5. Post Repair Non-Destructive Test (NDT)

- After all repairs are completed, perform ACFM test to check the affected welds.

6. Painting

- After repairs and NDT are completed and found to be satisfactory, paint affected areas using ENS-333 most current rev for guidance.

7. Document Review

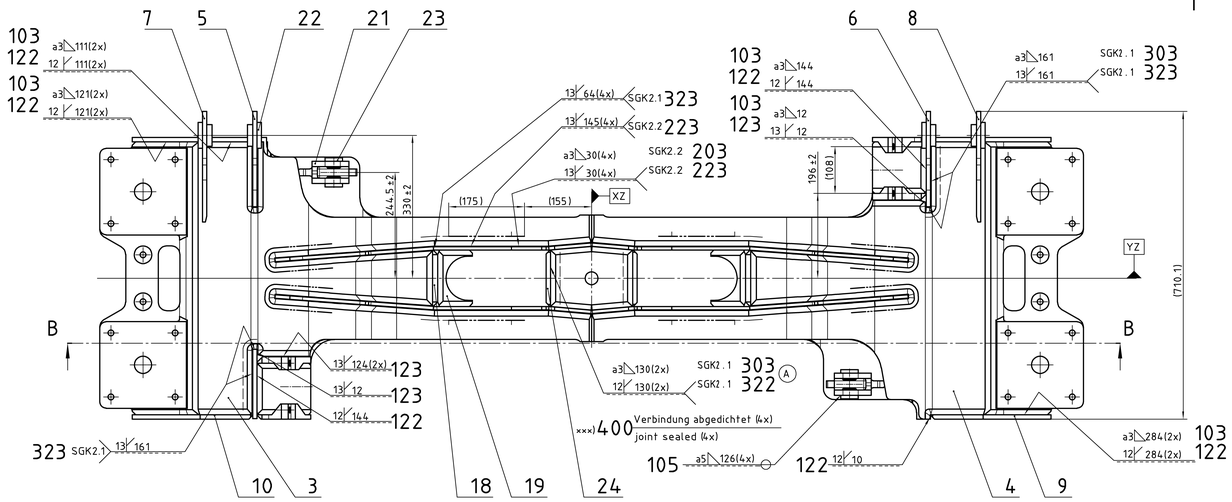
- QA review documentation for completeness and verify rework is complete.

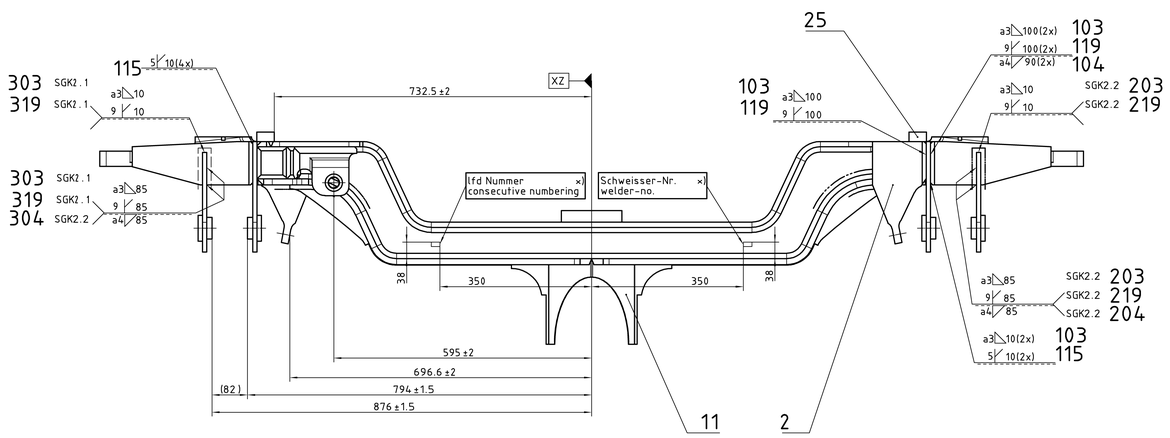
Verification Sign-off Sheet

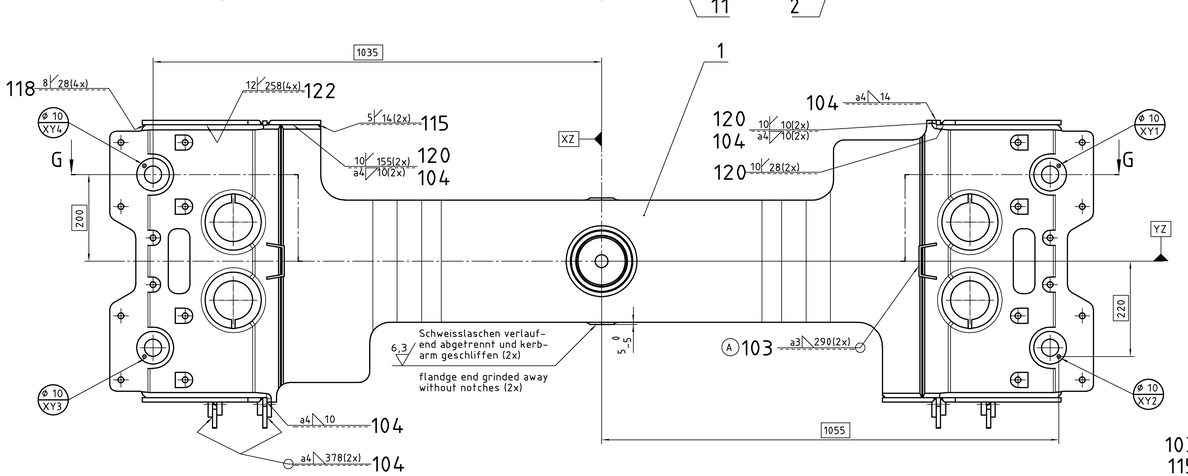
NOTE: Separate sign-off sheet must be provided for each part being reworked using this procedure.

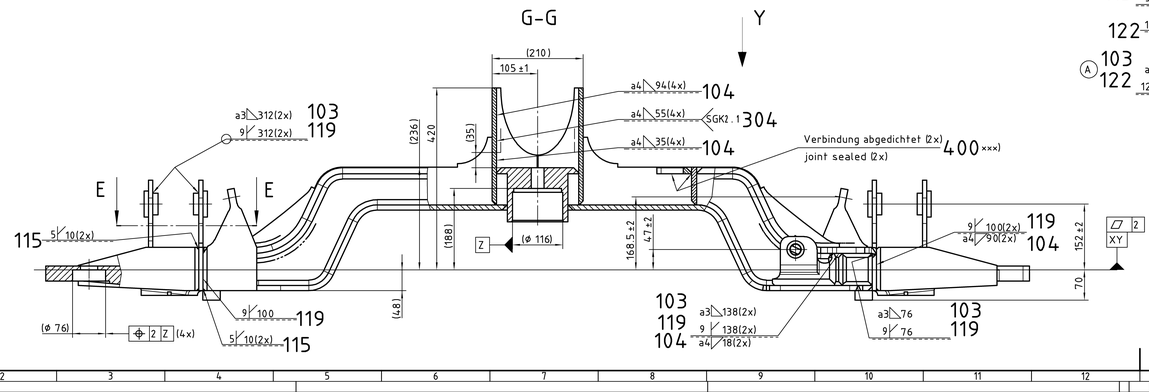
Serial Number: US00043

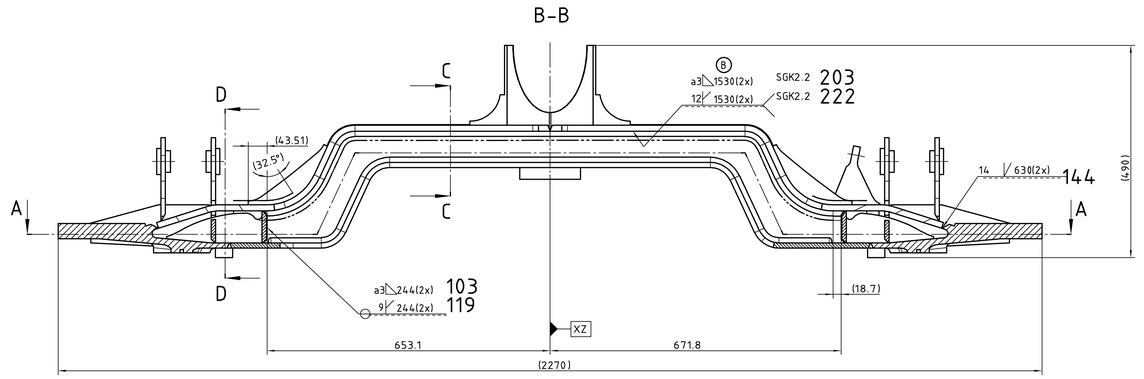
Step:	Description:	Signature:	Date:	Note/Comments:
4.1	Rework of Bolster Lateral Buffer Bracket			
5	Post Repair NDT	QA:		
6	Painting	Prod:		
7	Document Review	QA:		
(Use space below if more room is needed for comments)				

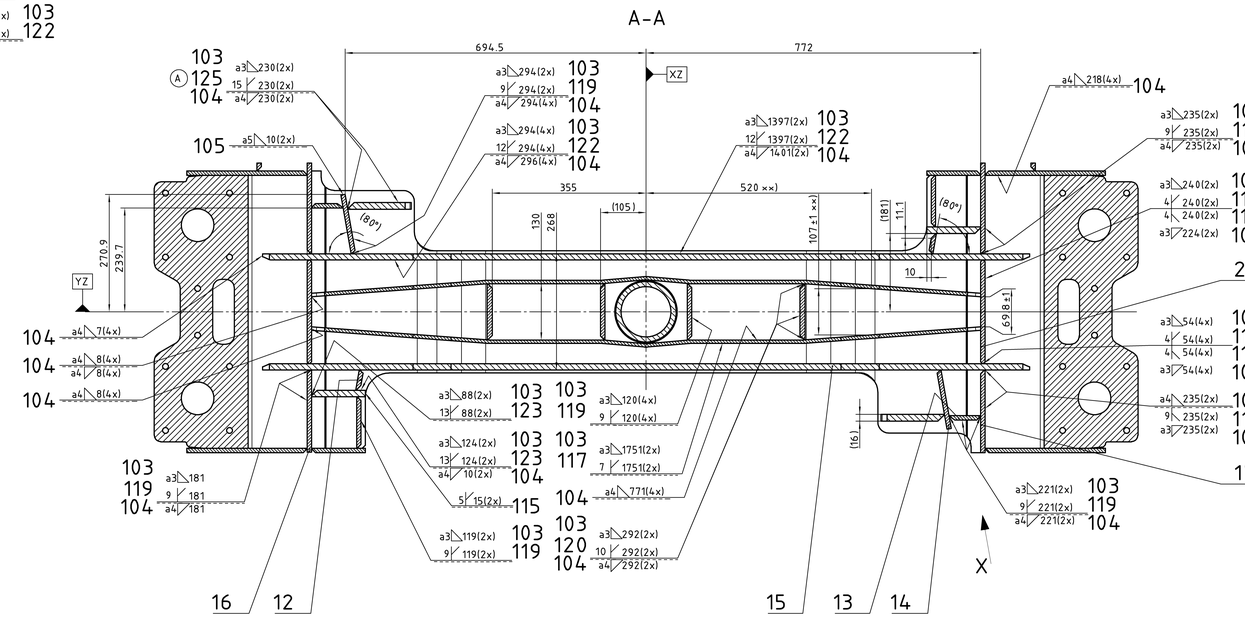


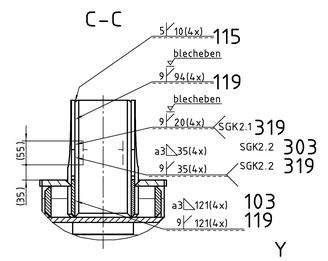


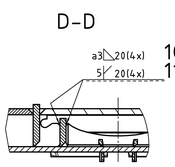


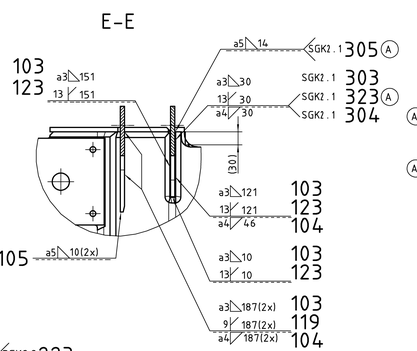


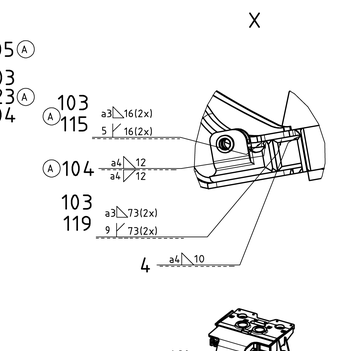


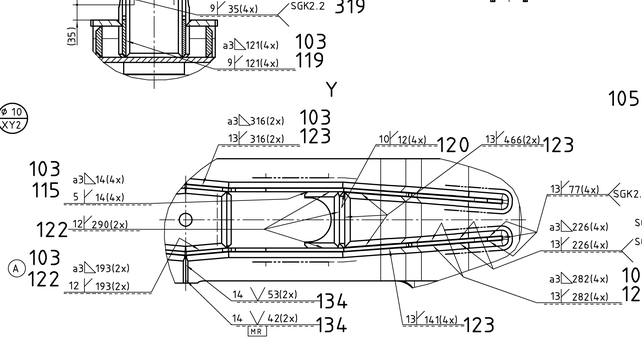


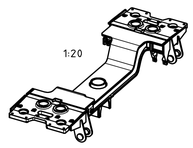












—— —— ... SGK 2.1
———— ... SGK 2.2

×) Nummer mit Schlagzahlen einschlagen (Schrift DIN 1451 – 1 C 10)

×) numbering beaten in with steel stamping numerals (letters DIN 1451 –1 C 10)

××) Kontrollmaß

××) checking dimension

×××) Pos. 400 wird auf rost- und fettfreier Flaeche aufgetragen

×××) Pos. 400 is spreaded on surface, that are free of grease and rustless

Bauteilklassifizierung nach DIN 6700 – 2 C1
Classification according to DIN6700 – 2 C1

Schweissnahtgueteklassen nach DIN 6700 ff
allgemein: SGK 2.3
Anforderungen nach SGK2.2 oder SGK2.1 sind an der Schweissnaht angegeben.

Schweiss – Symbole nach EN 22553

Weldseam quality class acc. to DIN 6700 et seqq. generally: SGK 2.3
Requirements for SGK 2.1 or SGK 2.2 are shown by th weld symbol.

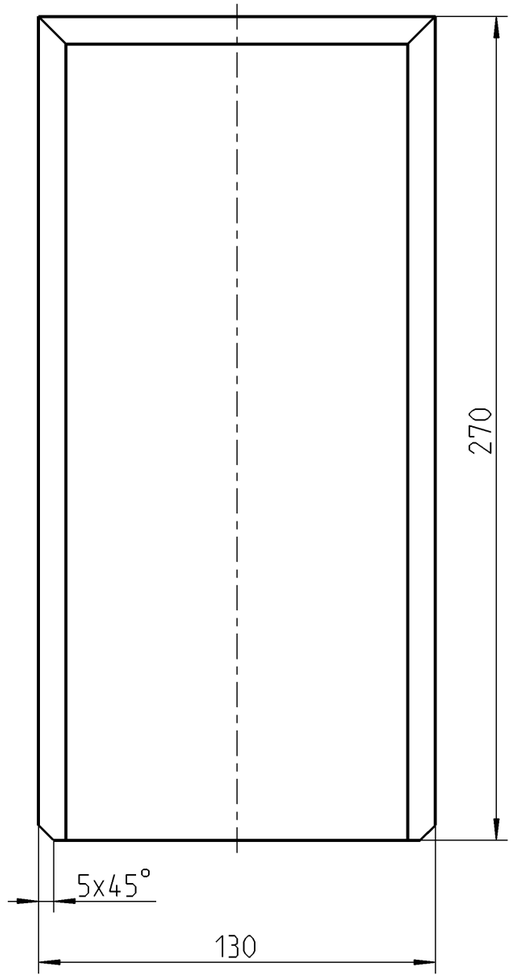
Weld-symbols according to EN 22553

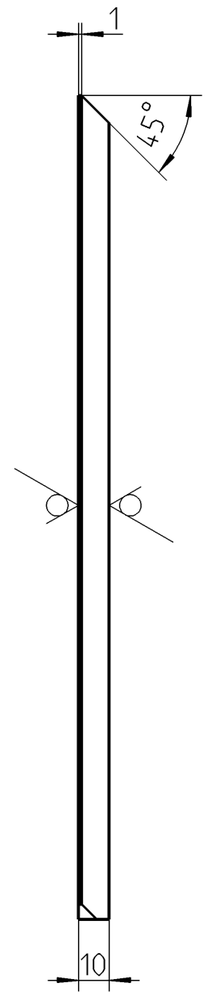
Part no.	A2V00397259000	Siemens no.	
PDMLink	DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY		
A K333-637889 –0402 BIRJ	ISO 2768-mk	306.200 KG	A0
B 5900000232558 –1306 GOT	ISO 13920-BF	22X01(10,3X,N)	
	ISO 1101	MTB	
		TS_RE820	

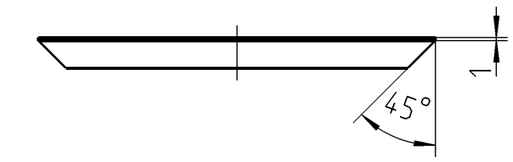
Index	Revision no	Date	Name
1:5	Prepared	2013-06-18	TRINKAU FR
	Checked	2013-06-18	SUPNITS_MI
	Approved	2013-06-19	GOTTSCH_MA
	Date		Name
SIEMENS	EN/DE		

Bogie bolster,shell
Wiege,Rohbau

A6Z00375123836 | B | 01/01







Schnittkantenqualitaet fuer thermisches Schneiden-Laser nach

Quality of cut edges for laser beam cutting according to

ISO 9013-221

Unbemasste Werkstueckkanten nach DIN ISO 13715.

Unmeasured edges of working parts according to DIN ISO 13715.

+0,5
+0,3

-0,5
-0,3

Ra12,5

DRAWING SHALL NOT BE REVISED OUTSIDE CAD SYSTEM

Application:

Avanto/S70

Edition	
Date	
General Tolerances ISO 2768-mK ISO 13920-BF ISO 1101	Surface ISO 1302
Scale: 1:2	weight: 2.540 kg
EN 10029 Bl 10x130x270	S355J2G1W C+N

	Date	Name
Prep.	2003-10-27	HOI
Check.	2003-10-27	SCHOBEG
Std-Ch	2003-10-27	PISCHLER

QUERPUFFER-ANSCHLAGPLATTE

LATERAL BUMPER STOP

97268242

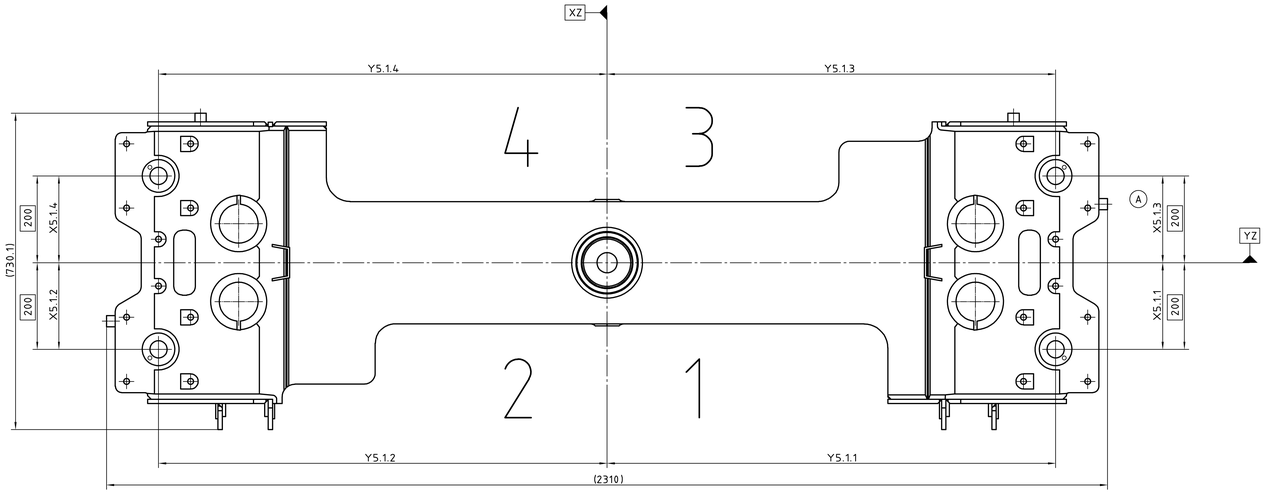
SIEMENS
Siemens SGP Verkehrstechnik

G04_75123112

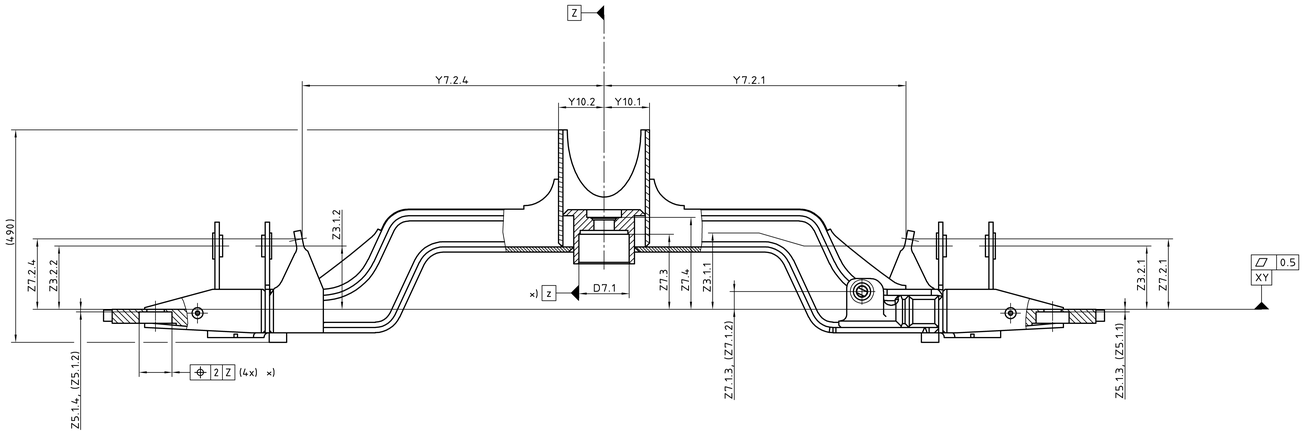
CAD | Blatt 1 | 1 Bl.

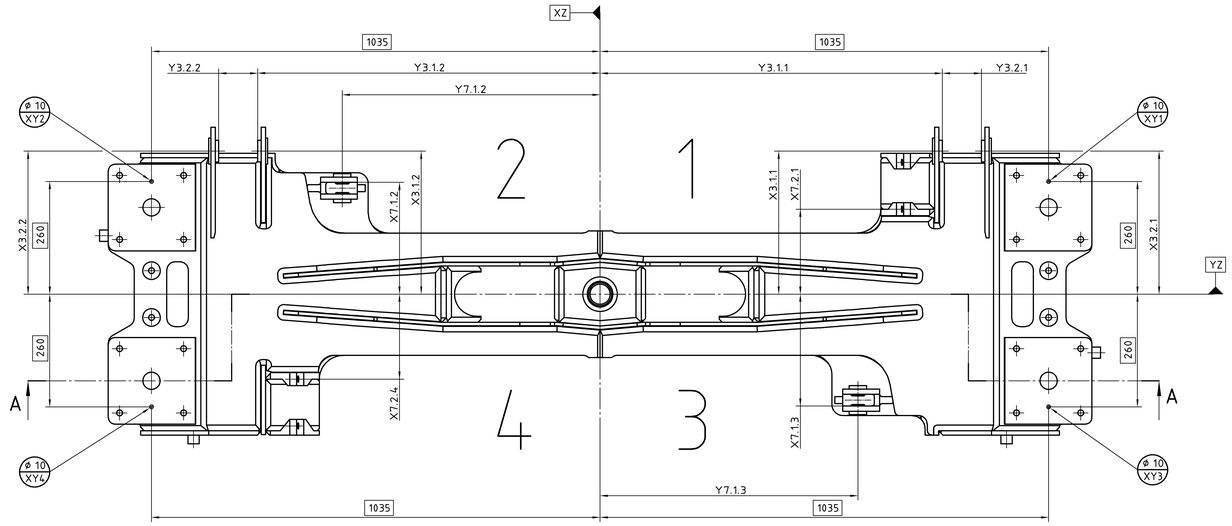
Issue	Revision	Date	Name	Based on:	Repl. for:	repl. by:

2003-10-27/A6J75123112_-_QPUFFERANSCHLAG: PROI_REVISION:d.PROI_VERSION:d/PROI_RELEASE:d / PART: A6J97268242_-_QPUFFERANSCHLAG: -.0/Verification

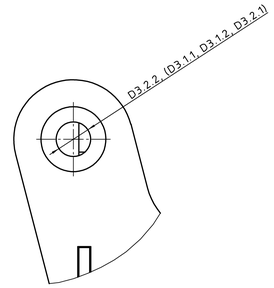


A-A





B 1:2



Baugruppe Assembly		Maßgruppe Dimension-Group	Nennmaß (mm) Nominal size (mm)	Obere Toleranz (mm) Upper tolerance (mm)	Untere Toleranz (mm) Lower tolerance (mm)	
3	X	X3.1.1	330	0.2	0.2	
		X3.1.2	330	0.2	0.2	
		X3.2.1	330	0.2	0.2	
		X3.2.2	330	0.2	0.2	A
	Y	Y3.1.1	790	1.5	1.5	
		Y3.1.2	790	1.5	1.5	
		Y3.2.1	90	0.3	0.3	
		Y3.2.2	90	0.3	0.3	
	Z	Z3.1.1	146	1	1	
		Z3.1.2	146	1	1	
		Z3.2.1	146	1	1	
		Z3.2.2	146	1	1	
	D	D3.1.1	32	0.16	0	
		D3.1.2	32	0.16	0	
		D3.2.1	32	0.16	0	
		D3.2.2	32	0.16	0	
5	X	X5.1.1	200	2	2	
		X5.1.2	200	2	2	
		X5.1.3	200	2	2	
		X5.1.4	200	2	2	
	Y	Y5.1.1	1035	2	2	
		Y5.1.2	1035	2	2	
		Y5.1.3	1035	2	2	
		Y5.1.4	1035	2	2	
	Z	Z5.1.1	6	1	1	
		Z5.1.2	6	1	1	
		Z5.1.3	6	1	1	
		Z5.1.4	6	1	1	
7	X	X7.1.2	258	3	3	
		X7.1.3	258	3	3	
		X7.2.1	196	3	3	
		X7.2.4	196	3	3	
	Y	Y7.1.2	595	3	3	
		Y7.1.3	595	3	3	
		Y7.2.1	696.6	3	3	
		Y7.2.4	696.6	3	3	
	Z	Z7.1.2	41	3	3	
		Z7.1.3	41	3	3	
		Z7.2.1	162.5	3	3	
		Z7.2.4	162.5	3	3	
		Z7.3	173	2	2	
		Z7.4	212	2	2	A
	D	D7.1	116	0.035	0	
10	Y	Y10.1	105	1	1	
		Y10.2	105	1	1	

Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe entspricht der Baugruppe)

legend of component allocation
(first number of dimension group equivalent to component)

1.. Radsatzführung
2.. Antrieb
3.. Längsmitnahme
4.. Bremse
5.. Sekundärfeder
6.. Schienenbremse
7.. Anbauteile
8.. Messpunkte
9.. Hauptabmessungen
10.. Sonstige

1.. Wheelset steering
2.. Traktion unit
3.. Draw bar
4.. Brake
5.. Secondary suspension
6.. Track brake
7.. Assembly components
8.. Measuring points
9.. Main dimensions
10.. Miscellaneous

×) Bedingung zur Definition der Ebene YZ

×) Plain YZ is defined by these conditions

Part no. | Siemens no.

DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

A0 | TS

A	K333-443558	04-04	SEG	ISO 2768mk
B	5000000379B9	04-07	!	ISO 13920-BF
				ISO 1101

MTB
TS_REA

Index	Revision no.	Date	Name
15	Prepared	2003-12-09	BRECKO_JOS
	Checked		
	Approved	2003-12-09	BRECKO_JOS
	Date	Name	
	EN/DE		

Measuring sheeet,
bogie bolster machined
Messplan, Wiege
mechan.Bearbeitung

SIEMENS

A6Z00375128344 | B | 01/01

SIEMENS	PART NAME : S70 BOLSTER, MACHINED REFURBISHMENT		May 21, 2024	07:53
	REV NUMBER : B	SER NUMBER : US0	STATS COUNT : 1	

DRAWING NUMBER : A6Z00375128344
PART NUMBER : 97258998
INSPECTED BY : Michael Gonzalez
INSTRUMENT : FARO ARM 7 AXIS

DIM X3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.03	0.03	0.00

DIM X3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.18	0.18	0.00

DIM X3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.13	0.13	0.00

DIM X3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.15	0.15	0.00

DIM Y3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	790.00	1.50	-1.50	790.73	0.73	0.00

DIM Y3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	790.00	1.50	-1.50	790.57	0.57	0.00

DIM Y3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.00	0.30	-0.30	89.60	-0.40	0.10

DIM Y3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.00	0.30	-0.30	89.53	-0.47	0.17

DIM X7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	258.0	3.0	-3.0	257.1	-0.9	0.0

DIM X7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	258.0	3.0	-3.0	259.1	1.1	0.0

DIM X7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	196.0	3.0	-3.0	195.7	-0.3	0.0

DIM X7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	196.0	3.0	-3.0	197.1	1.1	0.0

DIM Y5.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1034.1	-0.9	0.0

DIM Y5.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1034.1	-0.9	0.0

DIM Y5.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1033.9	-1.1	0.0

DIM Y5.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1035.1	0.1	0.0

DIM Y7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	3.0	-3.0	596.0	1.0	0.0

DIM Y7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	3.0	-3.0	597.0	2.0	0.0

DIM Y7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	696.6	3.0	-3.0	694.4	-2.2	0.0

DIM Y7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	696.6	3.0	-3.0	696.1	-0.5	0.0

DIM Y10.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	105.0	1.0	-1.0	100.1	-4.9	3.9

DIM Y10.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	105.0	1.0	-1.0	96.9	-8.1	7.1

DIAMETER D3.1.1, D3.1.2, D3.2.1 AND D3.2.2, ARE MANUELY INPUTED

DIM D3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.040	0.040	0.000

DIM D3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.050	0.050	0.000

DIM D3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.010	0.010	0.000

DIM D3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.030	0.030	0.000

DIAMETER D7.1 MANUELY INPUTED

DIM D1 (H7)

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	116.000	0.035	0.000	116.010	0.010	0.000

DIM Z3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.4	-0.6	0.0

DIM Z3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.5	-0.5	0.0

DIM Z3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.2	-0.8	0.0

DIM Z3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.5	-0.5	0.0

DIM Z7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	41.0	3.0	-3.0	39.4	-1.6	0.0

DIM Z7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	41.0	3.0	-3.0	38.3	-2.7	0.0

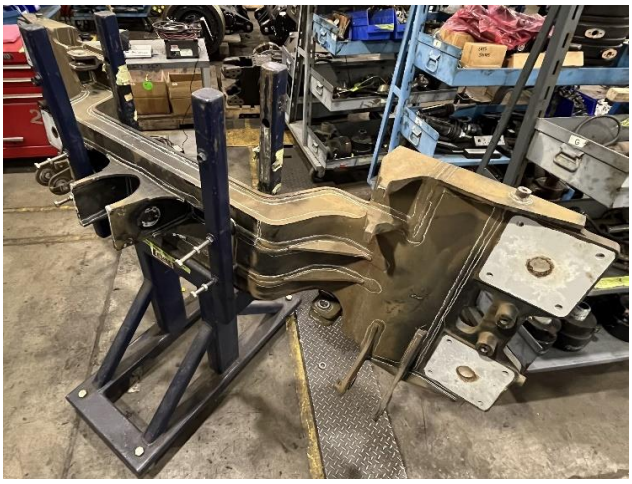
DIM Z7.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	212.0	2.0	-2.0	211.9	-0.1	0.0

ACFM INSPECTION REPORT

Customer: Utah Transit Authority **Project:** UTA 1122 Accident Inspection	**Inspection:** Andrew Conley **Cert No:** NTC2149 **Inspection:** N/A **Cert No:** N/A **Lizard Registered:** 25222
Unit: Bolster	**Procedure:** QMP-005
Serial Number: US00612	**DWG:** N/A

Locations: 5301 Price Ave., McClellan Park, CA 95652



Inspection Results / Comments.

There were no reportable weld indications or defects at the time of inspection. Damage to lateral hard stops noted in receipt inspection.

Inspection Signature: **Date:** 05/17/2024

Andrew Conley

Andrew Conley

cn=Andrew Conley, c=US, o=Siemens Mobility CS, ou=QA CWI Level II Inspector, email=andrew.conley@siemens.com
05/16/24

Lizard Registered : 25222

Rework Procedure	Project:	SLC4 S70 PT

Distribution:

☒ ATM	☒ Prod. Mgr	☒ Prod. Engr	☒ PM	☒ QA
☐ Calculations	☐ Prod. Ctrl.	☒ QM	☒ Customer	☐ Subcontractor

Responsible Function: Bogie Service Center				
Platform:	**S/N Affected:**	**ECN#:**	**NCR#:**	**Drawing(s)/Part Number(s)**
☒ Bogie	US00102	N/A	200176520 200176339	A2V00001441496 A2V00397258998
☒ Bolster	US00195			

Implementation/Inspection Sign-off:

1. Production to inform Quality Assurance (QA) Inspector before repair work starts.
2. If Required Parent Material to be NDT Tested by ACFM, MT, or PT, prior to start of welding.

Problem Report Number: _____

Production Signature: _____ **Date:** _____

QA/CWI Signature: _____ **Date:** _____

Preparation:

1. Welder and Inspector shall be qualified in the rework process and required inspection methods (MT/PT/RT/VT). Reference QAI-057, QAI-043, BGI-002, BGI-003.
2. Part should be placed in a position that allows for base material repairs if required.

Rework Procedure:

NOTE:

- Production and Inspector shall sign off Implementation/ Inspection section above upon completion of their work.
- Where applicable adhere to SII-MNP-007 Workmanship Standard at all times.

APPROVALS:

Production Engineer _____ Originator

PQM _____ Project Quality Manager

Project Manager _____

Customer (if required) _____

Table of Contents

References:

Ref (a) SII PT bogie frame drawing A2V00001440995
Ref (b) SII PT headbeam console bracket drawing A6Z00375100966
Ref (c) SII PT Bolster shell drawing A2V00397259000.
Ref (d) SII PT Bolster rotation stop drawing A2V00397269122.
Ref (e) SII PT Bolster lateral bumper stop drawing A6Z00375123112.
Ref (f) SII PT measurement drawing A6Z00375122298.
Ref (g) SII Bolster measurement drawing A6Z00375128344.
Ref (h) SII PT measurement report S70-PT-US00102-MACH
Ref (i) SII Bolster measurement report 70-BO_US00195-MA.
Ref (j) SII PT bogie frame ACFM report
Ref (k) SII PT bolster frame ACFM report

INTENDED USE

Rework of SLC4 S70 PT US00102 and bolster.

1. Measurement Taken:

- Measurements report S70-PT-US00102-MACH.pdf was approved.
- Measurements report S70-BO_US00195-MA_20240520210925.725_X.pdf was not approved.

2. Visual Inspection

- See separate Quality Inspection Report SQ-015 for details.

3. Non-Destructive Test (NDT)

- ACFM has been performed and passed for power truck frame.
- Reportable indication was found on both bolster lateral stops.

4. Rework of SLC4 S70 Power Truck

4.1 Rework of PT Head Beam Console Bracket

Figure 1: Headbeam Console bracket 3D model.

Figure 2: Affected headbeam console bracket.

1. During receiving inspection, 1X headbeam console bracket was found to be bent outward.

2. Place PT on a fixture which allows for heat to be applied to required areas.

3. The head beam brackets at third quadrants were bent. Manually straighten head beam brackets using heat or porta power according to drawing A2V00001440995 and A6Z00375100966. Refer to QAP-042 for flame straightening work instruction.

Note- Heat may be applied as an aide to the Straightening process, the following is provided for Guidance:

- Line Heat is employed to repair a bend in a plate about its weak axis
- Line heat consists of a single straight pass of the torch
- Line heat is applied to the underside of a plate element subjected to bending
- Only one heat cycle is allowed
- The maximum temperature of material is 500 Deg C (932 Deg F)
- The use of heat sticks or equivalent method of determining temperature during straightening is required.

4.2 Rework of Bolster Rotation Stops

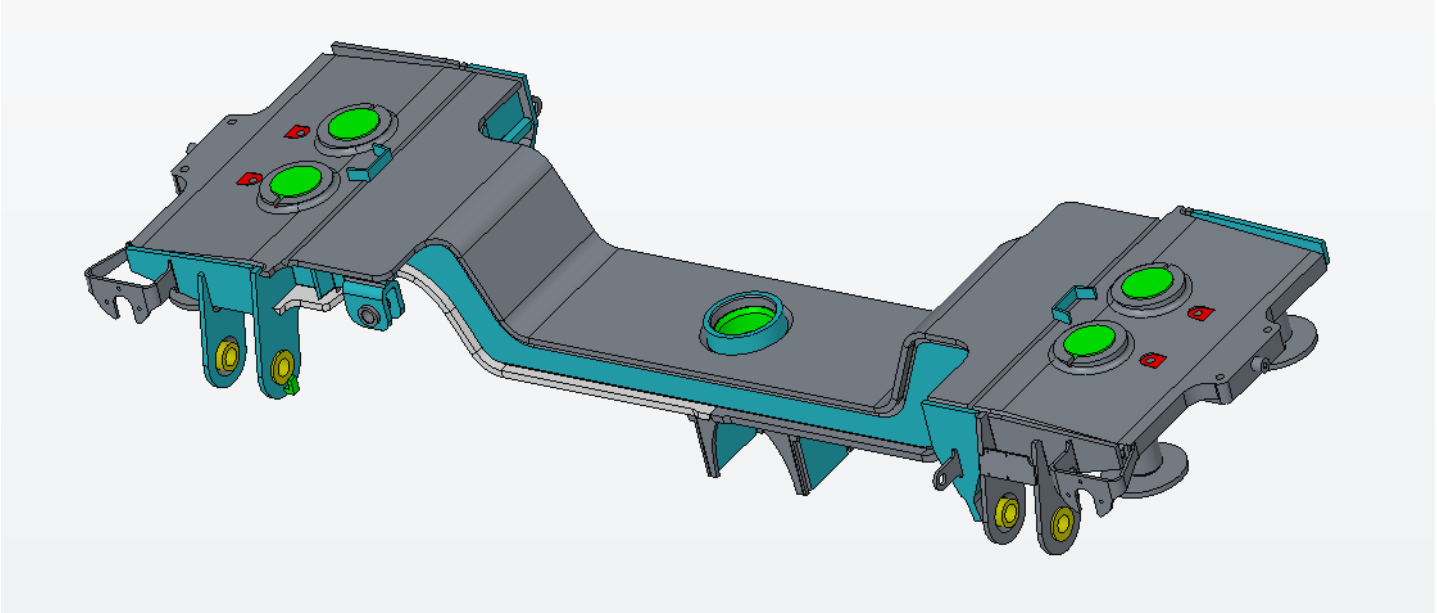


Figure 3: Power Truck Bolster 3D model.

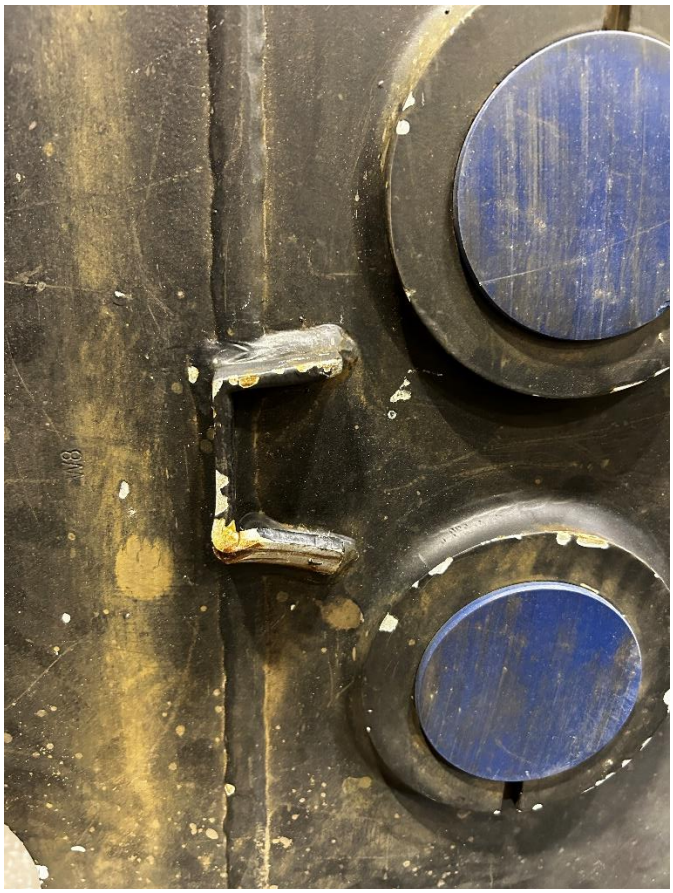


Figure 4: Damaged Bolster L/H Rotation Stop.

Figure 5: Damaged Bolster R/H Rotation Stop.

1. During receiving inspection, it was found that both bolster rotation stops was bent and had base metal damage during the accident. These rotation stop will need to be replaced per bolster shell drawing A2V00397259000.

2. Cut the remaining rotation stops off using appropriate air tool and remove any sharp edge. Remove paint with air tool to bare metal in the welding area and clean the surface with acetone to prepare for welding.

3. Follow WPS WD11GM-SC-SV-001 and bolster shell drawing AA2V00397259000 to weld new rotation stops to both sides of the bolster. After repair, the new weld seam will need to be inspected by Certified Welding Inspector.

Table 1: Bolster Repair Bill of Material

Part No.	Description	Qty.
A2V00397269122	ROTATION STOP	2

4.3 Rework of Bolster Lateral Buffer Bracket

Figure 6: Damaged Bolster Lateral Bumper Stop.

1. During receiving inspection, the bolster lateral bumper stop was found to be bent. In the bolster measurement report, Y10.1 and Y10.2 dimension out of tolerance is also suggesting that this bracket needs straightening before returning to service.

2. Place bolster on a fixture which allows for heat to be applied to required areas.

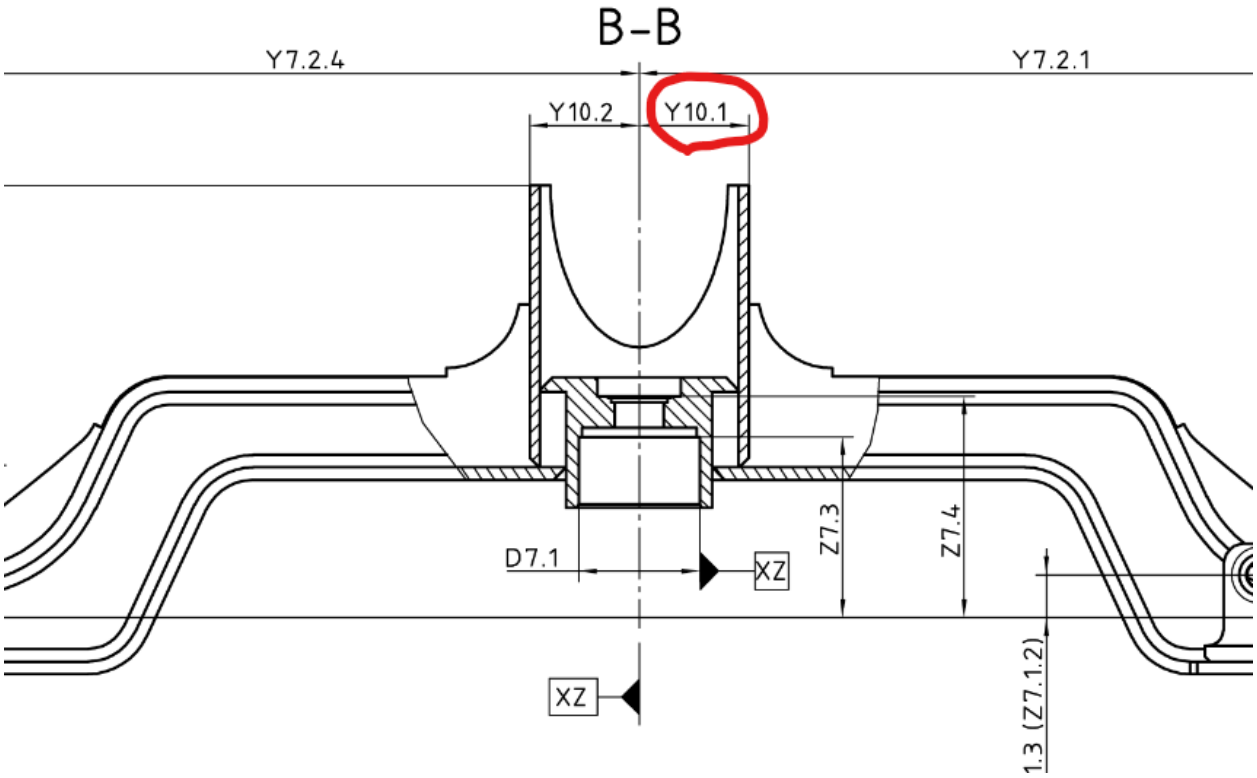


Figure 7: Affected dimensional measurement locations.

Table 2: Affected dimensional measurements and out of tolerance value.

	Nominal (MM)	+ (MM)	- (MM)	Actual (MM)	OoT
Y10.1	105.0	1.0	-1.0	92.1	-11.9
Y10.2	105.0	1.0	-1.0	103.2	-0.8

3. The bolster lateral bumper stop bracket was bent inward. Manually straighten the bumper bracket using heat or porta power according to bolster shell drawing A2V00397259000 and lateral bumper stop drawing A6Z00375123112. Refer to QAP-042 for flame straightening work instruction.

Note- Heat may be applied as an aide to the Straightening process, the following is provided for Guidance:

- Line Heat is employed to repair a bend in a plate about its weak axis.
- Line heat consists of a single straight pass of the torch.
- Line heat is applied to the underside of a plate element subjected to bending
- Only one heat cycle is allowed.
- The maximum temperature of material is 500 Deg C (932 Deg F).
- The use of heat sticks or equivalent method of determining temperature during straightening is required.
- Oxy-acetylene torch to be set to a neutral flame.
- Only cooling with still air is allowed. Forced cooling is not allowed.

4.4 Miscellaneous Damage

Figure 8: Damage to the corner of the frame.

1. During receiving inspection, base metal damage was found on the longitudinal beam corner. Also, the same damage was noted in the ACFM report.

2. The damage corner needs to be smooth ground out with the appropriate tool to erase any sharp edge.

4.5 PT US00102 Repair Bill of Material

Table 3: PT 00102 Repair Bill of Material.

Part No.	Description	Quantity
A2V00397269122	ROTATION STOP	2

5. Post Repair Non-Destructive Test (NDT)

- After all repairs are completed, perform ACFM test to check all new welds.

6. CWI Weld Inspection

- After all repairs are completed, an AWS certified weld inspector with current certificate is required to inspect new welds.

7. Re-measure PT Frame with Faro Arm

- After all repairs are completed, measure the PT frame with Faro arm to verify the repair work.

8. Painting

- After repairs and NDT are completed and found to be satisfactory, paint affected areas using ENS-333 most current rev for guidance.

9. Document Review

- QA review documentation for completeness and verify rework is complete.

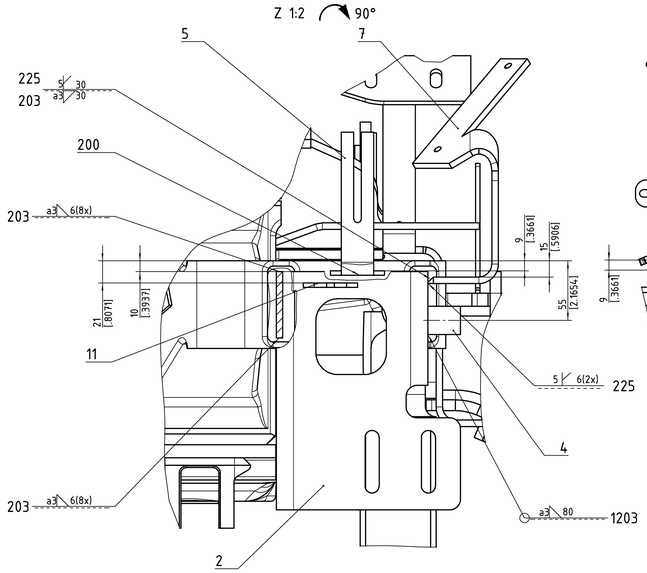
Verification Sign-off Sheet

NOTE: Separate sign-off sheet must be provided for each part being reworked using this procedure.

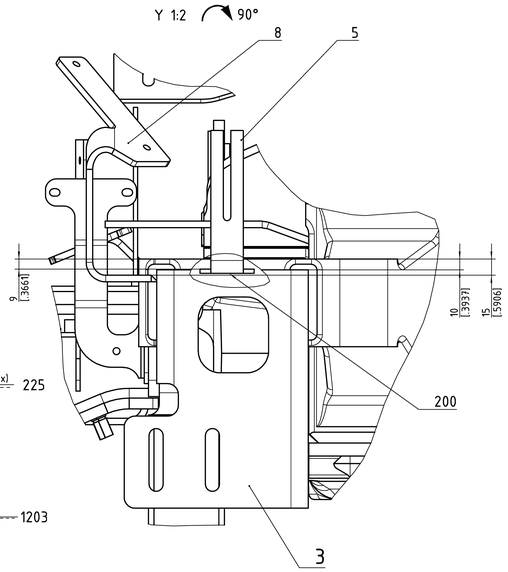
Serial Number: US00102

Step:	Description:	Signature:	Date:	Note/Comments:
4.1	Rework of PT Head Beam Console Bracket			
4.2	Rework of Bolster Rotation Stops			
4.3	Rework of Bolster Lateral Buffer Bracket			
4.4	Miscellaneous damage			
5	Post Repair NDT	QA:		
6	CWI Weld Inspection	QA:		
7	Faro Measurement	QA:		
8	Painting	Prod:		
9	Document Review	QA:		
(Use space below if more room is needed for comments)				

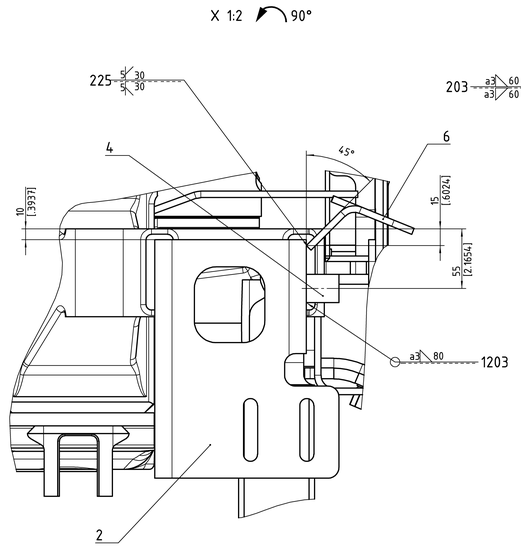
Z 1:2 90°



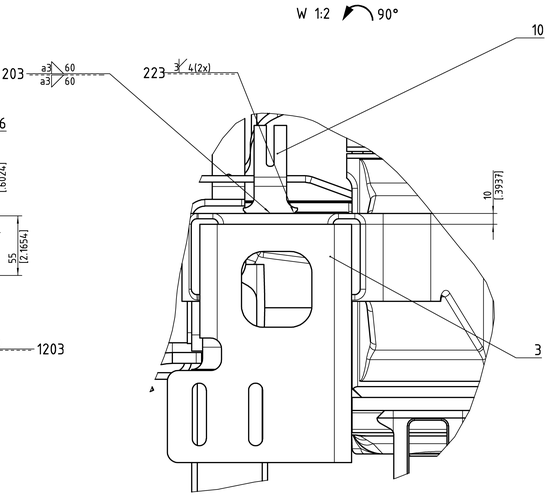
Y 1:2 90°



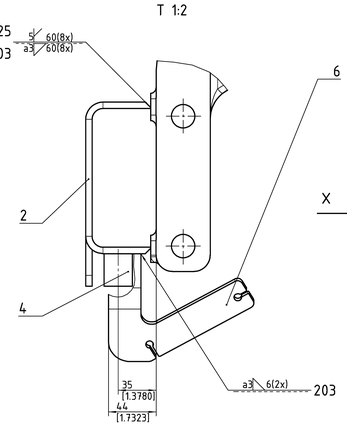
X 1:2 90°

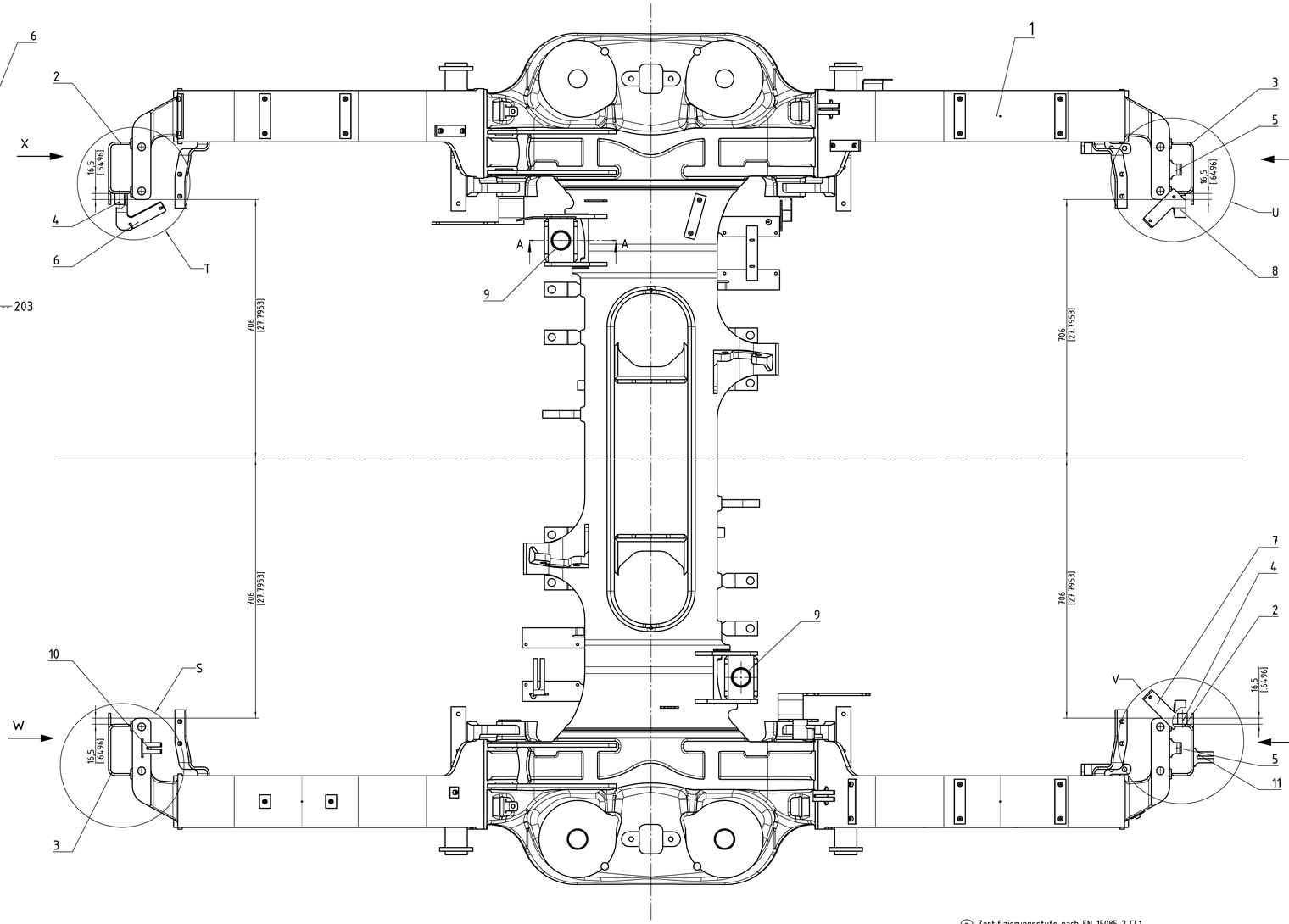


W 1:2 90°

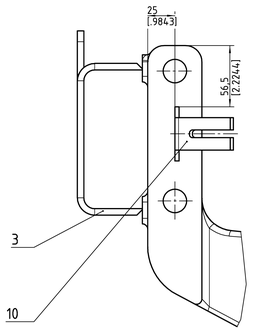


T 1:2

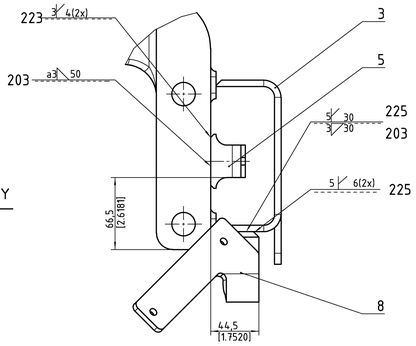




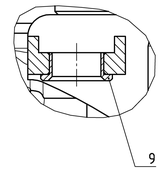
S 1:2



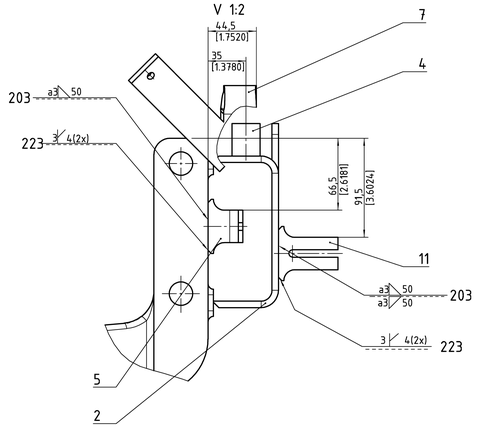
U 1:2



A-A 1:2



V 1:2



(B) Schweissnahtgueteklassen nach EN 15085-3
allgemein: CP C2
Anforderungen abweichend von CP C2
sind an der Schweissnaht angegeben.

Schweiss - Symbole nach ISO 2553 - System A

HY, HV und HU - Naehte an T - Stoessen sind
entsprechend EN ISO 5817 und
zugehoeriger Arbeitsanweisung auszufuehren.

Weldseam quality class acc. to EN 15085-3
generally: CP C2
Requirements notwithstanding to CP C2
are shown by the weld symbol.

Weld-symbols according to ISO 2553 - system A

Specification of HY, HV and HU - weld seams on
T - joints acc. to EN ISO 5817 and
related work instruction document.

(B) Zertifizierungsstufe nach EN 15085-2 CL1
Certification level according to EN 15085-2 CL1

Achtung:
Die Arbeitspapiere und/oder technischen
Spezifikationen sind zu beachten!

Attention:
Refer to additional manufacturing
instructions and/or technical specifications!

Inspected in terms of bonding
Inspect./Date: /
Rev.Drawing:
Inspected in terms of welding
Inspect./Date:KOGLER_FRA /2018-07-20
Rev. Drawing: B

Part no. A2V00001440995
Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

A	S00000106460	-0905	GOT
B	S00000143448	-1807	GOT

ISO 13920-BF
ISO 1101
955.000KG | A0
MTB008
FS_RE802

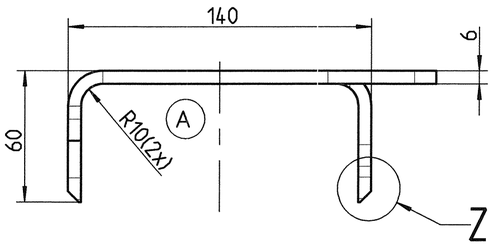
Index	Revision no.	Date	Name
1:5	Prepared	2018-07-19	TRINKAU FR
	Checked	2018-07-20	PAYR KAR
	Approved	2018-07-20	GOTTSCH_MA

Motor bogie frame
complete
Triebdrehgestellrahmen
vollstaendig

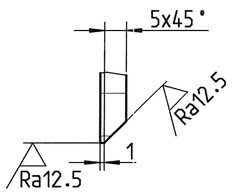
SIEMENS

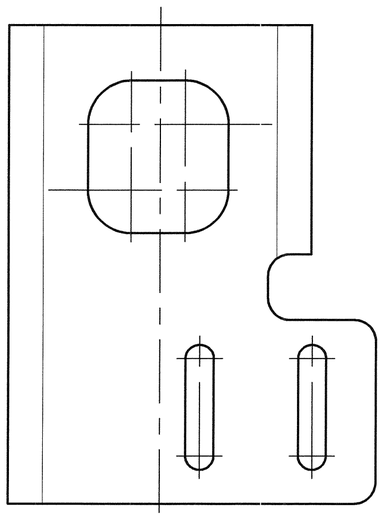
Date	Name
EN/DE	mm

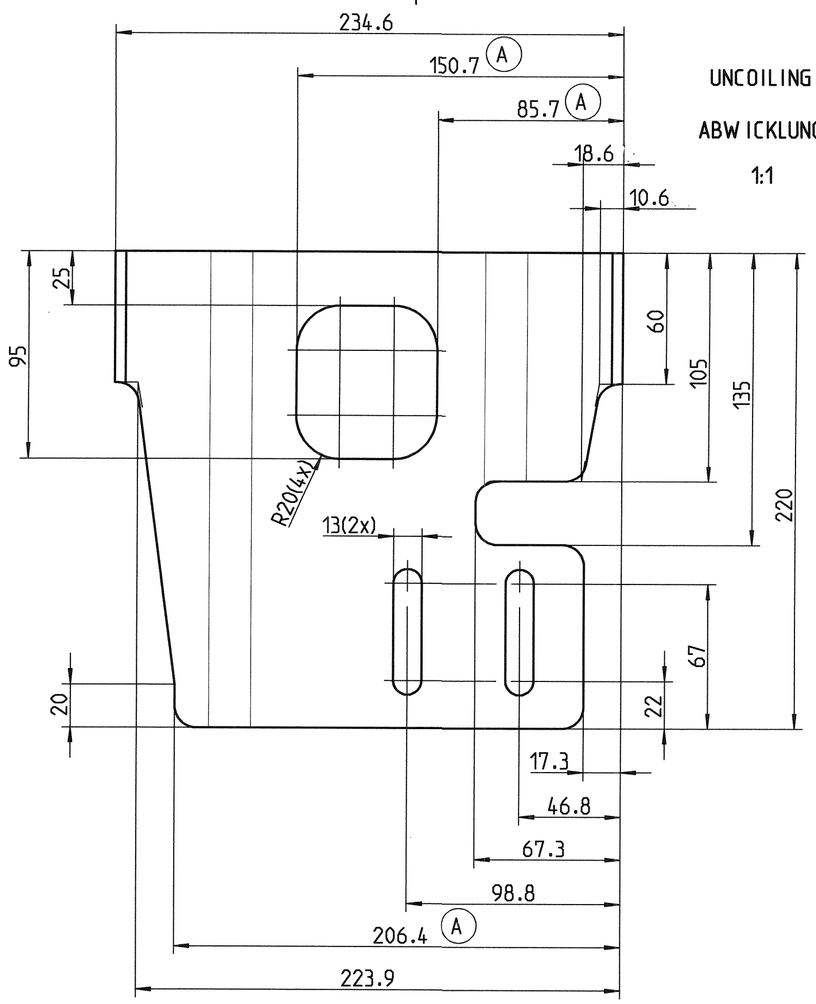
A6Z00001063778 | B | 01/01



Z 1:1







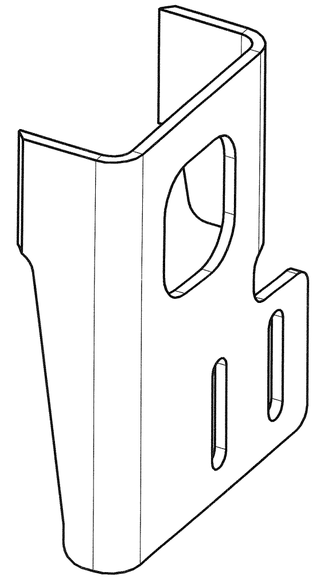
UNCOILING

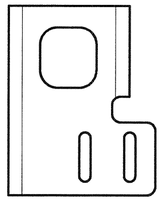
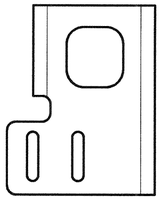
ABWICKLUNG

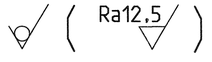
1:1

TRUE LENGTH THEORETICALLY ACC. TO DIN6935

GESTECKTE LAENGE THEORETISCH NACH DIN6935



W.G. as drawn	97245359	SP.G opposite as drawn	97245361
 1:5		 1:5	



Schnittkantenqualitaet fuer
Thermisches Schneiden-Laser nach DIN 2310-22K

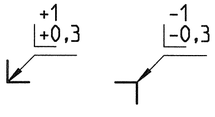
Quality of cut edges for
laser beam cutting according to DIN 2310-22K

Schnittkantenqualitaet fuer
Autogenes Brennschneiden ISO 9013-22A

Quality of cut edges for
autogeneous cutting according to ISO 9013-22A

unbemasste Werkstueckkanten
nach DIN ISO 13715

unmeasured edges of working parts
according to DIN ISO 13715.



ALLE UNBEMASSTEN RADIEN R=10

RADII WITHOUT DIMENSIONS R=10

DRAWING SHALL NOT BE REVISED OUTSIDE CAD SYSTEM

Application:

Edition
Date

General Tolerances
ISO 2768-mK
ISO 13920-BF
ISO 1101

Surface
ISO 1302

Scale: 1:2 weight: 1.810 kg

EN10029
BL 6X220X234 S235J2G3C

Issue	Revision	Date	Name
A	625204	2002-10-03	REU

	Date	Name
Prep.	2002-10-03	reumuel
Check.	2002-10-03	gottsch
Std-Ch	2002-10-03	sudy

Konsole Console

97245369

Based on:

Repl. for:

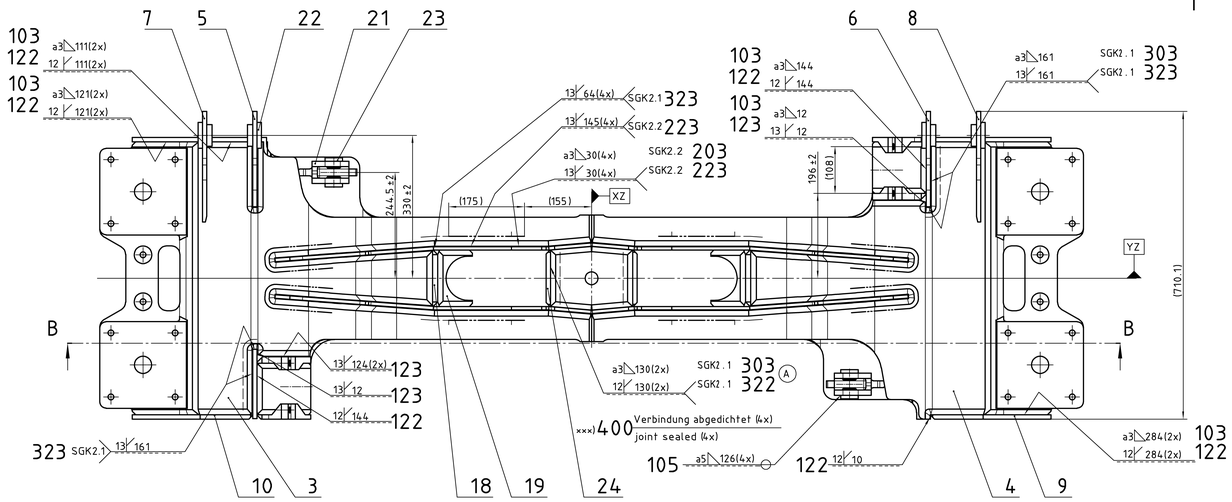
repl. by:

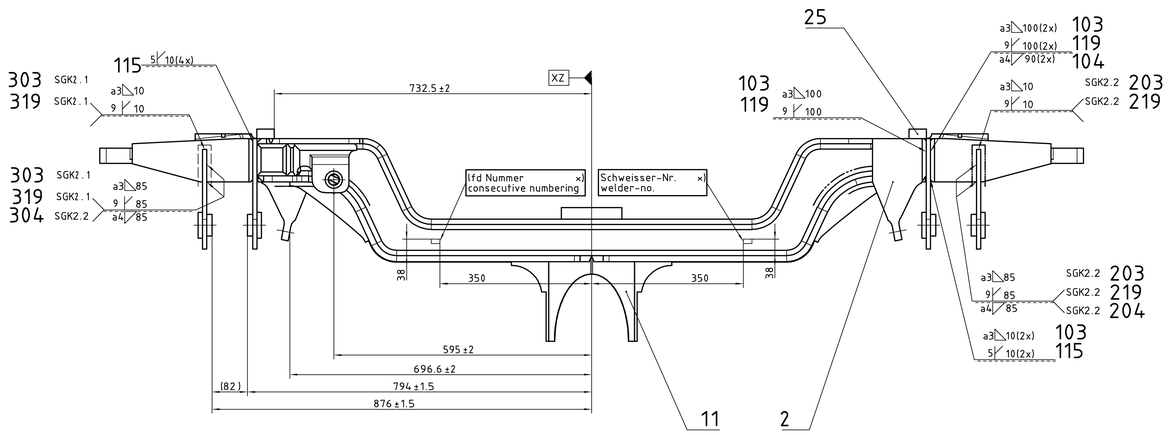
SIEMENS
Siemens SGP Verkehrstechnik

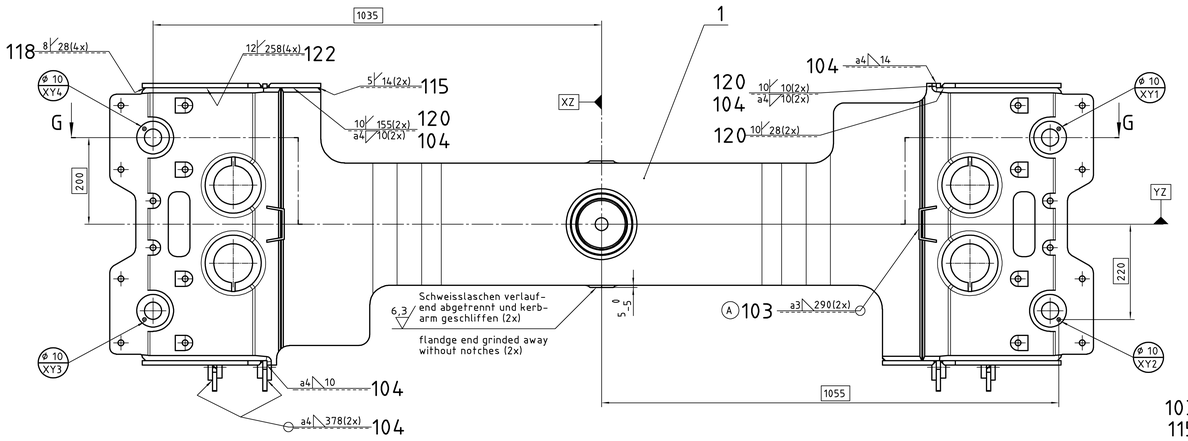
G04_75100966

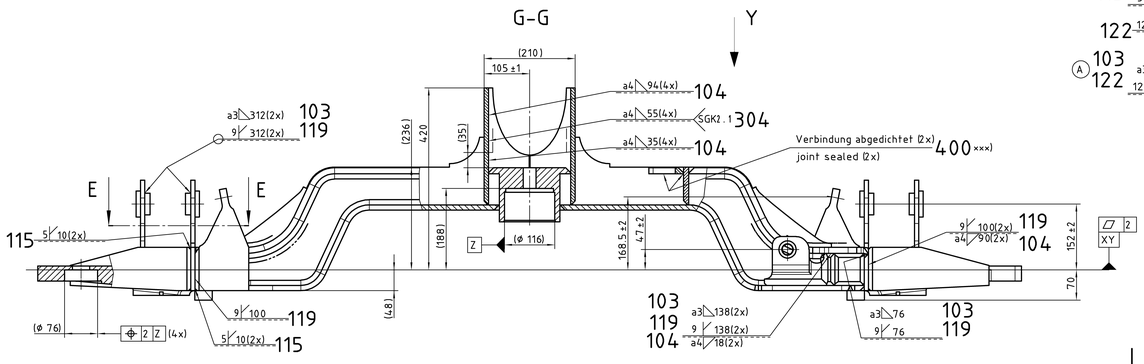
CAD

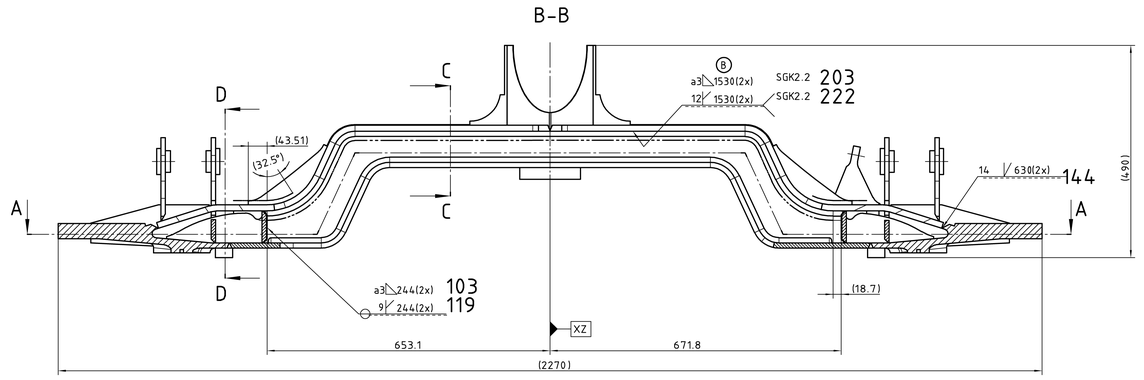
Blatt 1
1 Bl.

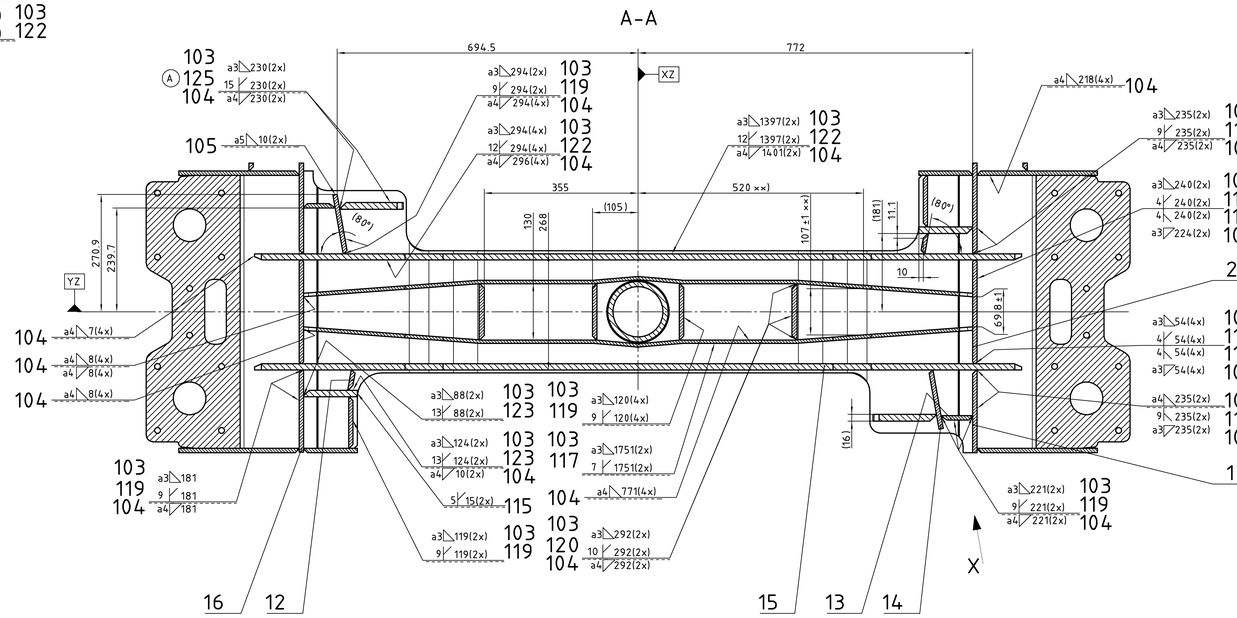


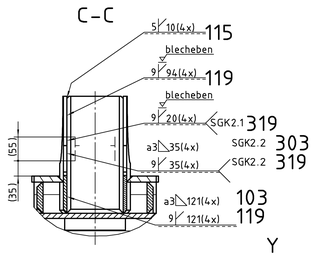


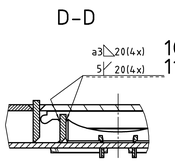


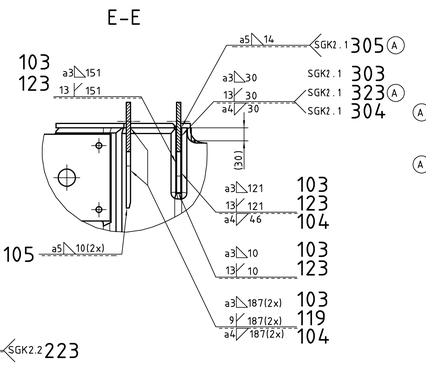


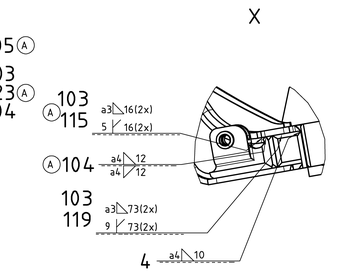


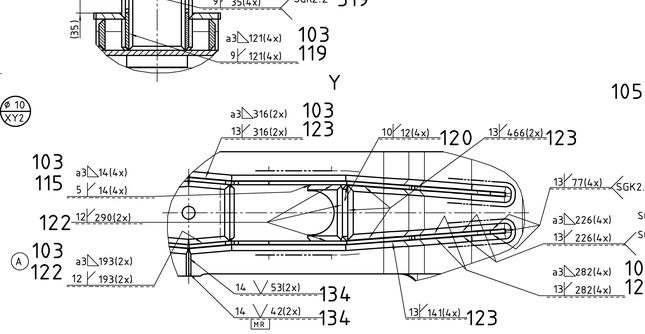


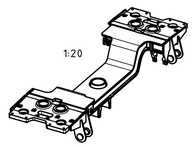












×) Nummer mit Schlagzahlen einschlagen (Schrift DIN 1451 – 1 C 10)

×) numbering beaten in with steel stamping numerals (letters DIN 1451 –1 C 10)

××) Kontrollmaß

××) checking dimension

×××) Pos. 400 wird auf rost- und fettfreier Flaeche aufgetragen

×××) Pos. 400 is spreaded on surface, that are free of grease and rustless

——— ... SGK 2.1
——— ... SGK 2.2

Bauteilklassifizierung nach DIN 6700 – 2 C1
Classification according to DIN6700 – 2 C1

Schweissnahtgueteklassen nach DIN 6700 ff
allgemein: SGK 2.3
Anforderungen nach SGK2.2 oder SGK2.1 sind an der Schweissnaht angegeben.

Schweiss – Symbole nach EN 22553

Weldseam quality class acc. to DIN 6700 et seqq. generally: SGK 2.3
Requirements for SGK 2.1 or SGK 2.2 are shown by th weld symbol.

Weld-symbols according to EN 22553

Part no. A2V00397259000 | Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

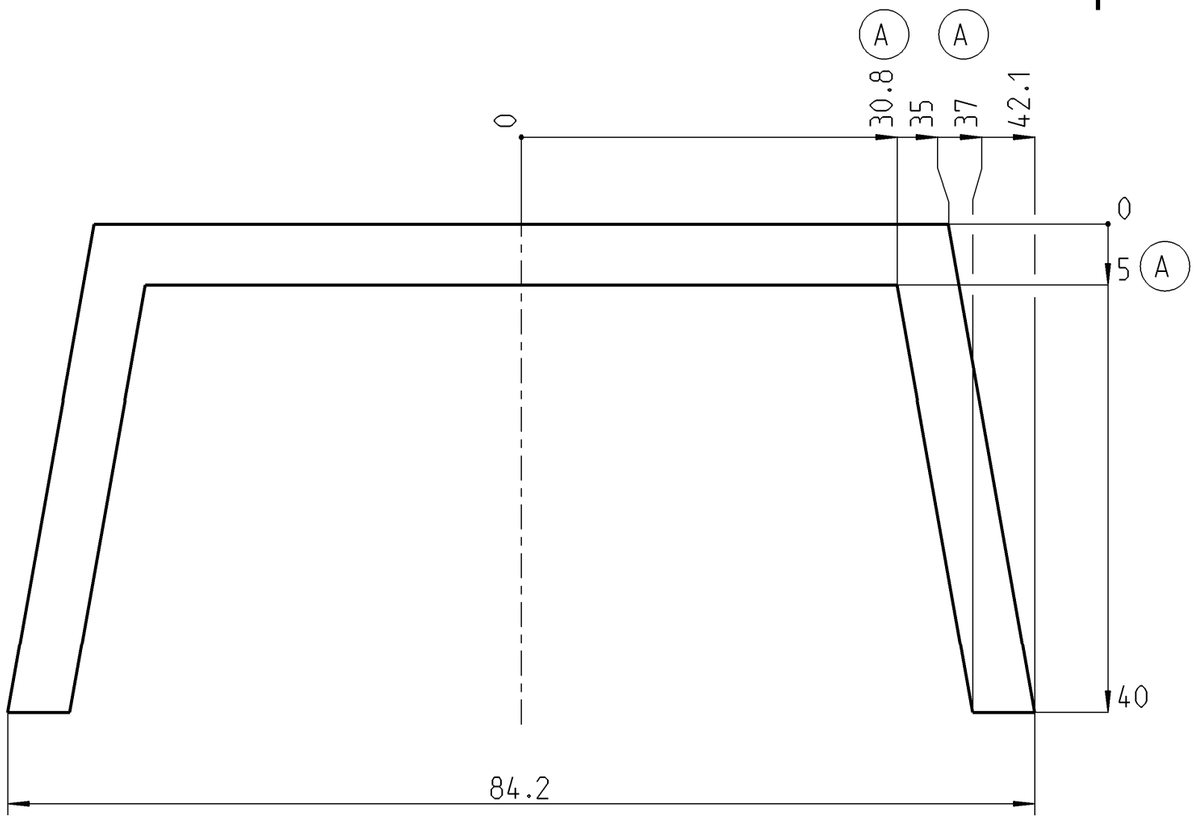
A	K333-637889	-0402	BIRJ
B	5900000232558	-1306	GOT

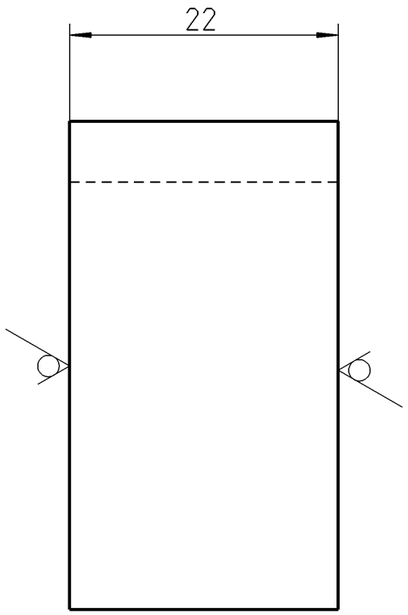
ISO 2768-mk | 306.200 KG | A0
ISO 13920-BF | 22X01(10,3X.N)
ISO 1101 | MTB | TS_R1820

Index	Revision no	Date	Name
1:5	Prepared	2013-06-18	TRINKAU FR
	Checked	2013-06-18	SUMNITS_MI
	Approved	2013-06-19	GOTTSCH_MA
	Date		Name
	EN/DE		

Bogie bolster,shell
Wiege,Rohbau

SIEMENS | A6Z00375123836 | B | 01/01





Schnittkantenqualitaet fuer
Autogenes Brennschneiden

Quality of cut edges for
autogeneous cutting according to

ISO 9013-332

Unbemasste Werkstueckkanten
nach DIN ISO 13715.

Unmeasured edges of working parts
according to DIN ISO 13715.

+0,5
+0,3

-0,5
-0,3

Ra12,5 ( )

DRAWING SHALL NOT BE REVISED OUTSIDE CAD SYSTEM

Application:
AVANTO/S70

General Tolerances
ISO 2768-mK
ISO 13920-BF
ISO 1101

Surface
ISO 1302

Edition
Date

Scale: 2:1

weight: 0.120 kg

EN 10029
Bl 22x40x84.2 S355J2G3

Issue	Revision	Date	Name
A	637635	2004-02-10	bre

	Date	Name
Prep.	2003-10-28	HOI
Check.	2003-10-28	SCHOBEG
Std-Ch	2003-10-28	PISCHLER

AUSDREHANSCHLAG ROTATION STOP

97269122

SIEMENS
Siemens SGP Verkehrstechnik

Based on:

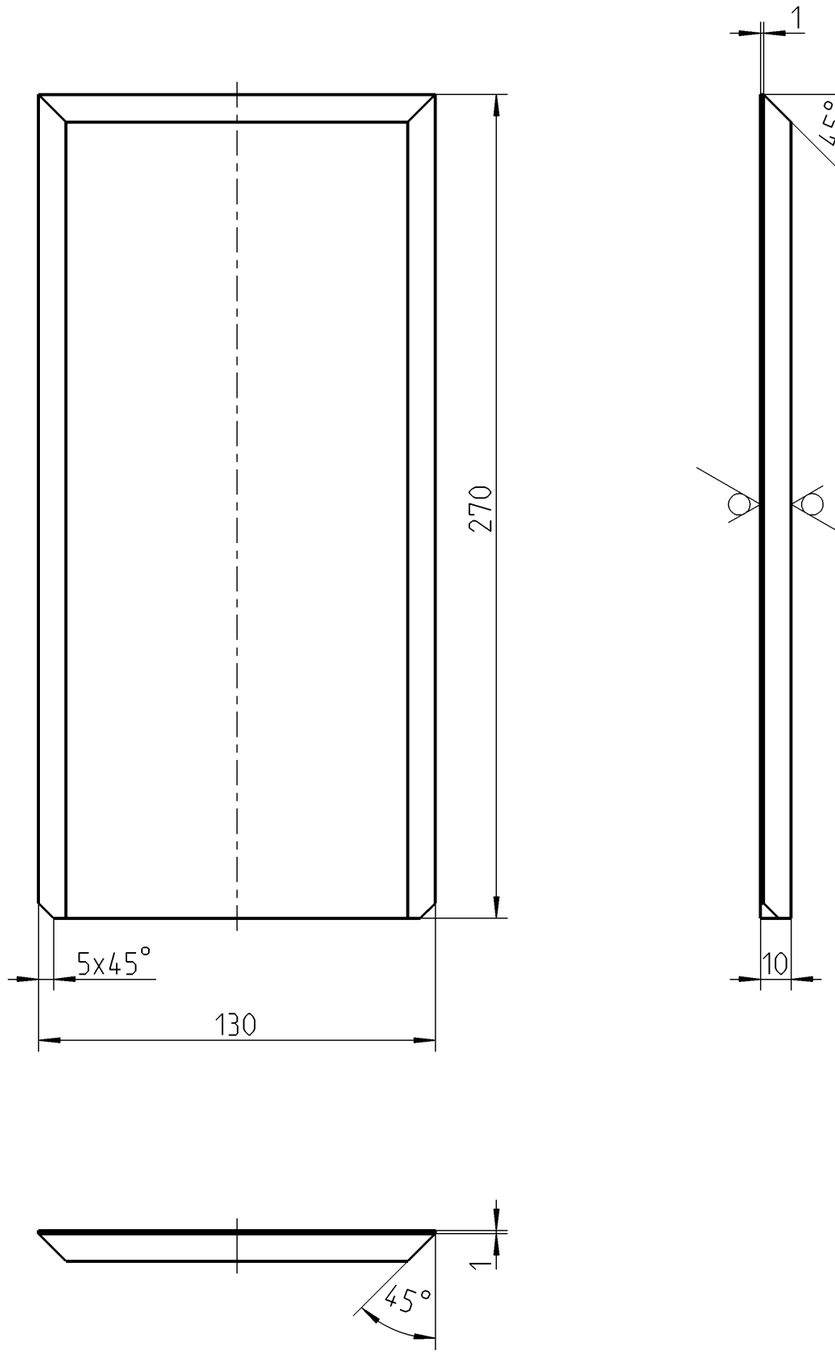
Repl. for:

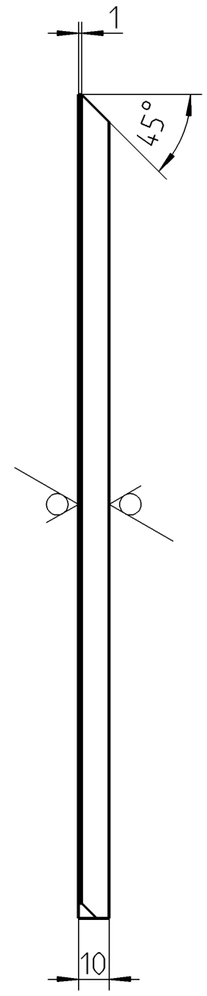
repl. by:

G04_75123834

CAD

Blatt 1
1 Bl.





Schnittkantenqualitaet fuer
thermisches Schneiden-Laser nach

Quality of cut edges for
laser beam cutting according to

ISO 9013-221

Unbemasste Werkstueckkanten
nach DIN ISO 13715.

Unmeasured edges of working parts
according to DIN ISO 13715.

+0,5
+0,3

-0,5
-0,3

Ra12,5

DRAWING SHALL NOT BE REVISED OUTSIDE CAD SYSTEM

Application:

Avanto/S70

Edition															
Date															

General Tolerances
ISO 2768-mK
ISO 13920-BF
ISO 1101

Surface
ISO 1302

Scale: 1:2

weight: 2.540 kg

EN 10029
Bl 10x130x270

S355J2G1W C+N

	Date	Name
Prep.	2003-10-27	HOI
Check.	2003-10-27	SCHOBEG
Std-Ch	2003-10-27	PISCHLER

QUERPUFFER-
ANSCHLAGPLATTE

LATERAL BUMPER
STOP

97268242

SIEMENS
Siemens SGP Verkehrstechnik

G04_75123112

CAD

Blatt 1
1 Bl.

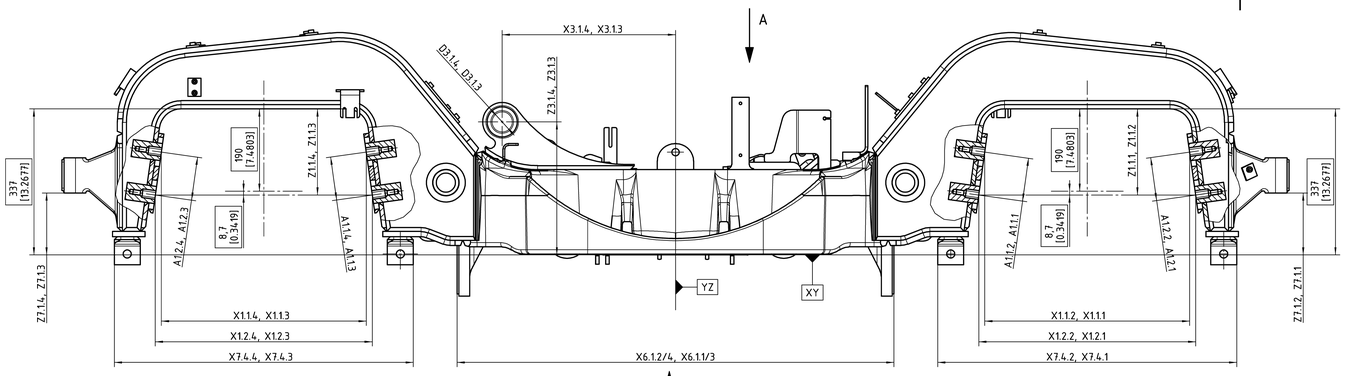
Issue	Revision	Date	Name

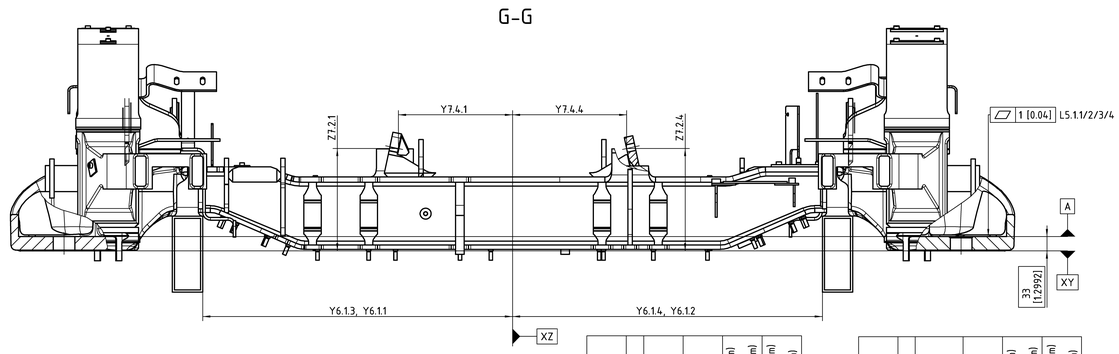
Based on:

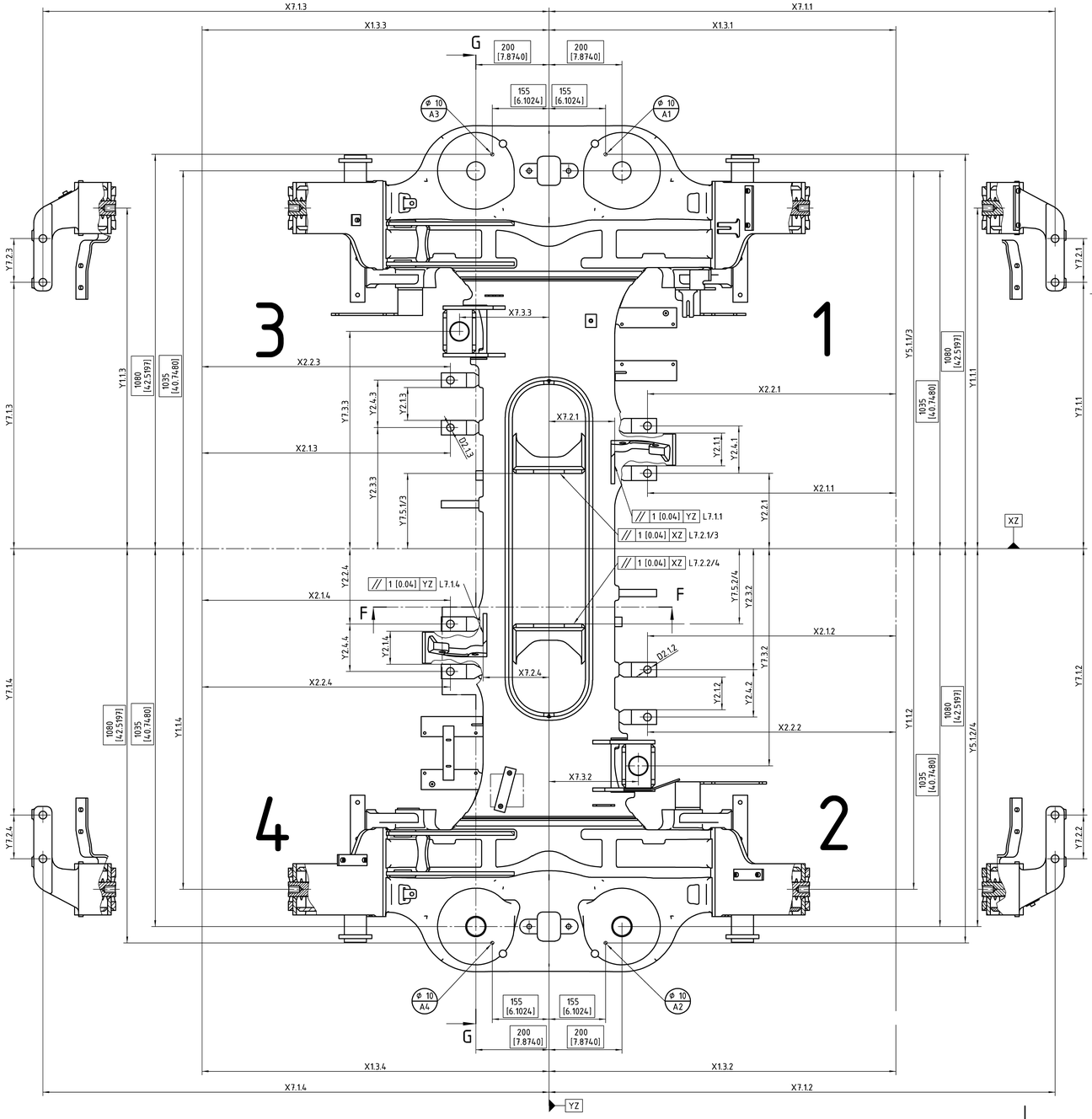
Repl. for:

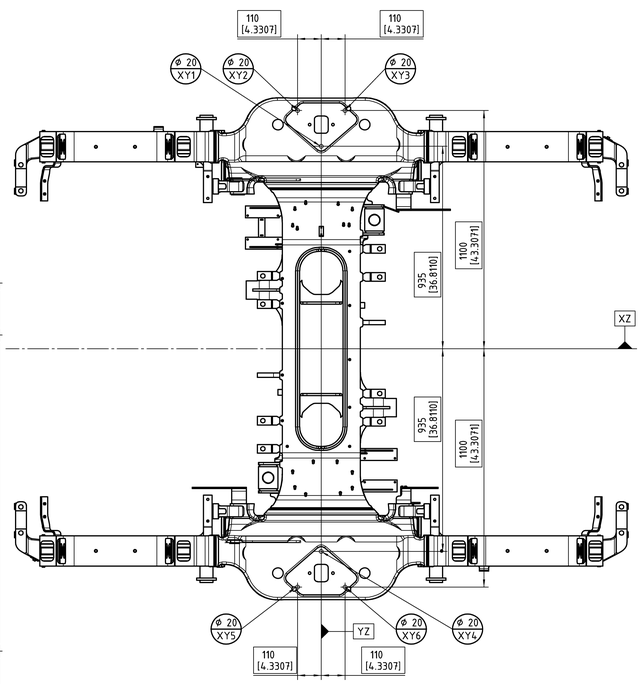
repl. by:

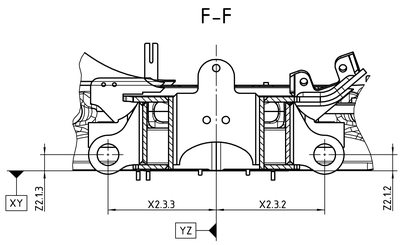
2003-10-27/A6J75123112_-_QPUFFERANSCHLAG: PROI_REVISION:d.PROI_VERSION:d/PROI_RELEASE:d / PART: A6J97268242_-_QPUFFERANSCHLAG: -.0/Verification

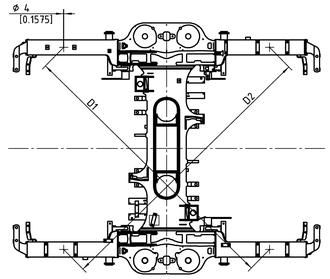












Baugruppe Assembly		Maßgruppe Dimension-Group	Nennmaß (mm) Nominal size (mm)	Obere Toleranz (mm) Upper tolerance (mm)	Untere Toleranz (mm) Lower tolerance (mm)
1	X	X1.1.1	472.7	0.5	0.5
		X1.1.2			
		X1.1.3			
		X1.1.4			
		X1.2.1	500.5	0.5	0.5
		X1.2.2			
		X1.2.3			
		X1.2.4			
		X1.3.1	950	0.75	1
		X1.3.2			
		X1.3.3			
		X1.3.4			
		X1.3.1 - X1.3.2	</= 1		
		X1.3.3 - X1.3.4	</= 1		
	Y	Y1.1.1	933	0.5	0.5
		Y1.1.2			
		Y1.1.3			
		Y1.1.4			
	Z	Z1.1.1	199	2	2
		Z1.1.2			
		Z1.1.3			
		Z1.1.4			
	A	A1.1.1	100	0.02	0.02
		A1.1.2			
		A1.1.3			
		A1.1.4			
		A1.2.1			
		A1.2.2			
		A1.2.3			
		A1.2.4			
2	X	X2.1.1	680	0.5	0.5
		X2.1.2			
		X2.1.3			
		X2.1.4			
		X2.2.1			
		X2.2.2			
		X2.2.3			
		X2.2.4			
		X2.3.2	250	0.5	0.5
		X2.3.3			
	Y	Y2.1.1	90	2	0
		Y2.1.2			
		Y2.1.3			
		Y2.1.4			
		Y2.2.1	206.5	0.3	0.3
		Y2.2.4			
		Y2.3.2	331.5	0.3	0.3
		Y2.3.3			
		Y2.4.1	130	0.2	0.2
		Y2.4.2			
		Y2.4.3			
		Y2.4.4			
	Z	Z2.1.2	37	0.5	0.5
		Z2.1.3			
	D	D2.1.2	Ø 21	0.02	0
		D2.1.3			
3	X	X3.1.3	400	0.2	0.2
		X3.1.4			
	Z	Z3.1.3	307	0.5	0.5
		Z3.1.4			
	D	D3.1.3	Ø 32	0.16	0
		D3.1.4			
5	Y	Y5.1.1/3	1035	1	1
		Y5.1.2/4			

Baugruppe Assembly		Maßgruppe Dimension-Group	Nennmaß (mm) Nominal size (mm)	Obere Toleranz (mm) Upper tolerance (mm)	Untere Toleranz (mm) Lower tolerance (mm)
6	X	X6.1.1/3	1008	0	2
		X6.1.2/4			
	Y	Y6.1.1	715	1.5	1.5
		Y6.1.2			
		Y6.1.3			
		Y6.1.4			
7	X	X7.1.1	1386	0.5	0.5
		X7.1.2			
		X7.1.3			
		X7.1.4			
		X7.2.1	180	2	2
		X7.2.4			
		X7.3.2	245	2	2
		X7.3.3			
		X7.4.1	690	0	1
		X7.4.2			
		X7.4.3			
		X7.4.4			
	Y	Y7.1.1	729.5	0.5	0.5
		Y7.1.2			
		Y7.1.3			
		Y7.1.4			
		Y7.2.1	120	0.3	0.3
		Y7.2.2			
		Y7.2.3			
		Y7.2.4			
		Y7.3.2	595	2	2
		Y7.3.3			
		Y7.4.1	263.4	2.5	2.5
		Y7.4.4			
		Y7.5.1/3	206	1.5	0
		Y7.5.2/4			
	Z	Z7.1.1	143	1	1
		Z7.1.2			
		Z7.1.3			
		Z7.1.4			
		Z7.2.1	236.4	2.5	2.5
		Z7.2.4			
	D	D1	2663	0.7	0.7
		D2			

Form und Lagetoleranzen

Shape and positional tolerances

Baugruppe Assembly	Maßgruppe Dimension-Group	Toleranz Tolerance
5	L5.1.1/2/3/4	1
7	L7.1.1	1
	L7.1.4	
	L7.2.1/3	1
	L7.2.2/4	

Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe entspricht der Baugruppe)

legend of component allocation
(first number of dimension group equivalent to component)

1.. Radsatzführung
2.. Antrieb
3.. Längsmitnahme
4.. Bremse
5.. Sekundärfeder
6.. Schienenbremse
7.. Anbauteile
8.. Messpunkte
9.. Hauptabmessungen
10.. Sonstige

1.. Wheelset steering
2.. Traktion unit
3.. Draw bar
4.. Brake
5.. Secondary suspension
6.. Track brake
7.. Assembly components
8.. Measuring points
9.. Main dimensions
10.. Miscellaneous

Maßtabellen in Inch siehe Blatt 3

Measure tables in inch see sheet 3

Achtung:
Die Arbeitspapiere und/oder technischen Spezifikationen sind einzuhalten!

Attention:
Additional manufacturing instructions and/or technical specifications have to be adhered!

Part no. A2V00375122298 Siemens no.

POMLink DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

Index	Revision no.	Date	Name
J	5000006899952	-2312	GOT
C	5000000397989	-0705	GOT
D	5000000106460	-0905	GOT
E	5000001332459	-1002	MOTH
F	5000002126190	-1306	GOT
G	5000004718830	-1810	GOT
H	5000004785529	-1902	GOT

ISO 1101 ISO 2768:1989-mk

BX5.000X0 A0 3820X2317.3X6N.L

MTB TS_REB02

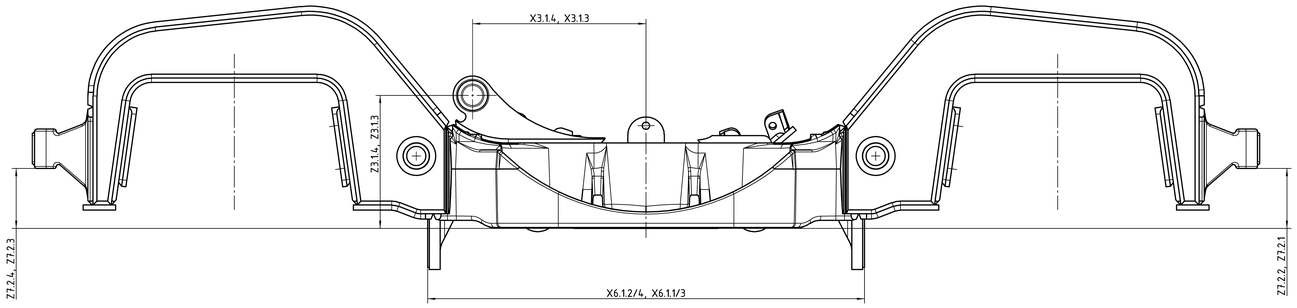
1:5	Prepared	2023-12-05	STEIRER HA
	Checked	2023-12-05	BECK JOL
	Approved	2023-12-07	GOTTSCH_MA

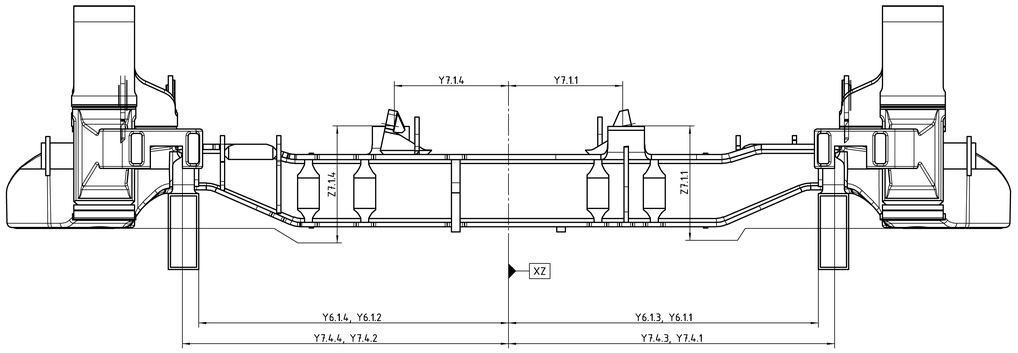
SIEMENS

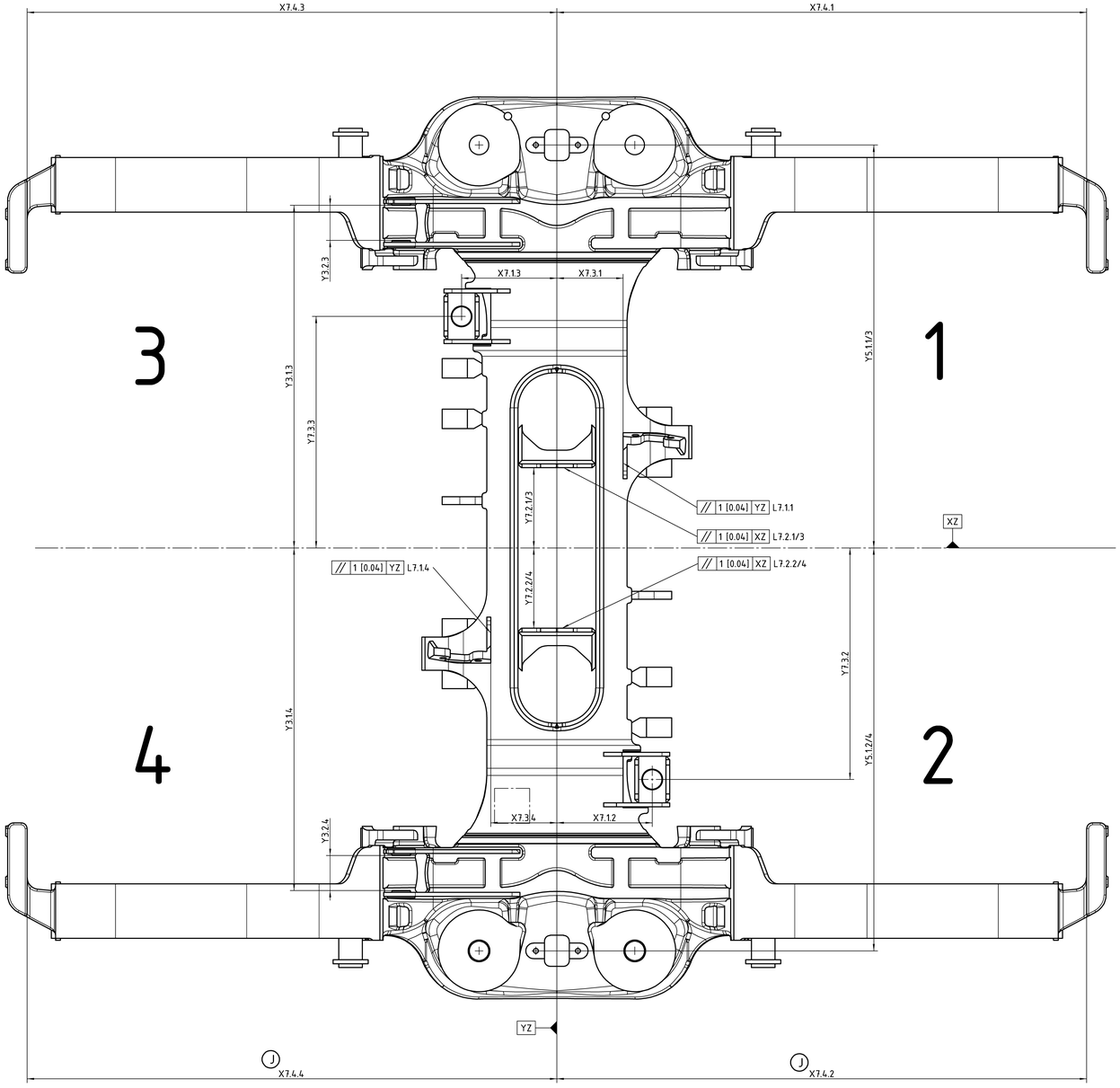
Motor bogie frame, measuring sheet
TDG- Rahmen, Messplan

Date	Name
EN/DE	

A6Z00375122298 J 01/03







Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe entspricht der Baugruppe)

legend of component allocation
(first number of dimension group equivalent to component)

1. Radsatzführung
2. Antrieb
3. Längsmitnahme
4. Bremse
5. Sekundärfeder
6. Schienenbremse
7. Anbauteile
8. Messpunkte
9. Hauptabmessungen
10. Sonstige

1. Wheelset steering
2. Traktion unit
3. Draw bar
4. Brake
5. Secondary suspension
6. Track brake
7. Assembly components
8. Measuring points
9. Main dimensions
10. Miscellaneous

Baugruppe Assembly		Maßgruppe Dimension-Group	Nennmaß (mm) Nominal size (mm)	Obere Toleranz (mm) Upper Tolerance (mm)	Untere Toleranz (mm) Lower Tolerace (mm)
3	X	X3.1.3	400	1.5	1.5
		X3.1.4			
	Y	Y3.1.3	880	1	1
		Y3.1.4			
		Y3.2.3	90	0.5	0
		Y3.2.4			
	Z	Z3.1.3	307	1.5	1.5
		Z3.1.4			
5	Y	Y5.1.1/3	1035	1	1
		Y5.1.2/4			
6	X	X6.1.1/3	1008	0	2
		X6.1.2/4			
	Y	Y6.1.1	715	1.5	1.5
		Y6.1.2			
		Y6.1.3			
		Y6.1.4			
7	X	X7.1.2	245	2	2
		X7.1.3			
		X7.3.1	170	2	2
		X7.3.4			
		X7.4.1	1361	1.5	1.5
		X7.4.2			
		X7.4.3			
		X7.4.4			
	Y	Y7.1.1	263.4	2	2
		Y7.1.4			
		Y7.2.1/3	206	1.5	0
		Y7.2.2/4			
		Y7.3.2	595	2	2
		Y7.3.3			
		Y7.4.1	752.5	1.5	1.5
		Y7.4.2			
		Y7.4.3			
		Y7.4.4			
	Z	Z7.1.1	236.4	1.5	1.5
		Z7.1.4			
		Z7.2.1	138.2	1.5	1.5
		Z7.2.2			
		Z7.2.3			
		Z7.2.4			

Form und Lagetoleranzen

Shape and positional tolerances

Baugruppe Assembly	Maßgruppe Dimension-Group	Toleranz Tolerance
7	L7.1.1	1
	L7.1.4	
	L7.2.1/3	1
	L7.2.2/4	

Maßtabellen in Inch siehe Blatt 3

Measure tables in inch see sheet 3

Messplan Rahmenrohbau

Measuring sheet, bogie frame shell

Part no. A2V00375122298 | Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

BLS.000.KS | A0

ISO 1101 ISO 2768:1989-mk

Index	Revision no.	Date	Name
J	5000006899952	-2312	GOT
C	5000003379189	-0705	GOT
O	5000001106460	-0905	GOT
E	5000001332459	-1002	HOTH
F	5000002126730	-1306	GOT
G	5000004178830	-1810	GOT
H	5000004185529	-1902	GOT

1:5	Prepared	2023-12-05	STEIRER_HA
	Checked	2023-12-05	BECK_BOL
	Approved	2023-12-03	GOTTSCH_MA
	Date	Name	
	EN/DE		

Motor bogie frame, measuring sheet
TDG- Rahmen, Messplan

SIEMENS

A6Z00375122298 | J | 02/03

Maßtabellen in Inch fuer TDG-Rahmen mech.bearb.(Bl.1)

Measure tables in inch for MB-frame machined (sheet 1)

Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe
entspricht der Baugruppe)

legend of component allocation
(first number of dimension group
equivalent to component)

1.. Radsatzführung
2.. Antrieb
3.. Längsmitnahme
4.. Bremse
5.. Sekundärfeder
6.. Schienenbremse
7.. Anbauteile
8.. Messpunkte
9.. Hauptabmessungen
10.. Sonstige

1.. Wheelset steering
2.. Traktion unit
3.. Draw bar
4.. Brake
5.. Secondary suspension
6.. Track brake
7.. Assembly components
8.. Measuring points
9.. Main dimensions
10.. Miscellaneous

Assembly		Dimension-Group	Nominal size (inch)	Upper tolerance (inch)	Lower tolerance (inch)
1	X	X1.1.1	18.6102	0.0197	0.0197
		X1.1.2			
		X1.1.3			
		X1.1.4			
		X1.2.1	19.7047	0.0197	0.0197
		X1.2.2			
		X1.2.3			
		X1.2.4			
		X1.3.1	37.4016	0.0295	0.0394
		X1.3.2			
		X1.3.3			
		X1.3.4			
		X1.3.1 - X1.3.2	</= 0.0394		
		X1.3.3 - X1.3.4	</= 0.0394		
	Y	Y1.1.1	36.7323	0.0197	0.0197
		Y1.1.2			
		Y1.1.3			
		Y1.1.4			
	Z	Z1.1.1	7.8346	0.0787	0.787
		Z1.1.2			
		Z1.1.3			
		Z1.1.4			
	A	A1.1.1	3.9370	0.0008	0.0008
		A1.1.2			
		A1.1.3			
		A1.1.4			
		A1.2.1			
		A1.2.2			
		A1.2.3			
		A1.2.4			
2	X	X2.1.1	26.2717	0.0197	0.0197
		X2.1.2			
		X2.1.3			
		X2.1.4			
		X2.2.1			
		X2.2.2			
		X2.2.3			
		X2.2.4			
		X2.3.2	9.8425	0.0197	0.0197
		X2.3.3			
	Y	Y2.1.1	3.5433	0.0787	0
		Y2.1.2			
		Y2.1.3			
		Y2.1.4			
		Y2.2.1	8.1299	0.0118	0.0118
		Y2.2.4			
		Y2.3.2	13.0512	0.0118	0.0118
		Y2.3.3			
		Y2.4.1	5.1181	0.0079	0.0079
		Y2.4.2			
		Y2.4.3			
		Y2.4.4			
	Z	Z2.1.2	1.4567	0.0197	0.0197
		Z2.1.3			
	D	D2.1.2	⌀ 0.8268	0.0008	0
		D2.1.3			
3	X	X3.1.3	15.7480	0.0079	0.0079
		X3.1.4			
	Z	Z3.1.3	12.0866	0.0197	0.0197
		Z3.1.4			
	D	D3.1.3	⌀ 1.2598	0.0063	0
		D3.1.4			
5	Y	Y5.1.1/3	40.7480	0.0394	0.0394
		Y5.1.2/4			
6	X	X6.1.1/3	39.6850	0	0.0787
		X6.1.2/4			
	Y	Y6.1.1	28.1496	0.0591	0.0591
		Y6.1.2			
		Y6.1.3			
		Y6.1.4			
7	X	X7.1.1	54.5669	0.0197	0.0197
		X7.1.2			
		X7.1.3			
		X7.1.4			
		X7.2.1	7.0866	0.0787	0.0787
		X7.2.4			
		X7.3.2	9.6457	0.0787	0.0787
		X7.3.3			
		X7.4.1	27.1654	0	0.0394
		X7.4.2			
		X7.4.3			
		X7.4.4			
	Y	Y7.1.1	28.7205	0.0197	0.0197
		Y7.1.2			
		Y7.1.3			
		Y7.1.4			
		Y7.2.1	4.7244	0.0118	0.0118
		Y7.2.2			
		Y7.2.3			
		Y7.2.4			
		Y7.3.2	23.4252	0.0787	0.0787
		Y7.3.3			
		Y7.4.1	10.3701	0.0984	0.0984
		Y7.4.4			
		Y7.5.1/3	8.1102	0.0591	0
		Y7.5.2/4			
	Z	Z7.1.1	5.6299	0.0394	0.0394
		Z7.1.2			
		Z7.1.3			
		Z7.1.4			
		Z7.2.1	9.3071	0.0984	0.0984
		Z7.2.4			
	D	D1	104.8425	0.0276	0.0276
		D2			

Form und Lagetoleranzen

Shape and positional tolerances

Assembly	Dimension-Group	Tolerance
5	L5.1.1/2/3/4	0.0394
7	L7.1.1	0.0394
	L7.1.4	
	L7.2.1/3	0.0394
	L7.2.2/4	

Maßtabellen in Inch fuer TDG-Rahmen Rohbau (Bl.2)

Measure tables in inch for MB-frame shell (sheet 2)

Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe
entspricht der Baugruppe)

legend of component allocation
(first number of dimension group
equivalent to component)

1.. Radsatzführung
2.. Antrieb
3.. Längsmitnahme
4.. Bremse
5.. Sekundärfeder
6.. Schienenbremse
7.. Anbauteile
8.. Messpunkte
9.. Hauptabmessungen
10.. Sonstige

1.. Wheelset steering
2.. Traktion unit
3.. Draw bar
4.. Brake
5.. Secondary suspension
6.. Track brake
7.. Assembly components
8.. Measuring points
9.. Main dimensions
10.. Miscellaneous

Assembly		Dimension-Group	Nominal size (inch)	Upper tolerance (inch)	Lower tolerance (inch)
3	X	X3.1.3	15.7480	0.0591	0.0591
		X3.1.4			
	Y	Y3.1.3	34.6457	0.0394	0.0394
		Y3.1.4			
		Y3.2.3	3.5433	0.0197	0
		Y3.2.4			
	Z	Z3.1.3	12.0866	0.0591	0.0591
		Z3.1.4			
5	Y	Y5.1.1/3	40.7480	0.0394	0.0394
		Y5.1.2/4			
6	X	X6.1.1/3	39.6850	0	0.0787
		X6.1.2/4			
	Y	Y6.1.1	28.1596	0.0591	0.0591
		Y6.1.2			
		Y6.1.3			
		Y6.1.4			
7	X	X7.1.2	9.6457	0.0787	0.0787
		X7.1.3			
		X7.3.1	9.6929	0.0787	0.0787
		X7.3.4			
		X7.4.1	53.5827	0.0591	0.0591
		X7.4.2			
		X7.4.3			
		X7.4.4			
	Y	Y7.1.1	10.3701	0.0787	0.0787
		Y7.1.4			
		Y7.2.1/3	8.1102	0.0591	0
		Y7.2.2/4			
		Y7.3.2	23.4252	0.0787	0.0787
		Y7.3.3			
		Y7.4.1	29.6260	0.0591	0.0591
		Y7.4.2			
		Y7.4.3			
		Y7.4.4			
	Z	Z7.1.1	9.3071	0.0591	0.0591
		Z7.1.4			
		Z7.2.1	5.4409	0.0591	0.0591
		Z7.2.2			
		Z7.2.3			
		Z7.2.4			

Form und Lagetoleranzen

Shape and positional tolerances

Assembly	Dimension-Group	Tolerance
7	L7.1.1	0.0394
	L7.1.4	
	L7.2.1/3	0.0394
	L7.2.2/4	

Part no. A2V00375122298 — Siemens no.

PDMLink | DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

ISO 1101
ISO 2768:1989-mk

845.000 KG | A0

1832X2717,5X60E,L

MTB
TS_REB02

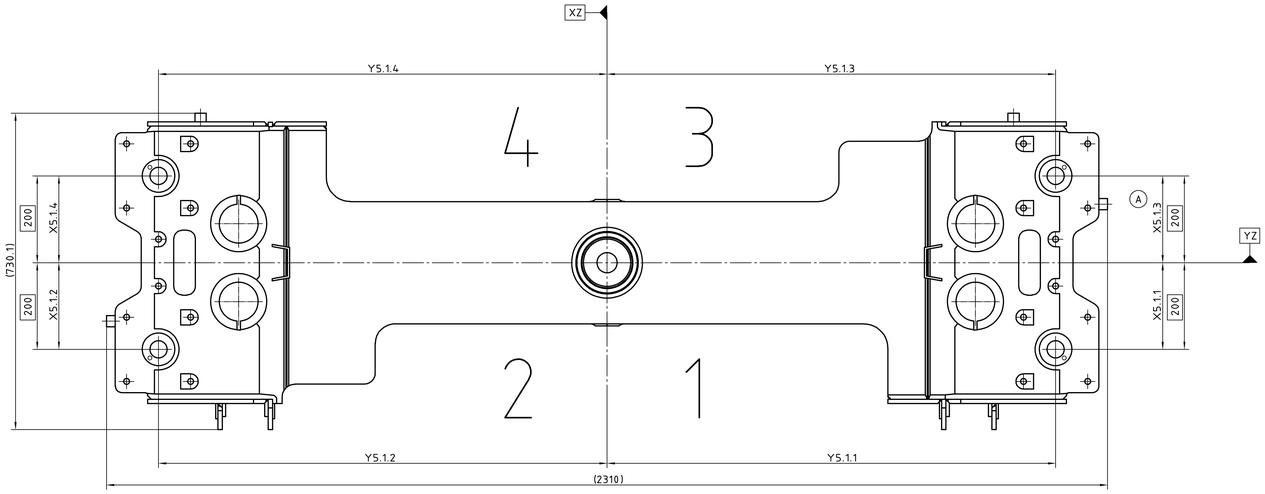
Index	Revision no.	Date	Name
J	5000006899952	-2312	GOT
C	5000000379989	-0705	GOT
D	5000001064460	-0905	GOT
E	5000001332459	-1002	MOTH
F	5000002276130	-1306	GOT
G	5000004739830	-1810	GOT
H	5000004985329	-1902	GOT

LS	Prepared	2023-12-05	STERER_HA
	Checked	2023-12-05	BECK_ROL
	Approved	2023-12-07	GOTTSCH_MA

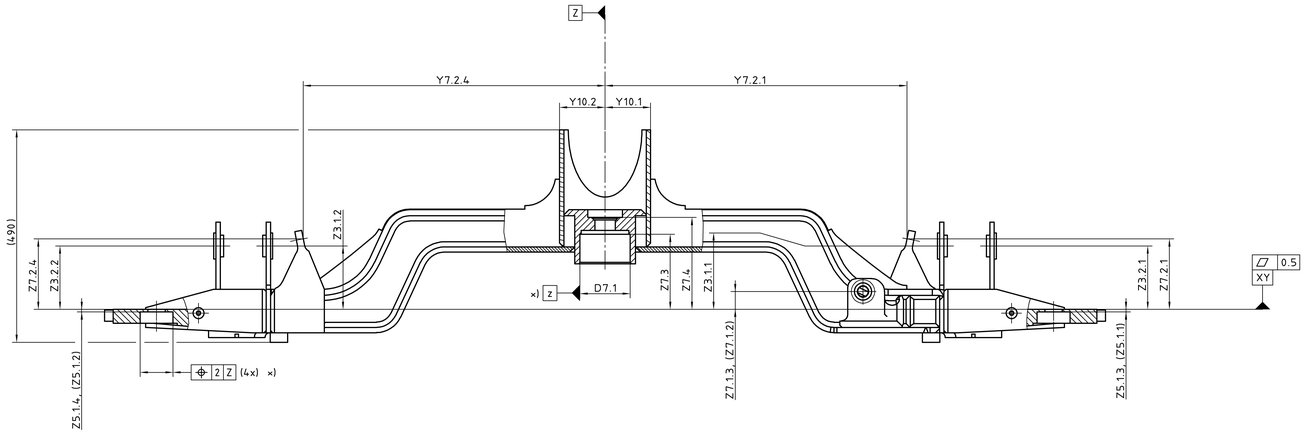
Motor bogie frame,
measuring sheet
TDG- Rahmen, Messplan

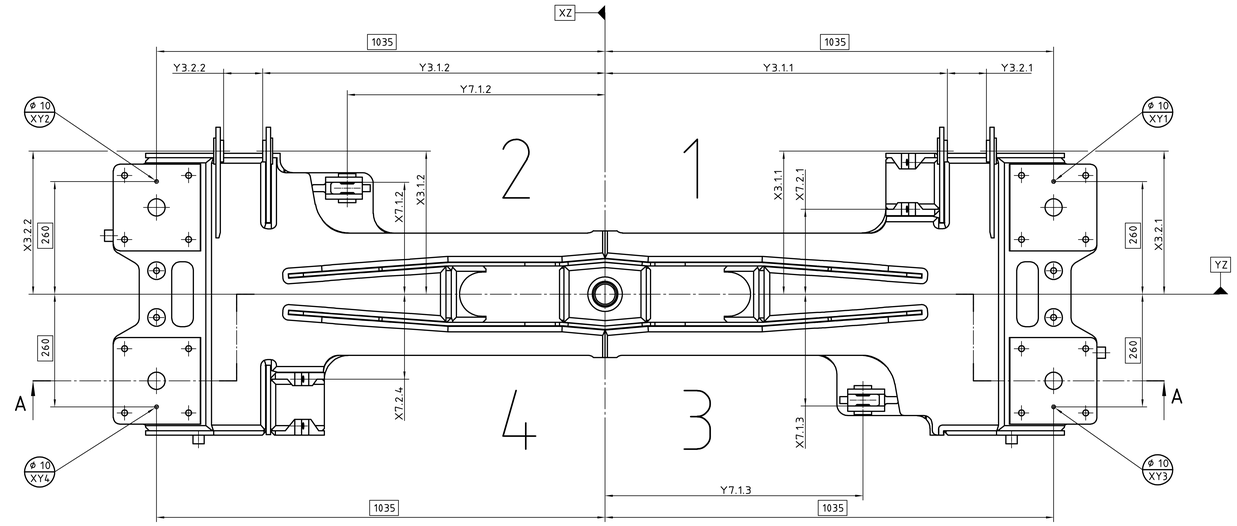
SIEMENS

A6Z00375122298 | J | 03/03

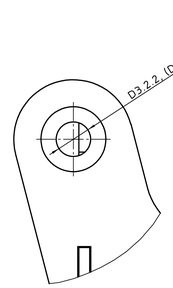


A-A





B 1:2



Baugruppe Assembly		Maßgruppe Dimension-Group	Nennmaß (mm) Nominal size (mm)	Obere Toleranz (mm) Upper tolerance (mm)	Untere Toleranz (mm) Lower tolerance (mm)	
3	X	X3.1.1	330	0.2	0.2	
		X3.1.2	330	0.2	0.2	
		X3.2.1	330	0.2	0.2	
		X3.2.2	330	0.2	0.2	A
	Y	Y3.1.1	790	1.5	1.5	
		Y3.1.2	790	1.5	1.5	
		Y3.2.1	90	0.3	0.3	
		Y3.2.2	90	0.3	0.3	
	Z	Z3.1.1	146	1	1	
		Z3.1.2	146	1	1	
		Z3.2.1	146	1	1	
		Z3.2.2	146	1	1	
	D	D3.1.1	32	0.16	0	
		D3.1.2	32	0.16	0	
		D3.2.1	32	0.16	0	
		D3.2.2	32	0.16	0	
5	X	X5.1.1	200	2	2	
		X5.1.2	200	2	2	
		X5.1.3	200	2	2	
		X5.1.4	200	2	2	
	Y	Y5.1.1	1035	2	2	
		Y5.1.2	1035	2	2	
		Y5.1.3	1035	2	2	
		Y5.1.4	1035	2	2	
	Z	Z5.1.1	6	1	1	
		Z5.1.2	6	1	1	
		Z5.1.3	6	1	1	
		Z5.1.4	6	1	1	
7	X	X7.1.2	258	3	3	
		X7.1.3	258	3	3	
		X7.2.1	196	3	3	
		X7.2.4	196	3	3	
	Y	Y7.1.2	595	3	3	
		Y7.1.3	595	3	3	
		Y7.2.1	696.6	3	3	
		Y7.2.4	696.6	3	3	
	Z	Z7.1.2	41	3	3	
		Z7.1.3	41	3	3	
		Z7.2.1	162.5	3	3	
		Z7.2.4	162.5	3	3	
		Z7.3	173	2	2	
		Z7.4	212	2	2	A
	D	D7.1	116	0.035	0	
10	Y	Y10.1	105	1	1	
		Y10.2	105	1	1	

Legende zu Baugruppen-Zuordnung
(erste Zahl der Maßgruppe entspricht der Baugruppe)

legend of component allocation
(first number of dimension group equivalent to component)

1.. Radsatzführung
2.. Antrieb
3.. Längsmitnahme
4.. Bremse
5.. Sekundärfeder
6.. Schienenbremse
7.. Anbauteile
8.. Messpunkte
9.. Hauptabmessungen
10.. Sonstige

1.. Wheelset steering
2.. Traktion unit
3.. Draw bar
4.. Brake
5.. Secondary suspension
6.. Track brake
7.. Assembly components
8.. Measuring points
9.. Main dimensions
10.. Miscellaneous

×) Bedingung zur Definition der Ebene YZ

×) Plain YZ is defined by these conditions

Part no. | Siemens no.

DRAWING SHALL BE REVISED BY THE CAD SYSTEM ONLY

A0 | TS

A	K333-443558	04-04	SEG	ISO 2768mk
B	5000000379B9	04-09	!	ISO 13920-BF
				ISO 1101

MTB
TS_REA

Index	Revision no.	Date	Name
1.5	Prepared	2003-12-09	BRECKO_JOS
	Checked		
	Approved	2003-12-09	BRECKO_JOS
	Date	Name	
	EN/DE		

Measuring sheeet,
bogie bolster machined
Messplan, Wiege
mechan.Bearbeitung

SIEMENS

A6Z00375128344 | B | 01/01

SIEMENS	PART NAME : S70 POWER TRUCK, MACHINED		May 17, 2024	10:20
	REV NUMBER : H	SER NUMBER : US00102	STATS COUNT : 1	

DRAWING NUMBER : A6Z00375122298
INSPECTED BY : Michael Gonzalez
INSTRUMENT : FARO ARM 7 AXIS

DIM X1.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	472.70	0.50	-0.50	472.35	-0.35	0.00

DIM X1.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	472.70	0.50	-0.50	472.71	0.00	0.00

DIM X1.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	472.70	0.50	-0.50	472.70	0.00	0.00

DIM X1.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	472.70	0.50	-0.50	472.74	0.04	0.00

DIM X1.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	500.50	0.50	-0.50	499.74	-0.76	0.26

DIM X1.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	500.50	0.50	-0.50	500.54	0.04	0.00

DIM X1.2.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	500.50	0.50	-0.50	500.60	0.10	0.00

DIM X1.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	500.50	0.50	-0.50	500.55	0.05	0.00

DIM X1.3.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	950.00	0.75	-1.00	948.82	-1.18	0.18

DIM X1.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	950.00	0.75	-1.00	950.17	0.17	0.00

DIM X1.3.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	950.00	0.75	-1.00	950.68	0.68	0.00

DIM X1.3.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	950.00	0.75	-1.00	949.42	-0.58	0.00

DIM X1.3.1 - X1.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	-1.0	1.4	1.4	0.4

DIM X1.3.3 - X1.3.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	-1.0	1.3	1.3	0.3

DIM Y1.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	933.00	0.50	-0.50	932.90	-0.10	0.00

DIM Y1.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	933.00	0.50	-0.50	932.39	-0.61	0.11

DIM Y1.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	933.00	0.50	-0.50	932.69	-0.31	0.00

DIM Y1.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	933.00	0.50	-0.50	933.24	0.24	0.00

DIM Z1.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	199.0	2.0	-2.0	196.8	-2.2	0.2

DIM Z1.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	199.0	2.0	-2.0	199.9	0.9	0.0

DIM Z1.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	199.0	2.0	-2.0	199.8	0.8	0.0

DIM Z1.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	199.0	2.0	-2.0	196.9	-2.1	0.1

DIAMETER A1.1.1-4 AND A1.2.1-4 ARE MANUALLY INPUTED

DIM A1.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	99.990	-0.010	0.000

DIM A1.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.010	0.010	0.000

DIM A1.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.010	0.010	0.000

DIM A1.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.000	0.000	0.000

DIM A1.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.000	0.000	0.000

DIM A1.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	99.990	-0.010	0.000

DIM A1.2.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.010	0.010	0.000

DIM A1.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	100.000	0.020	-0.020	100.000	0.000	0.000

DIM X2.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	679.35	-0.65	0.15

DIM X2.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.30	-0.30	680.34	0.34	0.04

DIM X2.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.30	-0.30	680.11	0.11	0.00

DIM X2.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	679.19	-0.81	0.31

DIM X2.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	679.42	-0.58	0.08

DIM X2.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	680.29	0.29	0.00

DIM X2.2.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	680.24	0.24	0.00

DIM X2.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	680.00	0.50	-0.50	679.33	-0.67	0.17

DIM X2.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	250.00	0.50	-0.50	249.68	-0.32	0.00

DIM X2.3.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	250.00	0.50	-0.50	250.60	0.60	0.10

DIM Y2.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.0	2.0	0.0	90.6	0.6	0.0

DIM Y2.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.0	2.0	0.0	90.3	0.3	0.0

DIM Y2.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.0	2.0	0.0	90.2	0.2	0.0

DIM Y2.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.0	2.0	0.0	90.5	0.5	0.0

DIM Y2.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	206.50	0.30	-0.30	206.59	0.09	0.00

DIM Y2.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	206.50	0.30	-0.30	206.97	0.47	0.17

DIM Y2.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	331.50	0.30	-0.30	331.23	-0.27	0.00

DIM Y2.3.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	331.50	0.30	-0.30	331.28	-0.22	0.00

DIM Y2.4.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	130.00	0.20	-0.20	130.06	0.06	0.00

DIM Y2.4.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	130.00	0.20	-0.20	130.00	0.00	0.00

DIM Y2.4.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	130.00	0.20	-0.20	129.98	-0.02	0.00

DIM Y2.4.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	130.00	0.20	-0.20	129.79	-0.21	0.01

DIM Z2.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	37.00	0.50	-0.50	37.73	0.73	0.23

DIM Z2.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	37.00	0.50	-0.50	38.06	1.06	0.56

DIAMETER D2.1.2 AND D2.1.3 ARE MANUALLY INPUTED

DIM D2.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	21.000	0.020	0.000	21.010	0.010	0.000

DIM D2.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	21.000	0.020	0.000	21.020	0.020	0.000

DIM X3.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	400.00	0.20	-0.20	401.04	1.04	0.84

DIM X3.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	400.00	0.20	-0.20	399.41	-0.59	0.39

DIM Z3.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	307.00	0.50	-0.50	306.54	-0.46	0.00

DIM Z3.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	307.00	0.50	-0.50	307.64	0.64	0.14

DIAMETER D3.1.3 AND D3.1.4 ARE MANUALLY INPUTED

DIM D3.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.040	0.040	0.000

DIM D3.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.050	0.050	0.000

DIM Y5.1.1/3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	1.0	-1.0	1035.5	0.5	0.0

DIM Y5.1.2/4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	1.0	-1.0	1035.5	0.5	0.0

DIM X6.1.1/3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	1008.0	0.0	-2.0	1007.7	-0.3	0.0

DIM X6.1.2/4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	1008.0	0.0	-2.0	1007.7	-0.3	0.0

DIM Y6.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	715.00	1.50	-1.50	716.45	1.45	0.00

DIM Y6.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	715.00	1.50	-1.50	714.48	-0.52	0.00

DIM Y6.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	715.00	1.50	-1.50	716.13	1.13	0.00

DIM Y6.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	715.00	1.50	-1.50	714.96	-0.04	0.00

DIM X7.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1386.00	0.50	-0.50	1384.23	-1.77	1.27

DIM X7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1386.00	0.50	-0.50	1385.93	-0.07	0.00

DIM X7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1386.00	0.50	-0.50	1386.65	0.65	0.15

DIM X7.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	1386.00	0.50	-0.50	1385.35	-0.65	0.15

DIM X7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	180.0	2.0	-2.0	179.6	-0.4	0.0

DIM X7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	180.0	2.0	-2.0	179.0	-1.0	0.0

DIM X7.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	245.0	2.0	-2.0	245.5	0.5	0.0

DIM X7.3.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	245.0	2.0	-2.0	246.2	1.2	0.0

DIM X7.4.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	690.0	0.0	-1.0	688.3	-1.7	0.7

DIM X7.4.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	690.0	0.0	-1.0	689.3	-0.7	0.0

DIM X7.4.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	690.0	0.0	-1.0	689.7	-0.3	0.0

DIM X7.4.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	690.0	0.0	-1.0	689.9	-0.1	0.0

DIM Y7.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	729.50	0.50	-0.50	728.79	-0.71	0.21

DIM Y7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	729.50	0.50	-0.50	728.77	-0.73	0.23

DIM Y7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	729.50	0.50	-0.50	729.00	-0.50	0.00

DIM Y7.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	729.50	0.50	-0.50	729.68	0.18	0.00

DIM Y7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	120.00	0.30	-0.30	120.10	0.10	0.00

DIM Y7.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	120.00	0.30	-0.30	119.85	-0.15	0.00

DIM Y7.2.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	120.00	0.30	-0.30	119.97	-0.03	0.00

DIM Y7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	120.00	0.30	-0.30	120.12	0.12	0.00

DIM Y7.3.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	2.0	-2.0	595.7	0.7	0.0

DIM Y7.3.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	2.0	-2.0	595.6	0.6	0.0

DIM Y7.4.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	263.40	2.50	-2.50	261.81	-1.59	0.00

DIM Y7.4.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	263.40	2.50	-2.50	262.30	-1.10	0.00

DIM Y7.5.1/3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	206.00	1.50	0.00	205.95	-0.05	0.05

DIM Y7.5.2/4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	206.00	1.50	0.00	205.96	-0.04	0.04

DIM Z7.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	143.0	1.0	-1.0	145.2	2.2	1.2

DIM Z7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	143.0	1.0	-1.0	141.0	-2.0	1.0

DIM Z7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	143.0	1.0	-1.0	141.0	-2.0	1.0

DIM Z7.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	143.0	1.0	-1.0	145.4	2.4	1.4

DIM Z7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	236.40	2.50	-2.50	237.58	1.18	0.00

DIM L5.1.1/2/3/4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	0.0	0.3	0.3	0.0

DIM L7.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	0.0	0.7	0.7	0.0

DIM L7.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	0.0	0.6	0.6	0.0

DIM L7.2.1/3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	0.0	1.8	1.8	0.8

DIM L7.2.2/4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	0.0	1.0	0.0	0.3	0.3	0.0

DIM D1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	2663.0	0.7	-0.7	2663.1	0.1	0.0

DIM D2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	2663.0	0.7	-0.7	2663.2	0.2	0.0

SIEMENS	PART NAME : S70 BOLSTER, MACHINED REFURBISHMENT		May 20, 2024	13:03
	REV NUMBER : B	SER NUMBER : US0 0195	STATS COUNT : 1	

DRAWING NUMBER : A6Z00375128344
PART NUMBER : 97258998
INSPECTED BY : Michael Gonzalez
INSTRUMENT : FARO ARM 7 AXIS

DIM X3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.03	0.03	0.00

DIM X3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.38	0.38	0.18

DIM X3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	329.94	-0.06	0.00

DIM X3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	330.00	0.20	-0.20	330.48	0.48	0.28

DIM Y3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	790.00	1.50	-1.50	790.90	0.90	0.00

DIM Y3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	790.00	1.50	-1.50	790.20	0.20	0.00

DIM Y3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.00	0.30	-0.30	89.94	-0.06	0.00

DIM Y3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	90.00	0.30	-0.30	89.87	-0.13	0.00

DIM X7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	258.0	3.0	-3.0	257.4	-0.6	0.0

DIM X7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	258.0	3.0	-3.0	258.1	0.1	0.0

DIM X7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	196.0	3.0	-3.0	195.5	-0.5	0.0

DIM X7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
X	196.0	3.0	-3.0	195.5	-0.5	0.0

DIM Y5.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1035.2	0.2	0.0

DIM Y5.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1036.1	1.1	0.0

DIM Y5.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1034.4	-0.6	0.0

DIM Y5.1.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	1035.0	2.0	-2.0	1036.4	1.4	0.0

DIM Y7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	3.0	-3.0	595.9	0.9	0.0

DIM Y7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	595.0	3.0	-3.0	597.4	2.4	0.0

DIM Y7.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	696.6	3.0	-3.0	698.8	2.2	0.0

DIM Y7.2.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	696.6	3.0	-3.0	697.6	1.0	0.0

DIM Y10.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	105.0	1.0	-1.0	92.1	-12.9	11.9

DIM Y10.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Y	105.0	1.0	-1.0	103.2	-1.8	0.8

DIAMETER D3.1.1, D3.1.2, D3.2.1 AND D3.2.2, ARE MANUELY INPUTED

DIM D3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.090	0.090	0.000

DIM D3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.050	0.050	0.000

DIM D3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.100	0.100	0.000

DIM D3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	32.000	0.160	0.000	32.110	0.110	0.000

DIAMETER D7.1 MANUELY INPUTED

DIM D1 (H7)

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
M	116.000	0.035	0.000	116.021	0.021	0.000

DIM Z3.1.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.6	-0.4	0.0

DIM Z3.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.7	-0.3	0.0

DIM Z3.2.1

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.4	-0.6	0.0

DIM Z3.2.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	146.0	1.0	-1.0	145.6	-0.4	0.0

DIM Z7.1.2

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	41.0	3.0	-3.0	42.3	1.3	0.0

DIM Z7.1.3

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	41.0	3.0	-3.0	39.3	-1.7	0.0

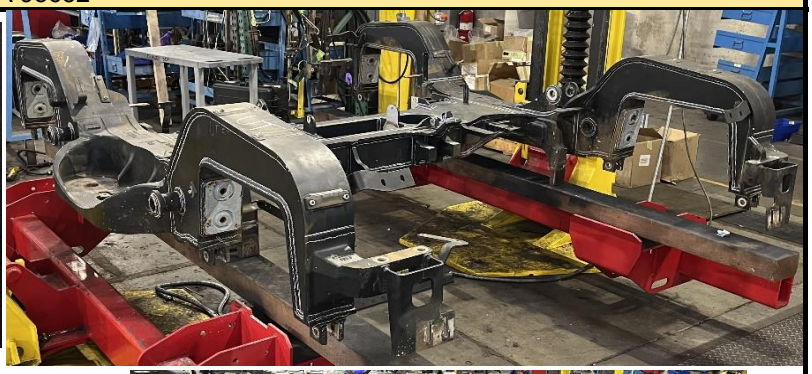
DIM Z7.4

AX	NOMINAL	+TOL	-TOL	MEAS	DEV	OUTTOL
Z	212.0	2.0	-2.0	211.9	-0.1	0.0

ACFM INSPECTION REPORT

Customer: Utah Transit Authority **Project:** UTA 1122 Accident Inspection	**Inspection:** Andrew Conley **Cert No:** NTC2149 **Inspection:** N/A **Cert No:** N/A **Lizard Registered:** 25222
Unit: Power Truck	**Procedure:** QMP-005
Serial Number: US00102	**DWG:** N/A

Locations: 5301 Price Ave., McClellan Park, CA 95652



Inspection Results / Comments.

There were no reportable weld indications or defects at the time of inspection. Damage to the corner of the frame was noted on the inspection report, and shown in the photos above.

Inspection Signature: **Date:** 05/16/2024

Andrew Conley

Andrew Conley

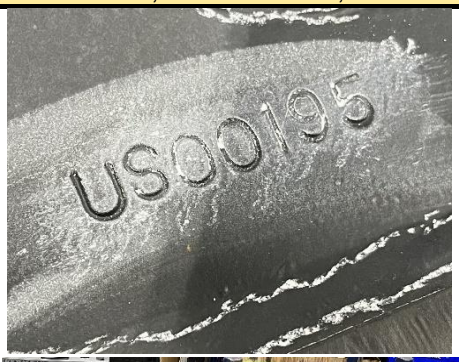
cn=Andrew Conley, c=US, o=Siemens Mobility CS, ou=QA CWI Level II Inspector, email=andrew.conley@siemens.com
05/16/24

Lizard Registered : 25222

ACFM INSPECTION REPORT

Customer: Utah Transit Authority **Project:** UTA 1122 Accident Inspection	**Inspection:** Andrew Conley **Cert No:** NTC2149 **Inspection:** N/A **Cert No:** N/A **Lizard Registered:** 25222
Unit: Bolster	**Procedure:** QMP-005
Serial Number: US00195	**DWG:** N/A

Locations: 5301 Price Ave., McClellan Park, CA 95652






Inspection Results / Comments.

There is one reportable indication on Bolster US00195. There is a crack located at the weld toe of one of the anti-rotation stops. There are two more tears/fins in the base metal of the anti-rotation stop. There is deformation/damage to the entirety of the lateral stop. Crack sizing, saved ACFM scans, and additional photos can be found in the ACFM folder.

Inspection Signature: **Date:** 05/20/2024

Andrew Conley

Lizard Registered : 25222

US00043 BOM Rev001

SIEMENS

							Description	Part Number	QTY	UOM
2	2	2	2	2	2	2	Power Truck Complete	A2V00001799526		Ea
	3	3	3	3	3	3	Wheelset Assembly	A2V00001827877		Ea
		4	4	4	4	4	Motor Wheelset, Complete	A2V00001827872		Ea
			5	5	5	5	Hexagon head screw	A2V00001721489	16	Ea
			5	5	5	5	WASHER, M16,SAFETY, SPRING ST	RS:A5442100	16	Ea
			5	5	5	5	SCREW, HEX HD, M16 X 50, ISO GR 8.8,ST	A2V00370031811	12	Ea
			5	5	5	5	WASHER, M16,RIBBED, SPRING ST	RS:A5442200	12	Ea
			5	5	5	5	SCREW, HEX HD, M8 X 25, ISO GR 8.8, ST	A2V00370025704	16	Ea
			5	5	5	5	WASHER, SAFETY, SPRING ST	RS:A5442300	16	Ea
			5	5	5	5	ASSEMBLY, BEARING,AXLE,POWER	RS:A8370800	4	Ea
			5	5	5	5	DISC,SHIM,SST,0.1MM	A6X30154132	16	Ea
			5	5	5	5	O-RING,RUBBER NITRILE,5.7MM,ID=163	A6X30154133	4	Ea
			5	5	5	5	BOLT, HEX HD, M16 X 180, ISO GR 8.8, ST	RS:A5442000	16	Ea
			5	5	5	5	WASHER, M16,SAFETY, SPRING ST	RS:A5442100	16	Ea
			5	5	5	5	SCREW, HEX HD, M16 X 50, ISO GR 8.8,ST	A2V00370031811	12	Ea
			5	5	5	5	WASHER, M16,RIBBED, SPRING ST	RS:A5442200	12	Ea
			5	5	5	5	SCREW, HEX HD, M8 X 25, ISO GR 8.8, ST	A2V00370025704	16	Ea
			5	5	5	5	WASHER, SAFETY, SPRING ST	RS:A5442300	16	Ea
		4	4	4	4	4	Primary suspension assembly	A2V00001827877		Ea
			5	5	5	5	Fit bolt DIN609-M16x90-8.8-A2C	A2V00370029437	8	Ea
			5	5	5	5	Spring washer	A2V00002148539	8	Ea
			5	5	5	5	Hexagon nut ISO 4032 M16 8 A3C	A2V00370036274	8	Ea
			5	5	5	5	clamping pin DIN7346-20x50-FSt	A2V00370068427	16	Ea
			5	5	5	5	Hexagon head screw	A2V00370036708	16	Ea
			5	5	5	5	WASHER ISO7093-1-12-200HV-A2	A2V00370068432	16	Ea
			5	5	5	5	Load washer SCHNORR HS	A2V00001745000	24	Ea
			5	5	5	5	Hexagon head screw	A2V00370022704	8	Ea
			5	5	5	5	Hexagon head screw	A2V00200429055	8	Ea
			5	5	5	5	Load washer SCHNORR HS	A2V00001744997	8	Ea
			5	5	5	5	SCREW,HEX HD,M8X20,DIN933,ZN	RS:A0707801	16	Ea
			5	5	5	5	Spring washer	A2V00001169513	16	Ea
		4	4	4	4	4	Traction unit assembly	A2V00397274675		Ea
			5	5	5	5	Hexagon nut	A2V00370037133	6	Ea
			5	5	5	5	Load washer SCHNORR HS	A2V00001745003	16	Ea
			5	5	5	5	Hexagon head screw	A2V00370036750	6	Ea
			5	5	5	5	Splint pin	A2V00370007610	2	Ea
			5	5	5	5	Hexagon head screw	A2V00002232490	2	Ea
			5	5	5	5	Spring washer	A2V00002148611	2	Ea
			5	5	5	5	Hexagon nut ISO 10513 M24 10	A2V00002121786	2	Ea
			5	5	5	5	Hexagon nut	A2V00397276482	2	Ea
			5	5	5	5	Fit bolt	A2V00370068624	2	Ea
			5	5	5	5	Hexagon head screw	A2V00100026174	2	Ea
			5	5	5	5	Load washer SCHNORR HS	A2V00001744999	2	Ea

SIEMENS

	5	5	5	5	5	Hexagon nut	A2V00370025738	2	Ea
	5	5	5	5	5	WASHER	A2V00397264582	2	Ea
	5	5	5	5	5	HEX.NUT BN205107-A-M20-8-A3C	A2V00370030781	2	Ea
4	4	4	4	4	4	Drive Unit			Ea
	5	5	5	5	5	S70 GB KIT B-SZH 420,SEALS	A6X30181346		Ea
		6	6	6	6	Seal Ring, Copper	A6X30174310	6	Ea
		6	6	6	6	seal	A6X30174321	2	Ea
	5	5	5	5	5	S70 GB KIT C-SZH 420,BEARINGS	A6X30181348		Ea
		6	6	6	6	cyl.roller bg.	A6X30174322	2	Ea
		6	6	6	6	Angular Ball Bearing	A6X30174323	2	Ea
		6	6	6	6	Cylinder Roller Bearing	A6X30174324	2	Ea
		6	6	6	6	cyl.roller bg.	A6X30174325	2	Ea
		6	6	6	6	Cylinder Roller Bearing	A6X30174326	2	Ea
		6	6	6	6	taper roller bearing	A6X30174327	2	Ea
		6	6	6	6	taper roller bearing	A6X30174328	2	Ea
	5	5	5	5	5	S70 GB KIT C1-SZH 420,RINGS	A6X30181350		Ea
		6	6	6	6	breather filter	A6X30174329	2	Ea
		6	6	6	6	Retaining Pin	A6X30174339	4	Ea
		6	6	6	6	spacer ring	A6X30174330	2	Ea
		6	6	6	6	spacer ring	A6X30174331	2	Ea
		6	6	6	6	adjusting ring	A6X30174332	2	Ea
		6	6	6	6	adjusting ring	A6X30174333	2	Ea
		6	6	6	6	adjusting ring	A6X30174334	2	Ea
	5	5	5	5	5	S70 GB KIT G-SZH 420,MOTOR HARDWARE	A6X30181474		
		6	6	6	6	hexagon bolt	A2V00370031842	8	Ea
		6	6	6	6	washer	RS:A0718405	8	Ea
		6	6	6	6	hexagon bolt	RS:A0712200	56	Ea
		6	6	6	6	socket head screw	A6X30174340	12	Ea
		6	6	6	6	hexagon bolt	RS:A0712212	16	Ea
		6	6	6	6	spr.type str.pin	A6X30174341	2	Ea
		6	6	6	6	hexagon bolt	RS:A0712205	16	Ea
		6	6	6	6	washer	RS:A0718403	88	Ea
		6	6	6	6	screw plug	A6X30174342	2	Ea
		6	6	6	6	straight pin	A6X30174343	4	Ea
		6	6	6	6	hexagon bolt	RS:A0713204	46	Ea
		6	6	6	6	washer	A6X30174344	46	Ea
		6	6	6	6	socket head screw	A6X30174347	2	Ea
		6	6	6	6	circlip	A6X30174345	4	Ea
		6	6	6	6	SET OF COUPLING BOLT S70	A6X30229120	2	Ea
		6	6	6	6	Retaining Ring	A6X30174335	2	Ea
		6	6	6	6	Threaded plug	A6X30183199	2	Ea
	5	5	5	5	5	S70 GB KIT G-SZH 420,RUBBER WEDGE HARDW	A6X30181476		
		6	6	6	6	hexagon bolt	A6X30191170	48	Ea
		6	6	6	6	hexagon bolt	RS:A5209400	96	Ea
		6	6	6	6	Structural Washer	A6X30148051	48	Ea
	5	5	5	5	5	S70 GB KIT E-SZH 420,MOUNT SUPPORT	A6X30181472		

				6	6	6	6	Support	A6X30174336	4	Ea
				6	6	6	6	Spacer Sleeve	A6X30155218	2	Ea
				6	6	6	6	Spherical Bearing	A6X30174337	2	Ea
				6	6	6	6	Spherical Bearing	A6X30174338	2	Ea
3	3	3	3	3	3	3	3	Secondary Suspension Assembly	A2V00397257096		
	4	4	4	4	4	4	4	Hexagon nut ISO 7042 M12 8 A3C	A2V00370037131	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	48	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 8 A3C	A2V00370043563	24	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036706	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036711	4	Ea
	4	4	4	4	4	4	4	Sleeve	A2V00001221814	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370035480	16	Ea
3	3	3	3	3	3	3	3	Lateral Suspension Assembly	A2V00397274673		
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036722	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745002	14	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M16 8 A3C	A2V00370036274	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00001420993	4	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 10	A2V00001684916	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00001421015	6	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	8	Ea
	4	4	4	4	4	4	4	HEX.NUT ISO4032-M16-10-A3P	A2V00370041468	6	Ea
3	3	3	3	3	3	3	3	Bogie bolster assembly	A2V00397258064		
	4	4	4	4	4	4	4	SLOT.CASTLE NUT DIN935-M36-8-A2C	A2V00370027222	1	Ea
	4	4	4	4	4	4	4	Wear Ring, painted	A2V00397239939	1	Ea
	4	4	4	4	4	4	4	SPLIT PIN ISO1234-6,3x63-ST-A3C	A2V00370025189	1	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036716	4	Ea
	4	4	4	4	4	4	4	Hexagon nut	A2V00370036276	4	Ea
	4	4	4	4	4	4	4	WASHER HS 20 FST EN10132-4 GEO321B+VL	A2V00002070581	4	Ea
	4	4	4	4	4	4	4	SEAL V-RING V-45A 11.5203.0045	A2V00370069475	1	Ea
	4	4	4	4	4	4	4	SLIDING PLATE	A2V00397239295	4	Ea
	4	4	4	4	4	4	4	Bush	A2V00397239150	1	Ea
	4	4	4	4	4	4	4	Bushing, sleeve feroform T11	A2V00397239151	1	Ea
	4	4	4	4	4	4	4	ROTATION STOP	A2V00397269122	2	Ea
	4	4	4	4	4	4	4	PE-rope, tin plated 70 10 10 800	A2V00397247541		Ea
		5	5	5	5	5	5	Tube terminal KRF 70-10	A2V00370062693	4	Ea
		5	5	5	5	5	5	Copper rope DIN46438-70-0,14-SN	A2V00370053179	1.56	**M**
3	3	3	3	3	3	3	3	Lifting stop assembly	A2V00397257120		Ea
	4	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00001423011	2	Ea
	4	4	4	4	4	4	4	Hose clamp	A2V00370046890	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745003	2	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 7042 M20 8	A2V00001684570	2	Ea
	4	4	4	4	4	4	4	Spring lock washer	A2V00002673277	2	Ea
3	3	3	3	3	3	3	3	Traction link assembly	A2V00397257103		
	4	4	4	4	4	4	4	BOLT DM 51,5X188 42CRMO4+QT 1. 7225+Q...	A2V00397250803	4	Ea
	4	4	4	4	4	4	4	Screw plug GPN 700 M 10	A2V00370029451	4	Ea
	4	4	4	4	4	4	4	Spring washer	A2V00002148611	4	Ea

SIEMENS

	4	4	4	4	4	4	Hexagon nut	A2V00370037134	4	Ea
3	3	3	3	3	3	3	track clearer assembly	A2V00001846275		
	4	4	4	4	4	4	Hexagon head screw	A2V00001416050	8	Ea
	4	4	4	4	4	4	Washer DIN 7349 13 200HV	A2V00002025381	16	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00001416052	4	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M12 8	A2V00001674892	12	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	8	Ea
3	3	3	3	3	3	3	Head beam assembly	A2V00002356234		Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370066691	8	Ea
	4	4	4	4	4	4	Hexagon nut	A2V00370037133	8	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745003	8	Ea
	4	4	4	4	4	4	WASHER HS 20 FST EN10132-4 GEO321B+VL	A2V00002070581	10	Ea
3	3	3	3	3	3	3	Axle-Mounted Disc Brake Assembly	A2V00001827876		Ea
	4	4	4	4	4	4	CLAMPING PLATE,24,DIN 6796	A2V00002274854	24	Ea
	4	4	4	4	4	4	BOLT N12005-P22 M24 X 90	A6X30173546	24	Ea
3	3	3	3	3	3	3	Track Brake Assembly	A2V00001827875		
	4	4	4	4	4	4	Fit bolt	A2V00370076351	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036722	4	Ea
	4	4	4	4	4	4	Schnorr HS - washer	A2V00370042023	8	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M16 8 A3C	A2V00370037132	8	Ea
3	3	3	3	3	3	3	Piping Assembly	A2V00001827874		
	4	4	4	4	4	4	Hexagon head screw	A2V00370026764	20	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370060216	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00355102581	5	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00355103295	5	Ea
	4	4	4	4	4	4	WASHER DIN7349-6,4-140HV-A3C	A2V00370036525	45	Ea
	4	4	4	4	4	4	HEX.NUT ISO7042-M6-8-A3C-BN205107-A	A2V00370037128	25	Ea
	4	4	4	4	4	4	Washer ISO 7089 20 200HV A3C	A2V00370057123	2	Ea
3	3	3	3	3	3	3	Wiring Assembly	A2V00001827873		
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00100028754	18	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00200433867	6	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370028434	10	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370038788	13	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370053426	8	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370057904	8	Ea
	4	4	4	4	4	4	SCREW ISO4762-M3x12-4.8-A2S	A2V00370059577	8	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100025925	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370010719	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100025984	5	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00001695360	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100026166	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100026182	1	Ea
	4	4	4	4	4	4	Hexagon screw	A2V00101125745	1	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00104569350	12	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00104568680	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370043682	2	Ea

SIEMENS

4	4	4	4	4	4	Washer DIN 7349 6,4 200HV-A2	A2V00370066218	42	Ea
4	4	4	4	4	4	Washer ISO 7089 8 200HV A3C	A2V00370053579	5	Ea
4	4	4	4	4	4	Spring washer	A2V00002148536	5	Ea
4	4	4	4	4	4	Washer ISO 7089 5 200HV A3C	A2V00113040211	2	Ea
4	4	4	4	4	4	Spring washer	A2V00370069307	8	Ea
4	4	4	4	4	4	Spring washer	A2V00150267631	6	Ea
4	4	4	4	4	4	Spring washer	A2V00156004301	16	Ea
4	4	4	4	4	4	Spring washer	A2V00156004328	2	Ea
4	4	4	4	4	4	Hexagon nut ISO 4032 M8 8 A2C	A2V00001169472	23	Ea
4	4	4	4	4	4	Hexagon nut ISO 4032 M3 4 A2C	A2V00370079727	8	Ea
4	4	4	4	4	4	Hexagon nut ISO 7042 M6 8 A2C	A2V00001169499	38	Ea
4	4	4	4	4	4	Hexagon nut ISO 7042 M8 8 A2C	A2V00001169500	5	Ea
4	4	4	4	4	4	Hexagon nut ISO 7042 M6 A2-70	A2V00370037136	2	Ea
4	4	4	4	4	4	Hexagon nut ISO 7042 M10 A2-70	A2V00370037138	2	Ea
4	4	4	4	4	4	Cable tie	A2V00370066035	1	Ea
4	4	4	4	4	4	FITTING,GLAND,CABLE,MOTOR,M25" ,2/0 A...	RS:A3786500	2	Ea
4	4	4	4	4	4	CABLE GLAND,UNI EMC,PLITSCH	RS:A8123800	12	Ea
4	4	4	4	4	4	Tube terminal KRFN 70-10	A2V00002119582	6	Ea
4	4	4	4	4	4	LUG,RING,70MM2,M10	RS:A4324500	2	Ea
4	4	4	4	4	4	Inlay tag TM-I 18 NEUTRAL GE	A2V00370035681	16	Ea
4	4	4	4	4	4	SIENOPYR 120 (N)HXSGAFCHXOE 70 1,8/3kV	A2V00399101863	24	**M**
4	4	4	4	4	4	marking socket TM 6/18 HF	A2V00370043862	12	EA
4	4	4	4	4	4	Cable 120 (N)HXSGAFHXOE EN 1800V 70	A2V00001205745	4	**M**
4	4	4	4	4	4	Cable LUG 70-10-E-CU-SN	A2V00370058236	2	EA
4	4	4	4	4	4	Heat shrink tube RAUCROSS MOK	A2V00370064999	0.24	**M**
4	4	4	4	4	4	marking socket TM 6/18 HF	A2V00370043862	4	EA

SIEMENS

								Description	Part Number	QTY	UOM
2	2	2	2	2	2	2	2	Power Truck Complete	A2V00001799526		Ea
	3	3	3	3	3	3	3	Wheelset Assembly	A2V00001827877		Ea
		4	4	4	4	4	4	Motor Wheelset, Complete	A2V00001827872		Ea
			5	5	5	5	5	Wheelset bearing, compl.	A2V00370076547	1	Ea
			5	5	5	5	5	Wheelset bearing compl. w.ground brush	A2V00370079674	1	Ea
			5	5	5	5	5	Hexagon head screw	A2V00001721489	16	Ea
			5	5	5	5	5	WASHER, M16,SAFETY, SPRING ST	RS:A5442100	16	Ea
			5	5	5	5	5	SCREW, HEX HD, M16 X 50, ISO GR 8.8,ST	A2V00370031811	12	Ea
			5	5	5	5	5	WASHER, M16,RIBBED, SPRING ST	RS:A5442200	12	Ea
			5	5	5	5	5	SCREW, HEX HD, M8 X 25, ISO GR 8.8, ST	A2V00370025704	16	Ea
			5	5	5	5	5	WASHER, SAFETY, SPRING ST	RS:A5442300	16	Ea
			5	5	5	5	5	ASSEMBLY, BEARING,AXLE,POWER	RS:A8370800	2	Ea
			5	5	5	5	5	DISC,SHIM,SST,0.1MM	A6X30154132	8	Ea
			5	5	5	5	5	O-RING,RUBBER NITRILE,5.7MM,ID=163	A6X30154133	2	Ea
			5	5	5	5	5	BOLT, HEX HD, M16 X 180, ISO GR 8.8, ST	RS:A5442000	8	Ea
			5	5	5	5	5	WASHER, M16,SAFETY, SPRING ST	RS:A5442100	8	Ea
			5	5	5	5	5	SCREW, HEX HD, M16 X 50, ISO GR 8.8,ST	A2V00370031811	6	Ea
			5	5	5	5	5	WASHER, M16,RIBBED, SPRING ST	RS:A5442200	6	Ea
			5	5	5	5	5	SCREW, HEX HD, M8 X 25, ISO GR 8.8, ST	A2V00370025704	8	Ea
			5	5	5	5	5	WASHER, SAFETY, SPRING ST	RS:A5442300	8	Ea
		4	4	4	4	4	4	Primary suspension assembly	A2V00001827877		Ea
			5	5	5	5	5	Fit bolt DIN609-M16x90-8.8-A2C	A2V00370029437	8	Ea
			5	5	5	5	5	Spring washer	A2V00002148539	8	Ea
			5	5	5	5	5	Hexagon nut ISO 4032 M16 8 A3C	A2V00370036274	8	Ea
			5	5	5	5	5	clamping pin DIN7346-20x50-FSt	A2V00370068427	16	Ea
			5	5	5	5	5	Hexagon head screw	A2V00370036708	16	Ea
			5	5	5	5	5	WASHER ISO7093-1-12-200HV-A2	A2V00370068432	16	Ea
			5	5	5	5	5	Load washer SCHNORR HS	A2V00001745000	24	Ea
			5	5	5	5	5	Hexagon head screw	A2V00370022704	8	Ea
			5	5	5	5	5	Hexagon head screw	A2V00200429055	8	Ea
			5	5	5	5	5	Load washer SCHNORR HS	A2V00001744997	8	Ea
			5	5	5	5	5	SCREW,HEX HD,M8X20,DIN933,ZN	RS:A0707801	16	Ea
			5	5	5	5	5	Spring washer	A2V00001169513	16	Ea
		4	4	4	4	4	4	Traction unit assembly	A2V00397274675		Ea
			5	5	5	5	5	Hexagon nut	A2V00370037133	6	Ea
			5	5	5	5	5	Load washer SCHNORR HS	A2V00001745003	16	Ea
			5	5	5	5	5	Hexagon head screw	A2V00370036750	6	Ea
			5	5	5	5	5	Splint pin	A2V00370007610	2	Ea
			5	5	5	5	5	Hexagon head screw	A2V00002232490	2	Ea
			5	5	5	5	5	Spring washer	A2V00002148611	2	Ea
			5	5	5	5	5	Hexagon nut ISO 10513 M24 10	A2V00002121786	2	Ea
			5	5	5	5	5	Hexagon nut	A2V00397276482	2	Ea
			5	5	5	5	5	Fit bolt	A2V00370068624	2	Ea

SIEMENS

	5	5	5	5	5	Hexagon head screw	A2V00100026174	2	Ea
	5	5	5	5	5	Load washer SCHNORR HS	A2V00001744999	2	Ea
	5	5	5	5	5	Hexagon nut	A2V00370025738	2	Ea
	5	5	5	5	5	WASHER	A2V00397264582	2	Ea
	5	5	5	5	5	HEX.NUT BN205107-A-M20-8-A3C	A2V00370030781	2	Ea
4	4	4	4	4	4	Drive Unit			Ea
	5	5	5	5	5	S70 GB KIT B-SZH 420,SEALS	A6X30181346		Ea
		6	6	6	6	Seal Ring, Copper	A6X30174310	6	Ea
		6	6	6	6	seal	A6X30174321	2	Ea
	5	5	5	5	5	S70 GB KIT C-SZH 420,BEARINGS	A6X30181348		Ea
		6	6	6	6	cyl.roller bg.	A6X30174322	2	Ea
		6	6	6	6	Angular Ball Bearing	A6X30174323	2	Ea
		6	6	6	6	Cylinder Roller Bearing	A6X30174324	2	Ea
		6	6	6	6	cyl.roller bg.	A6X30174325	2	Ea
		6	6	6	6	Cylinder Roller Bearing	A6X30174326	2	Ea
		6	6	6	6	taper roller bearing	A6X30174327	2	Ea
		6	6	6	6	taper roller bearing	A6X30174328	2	Ea
	5	5	5	5	5	S70 GB KIT C1-SZH 420,RINGS	A6X30181350		Ea
		6	6	6	6	breather filter	A6X30174329	2	Ea
		6	6	6	6	Retaining Pin	A6X30174339	4	Ea
		6	6	6	6	spacer ring	A6X30174330	2	Ea
		6	6	6	6	spacer ring	A6X30174331	2	Ea
		6	6	6	6	adjusting ring	A6X30174332	2	Ea
		6	6	6	6	adjusting ring	A6X30174333	2	Ea
		6	6	6	6	adjusting ring	A6X30174334	2	Ea
	5	5	5	5	5	S70 GB KIT G-SZH 420,MOTOR HARDWARE	A6X30181474		
		6	6	6	6	hexagon bolt	A2V00370031842	8	Ea
		6	6	6	6	washer	RS:A0718405	8	Ea
		6	6	6	6	hexagon bolt	RS:A0712200	56	Ea
		6	6	6	6	socket head screw	A6X30174340	12	Ea
		6	6	6	6	hexagon bolt	RS:A0712212	16	Ea
		6	6	6	6	spr.type str.pin	A6X30174341	2	Ea
		6	6	6	6	hexagon bolt	RS:A0712205	16	Ea
		6	6	6	6	washer	RS:A0718403	88	Ea
		6	6	6	6	screw plug	A6X30174342	2	Ea
		6	6	6	6	straight pin	A6X30174343	4	Ea
		6	6	6	6	hexagon bolt	RS:A0713204	46	Ea
		6	6	6	6	washer	A6X30174344	46	Ea
		6	6	6	6	socket head screw	A6X30174347	2	Ea
		6	6	6	6	circlip	A6X30174345	4	Ea
		6	6	6	6	SET OF COUPLING BOLT S70	A6X30229120	2	Ea
		6	6	6	6	Retaining Ring	A6X30174335	2	Ea
		6	6	6	6	Threaded plug	A6X30183199	2	Ea
	5	5	5	5	5	S70 GB KIT G-SZH 420,RUBBER WEDGE HARDW	A6X30181476		
		6	6	6	6	hexagon bolt	A6X30191170	48	Ea
		6	6	6	6	hexagon bolt	RS:A5209400	96	Ea

SIEMENS

				6	6	6	6	Structural Washer	A6X30148051	48	Ea
			5	5	5	5	5	S70 GB KIT E-SZH 420,MOUNT SUPPORT	A6X30181472		
				6	6	6	6	Support	A6X30174336	4	Ea
				6	6	6	6	Spacer Sleeve	A6X30155218	2	Ea
				6	6	6	6	Spherical Bearing	A6X30174337	2	Ea
				6	6	6	6	Spherical Bearing	A6X30174338	2	Ea
3	3	3	3	3	3	3	3	Secondary Suspension Assembly	A2V00397257096		
	4	4	4	4	4	4	4	Hexagon nut ISO 7042 M12 8 A3C	A2V00370037131	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	48	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 8 A3C	A2V00370043563	24	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036706	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036711	4	Ea
	4	4	4	4	4	4	4	Sleeve	A2V00001221814	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370035480	16	Ea
3	3	3	3	3	3	3	3	Lateral Suspension Assembly	A2V00397274673		
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036722	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745002	14	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M16 8 A3C	A2V00370036274	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00001420993	4	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 10	A2V00001684916	4	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00001421015	6	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	8	Ea
	4	4	4	4	4	4	4	HEX.NUT ISO4032-M16-10-A3P	A2V00370041468	6	Ea
3	3	3	3	3	3	3	3	Bogie bolster assembly	A2V00397258064		
	4	4	4	4	4	4	4	SLOT.CASTLE NUT DIN935-M36-8-A2C	A2V00370027222	1	Ea
	4	4	4	4	4	4	4	Wear Ring, painted	A2V00397239939	1	Ea
	4	4	4	4	4	4	4	SPLIT PIN ISO1234-6,3x63-ST-A3C	A2V00370025189	1	Ea
	4	4	4	4	4	4	4	Hexagon head screw	A2V00370036716	4	Ea
	4	4	4	4	4	4	4	Hexagon nut	A2V00370036276	4	Ea
	4	4	4	4	4	4	4	WASHER HS 20 FST EN10132-4 GEO321B+VL	A2V00002070581	4	Ea
	4	4	4	4	4	4	4	SEAL V-RING V-45A 11.5203.0045	A2V00370069475	1	Ea
	4	4	4	4	4	4	4	SLIDING PLATE	A2V00397239295	4	Ea
	4	4	4	4	4	4	4	Bush	A2V00397239150	1	Ea
	4	4	4	4	4	4	4	Bushing, sleeve feroform T11	A2V00397239151	1	Ea
3	3	3	3	3	3	3	3	Lifting stop assembly	A2V00397257120		
	4	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00001423011	2	Ea
	4	4	4	4	4	4	4	Hose clamp	A2V00370046890	4	Ea
	4	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745003	2	Ea
	4	4	4	4	4	4	4	Hexagon nut ISO 7042 M20 8	A2V00001684570	2	Ea
	4	4	4	4	4	4	4	Spring lock washer	A2V00002673277	2	Ea
3	3	3	3	3	3	3	3	Traction link assembly	A2V00397257103		
	4	4	4	4	4	4	4	BOLT DM 51,5X188 42CRMO4+QT 1. 7225+Q...	A2V00397250803	4	Ea
	4	4	4	4	4	4	4	Screw plug GPN 700 M 10	A2V00370029451	4	Ea
	4	4	4	4	4	4	4	Spring washer	A2V00002148611	4	Ea
	4	4	4	4	4	4	4	Hexagon nut	A2V00370037134	4	Ea
3	3	3	3	3	3	3	3	track clearer assembly	A2V00001846275		

SIEMENS

	4	4	4	4	4	4	Hexagon head screw	A2V00001416050	8	Ea
	4	4	4	4	4	4	Washer DIN 7349 13 200HV	A2V00002025381	16	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00001416052	4	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M12 8	A2V00001674892	12	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	8	Ea
3	3	3	3	3	3	3	Head beam assembly	A2V00002356234	0	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370066691	8	Ea
	4	4	4	4	4	4	Hexagon nut	A2V00370037133	8	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745003	8	Ea
	4	4	4	4	4	4	WASHER HS 20 FST EN10132-4 GEO321B+VL	A2V00002070581	10	Ea
3	3	3	3	3	3	3	Axle-Mounted Disc Brake Assembly	A2V00001827876		Ea
	4	4	4	4	4	4	CLAMPING PLATE,24,DIN 6796	A2V00002274854	24	Ea
	4	4	4	4	4	4	BOLT N12005-P22 M24 X 90	A6X30173546	24	Ea
3	3	3	3	3	3	3	Track Brake Assembly	A2V00001827875		
	4	4	4	4	4	4	Fit bolt	A2V00370076351	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036722	4	Ea
	4	4	4	4	4	4	Schnorr HS - washer	A2V00370042023	8	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M16 8 A3C	A2V00370037132	8	Ea
	4	4	4	4	4	4	HOLDER F.TRACK BRAKE A.D. PAINTED	A2V00397239351	1	Ea
	4	4	4	4	4	4	HOLDER F. TRACK BR. OP.A.D. P.	A2V00397239352	1	Ea
3	3	3	3	3	3	3	Piping Assembly	A2V00001827874		
	4	4	4	4	4	4	Hexagon head screw	A2V00370026764	20	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370060216	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00355102581	5	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00355103295	5	Ea
	4	4	4	4	4	4	WASHER DIN7349-6,4-140HV-A3C	A2V00370036525	45	Ea
	4	4	4	4	4	4	HEX.NUT ISO7042-M6-8-A3C-BN205107-A	A2V00370037128	25	Ea
	4	4	4	4	4	4	Washer ISO 7089 20 200HV A3C	A2V00370057123	2	Ea
3	3	3	3	3	3	3	Wiring Assembly	A2V00001827873		
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00100028754	18	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00200433867	6	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370028434	10	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370038788	13	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370053426	8	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00370057904	8	Ea
	4	4	4	4	4	4	SCREW ISO4762-M3x12-4.8-A2S	A2V00370059577	8	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100025925	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370010719	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100025984	5	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00001695360	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100026166	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100026182	1	Ea
	4	4	4	4	4	4	Hexagon screw	A2V00101125745	1	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00104569350	12	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00104568680	2	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370043682	2	Ea

SIEMENS

			4	4	4	4	4	4	Washer DIN 7349 6,4 200HV-A2	A2V00370066218	42	Ea
			4	4	4	4	4	4	Washer ISO 7089 8 200HV A3C	A2V00370053579	5	Ea
			4	4	4	4	4	4	Spring washer	A2V00002148536	5	Ea
			4	4	4	4	4	4	Washer ISO 7089 5 200HV A3C	A2V00113040211	2	Ea
			4	4	4	4	4	4	Spring washer	A2V00370069307	8	Ea
			4	4	4	4	4	4	Spring washer	A2V00150267631	6	Ea
			4	4	4	4	4	4	Spring washer	A2V00156004301	16	Ea
			4	4	4	4	4	4	Spring washer	A2V00156004328	2	Ea
			4	4	4	4	4	4	Hexagon nut ISO 4032 M8 8 A2C	A2V00001169472	23	Ea
			4	4	4	4	4	4	Hexagon nut ISO 4032 M3 4 A2C	A2V00370079727	8	Ea
			4	4	4	4	4	4	Hexagon nut ISO 7042 M6 8 A2C	A2V00001169499	38	Ea
			4	4	4	4	4	4	Hexagon nut ISO 7042 M8 8 A2C	A2V00001169500	5	Ea
			4	4	4	4	4	4	Hexagon nut ISO 7042 M6 A2-70	A2V00370037136	2	Ea
			4	4	4	4	4	4	Hexagon nut ISO 7042 M10 A2-70	A2V00370037138	2	Ea
			4	4	4	4	4	4	Cable tie	A2V00370066035	1	Ea
			4	4	4	4	4	4	FITTING,GLAND,CABLE,MOTOR,M25" ,2/0 A...	RS:A3786500	2	Ea
			4	4	4	4	4	4	CABLE GLAND,UNI EMC,PLITSCH	RS:A8123800	12	Ea
			4	4	4	4	4	4	Tube terminal KRFN 70-10	A2V00002119582	6	Ea
			4	4	4	4	4	4	LUG,RING,70MM2,M10	RS:A4324500	2	Ea
			4	4	4	4	4	4	Inlay tag TM-I 18 NEUTRAL GE	A2V00370035681	16	Ea
			4	4	4	4	4	4	SIENOPYR 120 (N)HXSGAFCHXOE 70 1,8/3kV	A2V00399101863	24	**M**
			4	4	4	4	4	4	marking socket TM 6/18 HF	A2V00370043862	12	EA
			4	4	4	4	4	4	Cable 120 (N)HXSGAFHXOE EN 1800V 70	A2V00001205745	4	**M**
			4	4	4	4	4	4	Cable LUG 70-10-E-CU-SN	A2V00370058236	2	EA
			4	4	4	4	4	4	Heat shrink tube RAUCROSS MOK	A2V00370064999	0.24	**M**
			4	4	4	4	4	4	marking socket TM 6/18 HF	A2V00370043862	4	EA
2	2	2	2	2	2	2	2	PAINTING,PWR & NON PWR TRUCK, CATS 600K			
	3	3	3	3	3	3	3	MARTIN SENOUR 76 SERIES LOW GLOSS RAL..	RS:A9093500	1	**GAL**
	3	3	3	3	3	3	3	5220 NAPA PRIMER 2.1 DTM EPOXY	RS:A4943500	1	**GAL**
	3	3	3	3	3	3	3	5238 NAPA ACTIVATOR 2.1 DTM EPOXY PRI...	RS:A4943600	1	**QT**
	3	3	3	3	3	3	3	6496 NAPA HARDENER ACRYLIC URETHANE 2...	RS:A4085100	1	**GAL**
	3	3	3	3	3	3	3	CS30 NAPA COMPLIANT SOLVENT GA	RS:A3792700	1	**GAL**

SIEMENS

	Description	Part Number	QTY	UOM
2 2 2 2 2 2 2 2	Center Truck, Complete	A2V00001799527		Ea
3 3 3 3 3 3 3 3	Running Gear Assembly	A2V00001827861		Ea
4 4 4 4 4 4 4	Trailer Wheelset	A2V00001827858		Ea
5 5 5 5 5 5	tire kit	A2V00002216982	4	Ea
5 5 5 5 5 5	TAPERED ROLLER BEARING	A2V00001346995	4	Ea
5 5 5 5 5 5	KIT,SKF HARDWARE,RBI.LFAB.HDWR.S70	A6X30171846	2	Ea
5 5 5 5 5 5	FEY RING FK 6 ASD 217/8/2,4	A6X30185340	8	Ea
5 5 5 5 5 5	SU-O RING 120X2	RS:A8753700	4	Ea
5 5 5 5 5 5	Assembly brake, grounding, speed sensor			Ea
6 6 6 6	BRAKE PADS,S-70 (SET FOR 1 CENTER TRU...	RS:A4526800	3	Ea
6 6 6 6	Head cap screw	A2V00370061398	8	Ea
6 6 6 6	hexagon socket head cap screw	A2V00001748356	8	Ea
6 6 6 6	Washer	A2V00001748305	8	Ea
6 6 6 6	Hexagon socket head cap screw	A2V00001169467	4	Ea
6 6 6 6	BOLT,M16x2x30,10.9,ISO 898,DAC	RS:A5987600	16	Ea
6 6 6 6	BOLT MOUNTING	RS:A5672000	48	Ea
6 6 6 6	PIN, DOUBLE LOOP HAIR	RS:A5214400	4	Ea
5 5 5 5 5	SENSOR COVER	A2V00375104420	1	Ea
5 5 5 5 5	SEALANT,FLANGE, LOCTITE 574 TUBE 250M...	RS:A5240800	0.5	Ea
5 5 5 5 5	Grease Shell Gadus S2 V220 2	A2V00002224633	1	Ea
5 5 5 5 5	SILVER GRADE ANTI-SEIZE,1LB	RS:A8639600	0.1	Ea
5 5 5 5 5	DEGREASER,CITRUS,CRC,15 OZ CAN	RS:A5240700	12	Ea
4 4 4 4 4 4	Primary Suspension Assembly CT	A2V00397257203		ea
5 5 5 5 5	Hexagon head screw	A2V00370035772	8	ea
5 5 5 5 5	Load washer SCHNORR HS	A2V00001744997	8	ea
5 5 5 5 5	Hexagon head screw	A2V00370036273	8	ea
5 5 5 5 5	Load washer SCHNORR HS	A2V00001745002	24	ea
5 5 5 5 5	Hexagon head screw	A2V00370036727	8	ea
5 5 5 5 5	Hexagon head screw	A2V00370036272	8	ea
5 5 5 5 5	Hexagon nut ISO 7042 M16 8 A3C	A2V00370037132	16	ea
5 5 5 5 5	Hexagon head screw Verbus Ripp	A2V00002240506	8	ea
5 5 5 5 5	Hexagon head screw	A2V00370049207	8	ea
5 5 5 5 5	Load washer SCHNORR HS	A2V00001745000	8	ea
3 3 3 3 3 3 3	TRACTION LINK ASSEMBLY	A2V00397267111		Ea
4 4 4 4 4 4 4	Bolt	A2V00397233649	4	Ea
4 4 4 4 4 4 4	Screw plug GPN 700 M 10	A2V00370029451	4	Ea
4 4 4 4 4 4 4	Spring washer	A2V00002148611	4	Ea
4 4 4 4 4 4 4	HEX.NUT BN205107-A-M24-8-A3P	A2V00370024861	4	Ea
4 4 4 4 4 4 4	Hexagon head screw	A2V00370054417	8	Ea
4 4 4 4 4 4 4	Load washer SCHNORR HS	A2V00001745002	16	Ea
4 4 4 4 4 4 4	Hexagon nut ISO 4032 M16 8 A3C	A2V00370036274	8	Ea
4 4 4 4 4 4 4	PIN ISO13337-21x30-N-C	A2V00370067278	4	Ea
3 3 3 3 3 3 3	LATERAL SUSPENSION ASSEMBLY	A2V00397269863		Ea

	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00100022870	4	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745002	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370022704	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036687	16	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M10 8 A3C	A2V00370019094	16	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001744997	32	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 8	A2V00001811492	4	Ea
	4	4	4	4	4	4	Spring washer	A2V00002148538	4	Ea
3	3	3	3	3	3	3	Secondary Suspension Assembly	A2V00397267113		Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M12 8 A3C	A2V00370037131	4	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	24	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 8 A3C	A2V00370043563	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370026076	16	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370022704	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036331	4	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001744997	4	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M10 8 A3C	A2V00370019094	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370055596	4	Ea
3	3	3	3	3	3	3	Lifting Stop Assembly	A2V00397274674		Ea
	4	4	4	4	4	4	Bolt	A2V00397129369	2	Ea
	4	4	4	4	4	4	THREADED BOLT	A2V00397233689	2	Ea
	4	4	4	4	4	4	Hexagon nut	A2V00370043805	2	Ea
	4	4	4	4	4	4	joint head GIR 25 UK	A2V00370026923	2	Ea
	4	4	4	4	4	4	HOSE DIN20018-DN25/39	A2V00370066657	0.134	**M**
	4	4	4	4	4	4	Hose clamp	A2V00370046890	4	Ea
	4	4	4	4	4	4	HOSE DIN20018-DN25/39	A2V00370066657	0.462	**M**
	4	4	4	4	4	4	Hexagon socket head cap screw	A2V00100196991	2	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745003	2	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M20 8 A3C	A2V00200506556	2	Ea
	4	4	4	4	4	4	Bushing	A2V00397131619	4	Ea
	4	4	4	4	4	4	Spring washer DIN 7980-10-FST-A2C	A2V00370026615	2	Ea
3	3	3	3	3	3	3	RAIL CLEARER ASSEMBLY	A2V00397267114		Ea
	4	4	4	4	4	4	RAIL CLEARER OPPOSITE A.DR.PAINTED	A2V00397257810	1	Ea
	4	4	4	4	4	4	SCREW DIN7991-M16x50-8.8-A3P	A2V00370064125	8	Ea
	4	4	4	4	4	4	Spring washer	A2V00002148539	8	Ea
	4	4	4	4	4	4	Hexagon nut ISO 7042 M16 8 A3C	A2V00370037132	8	Ea
3	3	3	3	3	3	3	PULL LUG ASSEMBLY	A2V00397267117		Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370035480	4	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001745000	4	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M12 8 A3C	A2V00370043563	4	Ea
3	3	3	3	3	3	3	Track brake assembly	A2V00001827860		Ea
	4	4	4	4	4	4	Hexagon head screw Verbus Ripp	A2V00002240507	8	Ea
	4	4	4	4	4	4	TRACK BRAKE SUSPENSION ASSY. COMPLETE	RS:A4528100	2	Ea
3	3	3	3	3	3	3	Piping Assembly	A2V00002066026		Ea
	4	4	4	4	4	4	COUPLING PARKER FF-371-6FB	A2V00370071491	4	Ea

SIEMENS

	4	4	4	4	4	4	Hose assembly F471ST 15.75	A2V00002459637	4	Ea
	4	4	4	4	4	4	Socket EO-EO2-RED10/08LOMDCF	A2V00370027394	4	Ea
	4	4	4	4	4	4	Socket EO-EO2-GEO10LMOMDCF	A2V00001889055	4	Ea
	4	4	4	4	4	4	Socket EO-EO2-GE08LR3/8EDOMDCF	A2V00001391196	4	Ea
3	3	3	3	3	3	3	Wiring	A2V00001673310		Ea
	4	4	4	4	4	4	Spring washer	A2V00002148485	16	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M6 8 A2C	A2V00001169471	16	Ea
	4	4	4	4	4	4	Hexagon socket head cap screw ISO 4762	A2V00355403750	8	Ea
	4	4	4	4	4	4	Spring washer	A2V00002148536	34	Ea
	4	4	4	4	4	4	Hexagon nut	A2V00370025738	40	Ea
	4	4	4	4	4	4	SPRING WASHER BN208012-06-A 10-NrFSt	A2V00370005987	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370044517	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036833	4	Ea
	4	4	4	4	4	4	Spring washer	A2V00150267631	4	Ea
	4	4	4	4	4	4	Hexagon nut ISO 4032 M6 A2-70	A2V00370036883	4	Ea
	4	4	4	4	4	4	Washer DIN 7349 8,4 200HV-A2	A2V00370066219	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370025704	4	Ea
	4	4	4	4	4	4	HEX.NUT ISO7042-M8-8-A3C-BN205107-A	A2V00370037129	4	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370032025	8	Ea
	4	4	4	4	4	4	Washer DIN 7349 10,5 200HV A3C	A2V00200531223	24	Ea
	4	4	4	4	4	4	hexagon nut ISO 7042 M10 8 A3C	A2V00370037130	16	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370027042	4	Ea
	4	4	4	4	4	4	Screw	A2V00370025171	16	Ea
	4	4	4	4	4	4	Hexagon head screw	A2V00370036372	8	Ea
	4	4	4	4	4	4	Load washer SCHNORR HS	A2V00001744997	8	Ea
	4	4	4	4	4	4	Washer ISO 7093-1 8 200HV-A4	A2V00001177061	2	Ea
	4	4	4	4	4	4	PE-rope, tin plated 70 10 10 300	A2V00397233523		Ea
		5	5	5	5	5	Tube terminal KRF 70-10	A2V00370062693	4	Ea
		5	5	5	5	5	Copper rope DIN46438-70-0,14-SN	A2V00370053179	0.8	**M**

UTA 1122 - Bill of Material (Compiled)

SIEMENS

Location	Part Number	Compnent desricpition	UOM	Accident Repair (qty)	Additional Items (qty)
A + B car Floor Insulation	RS:A8767200	KIT,UNDERFRAME,ASSY	PC	4	0
A + B car Floor Lining Tiles	RS:A0903300	560, 3M, SEALANT,ADHESIVE, POLYURETHA...	PC	2	0
	RS:A0905700	TAPE,FOAM,ADH,1/4"X1/2",CLOSED CELL ...	FT	40	0
	RS:A0920200	5766 DOLPHIN SEALANT FLOORSEAL GRAY 3...	PC	8	0
	RS:A2587900	INSULATION,FELT,1"X24"X48" 6 PCF	PC	3	0
	RS:A2666700	DP190, 3M, EPOXY, 2PART,50ML	PC	2	0
	RS:A4309600	FLOOR LINING,TILE,GRAY/RED	PC	220	0
	RS:A4309700	TRIM,NOSING W/ 1" RED STRIP	FT	160	0
	RS:A4309800	STRIP,RED,1-31/32"X60'	FT	20	0
	RS:A4320400	FOOTWELL,CAB,ASSY	PC	4	0
	RS:A4394000	PU310, NORA, EPOXY, FLOOR 1 GA	PC	16	0
	RS:A7853300	TRIM,ARTICULATION	PC	4	0
A + B Car Low Floor Panels	RS:A0253600	SPACER,FLOOR,10X30X4MM,RUBBER, F&S NE...	PC	1000	0
	RS:A0901900	5019H LOCTITE, ADHESIVE, INSTANT (SUP...	PC	225	0
	RS:A0903300	560, 3M, SEALANT,ADHESIVE, POLYURETHA...	PC	2	0
	RS:A0903400	540, 3M, SEALANT POLYURETHANE 600ML	PC	2	0
	RS:A0912800	01160 3M MAR-GLASS FILLER, REINFORCED...	GAL	4	0
	RS:A1400000	SPACER,FLOOR,10X30X1MM,RUBBER, F&S NE...	PC	80	0
	RS:A1400100	SPACER,FLOOR,10X30X2MM,RUBBER, F&S NE...	PC	120	0
	RS:A1927200	PLUG,BUTTON FLUSH,13/16"	PC	62	0
	RS:A2644800	CP 25WB+ 3M SEALANT FIRE BARRIER 20OZ	PC	70	0
	RS:A4280400	PANEL,FLOOR,LOW FLOOR,FRONT DOOR	PC	4	0
	RS:A4280500	PANEL,FLOOR,THRESHOLD	PC	8	0
	RS:A4281400	PANEL,FLOOR,LOW FLOOR,MID	PC	4	0
	RS:A4281500	PANEL, FLOOR, #14	PC	7	0
	RS:A4281600	PANEL, FLOOR, #15	PC	4	0
	RS:A4308500	PANEL,FLOOR,RAMP TRIM	PC	16	0
A + B Car Wall Insulation	RS:A0912700	TAPE,FOIL,.002"X2",ALUMINUM	FT	420	0
	RS:A1890700	CAP,RETAINING,INSULATION	PC	200	0
	RS:A1890801	HANGER,SPINDLE,INSULATION,2.5"	PC	200	0
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0
	RS:A5044600	KIT,SDWL,INSUL,PRE-CLADDING, A/B-CAR	PC	4	0
	RS:A5044700	KIT,SDWL,INSUL,POST-CLADDING, A/B-CAR	PC	4	0
	RS:A5044800	KIT,SDWL,INSUL,FLOOR LEVEL,A/B CAR	PC	4	0
A Car belly Pans Compl.	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	423	0
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	453	0
	RS:A2644800	CP 25WB+ 3M SEALANT FIRE BARRIER 20OZ	PC	70	0
	RS:C2333400	U-PROFILE,SUBFLOOR,SHEETS,BL2X 57X690...	PC	16	0
	RS:C2334000	DISTANCE,WASHER,SUBFLOOR,RD25X 8,POLY...	PC	36	0
	RS:C2671800	U-PROFILE,BELLYPAN,CENTER	PC	8	0
	RS:C2693000	U-PROFILE,SUBFLOOR,SHEETS	PC	2	0
	RS:C2695600	SPACER,MID,BELLY PAN	PC	4	0

	RS:C2695700	SPACER,TAPERED,BELLY PAN	PC	16	0	
	RS:C2695800	SPACER,LONG,BELLY PAN	PC	4	0	
	RS:C2722600	SHEET,SUBFLOOR,U/F,LOWFLOOR	PC	4	0	
	RS:C2722700	SHEET,SUBFLOOR,ARTICULATION	PC	2	0	
	RS:C2722800	SHEET,SUBFLOOR,MID-PORTAL	PC	4	0	
	RS:C2722900	SHEET,SUBFLOOR,MID SECTION	PC	2	0	
	RS:C2728800	U-PROFILE,SUBFLOOR,SHEET,1515	PC	4	0	
	RS:C2728900	U-PROFILE,SUBFLOOR,SHEET,1020	PC	4	0	
	RS:C2729000	U-PROFILE,SUBFLOOR,SHEET,1580	PC	8	0	
	RS:C2729100	U-PROFILE,SUBFLOOR,SHEET,1735	PC	4	0	
	RS:C2729200	U-PROFILE,SUBFLOOR,SHEET,330	PC	4	0	
	RS:C2758201	ASSY,SUBFLOOR,U/F,LOWFLOOR	PC	4	0	
A/B Car Cladding	RS:A0912300	TAPE,VHB,1.1MMX25MM,ACRYLIC	FT	6	0	
	RS:A0918100	DP810, 3M, ACRYLIC, 2PART, ADHESIVE L...	PC	12	0	
	RS:A4245200	PANEL,CLADDING,#1	PC	2	0	
	RS:A4245300	PANEL,CLADDING,#2	PC	2	0	
	RS:A4253002	PANEL,CLADDING,RAMP,RH	PC	2	0	
	RS:C2231100	PULTRUSION 2	PC	4	0	
	RS:C2231200	PULTRUSION 3	PC	3	0	
	RS:C2232100	CLADDING,PANEL,MID,A/B-CAR	PC	2	0	
	RS:C2233700	ENDCAP,STRAIT	PC	2	0	
	RS:C2233800	ENDCAP,ANGLED	PC	12	0	
	RS:C2666200	PLATE,TUBELIGHT	PC	4	0	
	RS:C2703801	CLADDING,L-FL,UPPER ASSY,LH	PC	2	0	
	RS:C2703802	CLADDING,L-FL,UPPER ASSY,RH	PC	2	0	
	RS:C2703902	CLADDING,H-FL,MID ASSY,RH	PC	2	0	
	RS:C2704000	CLADDING,L-FL,MID ASSY	PC	4	0	
	RS:C2704101	CLADDING,ARTCLN,MID,LH	PC	2	0	
	RS:C2704102	CLADDING,ARTCLN,MID,RH	PC	2	0	
	RS:C2704200	CLADDING,L-FL,LWR	PC	2	0	
	RS:C2704300	CLADDING,END,LOWER,LH	PC	2	0	
	RS:C2704400	CLADDING,END,LOWER,RH	PC	2	0	
	RS:C2704500	CLADDING,PANEL,MID,A/B-CAR	PC	4	0	
	RS:C2705301	PULTRUSION,DOOR,INNER ASSY,LH	PC	4	0	
	RS:C2705302	PULTRUSION,DOOR,INNER ASSY,RH	PC	4	0	
	RS:C2705401	PULTRUSION,DOOR,OUTER ASSY,LH	PC	2	0	
	RS:C2705402	PULTRUSION,DOOR,OUTER ASSY,RH	PC	2	0	
	RS:C2744200	PLATE,SIGNAL,TURN	PC	2	0	
A/B Truck skirts and HW	RS:A0700006	WASHER,FL,M8,DIN125A,SST	PC	38	0	
	RS:A0700202	WASHER,SPR LK,M8,DIN127B,SST	PC	36	0	
	RS:A0700207	WASHER,SPR LK,M10,DIN127B,SST	PC	53	0	
	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	664	0	
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	701	0	
	RS:A0701802	WASHER,FL FNDR,M10,DIN9021B,SS T	PC	51	0	

	RS:A0702200	SCREW,HEX HD,M10X20,DIN933,SST	PC	12	0
	RS:A0703601	SCREW,HEX HD,M8X20,DIN933,SST	PC	36	0
	RS:A0703602	SCREW,HEX HD,M8X25,DIN933,SST	PC	24	0
	RS:A0703900	NUT,HEX,JAM,M6,DIN439B,SST	PC	18	0
	RS:A0718005	NUT,LOCK,M8,DIN985,ZN	PC	36	0
	RS:A0720700	WASHER,FL FNDR,M8,DIN9021B,ZN	PC	76	0
	RS:A0770802	NUT,CHANNEL,W/SPR,M8,ZN	PC	12	0
	RS:A1822500	BUMPER,STOP,3/4"ODX1/2" TALL M6 X 1-3...	PC	16	0
	RS:A1824500	CLIP,SAFETY,13MM BALL SOCKET	PC	32	0
	RS:A2130300	SPACER,CLADDING,10MM,MEDIUM	PC	12	0
	RS:A2130400	SPACER,CLADDING,5MM,MEDIUM	PC	12	0
	RS:A2192900	GAS SPRING,SKIRTS,A/B-CAR	PC	10	0
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	36	0
	RS:A2936300	STUD,BALL,M8X1.25x25MM lG STUD,ZN	PC	32	0
	RS:A4206900	LATCH,SAFETY,SKIRT WHITE RAIL 9016	PC	8	0
	RS:A4242600	NEOPRENE,SHEET,3MM THK X60MM WIDE,60...	PC	96	0
	RS:A4589600	ASSY,LOCK,8MM TRI STUD,19MM GRIP,SST	PC	24	0
	RS:A4613100	ASSY LOCK 8MM TRI STUD 19MM GRIP SSTC...	PC	6	0
	RS:A4628901	SKIRT,POWER TRUCK,FRP,LH	PC	2	0
	RS:A4628902	SKIRT,POWER TRUCK,FRP,RH	PC	2	0
	RS:A4629000	WELD,PLATE,SKIRT,FRONT	PC	5	0
	RS:A4629100	WELD,PLATE,SKIRT,REAR	PC	5	0
	RS:A4629200	BRACKET,STRUT,HORIZONTAL,FRONT	PC	5	0
	RS:A4629300	BRACKET,STRUT,HORIZONTAL,REAR	PC	5	0
	RS:A4629400	BRACKET,SKIRT,GAS SPRING,FRONT	PC	5	0
	RS:A4629501	BRACKET,LATCH,SAFETY,LH	PC	6	0
	RS:A4629502	BRACKET,LATCH,SAFETY,RH	PC	6	0
	RS:A7989200	HINGE,SKIRT,3"X4"X1/4 PIN	PC	45	0
	RS:A7989400	WELD PLATE,SKIRT,SHORT	PC	13	0
	RS:A7989601	BRACKET,SKIRT,GAS SPRING,A-CAR ,REAR,...	PC	6	0
	RS:A7989602	BRACKET,SKIRT,GAS SPRING,RH	PC	6	0
A/B/C Paint	RS:A3792500	6597 NAPA ACCELERATOR STANDARD QT	QT	47	0
	RS:A3792700	CS30 NAPA COMPLIANT SOLVENT GA	GAL	3	0
	RS:A4085100	PRISM, 6496, HARDENER SINGLE STAGE	GAL	2	0
	RS:A4587300	64-96551-A NAPA RAL9016 WHITE SLC PRI...	GAL	3	0
ADA ramp electrical power whip assembly	RS:A0396900	CONDUIT,CORRUGATED,PLASTIC,NW 17,21.2...	FT	0	0
	RS:A4539500	PMA ADAPTER UNEF1/2-28",NW17, IP68,BL...	PC	0	0
	RS:A4539600	PMA 90° NPT 1/2",NW17, IP68, BLACK	PC	0	0
Articulation Disk (Pie Plate)	A2V00107083211	GLUE,LOCTITE 243	PC	0	0
	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	0	0
	RS:A0706406	SCREW,SCH,FLH,M6X20,DIN7991,SS T	PC	0	0
	RS:A0706602	SCREW,SCH,FLH,M8X30,DIN7991,SS T	PC	0	0
	RS:A0717700	WASHER,FL,THK,M8,DIN7349,SS	PC	0	0
	RS:A2731700	SHIM,RING,DIN988-8,4X24X1.0	PC	0	0

	RS:A2740000	SCREW,SCH,FLH,M8X45,DIN7991,SS T	PC	0	0
	RS:A2740300	FLOOR PLATE COMPLETE	PC	0	0
	RS:A3467500	BLOCK,TENON,ARTICULATION	LB	0	0
	RS:A3469800	SCREW,SCH,FLH,M8X20,DIN7991,SS T	PC	0	0
	RS:A4274000	TURN TABLE COMPLETE,7MM TRI,LH	PC	0	0
	RS:A4274100	TURN TABLE COMPLETE,7MM TRI,RH	PC	0	0
Articulation Bearing (lower)	A2V00109419236	ARTICULATION BEARING	PC	2	0
	RS:A8882000	COVER COMPLETE	PC	2	0
	RS:A4940600	FITTING,GREASE,M10X1,90 DEG,SS	PC	4	0
	RS:A2570600	PIN,SPRING,DIN1481,25X32,A2-70	PC	20	0
	RS:A2570700	SCREW,SCH,LWHD,M12X30,DIN7984, SST	PC	32	0
	RS:A2570800	SCREW,SCH,FLH,M12X20,DIN7991,S ST	PC	6	0
	RS:A2570900	WASHER,M12-19.5,DIN25201,A4	PC	32	0
Bridgeplates (ADA Ramps) A/B Cars	RS:A0700204	WASHER,SPR LK,M12,DIN127B,SST	PC	0	0
	RS:A0700207	WASHER,SPR LK,M10,DIN127B,SST	PC	0	0
	RS:A0701802	WASHER,FL FNDR,M10,DIN9021B,SS T	PC	0	0
	RS:A0701804	WASHER,FL FNDR,M12,DIN9021B,SS T	PC	0	0
	RS:A0704104	NUT,HEX,M12,DIN934,SST	PC	0	0
	RS:A0712206	SCREW,HEX HD,M10X16,DIN933,ZN	PC	0	0
	RS:A0712709	WASHER,SPR LK,M10,DIN127B,ZN	PC	0	0
	RS:A0718403	WASHER,FL,M10,DIN125A,ZN	PC	0	0
	RS:A0721101	SCREW,HEX HD,M3X10,DIN933,ZN	PC	0	0
	RS:A0902400	TAPE,FOAM,ADH,1/8"X1/2",CLOSED CELL N...	PC	0	0
	RS:A1230104	ASSY,GROUND,M10/M6,AWG5 COPPER	PC	0	0
	RS:A1491503	ASSY,GROUND,M10/M8,AWG5,COPPER	PC	0	0
	RS:A2883100	SCREW,SCH,M10X70,DIN912,SST	PC	0	0
	RS:A4116801	SHIM,LARGE,BRIDGEPLATE	FOZ	0	0
	RS:A4116802	SHIM,LARGE,BRIDGEPLATE	PC	0	0
	RS:A4265500	BRIDGEPLATE,W/HEATED THRESHOLD	PC	0	0
	RS:A4393400	TRIM,LINER,BRIDGEPLATE,TOP	PC	0	0
	RS:A4393501	TRIM,LINER,BRIDGEPLATE,LEFT	PC	0	0
	RS:A4393502	TRIM,LINER,BRIDGEPLATE,RIGHT	PC	0	0
	RS:A4497800	SCR,SCH,HEXALOBULAR HD,LWHD,M4 X12,SS...	PC	0	0
	RS:A4511601	SHIM,BRIDGEPLATE,1MM	PC	0	0
	RS:A4511602	SHIM,BRIDGEPLATE,2MM	PC	0	0
	RS:A4589100	PLUG,BUTTON FLUSH,1 3/8"	FOZ	0	0
C Car Cladding	RS:C2234000	CLADDING,PANEL,C-CAR	PC	2	0
	RS:C2666600	CLADDING, C-CAR, MID	PC	1	0
C car Insulation	RS:A0912700	TAPE,FOIL,.002"X2",ALUMINUM	FT	420	0
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0
	RS:A2786900	INSULATION,FELT,2"X24"X48",3 P CF	PC	6	0
	RS:A4446000	KIT,SDWL,INSUL,C-CAR,PRE- CLADDING	PC	2	0
	RS:A4446200	KIT,SDWL,INSUL,C-CAR,POST- CLADDING	PC	2	0
C Car Speed Sensor Plugs/HW	RS:A0712608	NUT,HEX,M5,DIN934,ZN	PC	0	0

	RS:A0712705	WASHER,SPR LK,M5,DIN127B,ZN	PC	0	0
	RS:A0718405	WASHER,FL,M5,DIN125A,ZN	PC	0	0
	RS:A2139600	CONTACT,FEMALE,35-70MM SQ,35OA MP,HAN...	PC	0	0
	RS:A2139700	FRAME,1-POLE,HAN,MODULAR,SZ6B	PC	0	0
	RS:A2139800	HOUSING,BULKHEAD,HAN-MODULAR,S Z6B	PC	0	0
	RS:A2724200	CLAMP ASSY,2X 21.3MM,M8 MTD HR DWR	ML	0	0
	RS:A3545200	SCREW,PNH,PHH,M5X25,DIN7985A,Z N	PC	0	0
C car Truck Eye	RS:C2318700	EYE BAR, 10X416.5X494	PC	4	0
	RS:C2329800	RING 12X60X60	PC	4	0
C car Upper Pitching Joint	A2V0014213221	BOLT, MACHINE, HEX HD, M20 X 100	PC	2	0
	RS:09419227	UPPER PITCHING JOINT, C-CAR	PC	1	0
	RS:A2571300	WASHER, M20-39, DIN25201	PC	4	0
		WASHER, M20-39, DIN25201, A4	PC	4	0
	RS:A2571400	PIN, SLOTTED SPRING, 25 X 40	PC	2	0
		PIN, SLOTTED SPRING, 25 X 60	PC	2	0
	RS:A2571500	NUT, HEX, M20, DIN934	PC	4	0
	RS:A2571600	BOLT, MACHINE, HEX HD, M20 X 80	PC	2	0
	RS:C2375300	SUPPORT,BEARING PLATE, Middle	PC	1	0
	RS:C2375400	SUPPORT,BEARING PLATE,	PC	2	0
	RS:C2538100	A6MC2538100_-_.PRT PLATE,BEARING MNT,	PC	1	0
Cab Skirts and HW A-Car Only	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	658	0
	RS:A0701801	WASHER,FL FNDR,M6,DIN9021B,SST	PC	60	0
	RS:A0703602	SCREW,HEX HD,M8X25,DIN933,SST	PC	30	0
	RS:A0704800	SCREW,HEX HD,M6X16,DIN933,SST	PC	12	0
	RS:A0704801	SCREW,HEX HD,M6X20,DIN933,SST	PC	48	0
	RS:A0709200	WASHER,SPR LK,M8,DIN128A,SST	PC	12	0
	RS:A0709201	WASHER,SPR LK,M6,DIN128A,SST	PC	60	0
	RS:A0912200	TAPE,FOAM,ADH,1/16"X1",CLOSED CELL NE...	FT	45	0
	RS:A1983500	NUT,LOCK,M8,DIN985,SST	PC	6	0
	RS:A3676100	NUT,CHANNEL,W/SPR,M6,SST	PC	48	0
	RS:A4308401	SKIRT,SIDE,CAB,LH	PC	2	0
	RS:A4308402	SKIRT,SIDE,CAB,RH	PC	1	0
	RS:A4318101	BRACKET,SUPPORT,SKIRT,LH	PC	3	0
	RS:A4318102	BRACKET,SUPPORT,SKIRT,RH	PC	3	0
	RS:A4318201	BRACKET,SUPPORT,SKIRT,FRONT,LH	PC	3	0
	RS:A4318202	BRACKET,SUPPORT,SKIRT,FRONT,RH	PC	3	0
	RS:A4318400	L-BRACKET,SKIRT,HINGE	PC	12	0
	RS:A4484100	BRACKET,SKIRT,FRONT	PC	6	0
	RS:C2398100	SHIM,SHORT,5MM	PC	12	0
	RS:C2398900	SHIM,SHORT,1MM	PC	36	0
Cab Skirts and HW B-Car Only	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	658	0
	RS:A0701801	WASHER,FL FNDR,M6,DIN9021B,SST	PC	60	0
	RS:A0703602	SCREW,HEX HD,M8X25,DIN933,SST	PC	30	0
	RS:A0704800	SCREW,HEX HD,M6X16,DIN933,SST	PC	12	0

	RS:A0704801	SCREW,HEX HD,M6X20,DIN933,SST	PC	48	0	
	RS:A0709200	WASHER,SPR LK,M8,DIN128A,SST	PC	12	0	
	RS:A0709201	WASHER,SPR LK,M6,DIN128A,SST	PC	60	0	
	RS:A0912200	TAPE,FOAM,ADH,1/16"X1",CLOSED CELL NE...	FT	45	0	
	RS:A1983500	NUT,LOCK,M8,DIN985,SST	PC	6	0	
	RS:A3676100	NUT,CHANNEL,W/SPR,M6,SST	PC	48	0	
	RS:A4308401	SKIRT,SIDE,CAB,LH	PC	1	0	
	RS:A4308402	SKIRT,SIDE,CAB,RH	PC	2	0	
	RS:A4318101	BRACKET,SUPPORT,SKIRT,LH	PC	3	0	
	RS:A4318102	BRACKET,SUPPORT,SKIRT,RH	PC	3	0	
	RS:A4318201	BRACKET,SUPPORT,SKIRT,FRONT,LH	PC	3	0	
	RS:A4318202	BRACKET,SUPPORT,SKIRT,FRONT,RH	PC	3	0	
	RS:A4318400	L-BRACKET,SKIRT,HINGE	PC	12	0	
	RS:A4484100	BRACKET,SKIRT,FRONT	PC	6	0	
	RS:C2398100	SHIM,SHORT,5MM	PC	12	0	
	RS:C2398900	SHIM,SHORT,1MM	PC	36	0	
C-Car Truck Skirts LH	RS:A0700207	WASHER,SPR LK,M10,DIN127B,SST	PC	39	0	
	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	423	0	
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	453	0	
	RS:A0701802	WASHER,FL FNDR,M10,DIN9021B,SS T	PC	38	0	
	RS:A0702202	SCREW,HEX HD,M10X25,DIN933,SST	PC	13	0	
	RS:A0703601	SCREW,HEX HD,M8X20,DIN933,SST	PC	28	0	
	RS:A0703900	NUT,HEX,JAM,M6,DIN439B,SST	PC	12	0	
	RS:A0718005	NUT,LOCK,M8,DIN985,ZN	PC	24	0	
	RS:A0720700	WASHER,FL FNDR,M8,DIN9021B,ZN	PC	56	0	
	RS:A1822500	BUMPER,STOP,3/4"ODX1/2" TALL M6 X 1-3...	PC	12	0	
	RS:A1824500	CLIP,SAFETY,13MM BALL SOCKET	PC	24	0	
	RS:A2130300	SPACER,CLADDING,10MM,MEDIUM	PC	8	0	
	RS:A2130400	SPACER,CLADDING,5MM,MEDIUM	PC	8	0	
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0	
	RS:A2644403	SHIM,DRIVE MOUNT,#2,90X1	PC	25	0	
	RS:A2936300	STUD,BALL,M8X1.25x25MM lG STUD,ZN	PC	24	0	
	RS:A4206900	LATCH,SAFETY,SKIRT WHITE RAIL 9016	PC	6	0	
	RS:A4242600	NEOPRENE,SHEET,3MM THK X60MM WIDE,60...	PC	72	0	
	RS:A4589600	ASSY,LOCK,8MM TRI STUD,19MM GRIP,SST	PC	16	0	
	RS:A4633201	SKIRT,NON-POWER TRUCK,C-CAR	PC	1	0	
	RS:A4633300	BRACKET,STRUT,HORIZONTAL,C-CA	PC	4	0	
	RS:A4633400	WELD,PLATE,SKIRT,C-CAR	PC	4	0	
	RS:A4939400	STRUT,GAS,780N	PC	4	0	
	RS:A7714200	BRACKET,LATCH,SAFETY,C-CAR	PC	2	0	
	RS:A7714300	BRACKET,SKIRT,GAS SPRING,C-CAR	PC	4	0	
	RS:A7989200	HINGE,SKIRT,3"X4"X1/4 PIN	PC	34	0	
	RS:A7989400	WELD PLATE,SKIRT,SHORT	PC	10	0	
C-Car Truck Skirts RH	RS:A0700207	WASHER,SPR LK,M10,DIN127B,SST	PC	92	0	

	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	1087	0
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	1154	0
	RS:A0701802	WASHER,FL FNDR,M10,DIN9021B,SS T	PC	89	0
	RS:A0702202	SCREW,HEX HD,M10X25,DIN933,SST	PC	34	0
	RS:A0703601	SCREW,HEX HD,M8X20,DIN933,SST	PC	64	0
	RS:A0703900	NUT,HEX,JAM,M6,DIN439B,SST	PC	30	0
	RS:A0718005	NUT,LOCK,M8,DIN985,ZN	PC	60	0
	RS:A0720700	WASHER,FL FNDR,M8,DIN9021B,ZN	PC	132	0
	RS:A1822500	BUMPER,STOP,3/4"ODX1/2" TALL M6 X 1-3...	PC	28	0
	RS:A1824500	CLIP,SAFETY,13MM BALL SOCKET	PC	56	0
	RS:A2130300	SPACER,CLADDING,10MM,MEDIUM	PC	20	0
	RS:A2130400	SPACER,CLADDING,5MM,MEDIUM	PC	20	0
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	54	0
	RS:A2644403	SHIM,DRIVE MOUNT,#2,90X1	PC	62	0
	RS:A2936300	STUD,BALL,M8X1.25x25MM lG STUD,ZN	PC	56	0
	RS:A4206900	LATCH,SAFETY,SKIRT WHITE RAIL 9016	PC	14	0
	RS:A4242600	NEOPRENE,SHEET,3MM THK X60MM WIDE,60...	PC	168	0
	RS:A4589600	ASSY,LOCK,8MM TRI STUD,19MM GRIP,SST	PC	40	0
	RS:A4633201	SKIRT,NON-POWER TRUCK,C-CAR	PC	2	0
	RS:A4633300	BRACKET,STRUT,HORIZONTAL,C-CA	PC	10	0
	RS:A4633400	WELD,PLATE,SKIRT,C-CAR	PC	10	0
	RS:A4939400	STRUT,GAS,780N	PC	10	0
	RS:A7714200	BRACKET,LATCH,SAFETY,C-CAR	PC	5	0
	RS:A7714300	BRACKET,SKIRT,GAS SPRING,C-CAR	PC	10	0
	RS:A7989200	HINGE,SKIRT,3"X4"X1/4 PIN	PC	79	0
	RS:A7989400	WELD PLATE,SKIRT,SHORT	PC	23	0
Door Operators	RS:A4263600	DOOR CONTROL UNIT,MASTER (A car door 1 only)	PC	1	0
	RS:A4263700	DOOR OPERATOR	PC	2	0
	RS:A4266000	DOOR CONTROL UNIT, COMMON	PC	1	0
Door Post Cover, Emitter (lights) A/B	RS:A4337400	Plate, Emitter, Door Post Cover	PC	0	0
Emergency release handle hatch	RS:A0701805	WASHER,FL FNDR,M4,DIN9021B,SST	PC	0	0
	RS:A0704106	NUT,HEX,M4,DIN934,SST	PC	0	0
	RS:A4307901	HINGE PLATE,ADJUSTABLE,EMR REL EASE/C...	PC	0	0
	RS:A4308001	ASSY,DOOR,EXT,EMR RELEASE/CREW KEY BO...LH	PC	0	0
	RS:A4308002	ASSY,DOOR,EXT,EMR RELEASE/CREW KEY BO...RH	PC	0	0
	RS:A4345100	8MM TRI,SST(EMKA 1000-U134/ U335/991)	PC	0	0
	RS:A4570100	CAM,SST, 1000-223	PC	0	0
	RS:A5075700	GROMMET,01/4"IDX05/8"OD,01/8"	PC	0	0
Exterior Doors	RS:A4263300	DOOR PANEL,RH, DS PB & DS ADA PB - ADA Door 13 – right	PC	0	0
	RS:A4263400	DOOR PANEL,LH, COMMON,DS PB & DS OOS - ADA Door 12 – left	PC	0	0
	RS:A4263500	DOOR PANEL,RH, DS PB - Door 11 – right	PC	0	0
HV 162 Box and HW	A2V00100096989	NUT,FITTING,MPG16,DIN46320,MS, NI PL	PC	1	0
	RS:A0679400	ROPE,COPPER,TINNED,AWG2/0	PC	2	0
	RS:A0700000	WASHER,FL,M10,DIN125A,SST	PC	5	0

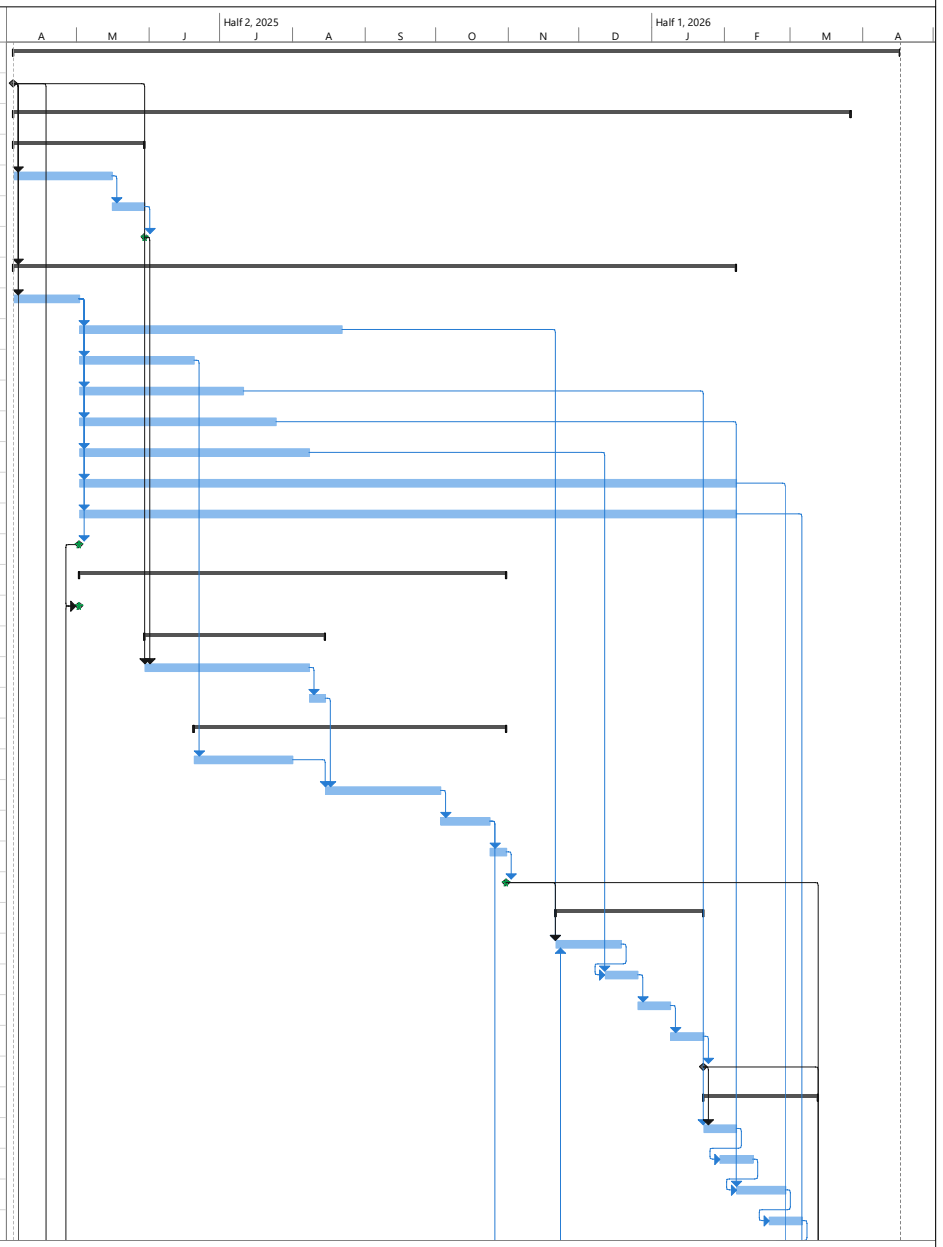
	RS:A0700006	WASHER,FL,M8,DIN125A,SST	PC	25	0	
	RS:A0700202	WASHER,SPR LK,M8,DIN127B,SST	PC	24	0	
	RS:A0700207	WASHER,SPR LK,M10,DIN127B,SST	PC	39	0	
	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	423	0	
	RS:A0700502	SCREW,SCH,M6X16,DIN912,SST	PC	24	0	
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	453	0	
	RS:A0701802	WASHER,FL FNDR,M10,DIN9021B,SS T	PC	38	0	
	RS:A0702202	SCREW,HEX HD,M10X25,DIN933,SST	PC	13	0	
	RS:A0702211	SCREW,HEX HD,M10X50,DIN933,SST	PC	1	0	
	RS:A0704102	NUT,HEX,M8,DIN934,SST	PC	8	0	
	RS:A0704103	NUT,HEX,M10,DIN934,SST	PC	3	0	
	RS:A0709501	FITTING,CABLE,PG16/15,10.5-7.0 ,NI PL	PC	1	0	
	RS:A0717800	CLAMP,HOSE,9/16"X63.5-311.1MM, SST	PC	2	0	
	RS:A0784300	GUARD,EDGE,FLEX,0.52",.032-.12 5" PAN...	PC	2	0	
	RS:A0903400	540, 3M, SEALANT POLYURETHANE 600ML	PC	2	0	
	RS:A1230008	ASSY,GROUND,M10/M10,2/0 COPPER /TINNE...	PC	1	0	
	RS:A1894900	LABEL,METALIZED POLYESTER,0.5" H X 1....	PC	6	0	
	RS:A1895700	LABEL,WRAPAROUND WHITE,1X3.75"	PC	1	0	
	RS:A2587400	INSULATION,FELT,3"X24"X48",6 P CF	PC	2	0	
	RS:A2587900	INSULATION,FELT,1"X24"X48" 6 PCF	PC	3	0	
	RS:A2644800	CP 25WB+ 3M SEALANT FIRE BARRIER 20OZ	PC	70	0	
	RS:A2982200	ENDOTHERMIC,FIBER BLANKET ,24.5"X20'X...	PC	1	0	
	RS:A3138000	WRAP,FIRE BARRIER,2"X24"	PC	24	0	
	RS:A3138100	INSULATION,BLOWING WOOL	PC	1	0	
	RS:A3516200	HAN-48B,MOTOR QUICK DISCONNECT ,HOUSI...	PC	2	0	
	RS:A4254400	PLATE,LOWER,FIRESEAL,RACK RIGHT SIDE	PC	1	0	
	RS:A4254700	PLATE,INTERFACE,J-BOX,RIGHT SIDE	PC	1	0	
	RS:A4255000	PLATE,UPPER,FIRESEAL,RACK, RIGHT SIDE	PC	2	0	
	RS:A4255100	SLIDE,FIRESEAL,RACK,RIGHT SIDE	PC	2	0	
	RS:A4267400	WELDMENT,J-BOX,162	PC	1	0	
	RS:A4267500	COVER,J-BOX,162,BOTTOM	PC	1	0	
	RS:A5376900	LUG,RING,70mm2, AWG2/0 & ROPE M10,(13...	PC	2	0	
	RS:A5846000	GASKET,J-BOX,162,ADH BACKED	PC	1	0	
Roof Shrouds	RS:A0700200	WASHER,SPR LK,M6,DIN127B,SST	PC	16	0	
	RS:A0700402	NUT,LOCK,M8,DIN985,SST	PC	423	0	
	RS:A0701800	WASHER,FL FNDR,M8,DIN9021B,SST	PC	453	0	
	RS:A0704804	SCREW,HEX HD,M6X25,DIN933,SST	PC	16	0	
	RS:A0918100	DP810, 3M, ACRYLIC, 2PART, ADHESIVE L...	PC	12	0	
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0	
	RS:A2544200	NUT,CAGE,M6X1.7-2.7,BN3307,SST	PC	16	0	
	RS:A2550000	WASHER,SEALING,1/4"X3/4"OD BONDED,SST	PC	16	0	
	RS:A2572400	WASHER,FL,.815 ID X 1.068 OD X .15" T...	PC	16	0	
	RS:A4242700	NEOPRENE,SHEET,3MM THKX350X100 60 DUR...	FT	2	0	
	RS:A4243301	SHROUD,ROOF,FRONT	PC	1	0	

	RS:A4243401	SHROUDS,ROOF,REAR,LH	PC	1	0
	RS:A4243402	SHROUDS,ROOF,REAR,RH	PC	1	0
	RS:A4940300	BRACKET,SHROUD,SHORT,SST	PC	2	0
	RS:A4940400	BRACKET,SHROUD,WIDE	PC	2	0
	RS:A4944200	PLATE,STUDS,SHROUDS	PC	15	0
	RS:A7788700	RUBBER,SHROUDS,BRACKET,SST	PC	9	0
	RS:C2662400	BAFFLE	PC	2	0
Swivel Ring	A2V00397248176	Swivel ring painted (97248176)	PC	2	0
	A2V00397239151	Bush (97239151)	PC	2	0
	A2V00397239805	BOLT (97239805)	PC	2	0
	A2V00370069475	SEAL V-RING V-45A (970069475)	PC	2	0
	A2V00397239939	Wear Ring, painted (97239939)	PC	2	0
	A2V00370027222	SLOT.CASTLE NUT DIN935-M36-8-A2C (70027222)	PC	2	0
Washer Bottle -Windshield	A6X30235255	INSTL,WINDSHIELD WASH BOTTLE,SLC	PC	2	0
Windows A/B Car	RS:A0901900	5019H LOCTITE, ADHESIVE, INSTANT (SUP...	PC	220	5
	RS:A2043600	SPACER,FLOOR,10X30X10MM,RUBBER 50 DUR...	PC	56	56
	RS:A2043700	SPACER,FLOOR,10X30X6MM,RUBBER, 50 DUR..	PC	12	12
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0
	RS:A2529800	70-01 BOSTIK SEALANT SOFT 600 ML TUBE	PC	2	0
	RS:A4252500	WINDOW,PASSENGER,LOW FLOOR A/B	PC	2	2
	RS:A4270000	WINDOW PASSENGER HIGH FLOOR A/B	PC	4	4
Windows C Car	RS:A0901900	5019H LOCTITE, ADHESIVE, INSTANT (SUP...	PC	220	5
	RS:A2043600	SPACER,FLOOR,10X30X10MM,RUBBER 50 DUR...	PC	56	56
	RS:A2043700	SPACER,FLOOR,10X30X6MM,RUBBER, 50 DUR...	PC	12	12
	RS:A2529700	70-08 BOSTIK ADHESIVE WINDSHIELD HARD...	PC	18	0
	RS:A2529800	70-01 BOSTIK SEALANT SOFT 600 ML TUBE	PC	2	0
	RS:A4270100	WINDOW,PASSENGER,C-CAR	PC	2	2
Wiper ARM HW included	RS:A4621400	WIPER ARM, ASSY, W/AUX ARM,S70	PC	0	0
	RS:A5500700	BLADE,ASSY,WINDSHIELD WIPER	PC	0	0
	RS:A0704306	NUT,U-TYPE,SELF RETAINING,M5,Z N PL S...	PC	0	0
	RS:A4253201	HOUSING,HTR,SIDEWALL,MID	PC	0	0
	RS:A4274700	HEATER ASSY,SIDEWALL,1008	PC	0	0
	RS:A4275000	INSUL,GLASTIC,HEATER,HF	PC	0	0
	RS:A4296900	BRACKET,MOUNT,OPERATOR,DOOR,M	PC	0	0
	RS:A4557100	BRACKET, CABLE CROSSOVER HANG	PC	0	0

SIEMENS

UTA 1122 - Accident Repair (Phase 1, 2 & 3) Timeline

ID	Task Mode	% Complete	Task Name	Duration	Start	Finish	Predecessors
1		**0%**	**UTA 1122 - Accident Repair Complete**	**54 wks**	**Fri 4/4/25**	**Thu 4/16/26**	
2		***0%***	***NTP / PO***	***0 days***	***Fri 4/4/25***	***Fri 4/4/25***	
3		**0%**	**Phase 1 - Vehicle Repair**	**51 wks**	**Fri 4/4/25**	**Thu 3/26/26**	
4		**0%**	**Engineering**	**8 wks**	**Fri 4/4/25**	**Thu 5/29/25**	
5		0%	Repair Procedure	6 wks	Fri 4/4/25	Thu 5/15/25	2
6		0%	UTA Comments & Acceptance	2 wks	Fri 5/16/25	Thu 5/29/25	5
7		*0%*	*Repair Procedure Approved*	*0 wks*	*Thu 5/29/25*	*Thu 5/29/25*	*6*
8		**0%**	**Material Purchasing**	**44 wks**	**Fri 4/4/25**	**Thu 2/5/26**	**2**
9		0%	Quotes update and PO release	4 wks	Fri 4/4/25	Thu 5/1/25	2
10		0%	Electrical	16 wks	Fri 5/2/25	Thu 8/21/25	9
11		0%	Sidewall components	7 wks	Fri 5/2/25	Thu 6/19/25	9
12		0%	Windows	10 wks	Fri 5/2/25	Thu 7/10/25	9
13		0%	Cladding and Interior Panels	12 wks	Fri 5/2/25	Thu 7/24/25	9
14		0%	Flooring	14 wks	Fri 5/2/25	Thu 8/7/25	9
15		0%	DCU	40 wks	Fri 5/2/25	Thu 2/5/26	9
16		0%	Door Operator	40 wks	Fri 5/2/25	Thu 2/5/26	9
17		*0%*	*Purchase Order placement with all suppliers*	*0 days*	*Thu 5/1/25*	*Thu 5/1/25*	*9*
18		**0%**	**Structural Repair**	**26 wks**	**Thu 5/1/25**	**Thu 10/30/25**	
19		*0%*	*Full Vehicle Teardown*	*0 days*	*Thu 5/1/25*	*Thu 5/1/25*	*17SS*
20		**0%**	**Weld Repair - Phase 1**	**11 wks**	**Fri 5/30/25**	**Thu 8/14/25**	
21		0%	C-car repair	10 wks	Fri 5/30/25	Thu 8/7/25	2FS+4 wks,7
22		0%	QA Inspection	1 wk	Fri 8/8/25	Thu 8/14/25	21
23		**0%**	**Weld Repair - Phase 2**	**19 wks**	**Fri 6/20/25**	**Thu 10/30/25**	
24		0%	Sidewall production (FRD)	6 wks	Fri 6/20/25	Thu 7/31/25	11
25		0%	Door portal repair (remove damaged structure, insert fabricated wall)	7 wks	Fri 8/15/25	Thu 10/2/25	22,24
26		0%	Undercar repair	3 wks	Fri 10/3/25	Thu 10/23/25	25
27		0%	QA Inspection	1 wk	Fri 10/24/25	Thu 10/30/25	26
28		*0%*	*Structural Repair Work finished*	*0 days*	*Thu 10/30/2*	*Thu 10/30/25*	*27*
29		**0%**	**Re-Assembly**	**9 wks**	**Fri 11/21/25**	**Thu 1/22/26**	
30		0%	Electrical rework	4 wks	Fri 11/21/25	Thu 12/18/25	28,10,46
31		0%	Subfloor installation	2 wks	Fri 12/12/25	Thu 12/25/25	30FS-1 wk,14
32		0%	Sidewall heat	2 wks	Fri 12/26/25	Thu 1/8/26	31
33		0%	Floor finishing	2 wks	Fri 1/9/26	Thu 1/22/26	32
34		*0%*	*Re-Assembly Finished*	*0 days*	*Thu 1/22/26*	*Thu 1/22/26*	*33*
35		**0%**	**Final Assembly**	**7 wks**	**Fri 1/23/26**	**Thu 3/12/26**	
36		0%	Glass Instalation	2 wks	Fri 1/23/26	Thu 2/5/26	34,12
37		0%	Interior Panel Installation	2 wks	Fri 1/30/26	Thu 2/12/26	36FS-1 wk
38		0%	Cladding Installation	3 wks	Fri 2/6/26	Thu 2/26/26	37FS-1 wk,13
39		0%	Skirts / Roof shrouds	2 wks	Fri 2/20/26	Thu 3/5/26	38FS-1 wk

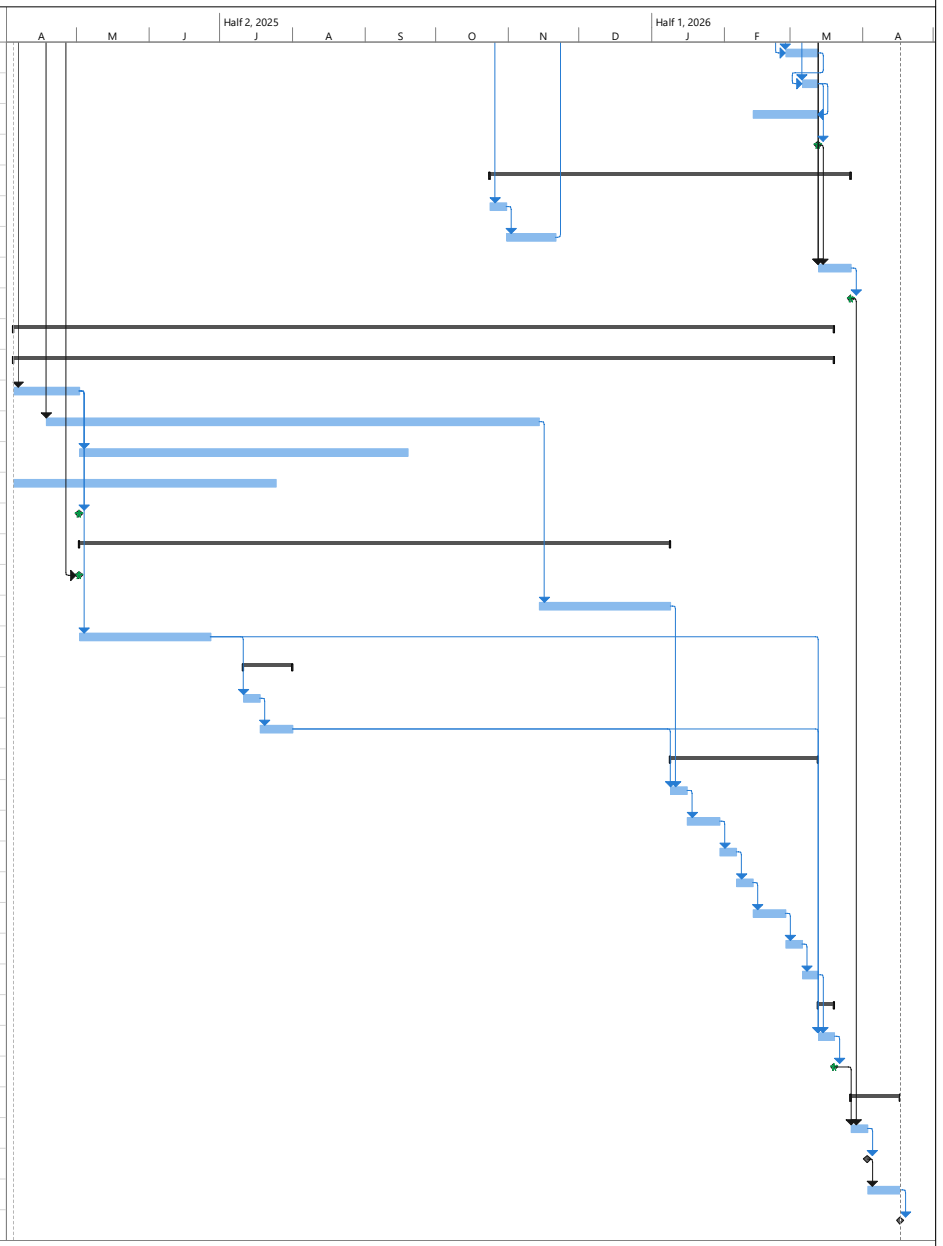


Task Split Milestone Summary Project Summary Progress Payment Milestones

SIEMENS

UTA 1122 - Accident Repair (Phase 1, 2 & 3) Timeline

ID	Task Mode	% Complete	Task Name	Duration	Start	Finish	Predecessors
40		0%	Door Installation	2 wks	Fri 2/27/26	Thu 3/12/26	39FS-1 wk,15
41		0%	ADA Ramp	1 wk	Fri 3/6/26	Thu 3/12/26	40FS-1 wk,16
42		0%	***Phase 3: Additional Material & Installation***	4 wks	Fri 2/13/26	Thu 3/12/26	41FF
43		*0%*	*Final Assembly Finished*	*0 days*	*Thu 3/12/26*	*Thu 3/12/26*	*41*
44		**0%**	**Finishing**	**22 wks**	**Fri 10/24/25**	**Thu 3/26/26**	
45		0%	Blast and Paint new structure	1 wk	Fri 10/24/25	Thu 10/30/25	26
46		0%	Exterior paint correction	3 wks	Fri 10/31/25	Thu 11/20/25	45
47		0%	QA Final Inspection	2 wks	Fri 3/13/26	Thu 3/26/26	28,34,43
48		*0%*	*Vehicle Final Acceptance*	*0 days*	*Thu 3/26/26*	*Thu 3/26/26*	*47*
49		**0%**	**Phase 2 - Bogie Repair**	**50 wks**	**Fri 4/4/25**	**Thu 3/19/26**	
50		**0%**	**Material Purchasing**	**50 wks**	**Fri 4/4/25**	**Thu 3/19/26**	
51		0%	Quotes update and PO release	4 wks	Fri 4/4/25	Thu 5/1/25	2
52		0%	Drive Units OH Kit	30 wks	Fri 4/18/25	Thu 11/13/25	2FS+2 wks
53		0%	Hardware (Screws,Washers,Nuts,Clamps)	20 wks	Fri 5/2/25	Thu 9/18/25	51
54		0%	Miscelaneous	16 wks	Fri 4/4/25	Thu 7/24/25	
55		*0%*	*Purchase Order placement with all suppliers*	*0 days*	*Thu 5/1/25*	*Thu 5/1/25*	*51*
56		**0%**	**BG Repair and Overhaul**	**36 wks**	**Thu 5/1/25**	**Thu 1/8/26**	
57		*0%*	*Full Bogie Teardown*	*0 days*	*Thu 5/1/25*	*Thu 5/1/25*	*19SS*
58		0%	Drive Units	8 wks	Fri 11/14/25	Thu 1/8/26	52
59		0%	Structural Repair (Welding)	8 wks	Fri 5/2/25	Thu 6/26/25	51
60		**0%**	**Painting**	**3 wks**	**Fri 7/11/25**	**Thu 7/31/25**	
61		0%	Frames / Bolsters Prep	1 wk	Fri 7/11/25	Thu 7/17/25	59FS+2 wks
62		0%	Frames / Bolsters Painting	2 wks	Fri 7/18/25	Thu 7/31/25	61
63		**0%**	**BG Re-Assembly**	**9 wks**	**Fri 1/9/26**	**Thu 3/12/26**	
64		0%	Re-Finishing	1 wk	Fri 1/9/26	Thu 1/15/26	58,62
65		0%	Electrical	2 wks	Fri 1/16/26	Thu 1/29/26	64
66		0%	Sub-Assembly	1 wk	Fri 1/30/26	Thu 2/5/26	65
67		0%	Frame Preparation	1 wk	Fri 2/6/26	Thu 2/12/26	66
68		0%	Frame Axle Integration	2 wks	Fri 2/13/26	Thu 2/26/26	67
69		0%	BG Press	1 wk	Fri 2/27/26	Thu 3/5/26	68
70		0%	Testing	1 wk	Fri 3/6/26	Thu 3/12/26	69
71		**0%**	**Finishing**	**1 wk**	**Fri 3/13/26**	**Thu 3/19/26**	
72		0%	QA Inspection	1 wk	Fri 3/13/26	Thu 3/19/26	59,62,70
73		*0%*	*Bogies Final Acceptance*	*0 days*	*Thu 3/19/26*	*Thu 3/19/26*	*72*
74		**0%**	**Transportation**	**3 wks**	**Fri 3/27/26**	**Thu 4/16/26**	
75		0%	*Trucks Installation*	1 wk	Fri 3/27/26	Thu 4/2/26	48,73
76		*0%*	*LRV Complete - Ready to ship*	*0 days*	*Thu 4/2/26*	*Thu 4/2/26*	*75*
77		0%	Shipment	2 wks	Fri 4/3/26	Thu 4/16/26	76
78		*0%*	*LRV Delivery - Salt Lake City*	*0 days*	*Thu 4/16/26*	*Thu 4/16/26*	*77*



Task Split Milestone Summary Project Summary Progress Payment Milestones

Exhibit C Price								
	Labor Rate	Hours	Total					
Project Management	$ 198.00	441	$ 87,318.00					
Engineering	$ 260.00	969	$ 251,940.00					
Quality Assurance	$ 260.00	271	$ 70,460.00					
Procurement	$ 198.00	353	$ 69,894.00					
Travel Expenses			$ 25,983.00					
Light Rail Activities			$ 1,147,082.00					
Materials			$ 593,297.00					
			$ 2,245,974.00					
Milestone Payments	Description					Payment %	Amount	
1st Payment	Due after Full Vehicle & Bogie Teardown and purchase order placement with all suppliers.					30%	$ 665,997.30	
2nd payment	due at the delivery and UTA approval of Repair Procedure					10%	$ 221,999.10	
3rd Payment	due at the end of structural repair work and before starting reassembly					30%	$ 665,997.30	
4th Payment	due at the completion of Final Assembly					25%	$ 554,997.75	
Final payment	due at Vehicle & Bogie Acceptance & Conditional Acceptance					5%	$ 110,999.55	
Milestone Payments Total							$ 2,219,991.00	
Travel Expenses							$ 25,983.00	Not To Exceed
Total							$ 2,245,974.00	
The above Milestone payments will be lump sum pricing, The Travel Expenses will be a Not To Exceed (NTE)								
Travel Expenses shall be paid 30 days after time of travel. All travel receipts must accompany Invoice for payment. Actual costs must follow the GSA Rates (www.gsa.gov site).								

UTAH TRANSIT AUTHORITY

Construction Safety and Security Program Manual

27 November 2018

Revision 12.0

Revision Table

Version	Date	Comments	Changes made by
8	20 January 2011		unknown
9.0	5 October 2012	Updated policies layout, and font.	Max Hanna
9.1	5 December 2012	Edited the safety shoe policy	Max Hanna
9.2	5 January 2013	Added table to track changes.	Max Hanna
10.0	15 August 2013	Added HASP standards to introduction. Added Lessons Learned.	Max Hanna
11.0	10 June 2016	Improved layout and organization. Added specific safety guidelines, PPE visual guide, and accident investigation guidelines.	Construction Safety Committee
12.0	27 Nov 2018	Added clarification to work preparation and demolition sections. Made adjustments to layout. Updated crane certification requirements and added section about hazardous waste.	Construction Safety Committee

Table of Contents

1

1.0 Introduction and Definitions

1.1 Introduction

Contractors and subcontractors are charged with the responsibility of adoption and use of this *UTA Construction Safety and Security Program Manual* (*CSSP*) and other safety programs administered by UTA. This will allow for a coordinated safety and security effort consistent with the CSSP on all project sites. Employee participation, proper supervision, and training at all tiers with the CSSP is required.

This manual provides general information and guidance to UTA project managers, engineers, and contractors on the requirements and procedures for accident prevention and safety for Utah Transit Authority projects. The UTA safety goal is to achieve an accident-free construction project.

This *CSSP* reflects minimal standards and best practices. All general contractors, contractors, and their sub-tiers will be expected to meet or exceed the standards and good safe practices outlined in this manual and their own safety program, whichever is more stringent. Variance from the accepted standards are acceptable when well developed, communicated, and documented.

Contractors must adopt this safety plan or exceed it with one of their own creation. A Health and Safety Plan (HASP) is required if there is a risk of chemical contamination on the site.

Additionally, UTA invites all who use this program to provide revision comments. Email your comments to the UTA Construction Safety Administrator for inclusion in the next version of this program manual.

1.2 Definitions

access control	Any combination of features designed to dissuade, prohibit, or prosecute illegal entry. May include CCTV, alarm systems, security guards, and/or key card entry
accident	An unexpected event that interrupts or interferes with the orderly progress of the construction activity or process, and could result in bodily injury or property damage.
bid	The offer of the bidder for the work when made out and submitted on the prescribed bid forms, properly signed, and guaranteed.
claim	A demand for compensation, including a benefit request for injuries or damages caused by a loss.
combustible	Globally Harmonized System of Classification and Labelling of Chemicals defines the flash point temperature of combustible liquids between 140 °F (60 °C) and 200 °F (93 °C)
competent person	A person designated by the contractor who is knowledgeable of safety standards and is capable of identifying workplace hazards, and has the authority to take action to eliminate the hazard.

construction manager	A resident engineer's general superintendent for a given project that has overall responsibility to see that the work or job is performed to specification.
construction safety program	The safety and loss control program established to minimize hazards and risks associated with construction projects.
CSSC	Construction Safety and Security Committee. See section 3.8 of this program manual.
construction work	Building a new item, facility, or component. Also the installation or replacement of parts or components of a system in which most of the parts are replaced. The question of construction or maintenance has no clear answer and must take into account all of the conditions at the site. However, OSHA has stated that if a determination cannot be made, then the more protective standard applies. [1]
consultant	The firm or firms under contract to UTA which are performing services, including but not limited to design, engineering, project control, construction management, surveying, environmental assessment and geotechnical investigations, in support of the overall project of which this contract is a part.
contract	The written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. The contract shall include the invitation for bids, bid, general provision, plans and specifications, and contract bond; also any and all supplemental agreements amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner.
contractor	The person, persons, partnership, joint venture, company, or corporation entering into this contract for the performance of the work required by the contract. A contractor will normally report to a general contractor unless there is a reason for direct contact with a project manager or UTA's resident engineer.
contractor's safety supervisor	A contractor's employee hired or assigned to perform safety responsibilities and may perform other project tasks secondary to safety responsibilities.
contractor's superintendent	The individual for a given project who has the overall responsibility to see that the work or job is completed satisfactorily.
engineer	A registered professional, with a designation or academic degree in a specific technical discipline.

[1] UTA Internal Memorandum dated 13 January 2016. Subject: Construction vs. Maintenance under OSHA Regulations as Applied to Work Done by Facilities Personnel

flammable	Globally Harmonized System of Classification and Labelling of Chemicals which defines the flash point temperature of flammable liquids to be between 0 and 140 °F (60 °C). Antonyms of flammable/inflammable are non-flammable, non-inflammable, incombustible, non-combustible, ininflammable, not flammable or fireproof.
general contractor	A corporation, company, partnership, joint venture, person, or persons entering into contract for performance of work required by the contract.
general duty clause (GDC)	Is defined by section 5(a)(1) of the Occupational Safety and Health Act (OSHA). GDC would apply to any condition considered unsafe by competent persons for regulatory rules that have not been established, published, and distributed. Any such condition shall be brought to the attention of appropriate management and representative of UTA to determine corrective action. See Construction Work definition.
government requirements	Federal, state, and local statutes, ordinances, codes, regulations, orders, rules, directives, requirements, policies, procedures, and guidelines applicable to the project or the work to be performed under the contract.
inflammable	Synonym of flammable
lighting/illumination	Lighting at work sites, offices, and storage areas may be used to reduce vulnerability.
maintenance	Making or keeping a structure, fixture, or foundation in proper condition in a routine, scheduled, or anticipated fashion. The question of construction or maintenance has no clear answer and must take into account all of the conditions at the site. However, OSHA has stated that if a determination cannot be made, then the more protective standard applies.
manual	*UTA Construction Safety and Security Program Manual or CSSP*.
near miss	Any unplanned event having the potential for serious consequences, but resulting in no property damage or personal injury. Short for near mishap.
OSHA	Either the Occupational Safety and Health Act or the Occupational Safety and Health Administration. The Act established the Administration.
physical barriers	Perimeter fencing with lockable gates will be used for storage areas and may be used for vulnerable work areas or office locations. Other physical barriers may be used to prevent vehicle access to the site.

plans	The drawings, standard drawings, profiles, typical cross-sections, general cross-sections, elevations, diagrams, schedules, and details which show the locations, character, dimensions, and details of the work.
project engineer	The contractor's executive representative designated in accordance with project specifications.
project resident engineer	UTA's authorized representative charged with the professional administration of a particular contract.
safety stand down	Typically a full or half day taken to review specific safety practices. No work is performed during the stand down, but all personnel, including subs, are required to attend training. Used after an accident or near miss to prevent recurrences.
security	Those contracted or hired agents under the authority of UTA, serving in the interest of public safety and property control.
security guard service	On-site security guard service may include both patrolling guards to randomly cover all work, office, and storage areas and stationary guards (fixed post) to control key access points or observe significant vulnerabilities.
signage	Warning signs may be used both for security and safety reasons.
subcontractor	Any individual, partnership, or corporation undertaking construction or other services under contract with a contractor or general contractor.
sub-subcontractor	Any individual, partnership or corporation which performs sublet work with the consent of a subcontractor or its designee, excluding vendors, suppliers, material dealers, or others whose function is solely to supply materials, parts or equipment to and from the job site.
TASP	Transit Agency Safety Plan. An FTA mandated, overarching, all consuming, all knowing, safety plan for everything a transit agency does. This document replaces the Safety and Emergency Preparedness Plan.
UOSH	The Utah Occupational Safety and Health rules and regulations promulgated there under relating to the occupational safety and health requirements for the job site, including construction work.
UTA	Utah Transit Authority
UTA Construction Safety Administrator	A UTA employee who administers the Construction Safety Program

work	The furnishing of all supervision, labor, material, equipment, services, and incidentals necessary to complete any duties and obligations imposed on the contractor by the contract.
work site	The area enclosed by the limit of work indicated on the plans and the boundaries of local streets and public easements in which the contractor is to perform work under the contract. This is interchangeable with "job site".

2.0 Purpose, Scope, and Objectives

2.1 Purpose

The purpose of this policy is to establish the minimum safety and security guidelines for contractors of and visitors to UTA construction projects. And to promote consistency of purpose, compliance, and conduct on all UTA construction projects, regardless of size or cost.

Utah Occupational Safety and Health (UOSH) requires that UTA inform all contactors regarding the safety rules of UTA. UOSH also requires that contract employees are trained in the work practices necessary to safely perform their jobs.

Safety and security must be an integral part of each job. Full participation, cooperation, and support are necessary and required to ensure the safety and health of all persons and property involved in the project. Each Contractor is responsible to provide safe working conditions for their employees and Subcontractors, and to protect the public and all others who may come in contact with, or be exposed to, the project.

Contractors must adopt this plan or exceed it with one of their own creation. In the event that a contractor decides to adopt this safety plan, the adoption of this CSSP as the contractor's safety plan will be formalized in writing and signed by the Contractor. A Health and Safety Plan (HASP) is required if there is a risk of chemical contamination on the site.

Good partnering with other contractors on project sites is required to minimize the potential for exposure from external sources. Contractors are required to:

a. Plan and execute all work in order to prevent personal injury, property damage, and loss work time.

b. Comply with federal, state, and local laws, ordinances, codes, regulations, and industry standards, along with UTA's protocols and procedures.

2.1.1 Program Elements

An effective safety and security program contains the following elements:

a. Management leadership and employee involvement

   1. Top management personal involvement
   2. System to address safety, security, and health concerns

b. Worksite analysis

   1. Hazard analysis (SOP; JSA)
   2. Self inspection
   3. Security issues

c. Hazard prevention

   1. Hazard tracking
   2. Medical services
   3. Disciplinary program for all levels

d. Safety and health training

1. New employee
2. Managers and supervisors
3. Visitors

e. Lessons Learned

1. Collection of lessons learned
2. Analysis of incidents
3. Plan of improvement to prevent the same incident

2.1.2 Contractor's Construction Safety and Security Program

The contractor's safety and security program shall include, but is not limited to, the guidelines outlined in section 4 of this manual. The contractor is responsible to review the specific requirements of the contract, analyze the planned methods of operation, and incorporate any additional specific or unique safety requirements in the writing. The contractor is responsible to ensure that all applicable safety regulations are addressed as part of their safety program.

The contractor's program will acknowledge that the contractor is totally responsible for compliance with UOSH regulations and relevant state/local codes and requirements, which requires a place of employment that is free of unsanitary or hazardous conditions that would expose an employee's to unhealthy or unsafe environment.

The contractor's procedures for completing and forwarding to the resident engineer all on-site accident and incident reports is also to be included in the program.

2.2 Scope

This policy applies to all UTA employees, contractors, sub-contractors, and visitors to UTA construction projects. This also applies to companies providing goods and materials to the project.

It is not possible to include all specific instructions for every job condition, state, or federal regulation or other recognized procedures in this manual. This manual has been developed to provide guidelines for safe work practice. Each contractor is required under the contract, and in effect by law, to adhere to the *CSSP*.

Contractors and their subcontractors on the site bear the primary responsibility for safety and no liability is implied by the development of the *CSSP*.

The existence of this *CSSP* does not relieve the contractor of its safety responsibilities under applicable government requirements nor does it change the terms and conditions of the contract or any of the policies of insurance to be issued. Safety must be a primary consideration in all construction related activities to be undertaken on any project.

UTA reserves the right to add, delete, or modify sections of this *CSSP* from time to time as it deems necessary.

2.3 Program Objectives

The *CSSP* has been established to promote safety and to minimize and control hazards and risks associated with the on-site construction activities of the project. It is intended that the program manual will complement each contractor's safety program and will be coordinated toward a total safety effort. The overall *CSSP* goals are as follows:

a. Eliminate personal injuries and property damage.

b. Achieve greater administrative efficiency.

c. Develop a healthful and safe place to work.

The effectiveness of the *CSSP* depends on the active participation and cooperation of all levels of contractor's management, including supervisors and employees of each sub-contractor, and the coordination of their efforts with the project resident engineer, in carrying out the following basic procedures:

a. Adopt this manual and use it in conjunction with the contractors' own safety program, in preparation of the work or services to be performed on UTA sites.

b. Plan all work to minimize the potential for personal injury, property damage, and loss of productive time.

c. Maintain a system of prompt detection and correction of unsafe practices and conditions.

d. Establish and conduct training programs to stimulate and maintain interest and cooperation of all employees.

e. Prompt notification and investigation of all accidents or claims to determine the causes and to take corrective action.

f. Interface with the project resident engineer's emergency preparedness procedures and train all employees in protocol for communication in the event of an incident/injury.

NOTE: The existence of this *CSSP* does not relieve the contractor of its safety responsibilities under applicable government requirements or regulations, nor does it change the terms and conditions of the contract or any of the policies of insurance to be issued. Safety must be a primary consideration in all construction-related activities to be undertaken on any project.

UTA reserves the right to add, delete, or modify sections of this manual as necessary.

2.4 Right to Search

UTA reserves the right to search vehicles, toolboxes, lunch boxes and any other means of pilfering UTA owned materials from UTA properties.

3.0 Construction Safety and Security Responsibilities

3.1 General Contractor

The general contractor is responsible for accident prevention and jobsite safety on the overall project. This responsibility cannot be delegated to subcontractors, sub-subcontractors, insurance administrators, the resident engineer's representative, or other persons. Without limiting the generality of the foregoing, the contractor shall perform the following:

a. Comply with all government requirements and regulations, including, but not limited, to UOSH.

b. Participate in and support the general *CSSP*, CSSC, and other safety procedures specified in the contract.

c. If required by the appropriate contract, regulation, Construction Safety Administrator, or the UTA project engineer, prepare a formal safety and health program designed to address specific activities associated with the work. Examples of required written safety programs include, but are not limited to the following: confined space entry, hazard communication, lockout/tag out, steel erection, etc.

d. Abide by the general duty clause. (This clause is intended to clarify and reinforce UTA's posture in requiring contractors to provide a safe and healthy working environment for their employees).

e. Upon notification of the contract award, adopt this manual and also present contractor's safety program to the resident engineer. Contractors lacking a formal safety program will not receive schedule extensions or additional monies to develop such a safety program.

f. Appoint a competent contractor's superintendent and contractor's safety supervisor to carry out the duties and responsibilities of the safety program. The name of the contractor's superintendent and contractor's safety supervisor shall be given to the UTA Construction Safety Administrator in writing. Where the nature or the size of the contract warrants, the resident engineer may request the contractor to employ a qualified contractor's safety professional.

g. Maintain and promptly file accurate reports as required by the resident engineer, the insurers, government requirements, including accident and injury reports, and furnish to the resident engineer and UTA Construction Safety Administrator, a monthly summary of injuries (on the attached form, appendix C). The resident engineer reserves the right to audit any contractors or subcontractors OSHA Log 300.

h. Ensure subcontractor and sub-subcontractor compliance with jobsite safety requirements.

i. Ensure that all of its subcontractors and their sub-subcontractors are provided with a copy of this manual and are informed of their obligations with regard to safety.

j. Plan and execute all work to comply with the stated objectives and safety requirements including, but not limited to this manual, provisions of the contract, government requirements, and industry standards, including those listed in appendix A.

k. Hold safety meetings at least weekly. Documentation of topics discussed and attendees shall be maintained and provided to the UTA Construction Safety Administrator upon request.

l. Maintain an orientation and training program for new employees that will include training on the (1) hazards present in the area in which they will be working and (2) personal protective

equipment and apparel the workers will be required to use or wear as specified under applicable government requirements, including UOSH. The contractor shall provide and enforce the use of all personal protective equipment.

m. Provide tools, machinery, and equipment in safe working condition.

n. Promptly investigate and take corrective action when unsafe working conditions or methods are detected (e.g., lack of good housekeeping practice, use of equipment in obviously poor condition, failure to adhere to statutory construction regulations, etc.). First-time deficiencies should be corrected by prompt referral of the incident to the contractor's project safety supervisor or to the contractor's superintendent.

o. Be responsible for the proper execution by contractor's personnel of their obligations in the *CSSP*, including the obligations of the contractor's superintendent or contractor's safety representative.

p. Ensure that each crew has the ability to verbally communicate with any other member of UTA construction, inspection, and/or UTA management team.

q. Provide monthly reports to the UTA Construction Safety Admin. See Appendix B.

r. Maintenance of Traffic Control Employee - The contactor must name an employee and an alternate who will be on twenty-four hour call, with the authority to maintain construction barricades and signal flashers.

3.2 Construction Superintendent

The contractor's superintendent will ensure compliance with all provisions of the contract, including the CSSP and government requirements. Additional duties of the contractor's construction superintendent shall include the following:

a. Review and direct immediate action to correct all substandard safety conditions at the job site.

b. Take an active part in all supervisory safety meetings, including the discussion of observed unsafe work practices or conditions, a review of the accident experience and corrective actions, and encouragement of safety suggestions from employees.

c. Cooperate with the resident engineer representatives, UTA Construction Safety Administrator, the insurance administrators, and the insurers.

d. Require each subcontractor and sub-subcontractor to appoint a job superintendent and job foreman to ensure compliance with this manual.

3.3 Contractor's Safety Supervisor

The Contractor's safety representative or contractor's safety supervisor shall perform the following:

a. Provide timely reports in writing of any unsafe conditions or practices, and take corrective actions. Report all violations to the appropriate superintendent for corrective action.

b. Investigate all accidents and implement immediate corrective action.

c. Report all injuries and accidents in a timely manner in accordance with this manual and government requirements.

d. Conduct daily safety inspections of the job site and the work of the contractor, subcontractor, and sub-subcontractors to eliminate unsafe acts and/or conditions.

e. Review safety meeting reports submitted by job foremen and take necessary action to ensure that meaningful weekly safety meetings are held by the job foremen.

f. Assist in the preparation of all accident investigation and reporting procedures.

g. Implement safety-training programs for supervisors and employees applicable to specific responsibilities, including the steps to take in the event of an accident. Provide job foremen with appropriate training materials to conduct weekly "tool box" safety meetings, and attend those meetings for evaluation and follow through.

h. Be responsible for the control, availability, and use of necessary safety equipment, including personal equipment for the employees.

i. Coordinate safety activities with the UTA Construction Safety Administrator, the insurance administrator, and the insurers, and take necessary steps to promptly implement safety recommendations.

j. Coordinate the public relations aspects of this manual with the UTA Construction Safety Administrator.

k. Attend and participate in special safety meetings held or sponsored by the resident engineer, the insurers, or the insurance administrator.

l. Obtain and keep current knowledge of availability of first aid and emergency treatment for injured employees.

m. Maintain an active incident log containing a comprehensive record of all incidents on the project classifying them as near miss; utility hit; vehicle (on-site); first aid; recordable; lost time/restricted duty; and fatality. Such logs will be submitted to the Construction Safety Administrator quarterly, or in the event a project is finished within a quarter, at the completion of the project.

It should be noted that the *CSSP* reflects minimal standards. All general contractors, contractors, and their sub-tiers will be expected to meet or exceed the standards and good safe practices outlined in this manual and their own safety program, whichever is more stringent.

Additionally, smaller projects and smaller contractors may find it prudent to combine the responsibilities of the Superintendent and Safety Supervisor. This is the contractor’s discretion, however, the standards will be met regardless.

3.4 Foremen

The job foremen are an integral part of an effective safety program, and the amount of effort they put into accident prevention on their daily assignments determines whether or not a good accident record is established.

The job foreman's responsibilities shall include the following:

a. Instruct the personnel under his/her supervision in safe work practices and work methods at the time employees are given work assignments.

b. Provide employees under his/her supervision with use of the proper protective equipment and suitable tools for the Work.

c. Provide continuous monitoring to ensure that prompt action is taken to correct any unsafe practices or conditions on the job site.

d. Correct or report immediately to the job superintendent any unsafe conditions, practices, or violations of this manual or the contractor's safety manual.

e. Perform a complete investigation of all accidents and take corrective action to prevent a recurrence.

f. Set a good safety example for personnel

g. Hold weekly safety meetings with work crews to

- Discuss any observed unsafe work practices or conditions,
- Review the accident experience of the crew and discuss corrective action to prevent future accidents and,
- Encourage safety suggestions from the employees and report their recommendations to the contractor safety engineer or contractor safety supervisor.

h. Ensure that prompt first aid is administered to an injured employee.

3.5 Project Engineer Responsibilities

Insure that the contractor follows all applicable rules regarding safety and health and this manual. The project resident engineer is authorized to stop any construction activity or task which, in his judgment, constitutes an immediate or evolving situation of imminent danger. The resident engineer may perform the following:

a. Review all applicable contract documents for safety related issues.

b. Review contractor's safety programs, descriptions of the hazards peculiar to their work, and their nominees for the contractor's safety professional (or contractor's safety supervisor) position.

c. Observe the contractor's application of its own safety program and the *CSSP*.

d. Any contractor, subcontractor or sub-subcontractor employee who is found to be in violation of safety rules or other resident engineer policies or procedures is subject to a stop work notice until differences are resolved or the contractor disciplines the employee.

PROVIDED, HOWEVER, that the project resident engineer shall have no duty or obligation to conduct continuous or exhaustive inspections or observations to check the safety of the project or the safety precautions and programs for the work since these are solely the responsibility of the contractor under the contract.

3.6 UTA Construction Safety Administrator

The UTA Construction Safety Administrator will observe the contractor's application of the *CSSP*. The UTA Construction Safety Administrator has the right to perform the following:

a. Stop any construction activity that constitutes an immediate threat of imminent danger, until such condition has been corrected.

b. Report any observed unsafe working condition to the contractor and the resident engineer.

c. Promptly notify the contractor and the resident engineer in writing of noncompliance with any of the safety requirements contained in the contract or this manual.

d. Maintain written documentation of communications, as necessary with the contractor concerning accident prevention.

e. Receive and review copies of the contractor's daily reports, equipment maintenance log, accident report forms, and other forms as they apply, upon request.

f. Enforce the recommendations of the resident engineer.

PROVIDED, HOWEVER, that the UTA Construction Safety Administrator shall have no duty or obligation to conduct continuous or exhaustive inspections or observations to check the safety of the project or the safety precautions and programs for the work since these are contractually required of the contractor.

In the event of a conflict and/or ambiguity between various statutes on safety provisions, the most stringent safety regulation or interpretation by the Construction Safety Administrator as to which provision applies or what is implied in a given situation will be final.

3.7 UTA Employees Engaged in Construction Activities

UTA Employees engaged in construction activities will meet the applicable UTA, City, County, State, and Federal requirements. UTA Managers and Supervisors will notify the Construction Safety Administrator of construction activity in their area.

3.8 UTA Construction Safety and Security Committee

UTA has chartered a Construction Safety and Security Committee (CSSC) since 2005. Chaired by the UTA Construction/Design Safety Administrator, this committee meets at least every other month and includes the following members:

- 1st Tier Contractor Project Managers, Safety Managers, Superintendents, and Foremen
- UTA Chief of Safety and Security
- UTA Chief of Development
- UTA Capital Development Senior Program Managers
- UTA Capital Development Project Managers and Engineers
- UTA Civil Eng/Quality/Bridge Manager and designees
- UTA Safety Manager
- UTA Security Manager
- UTA Facility Maintenance Manager
- UTA Strategic Planners with projects nearing transition to CapDev
- UTA Transit Oriented Development Manager
- UTA Claims and Insurance Manager
- All UTA Safety Administrators
- UDOT State Safety Oversight
- Union Pacific Representative

Invitees as determined by the UTA Construction Safety Administrator

The CSSC's primary responsibility is to share best construction safety practices across trades and contractors in order to prevent injuries. Additionally, this committee meeting serves as an update to multiple departments within multiple agencies on construction progress and issues. The CSSC is the approving authority for this program manual.

4.0 Safety Requirements

4.1 General Safety Provisions

The general contractor shall provide for the health and safety of employees, the public, and other persons; prevent damage to property, materials, supplies, and equipment. Without limiting the generality of the foregoing, to achieve these purposes, the contractor shall perform at least the following:

a. Comply with all government requirements, industry standards (see appendix A) including, but not limited to, the application of OSHA Construction Safety and Health Regulations 29 CFR 1926 and 29 CFR 1910. Adhere to their contractor safety program and the *CSSP*. The contractor shall require compliance of the foregoing by all subcontractors and sub-subcontractors at every tier. UTA has adopted in full, 49 CFR 214, Railway Worker Protection Act.

b. The contractor shall not receive additional payment or reimbursement for safety items and procedures which have been identified as required by the contract, or the *CSSP*, or any government requirements.

c. All contractors shall have a written safety and health policy where required by OSHA unless they adopt the safety and health policy of the general contractor in writing.

d. Require the wearing of reflective vests, safety glasses, and hard hats on all UTA construction sites. Work inside a building, without hazards from falling objects may preclude the wearing of a hard hat.

4.2 Employee Communication

Occupational safety and health matters will be promptly communicated with employees. This will be done by:

- SAFETY COMMITTEE: Safety Committees will communicate with employees on inspections and abatement activities, accident investigation findings, and general committee activities.
- BULLETIN BOARDS: A safety bulletin board will be located in each work area. The UOSH Poster and the company's Safety Policy will be permanently posted on all bulletin boards.
- TOOLBOX/TAILGATE TALKS: Supervisors will give Tailgate talks at least once each week to all employees. Provisions must be made to ensure that employees who were not present are given the information presented during the talk. This may be done by presenting the talk at a later time for the missing employees or by posting an outline of the talk on the safety bulletin board. Tailgate talks must be documented on the SAFETY MEETING REPORT.
- EMPLOYEE SAFETY HANDBOOK: An Employee Safety Handbook will be issued to each employee. This handbook covers basic safety rules, guidelines for safe work performance, company policy, etc. (Note: supervisors will be provided a SUPERVISOR'S SAFETY HANDBOOK, which will include the Employee's Safety handbook and appropriate additional information for supervisors).

- SAFETY POSTERS: Safety Posters, either purchased from a vendor or produced by the Safety and Environmental Coordinator, will be posted on the bulletin board and at other appropriate locations.

SAFETY PERFORMANCE ANALYSIS: On a monthly basis, the UTA Safety Department publishes a dashboard. The Construction safety metrics are: lost time accidents in the past 12 months, recordable accidents in the past 12 months, and first aid incidents per month. See Appendix B for report formats.

4.3 Contractor Personnel Requirements

It is UTA's desire to maintain a safe place to work. To do this, the project manager must have the active participation and cooperation of all contractors, subcontractors, sub-subcontractors, and their employees. The contractor and each subcontractor and sub-subcontractor are responsible for orienting employees on the specific safety rules that must be followed by all persons working on the project.

The following items are not intended to be all inclusive. Refer to 29 CFR 1926 and UOSH requirements for clarification of any of the following.

4.3.1 Personal Protective Equipment

- The contractor shall be responsible for providing and requiring the use of required personal protective equipment for its employees.
- Approved hard hats shall be worn at all times on the job site. Individual company name/logo identification shall be shown on each hard hat. (Hats shall meet the requirements outlined by 29 CFR 1910.135). Those performing steel erection, welding, rigging, surveyors, and equipment operators may wear hard hats with beaks facing rear for clear (unrestricted) vision while the harness is properly oriented. All others shall be worn as designed by the manufacturer. Hard hats inspected periodically for damage to the shell and suspension system. Hard hats are **not** required during finish work (i.e. case and base) within facilities where there is no danger of falling items, at the discretion of UTA.
- Eye protection by means of goggles or eyeglasses with side shields shall be worn at all times on the job site.
- Protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard.
- Clothing Requirements:
    - A serviceable, over the ankle, leather shoe or work boot with a heavy sole is to be worn. Protective steel or composite toe boots with a non-slip sole are recommended.
    - Full length trousers.
    - Shirts with a minimum of tee-shirt length sleeve.
    - Gloves shall be worn where protection is needed against: concrete, rough edges, sharp objects, hot or abrasive materials, and caustic or other chemicals.
    - Tank tops, shirts cut off at the midriff, cutoff shorts, sweat pants, moon boots, sandals, sneakers, loafers, jogging shoes, clogs, flip-flops, etc., are prohibited. Visitors are required to maintain the same dress code.

- Long hair shall be contained under a hard hat or net if individual is working near an exposure where hair may become entangled.
- High visibility vests (orange with reflective surfaces are required when working on or near the UPRR right of way) shall be worn at all times while working/visiting the railway, roadway, or public right of way. Safety vests are required on any site where there is heavy equipment present. Class 2 Level 2 vests are required in accordance with the Roadway Worker Protection Program. UTA reserves the right to require safety vests on other job sites.
- Protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials.
- Employees who need corrective lenses (glasses or contacts lenses) in working environments with harmful exposures, required to wear only approved safety glasses, protective goggles, or use other medically approved precautionary procedures.
- Protective gloves, aprons, shields, or other means provided against cuts, corrosive liquids and chemicals. Appropriate foot protection required where there is the risk of foot injuries from hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions.
- Approved respirators provided for regular or emergency use where needed.
- Have eye wash facilities and a quick drench shower within the work area where employees are exposed to injurious corrosive materials.
- Special equipment needed for electrical workers is required when working with voltages over 120 AC/DC.
- When lunches are eaten on the premises, they are eaten in areas where there is no exposure to toxic materials or other health hazards.

4.3.1.1 Working in the Heat

- Cooling pads inserted into hardhats or around the neck can help keep the head and neck cooler. Vented hardhats are also available to prevent heat buildup by allowing air to pass through. Neckbands soaked in cold water and worn during the day may also keep workers more comfortable. These measures will reduce the likelihood of heat injuries.
- Protective eyewear offering sufficient ventilation or special lens coatings can help reduce lens fogging in hot conditions. Sweatbands can be worn to absorb perspiration on the forehead before it drips into the eyes.
- Gloves used for hand protection can be cumbersome and also increase workers' heat complaints. Breathable products, employing nylon mesh or containing perforations, are available to reduce heat buildup. Select a glove that has a liner to absorb sweat.
- Maintaining proper hydration is essential. In some settings, workers can produce two or more gallons of sweat in a day. The National Institute for Occupational Safety and Health (NIOSH), recommends drinking five to seven ounces of fluids (excluding coffee, tea, soda, or alcohol) every 15-20 minutes to replenish the body. Workers must simultaneously be aware of hyponatremia caused by the consumption of too much water. The best guideline is to drink when thirsty.

- Physically demanding tasks should be limited to the coolest part of the shift and workers should take frequent breaks in cool areas.

4.3.1.2 Working in the Cold

- Wearing the proper clothes may be the most significant precaution to reducing cold stress/injuries. Wearing appropriate clothes for cold weather involves using layers of clothing. Also use layering to protect the head, hands, and feet.
- Drink plenty of fluids, preferably warm beverages. Thirst is suppressed in a cold environment and dehydration may occur when fluid intake is reduced.
- Increase caloric intake when working in cold environments. Workers in cold environments who wear heavy, protective clothing expend more energy and so require 10-15 percent more calories.
- A work warm-up schedule should be used to provide periodic times for warm-up breaks. Additional breaks should be provided as the wind velocity increases and/or the temperature drops.
- Avoid taking certain drugs such as alcohol, nicotine, caffeine, and medication that inhibits the body's response to cold or impairs judgment.
- Avoid the cold if you are becoming exhausted or immobilized. These conditions can accelerate the effects of cold weather.
- Shield work areas from drafty or windy conditions. Provide a heated shelter for workers with prolonged exposure to equivalent wind-chill temperatures of 20◦ F or less.
- Select the warmest hours of the day when braving the cold. Minimize activities that reduce circulation.
- Educate employees on symptoms of cold-related stresses: heavy shivering, uncomfortable coldness, severe fatigue, drowsiness, and/or euphoria.
- Use the buddy system. Always work in pairs when working in extreme weather conditions so partners can monitor one another and obtain help quickly in an emergency.

4.3.1.3 Sanitizing Equipment & Clothing

- Personal protective clothing or equipment, that employees are required to wear or use, is of a type capable of being easily cleaned and disinfected.
- Employees are prohibited from interchanging personal protective clothing or equipment, unless it has been properly cleaned.
- Machines and equipment, which processes, handle or apply materials that could be injurious to employees, cleaned and/or decontaminated before being overhauled or placed in storage.
- Employees prohibited from smoking or eating in any area where contaminates are present.
- When employees are required to change from street clothing into protective clothing, a clean change room with separate storage facility for street and protective clothing is provided.

- Employees required to shower and wash their hair as soon as possible after a known contact has occurred with a carcinogen.
- When equipment, materials, or other items are taken into or removed from a carcinogen regulated area, is done in a manner that will not contaminate non-regulated areas or the external environment.

4.3.2 General Work Environment and Housekeeping

- Office areas are to be kept neat and orderly.
- Storage areas will be maintained orderly at all times. When supplies are received, the supplies will be stored properly.
- Spills will be cleaned-up immediately and wastes disposed of properly.
- All waste receptacles will be lined with a plastic trash bag to avoid direct contact while handling. Custodial employees will use rubber gloves and compaction bar when handling wastes.
- Keep file and desk drawers closed when not attended to avoid injuries. Open only one drawer at a time to prevent tipping of file cabinets.
- At the end of the business day, turn off all office equipment (area heaters, lamps, coffee-maker, PCs, etc.) and lights to save energy and prevent fires. All space heaters must be un-plugged at the end of the day to assure they have been turned-off.
- Work areas will be kept neat and orderly, during operations and as follows:
- All aisles, emergency exits, fire extinguishers, eye wash stations, etc., will be kept clear (a minimum of three feet in front of and to either side) of product storage, material storage, fork trucks and pallet jacks at all times.
- Utility employees will be responsible to keep aisles and work floors clear of excessive debris and waste materials during shift operation, between breaks and at shift change when necessary or directed by supervision; however, all Employees are responsible to communicate slippery floors to supervision for immediate clean-up.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.
- Restrooms and break areas are provided as a convenience for all Employees. The following rules will apply:
- Employees are expected to clean-up after themselves as a common courtesy to fellow Employees.
- Flammable materials (fireworks, explosives, etc.) may not be stored in break areas or brought on UTA property.

4.3.2.1 Maintenance Areas

- Housekeeping, including the removal of trash and debris from site, shall be provided by the contractor. This pertains to all areas occupied by or worked in, including parking lots.
- The contractor shall provide sanitation facilities (porta-potties) and, when number of workers regularly exceeds 20 personnel per day, hand wash stations.

- No employee shall possess, use, or be under the influence of illegal drugs, alcohol, or any mind-altering substance while on the project.
- Gambling, fighting, or horseplay shall not be tolerated.
- Use of water trucks, sweeping, and other additional means will treat areas in need of dust control.
- All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to managers or supervisors.
- All aisles, emergency exits, fire extinguishers, etc., will be kept clear (a minimum of three feet of either side) of material storage (temporary and permanent) at all times.
- Storage Areas will be maintained orderly at all times:
- Pipe stock stored horizontally on racks and sorted by size
- Metal stock stored horizontally on racks and sorted by size
- Sheet metal stock stored vertically in racks and sorted by type
- All fittings, etc., stored in bins on shelves and sorted by type and use
- All flammables stored in OSHA-approved Fire Cabinets and self-closing cans where necessary
- Spills will be cleaned-up immediately by the person responsible and wastes disposed properly.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.
- The grounds surrounding the facility and worksites are an extension of the work place.
- Keep all doors and loading docks completely free of debris or other obstructions.
- Maintain visibility through all windows by washing at regular intervals.
- Keep doors and windows properly maintained in good working order.
- Repair any damage to doors and windows at regular intervals.
- All trash will be discarded only in the waste containers provided.
- Park only in the designated assigned area.
- Provide any stairs or platforms adjacent to or leading into the building(s) with adequate rails, adequate treads to climb, and an area clean and free of materials.
- Keep grounds neat and orderly, free of refuse and unnecessary materials.
- Store materials outdoors only in designated areas of the grounds.
- Provide designated walkways through grounds, preferably paved and kept clear of snow, ice, materials, or any other physical hazards.
- Provide a lighting system that is adequate to allow employees to navigate around the grounds as necessary at dusk and after dark or restrict access to daylight hours only. All work areas adequately illuminated.

- Work surfaces kept dry or appropriate means taken to assure the surfaces are slip-resistant.
- Combustible scrap, debris and waste stored safely and removed from the worksite promptly.
- Accumulated combustible dust routinely removed from elevated surfaces, including the overhead structure of buildings.
- Combustible dust cleaned up with a vacuum system to prevent the dust going into suspension.
- Metallic or conductive dust prevented from entering or accumulation on or around electrical enclosures or equipment.
- Covered metal waste cans used for oily and paint-soaked waste.
- All oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are not working.
- Paint spray booths, dip tanks and the like cleaned regularly.
- All toilets and washing facilities clean and sanitary.
- Pits and floor openings covered or otherwise guarded.
- Managers and supervisors shall insist on employee's observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work, and shall take such action as is necessary to obtain observance.
- Running, jumping, horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well-being of the employees shall be prohibited.
- Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
- Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the manager or supervisor.
- Observe and obey all safety signs and procedures in any area you are assigned to work in.
- Report all damaged or faulty equipment to your supervisor unless you are authorized to make repairs.
- No unauthorized person shall make electrical or mechanical repairs or adjustments on equipment.
- Maintain adequate access to electrical panels.
- Approach doors slowly and open them with caution; someone may be on the other side.
- Fire doors must not be blocked open or locked in such a way that they cannot be opened in the exit direction.
- When using stairs, do not carry loads so large that the view of stair treads is obscured. Keep one hand free for the hand rail.

- Keep stairs clear of all objects. Pick up anything you find on the stairs and store or dispose of it properly.
- Know where the fire extinguisher in your area is, how to use it, and for what types of fires it is rated. Do not block or cover fire extinguishers, fire alarms, or sprinkler heads.
- Burning of decorative candles is not permitted without specific permission from the fire marshal.
- Do not run cords, computer cables, or telephone wires across walkways creating a tripping hazard.
- Do not use extension cords as a substitute for permanent electrical wiring. The only exception to this are “fused” multi-outlet strips which are “UL listed.” If extension cords are necessary for short-term use, use only heavy-duty cords.
- Report unsafe conditions or behavior to your supervisor or to the RSO.
- All personnel will be required to attend a Safety Meeting as required by Project Requirements.
- Drinking water containers are for drinking water and ice only. The "common drinking cup" is not allowed. Only disposable cups will be used.
- Do not remove, displace, damage, destroy or carry off any safety device, safeguard, notice, or warning.
- Never use a box, bucket, chair, shelf, etc., as a ladder. Use only approved step-stools or ladders.

4.3.2.2 Walkways

- Aisles and walkways marked as appropriate.
- Wet surfaces covered with non-slip materials.
- Holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe.
- There is safe clearance for walking in aisles where motorized or mechanical handling equipment is operating.
- Spilled materials cleaned up immediately.
- Materials or equipment stored in such a way that sharp projectiles will not interfere with the walkway.
- Changes of direction or elevations readily identifiable.
- Aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards.
- Adequate headroom provided for the entire length of any aisle or walkway. If low headroom is a byproduct of the construction process, place appropriate signage.
- Bridges provided over conveyors and similar hazards.

4.3.2.3 Floor & Wall Openings

- Floor openings guarded by a cover, guardrail, or equivalent on all sides (except at entrance to stairways or ladders).
- Toe boards installed around the edges of a permanent floor opening where persons may pass below the opening.
- Skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds.
- The glass in windows, doors, glass walls that are subject to human impact, of sufficient thickness and type for the condition of use.
- Grates or similar type covers over floor openings such as floor drains, of such design that foot traffic or rolling equipment will not be affected by the grate spacing.
- Unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent.
- Manhole covers, trench covers and similar covers, plus their supports, designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic.
- Floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with self-closing feature when appropriate.

4.3.2.4 Stairs & Stairways

- Standard stair rails or handrails on all stairways having four or more risers. The most common violation of this rule is the construction of stairs for access to construction trailers.
- All stairways at least 22 inches wide.
- Stairs have at least a 6'6" overhead clearance.
- Stairs angle no more than 50 and no less than 30 degrees.
- Stairs of hollow-pan type treads and landings filled level with solid material.
- Step risers on stairs uniform from top to bottom, with no riser spacing greater than 7-1/2 inches.
- Steps on stairs and stairways designed or provided with a surface that renders them slip resistant.
- Stairway handrails located between 30 and 34 inches above the leading edge of stair treads.
- Stairway handrails have a least 1-1/2 inches of clearance between the handrails and the wall or surface they are mounted on.
- Stairway handrails capable of withstanding a load of 200 pounds, applied in any direction.

- Where stairs or stairways exit directly into any area where vehicles may be operated, adequate barriers and warnings provided to prevent employees stepping into the path of traffic.
- Stairway landings have a dimension measured in the direction of travel, at least equal to width of the stairway.
- The vertical distance between stairway landings limited to 12 feet or less.

4.3.2.5 Elevated Surfaces

- Signs posted, when appropriate, showing the elevated surface load capacity.
- Surfaces elevated more than 30 inches above the floor or ground provided with standard guardrails.
- All elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe boards.
- A permanent means of access and egress provided to elevated storage and work surfaces.
- Required headroom provided where necessary.
- Material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading.
- Dock boards or bridge plates used when transferring materials between docks and trucks or rail cars.

4.3.3.6 Exiting or Egress

- All exits marked with an exit sign and illuminated by a reliable light source.
- The directions to exits, when not immediately apparent, marked with visible signs.
- Doors, passageways or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT", "TO BASEMENT", "STOREROOM", and the like.
- Exit signs provided with the word "EXIT" in lettering at least 5 inches high and the stroke of the lettering at least 1/2 inch wide.
- Exit doors side-hinged.
- All exits kept free of obstructions.
- At least two means of egress provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable, or explosive substances.
- Provide sufficient exits to permit prompt escape in case of emergency.
- Special precautions taken to protect employees during construction and repair operations.
- The number of exits from each floor of a building, and the number of exits from the building itself, appropriate for the building occupancy load.

- Ramps are used as part of required exiting from a building, with the ramp slope limited to 1- foot vertical and 12 feet horizontal.
- Exiting will be through frameless glass doors, glass exit doors, storm doors, and such are the doors fully tempered and meet the safety requirements for human impact.

4.3.3.7 Exit Doors

- Doors that are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct.
- Windows that could be mistaken for exit doors, made inaccessible by means of barriers or railings.
- Exit doors openable from the direction of exit travel without the use of a key or any special knowledge or effort, when the building is occupied.
- A revolving, sliding or overhead door prohibited from serving as a required exit door.
- Where panic hardware is installed on a required exit door, it will allow the door to open by applying a force of 15 pounds or less in the direction of the exit traffic.
- Doors on cold storage rooms provided with an inside release mechanism that will release the latch and open the door even if it's padlocked or otherwise locked on the outside.
- Exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic.
- Doors that swing in both directions and are located between rooms where there is frequent traffic, provided with viewing panels in each door.

4.3.4 Confined Spaces

In accordance with the most recent change to 29 CFR 1926, the general contractor is responsible communicating confined space hazards to all employees and subcontractors on the site. Any vessel, manhole or pit including trenches, or any structure not meant for human occupancy is considered a confined space. Confined spaces that require permits must meet the following criteria:

1. Not designed for human occupation
2. Limited access and egress
3. Large enough to access
4. Contain a hazard such as engulfment, poor atmosphere, etc.

A completed Confined Space Permit by competent person is required prior to entry into permit required confined spaces. Contact your Supervisor prior to starting any Confined Space work for copies of permit required and a list of required Safety Equipment. The following guidelines are generally applicable to all confined spaces:

- Confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry.

- Before entry, all lines to a confined space, containing inert, toxic, flammable, or corrosive materials are valved off and blanked or disconnected and separated.
- It is required that all impellers, agitators, or other moving equipment inside confined spaces be locked-out if they present a hazard.
- Either natural or mechanical ventilation is provided prior to confined space entry.
- Before entry, appropriate atmospheric tests are performed to check for oxygen deficiency, toxic substance and explosive concentrations in the confined space before entry.
- Adequate illumination is provided for the work to be performed in the confined space.
- The atmosphere inside the confined space is frequently tested or continuously monitored during conduct of work.
- There is an assigned safety standby employee outside of the confined space, whose sole responsibility is to watch the work in progress, sound an alarm if necessary, and render assistance.
- The standby employee or other employees are prohibited from entering the confined space without lifelines and respiratory equipment if there is any questions as to the cause of an emergency.
- In addition to the standby employee, there is at least one other trained rescuer in the vicinity.
- All rescuers appropriately trained and using approved, recently inspected equipment. While calling 911 is prudent, this may not constitute the entire rescue plan.
- All rescue equipment allows for lifting employees vertically from a top opening.
- Personnel trained in First Aid and CPR immediately available.
- Approved respiratory equipment is required if the atmosphere inside the confined space cannot be made acceptable. There is an effective communication system in place whenever respiratory equipment is used and the employee in the confined space is out of sight of the standby person.
- All portable electrical equipment is used inside confined spaces either grounded and insulated, or equipped with ground fault protection.
- Before gas welding or burning is started in a confined space, hoses are checked for leaks, compressed gas bottles forbidden inside of the confined space, torches lighted only outside of the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space.
- If employees will be using oxygen-consuming equipment such as torches, furnaces, in a confined space, sufficient air is provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume.
- Whenever combustion-type equipment is used in confined space, provisions are made to ensure the exhaust gases are vented outside of the enclosure.
- Each confined space is checked for decaying vegetation or animal matter, which may produce methane.

- The confined space is checked for possible industrial waste, which could contain toxic properties.
- If the confined space is below the ground and near areas where motor vehicles will be operating, it is possible for vehicle exhaust or carbon monoxide to enter the space.

4.3.5 Excavations

- The "2 for 25" rule:
    - All spoils, materials and equipment shall be a minimum of **2'** from the edge or excavation.
    - Trenches **4'** or deeper require shoring, except in solid rock.
    - A ladder, stairway, or ramp must be no further than **25'** from an employee in the trench.
- All floor openings or excavations shall be barricaded on all sides to ensure employees are aware of the hazard.
- Excavations can accumulate noxious gasses and fumes. Trenches and manholes with live sewage must be well ventilated and tested before entry, in accordance with confined space rules.

4.3.6 Tools

- Lasers—Only continuous wave (CW) lasers with output power levels of 10mW/cm^2 (10 milliwatts per square centimeter) or less and installed and operated in accordance with the manufacturer's instructions shall be used on construction sites. The use of lasers exceeding 5mW/cm^2 requires the use of anti-laser eye protection devices.
- All tools whether company or personal, must be in good working condition. Defective tools will not be used. Examples: chisels with mushroomed heads, hammers with loose or split handles, any tool missing a guard, etc.
- All extension cords, drop cords and electrical tools shaIl be checked (to include presence of GFI's) and color coded by a designated competent person each month. This shall be part of the assured grounding program. Electrical cords and equipment must be properly grounded with GFI's in place and checked by a competent person. Cords and equipment which do not meet requirements shall be immediately tagged and removed from service until repairs have been made.
- Hand tools shall be used only for the purpose for which they were designed and shall be kept in good repair.
- Pneumatic power tools shall be secured to the hose by some positive means to prevent the tool from becoming accidentally disconnected.
- Any tool found not in proper working order, or that develops a defect during use, shall be removed from service until properly repaired.
- All tools and equipment (both, company and employee-owned) used by employees at their workplace in good condition.
- Worn or bent wrenches replaced regularly.

- Appropriate handles used on files and similar tools.
- Appropriate safety glasses, face shields, and similar equipment used while using hand tools or equipment that might produce flying materials or be subject to breakage.
- Check jacks periodically to assure they are in good operating condition.
- Tool handles wedged tightly in the head of all tools.
- Tool cutting edges kept sharp so the tool will move smoothly without binding or skipping.
- Tools stored in dry, secure location where they won't be tampered with.
- Eye and face protection used when driving hardened or tempered spuds or nails.

4.3.6.1 Portable (Power Operated) Tools & Equipment

- No power tool shall be operated without a properly adjusted guard in place.
- Grinders, saws, and similar equipment provided with appropriate safety guards.
- Power tools used with the correct shield, guard or attachment recommended by the manufacturer.
- Portable circular saws equipped with guards above and below the base shoe.
- Circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded.
- Rotating or moving parts of equipment guarded to prevent physical contact.
- All cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type.
- Effective guards in place over belts, pulleys, chains, and sprockets, on equipment such as concrete mixers, air compressors, and the like.
- Portable fans provided with full guards or screens having openings 1/2 inch or less.
- Hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task.
- Ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction.
- Pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage.

4.3.6.2 Abrasive Wheel Equipment Grinders

- The work rest used and kept adjusted to within 1/8 inch of the wheel.
- The adjustable tongue on the top side of the grinder used and kept adjusted to within 1/4 inch of the wheel.
- Side guards cover the spindle, nut, and flange and 75 percent of the wheel diameter.
- Bench and pedestal grinders permanently mounted.

- Goggles or face shields always worn when grinding. **Gloves may not be worn when using a bench grinder or wire wheel.**
- The maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor.
- Fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method.
- Each grinder have an individual on and off control switch.
- Each electrically operated grinder effectively grounded.
- Before new abrasive wheels are mounted, they are visually inspected and ring tested.
- Dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust.
- Splashguards mounted on grinders that use coolant, to prevent the coolant reaching employees.
- Cleanliness maintained around grinder.

4.3.6.3 Powder Actuated Tools

- Only trained, certified employees will be allowed to operate powder-actuated tools.
- Employees who operate powder-actuated tools trained in their use and carry a valid operator's card, issued by the employer.
- Each powder-actuated tool stored in its own locked container when not being used.
- A sign at least 7" by 10" with bold type reading "POWDER-ACTUATED TOOL IN USE" conspicuously posted when the tool is being used.
- Powder-actuated tools left unloaded until they are actually ready to be used.
- Powder-actuated tools inspected for obstructions or defects each day before use.
- Powder-actuated tools operators have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and hearing protection.

4.3.6.4 Machine Guarding

- Employers will provide
    - a training program to instruct employees on safe methods of machine operation.
    - adequate supervision to ensure that employees are following safe machine operating procedures.
    - a regular program of safety inspection of machinery and equipment.
- All machinery and equipment kept clean and properly maintained.
- Sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal.
- Equipment and machinery securely placed and anchored, when necessary to prevent tipping or other movement that could result in personal injury.

- There is a power shut-off switch within reach of the operator's position at each machine.
- Electric power to each machine be locked out for maintenance, repair, or security.
- The noncurrent-carrying metal parts of electrically operated machines bonded and grounded.
- Foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects.
- Manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible.
- All emergency stop buttons colored red.
- All pulleys and belts that are within 7 feet of the floor or working level properly guarded.
- All moving chains and gears properly guarded.
- Splashguards mounted on machines that use coolant, to prevent the coolant from reaching employees.
- Methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, ingoing nip points, rotating parts, flying chips, and sparks.
- Machinery guards secure and so arranged that they do not offer a hazard in their use.
- Special hand tools are used for placing and removing material protect the operator's hands.
- Revolving drums, barrels, and containers required to be guarded by an enclosure that is interlocked with the drive mechanism, so that revolution cannot occur unless the guard enclosure is in place, so guarded.
- Arbors and mandrels have firm and secure bearings and are free from play.
- Provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown.
- Machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed.
- Machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards used to protect operators and other workers from eye and body injury.
- Fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor.
- Saws used for ripping, equipped with anti-kick devices and spreaders.
- Radial arm saws so arranged that the cutting head will gently return to the back of the table when released.

4.3.7 Fall Protection

- When a walking surface is six feet or higher, the contractor will select from the following methods of fall protection based on the type of fall hazard in accordance with the applicable OSHA standard:
    1. Guardrail systems that meet 1926.502(b) or
    2. A safety net system that meets 1926.502(c) or
    3. A personal fall arrest system that meets 1926.502(d) or
    4. A positioning device that meets 1926.502(e) or
    5. A cover for holes or skylights through which a worker may fall that meets 1926.502(i) or
    6. A warning line system and safety monitor that meets 1926.502(f) and (h) or
    7. A Controlled Access Zone and safety monitor that meets 1926.502(g) and (h).
- Variation from the above OSHA regulatory guidance for fall protection requires a documented hazard evaluation and a fall protection plan that meets 1926.502(k) signed by a foreman or superintendent.
- When using a personal fall arrest system, one-hundred percent tie-off is required when working six feet or more above any adjacent working surface.
    1. Workers using an articulating boom lift or man lift must put on a fall protection harness and attach the lanyard to the lift as soon as they enter the lift and before the lift is started. Employees are not required to wear a harnesses on scissor lifts.
    2. Workers using their lanyards to access the work or position themselves on a wall or column, etc., must use an additional safety lanyard for fall protection.
    3. Lifelines shall be erected to provide fall protection where work is required in areas where permanent protection is not in place. Horizontal lifelines shall be a minimum of 1/2" diameter wire rope. Vertical lifelines shall be 3/4" manila rope or equivalent and shall be used in conjunction with an approved rope grab.
    4. Structural steel erectors are required to "Hook Up" with full body harness and lanyard.
- Employees working over or near water, where danger of drowning exists, shall be provided with U.S. Coast Guard approved life jacket or buoyant work vests.
- Contractors are responsible to assess the job site to determine if a walking working surface has the structural integrity to safely support workers.

4.3.8 Electrical

- Workplace electricians must be familiar with the OSHA Electrical Safety Regulations and the local code requirements.
- Specify compliance with OSHA for all contract electrical work.
- All employees required to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment or lines.

- Employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines.
- When electrical equipment or lines are to be serviced, maintained or adjusted, necessary switches are opened, locked-out and tagged whenever possible.
- Portable electrical tools and equipment grounded or of the double insulated type.
- Electrical appliances such as vacuum cleaners, polishers, vending machines grounded.
- Extension cords being used have a grounding conductor.
- Multiple plug adapters prohibited.
- Ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed.
- All temporary circuits protected by suitable disconnecting switches or plug connectors at the junction with permanent wiring.
- Exposed wiring and cords with frayed or deteriorated insulation shall be repaired or replaced promptly.
- Flexible cords and cables free of splices or taps.
- All cord, cable and raceway connections intact and secure. All electrical raceways and enclosures securely fastened in place.
- In wet or damp locations, electrical tools and equipment are appropriate for the use or location or otherwise protected.
- The location of electrical power lines and cables (overhead, underground, underfloor, other side of walls) is determined before digging, drilling or similar work is begun.
- Metal measuring tapes, ropes, handlines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors.
- The use of metal ladders is prohibited in area where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors.
- All disconnecting switches and circuit breakers labeled to indicate their use or equipment served.
- Disconnecting means always opened before fuses are replaced.
- All interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures.
- All energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures.
- Sufficient access and working space is provided and maintained about all electrical equipment to permit ready and safe operations and maintenance.

- All unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates.
- Electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates.
- Low voltage protection is provided in the control device of motors driving machines or equipment, which could cause probably injury from inadvertent starting.
- Each motor disconnecting switch or circuit breaker is located within sight of the motor control device.
- Each motor not located within sight of its controller or the controller disconnecting means is capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor.
- The controller for each motor is in excess of two horsepower, rated in horsepower equal to or in excess of the rating of the motor is serves.
- Employees who regularly work on or around energized electrical equipment or lines shall be instructed in the cardiopulmonary resuscitation (CPR) methods.
- Employees are prohibited from working alone on energized lines or equipment over 600 volts.

4.3.8.1 Lockout Tag Out: Control of Hazardous Energy

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operations when such operations could cause injury to personnel. Contractors must provide a Lockout Tag Out procedure that meets the following:

- Lockout Tag out will be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury such as minor to serious shock, burns (chemical or thermal), cuts, or abrasions.
- All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout.
- The locking-out of control circuits in lieu of locking-out main power disconnects prohibited.
- Appropriate employees provided with individually keyed personal safety locks.
- Employees required to keep personal control of their key(s) while they have safety locks in use.
- It is required that employees check the safety of the lock out by attempting a start up after making sure no one is exposed.
- The power disconnecting means for equipment does not also disconnect the electrical control circuit.
- Servicing is to be done only by trained, authorized employees.

- Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout tag out procedures.
- All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance, shall not attempt to start, energize, or use the machine or equipment.
- In the event a piece of equipment is to be isolated for a period of time exceeding one normal shift and the isolating means is not capable of being locked out, a reasonable effort will be made to affix a device to the isolating means to make capable of being locked out.
- All authorized employee engaging in lockout tag out activities will follow the written procedure and the guidelines set forth in the contractor's Lockout Tag Out Program.

4.3.9 Hot Work

Further guidance for UTA employees is provided in UTA OSH 4.33 Hot Work (Welding and Cutting) Plan

- Adequate precautions must be taken to protect employees and equipment from hot work such as welding or burning. Fire extinguishing equipment shall be no further away than 50 ft. from all hot work. Used extinguishers to be re-charged immediately.
- Ensure that no welding or cutting operations which may generate an open flame or hot surface around combustibles /flammable liquids are performed until contractor's superintendent or resident engineer has been notified and written authorization is obtained to conduct such operations.
- Have anti-flashback devices installed on the fuel side of all fuel gas and oxygen cutting torches.
- Use of welding blinds are required in high traffic areas.
- Secure compressed gas cylinders in upright position at all times. Valve caps shall be in place when not in use. Cylinders shall be transported and stored in accordance with applicable government requirements.
- Provide safety devices on all air compressors with hoses exceeding one and one-half-inch inside diameter at the source of supply or branch line to reduce pressure in case of hose failure.
- Burning and cutting equipment shall be checked daily before being used. Flash back arresters shall be installed at the regulators on both oxygen and L.P. bottles. All gas shall be shut off and hoses disconnected from bottles and manifolds at the end of the day. Caps shall be replaced on bottles when gauges are removed. When gauges are removed and caps replaced, the oxygen and L.P. bottles shall be separated into storage areas not less than 20' apart with a "No Fire or Smoking" sign posted and a fire extinguisher readily available. Makeshift field repairs will not be allowed.

4.3.9.1 Welding, Cutting & Brazing

Contractors may require welders to be certified through a nationally recognized program such as the American Welding Society.

- Only authorized and trained personnel permitted to use welding, cutting or brazing equipment.
- All operator have a copy of the appropriate operating instructions and are they directed to follow them.
- Compressed gas cylinders regularly examined for obvious signs of defects, deep rusting, or leakage.
- Carefully handle cylinders, safety valves, relief valves, and the like, to prevent damage.
- Precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch.
- Only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used.
- Cylinders kept away from sources of heat.
- It is prohibited to use cylinders as rollers or supports.
- Empty cylinders appropriately marked their valves closed and valve-protection caps on.
- Signs reading: DANGER NO-SMOKING, MATCHES, OR OPEN LIGHTS, or the equivalent posted.
- Cylinders, cylinder valves, couplings, regulators, hoses, and apparatus keep free of oily or greasy substances.
- Do not drop or strike cylinders.
- Unless secured on special trucks, regulators are removed and valve-protection caps put in place before moving cylinders.
- Cylinders without fixed hand wheels have keys, handles, or non-adjustable wrenches on stem valves when in service.
- Liquefied gases stored and shipped valve-end up with valve covers in place.
- Employees instructed to never crack a fuel-gas cylinder valve near sources of ignition.
- Before a regulator is removed, the valve is closed and gas released form the regulator.
- Hoses will be color coded: red used to identify the acetylene (and other fuel-gas) hose, green for oxygen hose, and black for inert gas and air hose.
- Pressure-reducing regulators used only for the gas and pressures for which they are intended.
- Open circuit (No Load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits.

- Under wet conditions, automatic controls for reducing no-load voltage are used.
- Grounding of the machine frame and safety ground connections of portable machines checked periodically.
- It is required that electric power to the welder be shut off when no one is in attendance.
- Suitable fire extinguishing equipment available for immediate use.
- The welder is forbidden to coil or loop welding electrode cable around his body.
- Wet machines thoroughly dried and tested before being used.
- Work and electrode lead cables frequently inspected for wear and damage, and replaced when needed.
- Means for connecting cables' lengths have adequate insulation.
- Use shields to confine heat, sparks, and slag if he object to be welded cannot be moved and fire hazards cannot be removed.
- Firewatchers assigned when welding or cutting is performed, in locations where a serious fire might develop.
- Combustible floors kept wet, covered by damp sand, or protected by fire-resistant shields.
- When floors are wet, personnel are protected from possible electrical shock.
- When welding is done on metal walls, precautions are taken to protect combustibles on the other side.
- Before hot work is begun, are used drums, barrels, tanks, and other containers so thoroughly cleaned that no substances remain that could explode, ignite, or produce toxic vapors.
- It is required that eye protection helmets, hand shields and goggles meet appropriate standards.
- Employees exposed to the hazards created by welding, cutting, or bracing operations protected with personal protective equipment and clothing.
- A check made for adequate ventilation where welding or cutting is performed.

4.3.9.2 Arc Welders

- Keep your head out of the fumes or use the appropriate respirator.
- Use enough ventilation or exhaust to remove fumes and gases from the work area. Mechanical equipment should exhaust at least 2000 cfm of air for each welder, except where individual exhaust hoods, booths, or air-line respirators are used.
- Natural ventilation may be used under certain conditions. For welding or cutting mild steel, natural ventilation is usually sufficient if a room has at least 10,000 cubic feet per welder, with a ceiling height of at least 16 feet. Cross-ventilation should not be blocked, and welding should not be done in a confined space.
- Don't get too close to the arc ("Avoid the plume"). Use corrective lenses to help you maintain the proper distance if necessary.

- Electrodes removed from the holders when not in use. Electrodes are considered a hazardous item by UOSH and require an SDS be maintained onsite.
- Read and understand the Safety Data Sheets (SDS) for the product.
- Use a smoke extractor-type welding gun for semiautomatic welding processes.
- Protect your body from welding spatter and arc flash with clothing made from durable, flame-resistant material, such as woolen fabrics, and gear that includes flame-proof apron and gloves, leather leggings, and high boots.
- Avoid clothing made of synthetic materials, which can melt when exposed to extreme heat or sparks, or cotton unless it is specially treated for fire protection.
- Keep your clothes free of grease and oil, which may ignite.
- Protect others from spatter, flash, and glare with non-flammable protective screens or curtains.
- Be sure to wear safety glasses with side shields when in a welding area. Safety glasses shall be worn underneath the
- Be sure you are insulated from the work piece and ground, as well as other live electrical parts.
- Don't lean on the work piece.
- Use plywood, rubber mats or other dry insulation to stand on, and wear dry, hole-free gloves.
- Stay dry, and do not weld when you are wet. Never dip the electrode in water to cool it.
- Check equipment to be sure it is properly grounded, in good repair, and installed according to prevailing codes.
- Be sure equipment is turned off when not in use.
- Electric current flowing through a conductor causes Electric and Magnetic Fields (EMF), which can interfere with pacemakers and may effect health in other ways. Consult your physician before arc welding if you have a pacemaker. To avoid excessive exposure to EMF, keep the electrode and work cables together, never place your body between the two cables or coil the electrode lead around your body, and do not work directly next to the welding power source.
- Do not remove labels from chemical containers unless the containers are empty and have been thoroughly cleaned. Clean, empty containers may be used for other materials if proper new labels are affixed.

4.3.10 Scaffolding

- Green tags are to be placed on 100% complete scaffolds with all braces, locks and hand, mid & toe rails in place before use.
- Yellow tags are for incomplete scaffolds. If scaffold is missing a hand, mid or toe board, it must have a yellow tag and employees on it must be tied off at all times.
- Red tags are for scaffolds that are in the process of either being erected or disassembled. These scaffolds are not to be used at any time.

- Scaffold tags should be placed in a highly visible location on the scaffolds for all employees to see.
- All scaffolding and work platforms must be in accordance with OSHA specifications. UTA corporate Policy OSH 4.22 also contains some guidance on the use of scaffolding.

4.3.11 Portable Ladders

When ladders are used on train, streetcar, or BRT platforms, contractors and UTA employees must abide by UTA Corporate Policy OSH 4.22. The intent of this policy is to prevent an individual from falling off the ladder and into the path of an oncoming revenue vehicle.

The use of any device to gain height, ladders included, within the ROW creates the potential to foul the track. The Roadway Worker Protection Program (RWPP) Manual provides further guidance and requirements.

Fixed ladders have other requirements directed by 29 CFR 1926.1053(a)(19).

Within the confines of construction, the following apply:

- All ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play.
- Ladders shall be secured at the top and bottom and extend 3 feet past the working surface.
- Metal ladders around electrical work are prohibited. The only exception is a properly constructed wooden ladder built by a contractor on a job site. In this case, UTA employees may use the ladder to inspect the job site.
- Never use a step ladder as an extension ladder. A step ladder must only be used when fully opened with braces locked.
- Non-slip safety feet provided on each ladder.
- Keep ladder rungs and steps free of grease and oil.
- It is prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded.
- It is prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height.
- Face the ladder when ascending or descending.
- Maintain three points of contact while ascending or descending the ladder.
- Employees are prohibited from using ladders that are broken, missing steps, rungs, or cleats, broken side rails or other faulty equipment.
- Employees may not to use the top 2 steps of ordinary stepladders as a steps.
- It is required that when portable rung or cleat type ladders are used the base is so placed that slipping will not occur, or it is lashed or otherwise held in place.
- Portable metal ladders legibly marked with signs reading "CAUTION" "Do Not Use Around Electrical Equipment" or equivalent wording.

- Employees prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purposes.
- Employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder).
- The rungs of ladders uniformly spaced at 12 inches, center to center.

4.3.12 Compressors & Compressed Air

- Compressors equipped with pressure relief valves, and pressure gauges.
- Compressor air intakes installed and equipped to ensure that only clean uncontaminated air enters the compressor.
- Air filters installed on the compressor intake.
- Compressors operated and lubricated in accordance with the manufacturer's recommendations.
- Safety devices on compressed air systems checked frequently.
- Before any repair work is done on the pressure system of a compressor, the pressure is bled off and the system locked-out.
- Signs posted to warn of the automatic starting feature of the compressors.
- The belt drive system is totally enclosed to provide protection for the front, back, top, and sides.
- It is strictly prohibited to direct compressed air towards a person.
- Employees prohibited from using highly compressed air for cleaning purposes.
- If compressed air is used for cleaning off clothing, the pressure is reduced to less than 10 psi.
- When using compressed air for cleaning, employees use personal protective equipment.
- Safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard.
- Before compressed air is used to empty containers of liquid, the safe working pressure of the container is checked.
- When compressed air is used with abrasive blast cleaning equipment, the operating valve is a type that must be held open manually.
- When compressed air is used to inflate auto tires, a clip-on chuck and an inline regulator preset to 40 psi is required.
- It is prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard.
- Compressed air may not be transferred or piped through any non-metal pipe such as PVC, HDPE or LDPE.
- Claw type connections on air hoses require locking pins and whip checks.

4.3.13 Compressed Air Receivers

- Every receiver is equipped with a pressure gauge and with one or more automatic, spring-loaded safety valves.
- The total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.
- Every air receiver provided with a drainpipe and valve at the lowest point for the removal of accumulated oil and water.
- Compressed air receivers periodically drained of moisture and oil.
- All safety valves tested frequently and at regular intervals to determine whether they are in good operating condition.
- The inlet of air receivers and piping systems is kept free of accumulated oil and carbonaceous materials.

4.3.14 Compressed Gas & Cylinders

- Cylinders with a water weight capacity over 30 pounds equipped with means for connecting a valve protector device, or with a collar or recess to protect the valve.
- Cylinders legibly marked to clearly identify the gas contained.
- Compressed gas cylinders stored in areas which are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines.
- Cylinders located or stored in areas where they will not be damaged by passing or falling objects, or subject to tampering by unauthorized persons.
- Cylinders stored or transported in a manner to prevent them creating a hazard by tipping, falling or rolling.
- Cylinders containing liquefied fuel gas, stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder.
- Valve protectors always placed on cylinders when the cylinders are not in use or connected for use.
- All valves closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job.
- Low pressure fuel-gas cylinders checked periodically for corrosion, general distortion, cracks, or any other defect that might indicate a weakness or render it unfit for service.
- The periodic check of low pressure fuel-gas cylinders include a close inspection of the cylinders' bottom.

4.3.15 Material Handling

- Is there safe clearance for equipment through aisles and doorways?
- Aisle ways designated, permanently marked, and kept clear to allow unhindered passage.

- Motorized vehicles and mechanized equipment inspected daily or prior to use.
- Vehicles shut off and brakes set prior to loading or unloading.
- Containers or combustibles or flammables, when stacked while being moved, always separated by dunnage sufficient to provide stability.
- Dock boards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks.
- Trucks and trailers secured from movement during loading and unloading operations.
- Dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading.
- Hand trucks maintained in safe operating condition.
- Chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off.
- Chutes and gravity roller sections firmly placed or secured to prevent displacement.
- At the delivery end of rollers or chutes, provisions are made to brake the movement of the handled materials.
- Pallets usually inspected before being loaded or moved.
- Hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments won't accidentally slip off the hoist hooks.
- Securing chains, ropes, chockers or slings are adequate for the job to be performed.
- When hoisting material or equipment, provisions are made to assure no one will be passing under the suspended loads.
- Safety Data Sheets available to employees handling hazardous substances.

4.3.15.1 Hoist & Auxiliary Equipment

- Each overhead electric hoist is equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel.
- Each hoist automatically will stop and hold any load up to 125 percent of its rated load if its actuating force is removed.
- The rated load of each hoist is legibly marked and visible to the operator.
- Stops provided at the safe limits of travel for trolley hoist.
- The controls of hoists plainly marked to indicate the direction of travel or motion.
- Each cage-controlled hoist is equipped with an effective warning device.
- Close-fitting guards or other suitable devices installed on hoist to assure hoist ropes will be maintained in the sheave grooves.
- All hoist chains or ropes of sufficient length to handle the full range of movement for the application while still maintaining two full wraps on the drum at all times.

- Nip points or contact points between hoist ropes and sheaves which are permanently located within 7 feet of the floor, ground or working platform, guarded.
- It is prohibited to use chains or rope slings that are kinked or twisted.
- It is prohibited to use the hoist rope or chain wrapped around the load as a substitute for a sling.
- The operator is instructed to avoid carrying loads over people.
- Only employees who have been trained in the proper use of hoists allowed to operate them.

4.3.15.2 Cranes

- The crane is visually inspected for defective components prior to the beginning of any work shift.
- All electrically operated cranes effectively grounded.
- A crane preventive maintenance program is established.
- The load chart is clearly visible to the operator.
- Operating controls clearly identified.
- A fire extinguisher is provided at the operator's station.
- The rated capacity is visibly marked on each crane.
- An audible warning device is mounted on each crane.
- Sufficient illumination is provided for the operator to perform the work safely.
- Cranes of such design, that the boom could fall over backward, equipped with boomstops.
- Each crane has a certificate indicating that required testing and examinations have been performed.
- Crane inspection and maintenance records maintained and available for inspection.
- Alterations or modifications to the basic crane shall be prohibited, unless prior written authorization is obtained from the manufacturer.
- Crane shall be level during operations within one (1) degree. If crane is equipped with outriggers, they shall be fully extended and jack pads set on firm level terrain at all times.
- A qualified signal person shall be assigned and positioned, so that they are constantly visible to both the crane operator and load.
- The crane operator shall be thoroughly trained with related experience and shall be familiar with safe crane practices and also have a complete understanding of all manuals, including maintenance and operating instructions provided for specific crane in use.

4.3.15.3 Industrial Trucks - Forklifts

- Only trained personnel allowed to operate industrial trucks.

- Substantial overhead protective equipment is provided on high lift rider equipment.
- The required lift truck operating rules posted and enforced.
- Directional lighting is provided on each industrial truck that operates in an area with less than 2 foot candles per square foot of general lighting.
- Each industrial truck has a warning horn, whistle, gong or other device which can be clearly heard above the normal noise in the areas where operated.
- The brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded.
- The industrial truck's parking brake will effectively prevent the vehicle from moving when unattended.
- Industrial trucks operating in areas where flammable gases or vapors, or combustible dust or ignitable fibers may be present in the atmosphere, are approved for such locations.
- Motorized hand and hand/rider trucks so designed that the brakes are applied, and power to the drive motor shuts off when the operator releases his/her grip on the device that controls the travel.
- Industrial trucks with internal combustion engine operated in buildings or enclosed areas, carefully checked to ensure such operations do not cause harmful concentration of dangerous gases or fumes.

4.3.15.4 Helicopters

- Do not approach or leave a helicopter while its engines are running unless in a crouched position and the pilot or pilot's designee signals that it is safe to do so.
- Always approach and leave the helicopter in plain view of the pilot or as directed by the pilot's designee; never from the rear.
- Never walk around the tail of a running helicopter. Not only will the tail rotor kill you, but it will be very painful.
- Approach and leave the helicopter on a level with the craft or a lower level, never from or to higher ground than that of the helicopter.
- Wear goggles and head protection with chin strap under the chin when in the vicinity of an operating helicopter. Loose-fitting clothing likely to flap in the downwash and possibly be snagged on the hoist line shall not be worn.
- Load all cargo and secure it to the satisfaction of the pilot or pilot's designee.
- Do not put tag lines on sling loads without the pilot's or pilot's designee's permission and limit their numbers, their placement, and their lengths to the pilot's satisfaction.
- Do not place explosives, flammables, or other dangerous materials on board any aircraft without the pilot's knowledge.
- Carry all materials to or from the helicopter in a horizontal position not above waist level.
- Do not smoke within 50 feet of a helicopter, fuel storage, or fueling operation.

- Do not stand directly under a hovering helicopter longer than necessary to hook-up or unhook the load.
- Always watch the helicopter, sling load, hook, or bottom end of the cable to avoid being hit.
- Know the escape procedure at each operation site.
- Wear appropriate ear protection while on or near helicopters.
- Keep landing and hovering areas clear of loose and lightweight materials.
- Notify the person in charge of the project when erecting a suspended line, tower or other navigational hazard.
- Turn off radio transmitter when in vicinity of explosives or explosive loading operations.
- Passengers transported by helicopter shall be instructed to:
    - Board and depart only on instruction from the pilot.
    - Use seat belts at all times.
    - Do not talk unnecessarily to the pilot.
    - Remain seated during the time you are aboard.
    - Watch for other airborne aircraft and navigational hazards and call them to the attention of the pilot.
    - Do not smoke unless permitted by the pilot.
- When performing as a crew member in external operations, listen to and be familiar with the normal sounds emitted by the helicopter in flight so that you will have the earliest notice of trouble and can avoid dangerous exposure.
- When visibility is reduced by dust or other conditions, ground personnel shall exercise special caution to keep clear of main and stabilizing rotors.

4.3.16 Spraying Operations

- Adequate ventilation is assured before spray operations are started.
- Mechanical ventilation is provided when spraying operation is done in enclosed areas.
- Mechanical ventilation is provided during spraying operations, so arranged that it will not circulate the contaminated air.
- The spray area is free of hot surfaces.
- The spray area is at least 20 feet from flames, sparks, operating electrical motors and other ignition sources.
- Portable lamps used to illuminate spray areas suitable for use in a hazardous location.
- Approved respiratory equipment is provided and used when appropriate during spraying operations.

- Fire control sprinkler heads kept clean.
- "NO SMOKING" signs posted in spray areas, paint rooms, paint booths, and paint storage areas.
- The spray area is kept clean of combustible residue.
- Spray booths constructed of metal, masonry, or other substantial noncombustible material.
- Spray booth floors and baffles noncombustible and easily cleaned.
- Infrared drying apparatus is kept out of the spray area during spraying operations.
- The spray booth is completely ventilated before using the drying apparatus.
- The electric drying apparatus is properly grounded.
- Lighting fixtures for spray booths located outside of the booth and the interior lighted through sealed clear panels.
- The electric motors for exhaust fans placed outside booths or ducts.
- Belts and pulleys inside the booth fully enclosed.
- Ducts have access doors to allow cleaning.
- All drying spaces have adequate ventilation.

4.3.17 Environmental Controls

- All work areas properly illuminated.
- Hazardous substances identified which may cause harm by inhalation, ingestion, skin absorption or contact.
- Employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, and caustics.
- Employee exposure to chemicals in the workplace is kept within acceptable levels.
- Whenever possible a less harmful method or product shall be used.
- The work area's ventilation system is appropriate for the work being performed.
- Employee exposure to welding fumes is controlled by ventilation, use of respirators, exposure time, or other means.
- If forklifts and other vehicles are used in buildings or other enclosed areas, the carbon monoxide levels are kept below maximum acceptable concentration.
- There has been a determination that noise levels in the facilities are within acceptable levels.
- Steps being taken to use engineering controls to reduce excessive noise levels.
- Proper precautions being taken when handling asbestos and other fibrous materials.
- Caution labels and signs used to warn of asbestos.

- Wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials.
- Vacuuming with appropriate equipment is used whenever possible rather than blowing or sweeping dust.
- Grinders, saws, and other machines that produce respirable dusts vented to an industrial collector or central exhaust system.
- All local exhaust ventilation systems designed and operating properly such as airflow and volume necessary for the application.
- There written standard operating procedures for the selection and use of respirators where needed.
- All water provided for drinking, washing, and cooking is potable.
- All outlets for water not suitable for drinking clearly identified.
- Employees' physical capacities assessed before being assigned to jobs requiring heavy work.
- Employees instructed in the proper manner of lifting heavy objects.
- Where heat is a problem, all fixed work areas have been provided with spot cooling or air conditioning.
- Employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction.
- Employees working on streets and roadways where they are exposed to the hazards of traffic, required to wear bright colored (traffic orange) warning vest.
- Exhaust stacks and air intakes located that contaminated air will not be recirculated within a building or other enclosed area.

4.3.18 Flammable & Combustible Materials

- "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored.
- "NO SMOKING" signs posted on liquefied petroleum gas tanks.
- "NO SMOKING" rules enforced in areas involving storage and use of flammable materials.
- Combustible scrap, debris and waste materials (i.e. oily rags) stored in covered metal receptacles and removed from the worksite promptly.
- Proper storage practiced to minimize the risk of fire including spontaneous combustion.
- Approved containers and tanks used for the storage and handling of flammable and combustible liquids.
- Are all connections on drums and combustible liquid piping, vapor and liquid tight.
- Are all flammable liquids kept in closed containers when not in use (e.g. parts cleaning tanks, pans).

- Bulk drums of flammable liquids grounded and bonded to containers during dispensing.
- Storage rooms for flammable and combustible liquids have explosion-proof lights.
- Storage rooms for flammable and combustible liquids have mechanical or gravity ventilation.
- Liquefied petroleum gas stored, handled, and used in accordance with safe practices and standards.
- Liquefied petroleum storage tanks guarded to prevent damage from vehicles.
- All solvent wastes and flammable liquids kept in fire-resistant covered containers until they are removed from the worksite.
- Vacuuming used whenever possible rather than blowing or sweeping combustible dust.
- Fire separators placed between containers of combustibles or flammables, when stacked one upon another, to assure their support and stability.
- Fuel gas cylinders and oxygen cylinders separated by distance, fire resistant barriers or other means while in storage.
- Fire extinguishers selected and provided for the types of materials in areas where they are to be used.
    - Class A: Ordinary combustible material fires.
    - Class B: Flammable liquid, gas or grease fires.
    - Class C: Energized-electrical equipment fires.
- If a Halon 1301 fire extinguisher is used, employees can evacuate within the specified time for that extinguisher.
- Appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquids, and within 10 feet of any inside storage area for such materials.
- The transfer/withdrawal of flammable or combustible liquids is performed by trained personnel.
- Fire extinguishers mounted so that employees do not have to travel more than 75 feet for a class "A" fire or 50 feet for a class "B" fire.
- Employees trained in the use of fire extinguishers.
- Are extinguishers free from obstructions or blockage.
- All extinguishers serviced, maintained and tagged at intervals not to exceed one year.
- All extinguishers fully charged and in their designated places.
- A record maintained of required monthly checks of extinguishers.
- Where sprinkler systems are permanently installed, the nozzle heads are directed or arranged so that water will not be sprayed into operating electrical switchboards and equipment.
- Safety cans used for dispensing flammable or combustible liquids at a point of use.

- All spills of flammable or combustible liquids cleaned up promptly.
- Storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying, or atmosphere temperature changes.
- Storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.
- Spare portable or butane tanks, which are sued by industrial trucks stored in accord with regulations.

4.3.19 Fire Protection

- Have a fire prevention plan.
- Plan describes the type of fire protection equipment and/or systems.
- Established practices and procedures to control potential fire hazards and ignition sources.
- Employees aware of the fire hazards of the material and processes to which they are exposed.
- Local fire department well acquainted with your facilities, location and specific hazards.
- Fire alarm system is tested at least annually.
- Fire alarm system is certified as required.
- Interior standpipes and valves are inspected regularly.
- Outside private fire hydrants are flushed at least once a year and on a routine preventive maintenance schedule.
- Fire doors and shutters in good operating condition.
- Fire doors and shutters unobstructed and protected against obstructions, including their counterweights.
- Fire door and shutter fusible links in place.
- Automatic sprinkler system water control valves, air and water pressures checked weekly/periodically as required.
- Maintenance of automatic sprinkler system is assigned to responsible persons or to a sprinkler contractor.
- Sprinkler heads protected by metal guards, when exposed to physical damage.
- Proper clearance is maintained below sprinkler heads.
- Portable fire extinguishers provided in adequate number and type.
- Fire extinguishers mounted in readily accessible locations.
- Are fire extinguishers recharged regularly and noted on the inspection tag.
- Employees periodically instructed in the use of extinguishers and fire protection procedures.

4.3.20 Hazardous Chemical Exposures

- Employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, and the like.
- Employees aware of the potential hazards involving various chemicals stored or used in the workplace--such as acids, bases, caustics, epoxies, and phenols.
- Employee exposure to chemicals is kept within acceptable levels.
- Eye wash fountains and safety showers provided in areas where corrosive chemicals are handled.
- All containers, such as vats and storage tanks labeled as to their contents--e.g. "CAUSTICS".
- All employees required to use personal protective clothing and equipment when handling chemicals (i.e. gloves, eye protection, and respirators).
- Flammable or toxic chemicals kept in closed containers when not in use.
- Chemical piping systems clearly marked as to their content.
- Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipelines, adequate means is readily available for neutralizing or disposing of spills or overflows properly and safely.
- Standard operating procedures have been established and are they being followed when cleaning up chemical spills.
- Where needed for emergency use, respirators are stored in a convenient, clean and sanitary location.
- Respirators intended for emergency use adequate for the various uses for which they may be needed.
- Employees prohibited from eating in areas where hazardous chemicals are present.
- Is personal protective equipment provided, used and maintained whenever necessary.
- There are written standard operating procedures for the selection and use of respirators where needed.
- Respirator protection program requires employees to be instructed on the correct usage and limitations of the respirators.
- Respirators shall be regularly inspected and cleaned.
- Control procedures have been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, and the like.
- Whenever possible, hazardous substances are handled in properly designed and exhausted booths or similar locations.
- Use general dilution or local exhaust ventilation systems to control dusts, vapors, gases, fumes, smoke, solvents or mists which may be generated in your workplace.

- Ventilation equipment shall be provided for removal of contaminants from such operations as production grinding, buffing, spray painting, and/or vapor decreasing, and is it operating properly.
- If internal combustion engines are used, carbon monoxide is kept within acceptable levels.
- Vacuum, rather than blowing or sweeping, dusts whenever possible for cleanup.
- Materials, which give off toxic, asphyxiant, suffocating or anesthetic fumes, are stored in remote or isolated locations when not in use.
- There shall be a list of hazardous substances used in your workplace.
- There is a written hazard communication program dealing with Safety Data Sheets (SDS) labeling, and employee training.
- The contractor's superintendent is responsible for SDSs, container labeling, and employee training.
- Each container for a hazardous substance (i.e. vats, bottles, storage tanks,) is labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards).
- There is a Safety Data Sheet readily available for each hazardous substance used.
- There is an employee training program for hazardous substances. This program include:
    - An explanation of what an SDS is and how to use and obtain one.
    - SDS contents for each hazardous substance or class of substances.
    - Explanation of "Right to Know".
    - Identification of where employees can see the employer's written hazard communication program and where hazardous substances are present in their work area.
    - The physical and health hazards of substances in the work area, how to detect their presence, and specific protective measures to be used.
    - Details of the hazard communication program, including how to use the labeling system and SDSs.
    - How employees will be informed of hazards of non-routine tasks, and hazards of unlabeled pipes.

4.3.21 Hazardous Waste Management

- Contractors will identify all materials and/or chemicals they will use on UTA property (including welding rods), and provide a brief explanation of how they will be used and if any wastes will be generated as described in UTA's document CONTR 4.4.6-3 Contractor Environmental Activity Briefing Package.
- Documentation of licenses and certificates required for lead, asbestos abatement or other hazardous waste management activity that require licenses and/or permits shall be presented prior to commencing work.

- Hazardous materials brought on site or wastes generated on site will be handled according to UTA's CONTR 4.4.6-2: Contractor Environmental Management Procedure.

4.3.22 Noise

- Hearing protection is required if the continuous noise level exceeds 85 dBA or if the noise level peaks above 115 dBA.
- Noise levels are to be measured at regular intervals.
- Try isolating noisy machinery from the rest of your operation.
- Engineering controls been used to reduce excessive noise levels.
- Where engineering controls are determined not feasible, administrative controls (i.e. worker rotation) are being used to minimize individual employee exposure to noise.
- Work areas where noise levels make voice communication between employees difficult been identified and posted.
- Approved hearing protective equipment (noise attenuating devices) is available to every employee working in areas where continuous noise levels exceed 85 dBA.
- Employees are properly fitted and instructed in the use and care of ear protectors.
- Employees exposed to continuous noise above 85 dBA given periodic audiometric testing to ensure that you have an effective hearing protection system.
- Contractors may have to comply with local noise ordinances for the wellbeing of residents around the work area.

4.3.23 Emergency Action Plan

- Have an emergency action plan. "Call 911" should be part of the plan, but is not a plan unto itself.
- The emergency action plan complies with requirements of OSHA regulations.
- Emergency escape procedures and routes have been developed and communicated to all employees, contractors, and sub-contractors.
- The emergency action plan is reviewed and revised periodically.
- Employees know their responsibilities:
    - For reporting emergencies.
    - During an emergency.
    - For conducting rescue and medical duties.

4.3.24 Infection Control

- Contractors will provide a training and information program for employees exposed to or potentially exposed to blood and/or body fluids.
- Employees are aware of specific workplace practices to follow when appropriate (Hand washing, handling sharp instruments, handling of laundry, disposal of contaminated materials, reusable equipment.)

- Personal protective equipment is provided to employees, and in all appropriate locations
- Employers will offer, at no cost to the employee, Hepatitis B vaccinations to employees potentially exposed to blood borne pathogens.

4.3.25 Ergonomics

- The work can be performed without eyestrain or glare to the employees.
- Tasks will not require prolonged raising of the arms.
- The neck and shoulders will not have to be stooped to view the task.
- There are no pressure points on any parts of the body (wrists, forearms, back of thighs).
- The work can be done using the larger muscles of the body.
- The work can be done without twisting or overly bending the lower back.
- Sufficient rest breaks, in addition to the regular rest breaks, to relieve stress from repetitive-motion tasks.
- Tools, instruments and machinery shaped, positioned and handled so that tasks can be performed comfortably.
- All pieces of furniture adjusted, positioned and arranged to minimize strain on all parts of the body.

4.3.25.1 Back & Lifting Safety

Lifting things and moving them from one place to another is a very simple operation. However, if this operation is done incorrectly, it may cause many injuries. You can wrench your back or pull a muscle, or crush or pinch your hands or feet. Your general physical preparedness is your best defense against back injuries.

- Learn how to lift and prevent injuries.
- Use the right kind of personal protective gear.
- Hand protection and safety shoes are a must for most lifting jobs.
- Some jobs might call for hard hats and goggles.
- If it is too big or too heavy for you to handle alone, get help.
- Check the material for nails, splinters, rough stripping that might injure your hands.
- When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used. Learn and practice the proper way to lift or carry material or any object.

Lifting Procedures:

1. Face the load.
2. Put one foot alongside the object, and one foot behind.
3. Bend at the knees. Let your legs do the work.

4. Keep back straight and the load as close as possible.
5. Get a good, firm grip with the palms of your hands while lifting by straightening your legs.
6. Avoid twisting as you turn with a load. Shift your feet instead.
7. Don't try to lift something above waist level in one motion. Set the load on a table or bench, then change your grip for lifting higher.
8. To put the object down, just follow the lifting procedure, but in reverse

4.3.26 Material Storage

Proper storage procedures are required for dry, raw materials, flammables and compressed gases storage to prevent fires, keep exits and aisles clear and avoid injuries and illnesses. General rules for material storage are as follows:

- Materials may not be stored any closer than 18 inches to sprinkler heads. A minimum of 3 feet side clearance will be maintained around doorways and emergency exits. Passageways and aisle will be properly marked and a minimum of six feet in width. Materials, fork lifts, pallet jacks, etc., may not be stored in aisles or passageways.
- Aisles and passageways will be kept clear of debris. All spills of materials will be immediately cleaned-up by the person responsible.
- All platforms and racks will have maximum load capacity displayed. The weight of stored material will not exceed the rated load capacity.
- All flammables will be stored in OSHA-approved flammable storage cabinets or stored outside (at least 50 feet from any structure)
- Fuels, solvents and other flammables (not stored in original shipping containers) will be stored in OSHA-approved self-closing containers with flame arresters. Flammables may not be stored in open containers (open parts baths, etc.).
- Flammable storage areas will be kept dry and well ventilated. No storage of combustible materials, open flames or exposed electrical components are permitted in the flammable storage area.
- Flammable or combustible materials may not be stored in electrical rooms. Electrical rooms must be kept clean and dry at all times.
- Inspect bottle for defects & proper marking/labels
- Ensure stamped date on bottle has not expired
- Inspect valve assembly and adapter thread area
- Ensure SDS is on file or with shipment
- Follow SDS requirements for storage
- Cylinder cap securely in place when not in use.
- Cylinders marked with contents and if empty/full.

- Cylinders stored up-right and secured to a stationary structure in a shaded and well ventilated area.
- Cylinders not stored within 50 feet of exposed electrical components or combustible materials.
- Cylinders are protected from accidental rupture.
- Chemically reactive gases not stored within 50 feet of each other.
- If a cart or cylinder trolley is used, the cylinders must be secured to the cart.
- Inspect valve adapter threads.
- Inspect all fasteners, hoses & regulators prior to hooking up to cylinder.
- Use only for approved purposes.
- Use in up-right position.
- Regulators must be of same rated pressure as cylinder
- Keep cylinder valve shut when not in use; don't depend on regulators

4.4 Construction near Railroad Operations

The contractor shall take all necessary steps to prevent the following hazards:

a. Mounds or piles of earth, construction materials, temporary structures, overnight storage of equipment, or other objects within seven feet of any operational railroad track or crossings.

b. Pavement drop-offs in excess of three inches, either permanent or temporary.

c. Barricades not properly highlighted for easy visibility.

d. Night work lighting directed in such a manner that it interferes with production.

e. Open holes that are not guarded.

f. All employees shall have roadway worker protection (RWP) training when working on or near any UTA rail system or any other active railroad entity.

4.4.1 Clearances

Standard clearances may not give enough protection where tracks pass doorways or corners of temporary buildings causing workers to walk directly into the path of moving railroad equipment. These locations must be safeguarded with fixed railings or other means of pedestrian control to detour employees from the hazard.

4.4.2 Speed Limits

Speed limits shall not exceed 15 mph; 10 mph in locations where workers are intermingled with motorized equipment. Speed limits will be established and enforced for all traffic, in accordance with UTA, UP, and UDOT motor vehicle authority.

4.4.3 Track Access Permit

A permit is required any time the tracks are occupied or there is the potential for fouling the tracks by machine, equipment, material, or worker. If a crew is found to be without a permit, the violators shall be removed from the track work site until a permit is obtained.

4.4.4 On-Track Safety

The contractor is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection (RWP) regulation (49 CFR 214, Subpart C) and UTA's on-track safety rules. Under 49 CFR 214, Subpart C, contractors are responsible for the training of their employees on these regulations. UTA provides RWP training upon request.

In addition, all contractor employees must participate in a job briefing that will specify the type of on-track safety requirements for the type of work being performed. Special note must be made of:

- Limits of track authority
- Track fouling limits (10' from center of UTA tracks)
- Adjacent track safety
- Clear zones
- Personal protective equipment (PPE)
- Work zone around machines
- Minimum distances between machines

4.4.4.1 Other Railroad Activity in Work Area

UTA provides RWP training for UTA track only. Contact the owning railroad for their policy and training. The UTA RWP Program provides further guidance for shared track operations.

4.5 Traffic Control

4.5.1 Flagging, Barricades, Signs, and Signals

Traffic controls are the responsibility of the contractor overseeing the completion of the contract. Public roads crossing the work site, and roadways on the work site used by equipment and motorized vehicles, will be the responsibility of the contractor.

Every effort will be made to prevent disruption of traffic flow by the motorized public and pedestrian traffic. Accident and injury prevention will be a top priority.

Flag persons shall be trained and qualified.

Contractors are required to adhere to the standards for work zone traffic control as printed in part VI of the MUTCD Book (latest edition). All standards of the manual on uniform traffic control devices will be required to be placed in effect during the contract. Traffic control ordinances of the local jurisdiction shall be complied with, where applicable.

4.5.2 Maintenance of Traffic Control Employee

The contactor must name an employee and an alternate, who will be on twenty-four hour call, with the authority to maintain construction barricades and signal flashers.

4.6 Substance Abuse Policy

The contractor’s substance abuse policy shall be in accordance with Chapter 38 of the Utah code, 49 CFR 655, and the DOL Drug Free Workplace Act of 1988. Testing procedures will follow 49 CFR 40.

Any possession, use, or distribution of a controlled substance, or alcohol on site is strictly forbidden. Pending company policy, termination may result for violation of this policy.

4.6.1 Drug Testing and Cost

Before allowing a "safety sensitive" employee (as defined by current US DOT regulations) to perform a safety sensitive function for the first time, the contractor must ensure that the employee passes a pre-employment drug test.

When a covered employee has not performed a safety sensitive function for ninety consecutive calendar days, and the employee has not been in the contractor's random testing selection pool during that time, the contractor shall ensure that the employee passes a pre-employment drug test before returning to safety sensitive duties.

The cost of all drug testing will be borne by the contractor / employer.

Tests may be performed on a periodic basis. All employees on site will be subject to random drug / alcohol testing.

Testing for cause (reasonable suspicion) will be initiated in accordance with the guidelines within chapter 38 of the Utah Code and 49 CFR part 655.

4.6.2 Post Accident Testing

A test for drug and alcohol use is required after an accident. The cost of these tests will be borne by the employer.

4.6.3 Legally Prescribed Drugs

Prescription medication may be permitted on site, provided the drugs are contained in the original prescription container and are prescribed by an authorized medical doctor for the current use of the person named on the container.

It is the responsibility of each employee/ consultant who is taking prescribed medication to inform his physician of his job duties and to inform his supervisor of any such medication, which would restrict the employee in performing work duties in a safe and efficient manner.

4.7 Work Preparation

Before commencing work, the project engineer/manager and the contractor shall meet with the representative of the project resident engineer and a UTA Safety Administrator to discuss and review the Contractors Safety Program in relation to the UTA CSSP.

4.8 Demolition and Removal Work

Demolition and removal work shall be conducted in accordance with 29 CFR 1926, Subpart T. Prior to initiating demolition activities, the following survey and plan shall be accomplished:

a. An engineering survey, by a competent person, of the structures to determine the layout, condition of framing, floors, walls, foundation, and underpinnings. The potential for building damage or collapse and existence of other potential or real demolition hazards shall be part of the survey.

b. All nearby utilities including electric, gas, water, steam, sewer, and other service lines within the structure or area to be demolished will be located and marked, shut-off, capped or otherwise controlled prior to beginning demolition work. If it is necessary to maintain any

power or utilities during demolition, the utility lines will be protected or temporarily relocated. For help, call 811 before you dig. Contractors will notify UTA facilities maintenance and the appropriate utility company in advance of any utility shut-down or relocation.

c. Demolition plan, by a competent person, based on the engineering survey shall be developed which shall include a detailed plan authorizing the procedures for safe demolition and removal of all building materials. Protocol for removal of any hazardous materials from the site shall be included in this plan, based on the hazardous materials survey outlined below.

d. A hazardous materials survey, by a competent person, shall be conducted. The purpose is to determine if any hazardous materials, chemicals, gases, explosives, flammable liquids, biological, ionizing, or other suspect substances require additional action during demolition. This would include any pipes, tanks, or other equipment containing hazardous materials requiring additional controls.

4.9 Motor Vehicle Operations

4.9.1 Driver's License

Each contractor, subcontractor, or sub-subcontractor or vendor-supplier employee driving a motor vehicle on a UTA job site shall have a valid driver's license and each such motor vehicle shall have a current inspection sticker; if required by the state of registration.

4.9.2 Parking

Employee parking shall be as designated by the Project Resident Engineer. All Contractor, Subcontractor or Sub-Subcontractor vehicles shall enter and exit the site only through authorized control points designated by the Resident Engineer or UTA.

4.9.3 Condition

All construction equipment windshields and side windows shall be cleaned and unbroken. Safety equipment such as head, tail, brake, and clearance lights, etc. shall be kept clean. Back up alarms shall be in working order on all vehicles with limited or restricted driver vision to the rear.

4.9.4 Guarding

Heavy equipment with rotating superstructure such as back hoes and power shovels shall be guarded in such a manner that rotation of the superstructure shall not present danger to pedestrians or infringe into any traffic lane.

4.9.5 Access

The resident engineer may designate access to the job site. The contractor shall have control of the work site during construction and may restrict access to provide safety to the job site, employees, and the public, and in the event of a negative impact on schedule.

4.9.6 Transporting

All passengers shall be transported to and from the site while sitting /riding in seating arranged and designed for passenger travel. All passengers shall wear passive restraints that will require mechanical fastening of seat belts.

4.9.7 Vehicles

- Observe all traffic rules and regulations when driving.
- Do not operate a piece of equipment unless you have been instructed in its use.
- Jobsite speed limit is 10 MPH.

4.9.8 Transporting Employees & Materials

- Employees who operate vehicles on public thoroughfares have valid operator's licenses.
- When seven or more employees are regularly transported in a van, bus or truck, the operator's license is appropriate for the class of vehicle being driven.
- Each van, bus or truck used regularly to transport employees, is equipped with an adequate number of seats.
- Vehicles used to transport employees, equipped with lamps, brakes, horns, mirrors, windshields and turn signals in good repair.
- Transport vehicles provided with handrails, steps, stirrups or similar devices, so placed and arranged that employees can safely mount or dismount.
- A full charged fire extinguisher, in good condition, with at least 4 B/C rating maintained is in each employee transport vehicle.
- When cutting tools with sharp edges are carried in passenger compartments of employee transport vehicles, they are placed in closed boxes or containers which are secured in place.
- Employees prohibited from riding on top of any load, which can shift, topple, or otherwise become unstable.

4.9.9 Company Vehicles

Contractors are expected to abide their corporate policy for company vehicles and their appropriate use. Utah law prohibits the manipulation of cell phones or any other electronic device while driving any vehicle.

4.9.10 Tire Inflation

- Where tires are mounted and/or inflated on drop center wheels a safe practice procedure is posted and enforced.
- Where tires are mounted and/or inflated on wheels with split rims and/or retainer rings a safe practice procedure is posted and enforced. A tire restraining device such as a cage, rack or other effective means is used while inflating tires mounted on split rims, or rims using retainer rings.
- Each tire inflation hose has a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge.
- The tire inflation control valve is automatically shut off the airflow when the valve is released.

- Employees strictly forbidden from taking a position directly over or in front of a tire while it's being inflated.

4.9.11 Fueling

- It is prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running.
- Fueling operations done in such a manner that likelihood of spillage will be minimal.
- When spillage occurs during fueling operations, the spilled fuel is cleaned up completely, evaporated, or other measures taken to control vapors before restarting the engine.
- Fuel tank caps replaced and secured before starting the engine.
- In fueling operations there is always metal contact between the container and fuel tank.
- Fueling hoses of a type designed to handle the specific type of fuel.
- It is prohibited to handle or transfer gasoline in open containers.
- Open lights, open flames, or sparking or arcing equipment prohibited near fueling or transfer of fuel operations.
- Smoking prohibited in the vicinity of fueling operations.
- Fueling operations prohibited in building or other enclosed areas that are not specifically ventilated for this purpose.
- Where fueling or transfer of fuel is done through a gravity flow system, the nozzles are of the self-closing type.

4.10 Reporting Accidents, Incidents, and Injuries

All accidents that occur from operations or work performed for the project or other construction contracts on the job site must be verified, investigated, reported, and analyzed as prescribed by this manual.

All contractors, subcontractors, and sub-subcontractors shall instruct their employees and other personnel to follow these procedures if someone is injured; there is property damage or a near miss:

a. Seek medical assistance for anyone who is injured. The injured employee's supervisor will see that first aid is administered on site if possible.

b. Except for rescue and emergency procedures, secure the area tightly and quickly. The accident scene shall not be disturbed until the investigating authority officials release it.

c. Immediately report all accidents or conditions resulting in a fatality, the hospitalization of any employee or property damage estimated in excess of $1,000 to the contractor's superintendent or other person in charge at the job site, and notify the UTA Construction Safety Administrator.

d. The contractor's safety supervisor, or other designated person, must notify all other parties and report the event as outlined in this manual.

e. The local UOSH office (telephone 801 530-6901/fax 801 530-7606) must be notified within twelve hours of an occurrence involving a fatality, disabling, or serious injury to a worker. The UTA Construction Safety Administrator shall be notified within twenty-four hours.

f. If advanced medical assistance is necessary, contractors are instructed to send employees injured on site to medical clinics or hospitals as per the contractor's policy.

g. First aid cases need not to be submitted as a first report of injury. However, such incidents will be categorized as "non-reporting" and "first aid only" unless the injured employee continues to undergo medical treatment. Employees are responsible for reporting all injuries or occupational illnesses immediately to their employer or immediate supervisor. No supervisor shall decline or refuse to accept a report of injury from a subordinate.

h. Except in cases of emergencies, the foreman or immediate supervisor must provide the injured employee with written authorization to seek medical treatment.

i. Questions from the news media and others shall be referred to UTA Public Affairs Office.

j. In the event an employee of a contractor, subcontractor, or sub-subcontractor is exposed to toxic materials or harmful physical agents, the contractor shall notify the UTA Construction Safety Administrator of the incident and the corrective action taken to eliminate further exposures.

k. Only authorized personnel, such as representatives of the UTA Construction Safety Administrator, the insurers, or governmental agencies administering OSHA or UOSH shall be given information pertaining to the accident.

l. All accidents and hazardous incidents including near misses shall be reported. These records are to be maintained and made available to UTA Construction Safety Administrator, upon request, and shall include:

- An in-depth investigation to identify all causes and to recommend hazard control measures;
- The exact location of each incident shall be noted on the reporting form. The grid location of the project site where the accident occurred shall be used whenever possible.

4.11 Accident Investigation

Contractors are expected to conduct their own accident investigations in accordance with their corporate policy. The purpose of these investigations is not to assign blame, but to determine what root cause/contributing factors can be remedied to prevent a repeat of the accident. Contractors are expected to invite UTA Safety Department personnel to the investigation to observe and comment.

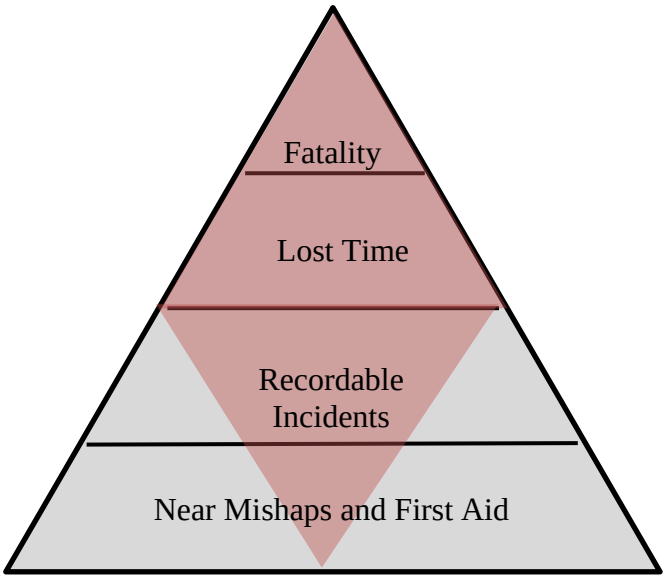
4.11.1 Determining What Accidents to Investigate

UTA has adopted the “Red Diamond” model to determine what construction incidents/accidents deserve investigation. This model recognizes that there is a limit to the time and funding available to investigate the smallest accidents. Additionally, it takes into account the most commonly accepted accident model proposed by Herbert W. Heinrich in 1931. Incidents to be investigated are those within the “Red Diamond”.

All fatalities and lost-time incidents deserve a full root-cause investigation. Some portion of recordable incidents, first aids, and near mishaps also fall within the red diamond. To determine if a specific accident falls within the parameters, ask the following questions;

- If one factor was different, would this have been a lost time or fatality?

- If it was replayed 100 times, would it result in a fatality?
- "If it hadn't been for luck, I'd be dead."



If the answer to any of these questions is yes, then the incident deserves a closer look. For example:

During a facility construction, the masons use scaffolding. The scaffolding has been set up for weeks, but the masons have been on and off the job due to weather and scheduling issues. An electrician is on his knees, finalizing a connection in a nearby outlet when a brick suddenly lands 3' from him. The brick had obviously fallen from the scaffolding above.

No matter which of the three litmus questions are used, the answer is a resounding yes. As a result, this incident deserves a higher level of scrutiny.

UTA will not prescribe a root cause model or investigation method. This is to be determined by contractor's policy and investigator's preference.

4.12 Contractor's Procedures for Emergency Reporting and Response

The contractor's emergency procedures shall be continually reviewed and adjusted by the contractor to provide maximum effectiveness. All such procedures are to be included in the contractor's safety program and coordinated with the project resident engineer.

4.12.1 Supplies

First aid kits shall meet the requirements outlined in 29 CFR 1926.50.

4.12.2 First Aid Training

At least one person shall be available at the job site to render first aid that has valid certificates in first aid training from the American Red Cross, or an equivalent training program that can be verified. Said persons shall affix suitable emblems to the rear of their hard hats for identification.

4.12.3 Planning

Actions to be taken during emergencies should be discussed regularly with the contractor's supervisory personnel and at "tool box" safety meetings.

4.12.4 Emergency Care

If advanced medical assistance is necessary, contractors are to send employees injured on site to the medical clinics or hospitals according to the contractor's policy.

4.12.5 Emergency Numbers

A telephone or the contractor at the job site shall provide other means of two-way communication before construction begins. The telephone numbers of the UTA public spokesperson, UTA Construction Safety Administrator, and resident engineer shall be posted by the contractor at all project site locations.

4.13 Protection of the Public and Property

"Public" shall be construed as including all persons not employed by the contractor, subcontractor, or any tier sub-subcontractor.

4.13.1 Precautions

In addition to the safety requirements identified within the specific contract documents, the following precautions are required:

a. The contractor shall take all necessary action to prevent injury to the public or property damage.

b. Work shall not be performed in any area occupied or in use by the public unless specifically permitted by the contract or in writing from the project resident engineer.

c. When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways, the contractor shall protect the public with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility. Such protection shall guard against harmful particles, flying materials, falling or moving materials and equipment, hot or poisonous materials, flammable and explosive atmospheres, flammable or toxic liquids and gases, open flames, energized electric circuits, or other harmful exposures.

d. Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public shall be kept clear by the contractor of obstructions to permit safe access and egress of the public at all times.

e. The contractor shall conspicuously post signs and instructional safety signs where necessary. In addition, the contractor shall utilize a signalman to control the moving of motorized equipment in areas where the public might be endangered

f. Sidewalk sheds, canopies, catch platforms, and appropriate fences shall be provided by the contractor when it is necessary to maintain public pedestrian traffic adjacent to the erection, demolition, or structural alteration of outside walls on any structure.

g. A temporary fence shall be provided by the contractor around the perimeter of aboveground operations adjacent to public areas except where a sidewalk shed or fence is provided by the contract or as required by subparagraph C above.

h. Perimeter fences shall be at least six feet high. They may be constructed of wood or metal frame and sheathing, heavy wire mesh, or a combination of both as provided in contract documents. When the fence is adjacent to a sidewalk near a street intersection, at least the upper section of the fence shall be open wire mesh from a point not over four feet above the

sidewalk and extending at least twenty-five feet in both directions from the corner of the fence to provide drivers and pedestrians visibility at the intersection.

i. Hazards to which the public may be exposed shall be barricaded, signed, and illuminated between dusk and sunrise and the servicing contractor shall maintain such protection.

j. Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred pounds applied in any direction at any point in their structure. Their height shall be approximately forty-two inches. Top rails and posts may be two inches by four inches dressed wood or equal material. Vertical posts shall not be over eight feet apart.

k. Barricades meeting UTA requirements shall be provided by the contractor where sidewalk sheds, fences, or guardrails as referenced above are not required between work areas and pedestrian walkways, roadways, or occupied buildings. Barricades shall be secured against accidental displacement and shall be maintained in place except where temporary removal is necessary to perform the work. When a barricade is temporarily removed, a watchman shall be placed at all openings.

4.14 Noncompliance

If the UTA Construction Safety Administrator notes any noncompliance with this manual, or the contractor's safety program, or is advised of such noncompliance by others or by a governmental agency with the authority to enforce safety regulations, the UTA Construction Safety Administrator shall perform the following:

a. Notify the contractor of the noncompliance and of the corrective action required. This notice, when delivered to the contractor or the contractor's representative at the job site shall be deemed sufficient notice of the noncompliance. Immediate corrective action is required of the contractor.

b. Exercise the right to issue a suspend-work order stopping all or part of the work if the contractor fails or refuses to take corrective action within the time specified in the notice. At resident engineer's option, the order will remain in effect until satisfactory corrective action has been taken.

c. Deny any claim or request from the contractor for equitable adjustment for additional time or money on any suspend-work order issued under these circumstances.

d. Require the removal from the job site of any employee, subcontractor, sub-subcontractor, or piece of equipment that is deemed to be unsafe.

4.15 Notice of Noncompliance with Safety and Health Regulations

All serious injuries and accidents, including a potential for a fatality or serious injury, shall be reported immediately to the UTA Construction Safety Administrator or the resident engineer.

a. When violations of the job site safety requirement are observed, the UTA Construction Safety Administrator will inform the contractor orally and when determined as necessary. The UTA Construction Safety Administrator shall issue a notice of noncompliance to the contractor.

b. The failure of contractor's safety supervisor to secure and maintain safety performance shall subject such personnel to removal from the job site. Personnel who are denied job site access for noncompliance with safety requirements, at the UTA Construction Safety Administrator's request, will not be granted job site access to the UTA site for other services of work.

4.16 Non-Performance

The contractor's safety supervisor or other authorized personnel shall be replaced by the contractor at the direction of the project resident engineer for nonperformance of his or her safety/security duties at no additional cost to the project.

4.17 Failure to Correct Unsafe Conditions

If the contractor fails to correct the conditions described in the noncompliance notice within the time specified, a second noncompliance notice shall be issued.

Should the contractor fail to correct the safety violation which creates a hazard for persons or property, the resident engineer can perform, or cause to be performed, the necessary work and back charge the contractor or take any other action provided in the contract.

Failure to reach agreement, or failure to correct the violation, shall be documented, and the matter referred to the resident engineer for resolution with the contractor's senior management.

If an "imminent" danger or loss of property condition exists, the resident engineer shall have authority to shut down contractor's work until correction of said condition is made.

Contractor superintendents, who fail to control the actions of their employees regarding safety, are subject to suspension from the job site.

5.0 Security Requirements

5.1 Security on the Job Site

Contractors shall be responsible for the security of their own property and equipment in their care, custody, and control while working on a UTA job site. Site security shall be coordinated with UTA to ensure any concerns are addressed prior to the start of any construction. UTA does not assume any responsibility for any stolen or damaged equipment, property, or building material. Ultimately, the contractor is responsible for providing security commensurate with local risks. UTA's Manager of Security as well as UTA's Chief of Police should be consulted with during the project planning and design phases to ensure all security needs are addressed before any equipment or material arrives on a job site. The contractor will be required to maintain secure work sites, material storage sites, and office facilities. Provision of security requirements will be for the protection of both the UTA property and the property of the contractor from theft, vandalism, pilfering, or other destructive activities, as well as for protection of personnel. Although some Business Units employee Facility Security Guards, these guards are tasked with providing security for operational maintenance and operations facilities supporting UTA revenue service and will not be tasked to secure any construction activity, equipment, or material.

The following UTA policies may provide more information to resolve unique situations:

- Corporate Policy 6.1.15: Contractor Badging and Background Checks: Details who is eligible for a contractor badge and the mechanisms to issue this type of badge
- Corporate Policy 4.3.6: Visitor Access: Provides guidance to employees and managers on the requirement of visitor access into UTA business units and facilities
- Corporate Policy 4.1.4: Security Initiatives: Provides additional requirements to employees on visitor access control procedures as well as the correct method of displaying employee, contractor, and visitor badges.

The minimum requirements for the contractor's security program will identified in the contract documents. The approved contractor's security program may include both active and passive security measures such as the following:

5.1.1 Contract Security Services

Contract Security is recommended in vulnerable areas where the threat of vandalism, theft, and pilferage is high. There are several contact security companies in the Salt Lake Valley who offer low cost facility security during times of increased risk (non-operations hours such as weekends and at night). One security guard is recommended for small and medium construction jobs. Larger jobs with more equipment and material may require more than one guard.

5.1.2 Cameras

Cameras serve as both a deterrent as well as an investigative tool following a security incident. Due to several legal factors, "dummy" cameras are not authorized on UTA property or construction sites. If used, cameras should be recorded through a local DVR or by other means. If used, cameras should be placed around perimeters as well as around equipment storage sites where the risk of theft is high. If existing UTA cameras are installed on the construction site, footage may be retrieved for the purposes of an investigation. Requests for the footage must go through the proper procedures. The UTA Transit Police are the best point of contact.

5.1.3 Provisions for entry control

Proper entry control is designed to ensure no unauthorized personnel are allowed to enter a construction site. This can be achieved through administrative procedures such as visitor logs or through infrastructure such as proper fencing, gates, and choke points. Other access control methods include standardized safety vests with company logo, a badging system, or a process for reporting unknown workers on a construction site to the job superintendent.

5.1.4 Fencing

Adequate site fencing is strongly recommended when feasible. It will not be realistic in all circumstances to erect temporary security fencing. Where it is feasible, fencing serves to deter theft, trespassing, and pilferage. When used, it is recommended that fencing be 8 foot, chain link, and semi-permanently fixed to the ground.

5.1.5 Site Lighting

Studies suggest that proper perimeter and area lighting will deter criminal activity. If used, it is recommended that perimeter lighting be a minimum of 3 Foot Candles and area lighting a minimum of 2 Foot Candles. Check local municipalities to ensure these light levels do not violate and codes or statutes.

6.0 Hazard Analysis

6.1 Preliminary Hazard Analysis

Each construction project that requires input from a professional service (architect or engineer) undergoes a design review process. Part of this process is the development of Preliminary Hazard Analysis or PHA. A Safety and Security Working Group (SSWG) reviews the PHA and determines if the risk is acceptable or should be mitigated.

Once the project has been turned over to UTA for pre-revenue operations, the operators and operational safety administrator take over the hazard assessment. This is referred to as the Operational Hazard Assessment or OHA. Further description of the PHA, OHA, TVA, and SSWG are in the UTA TASP.

Contractors should have an awareness of the PHA-OHA process. Throughout the project, the SSWG may tour the site without notice as long as the individuals are properly attired and briefed. Additionally, the SSWG can make recommendations via the PHA to the UTA Project Manager that may result in a change order or directive.

6.2 Job Safety Briefings

Prior to starting a new or unfamiliar task, the contractor is responsible for performing a Job Safety Briefing with employees. This briefing should familiarize everybody with the task, tools, techniques, procedures, and risks or hazards. The Superintendent or Foreman usually leads these briefings and may include these briefings in the Toolbox/tailgate talks.

Appendix A: Applicable Governmental Agency and Industry Safety Standards

The contractor shall comply with the safety requirements and provisions of the following agencies, codes, laws, and regulations:

- Federal Railroad Administration (FRA) Safety Rules and Regulations as applicable
- 29 CFR 1910 and 29 CFR 1926 Occupational Safety and Health Act
- 49 CFR 214 Roadway Worker Protection Act
- MUTCD - Manual on Uniform Traffic Control Devices
- NEC - National Electrical Code
- NFPA - National Fire Protection Association
- NIOSH - National Institute of Occupational Safety and Health
- ANSI - American National Standards Institute
- UBC - Uniform Building Code
- IBC – International Building Code, when applicable
- EPA - US. Environmental Protection Agency (EPA)
- UOSH - UTAH OSHA R574
- 49 CFR 655 – Drug and Alcohol Use in Transit Operations
- 49 CFR 40 – Drug and Alcohol Testing Programs
- Chapter 38 of the Utah Code

Appendix B: Monthly Safety Report/Contract Document

Contractor's Name:_____ Contract No. _____

Period Covered (Month and Year):_____

Name of Contractor's Safety Manager:_____

Item	Contract Total This Month	Contract Cumulative Total for Year
No. Hours Worked (Construction & Office)		
No. Lost Workday Cases (Entire Shift Lost)		
No. Restricted Workdays (Partial Shift Lost or reassigned to "light" duty)		
No. Cases Requiring Medical Attention		
No. Cases Recordable		
No. Fatalities		
No. On-Site Safety Meetings		
No. On-Site Equipment Accidents		
No. Vehicle Accidents, including off-site accidents by Contractor vehicles working on Contract		
No. New Workers on Site During Period		
No. Workers Safety Orientation		
No. Supervisor/Foreman Safety Sessions		
No. Site Safety Inspections		

1. Describe circumstances surrounding each lost workday and each fatality case.

2. Describe actions taken and/or planned to prevent reoccurrence.

Signed for the Contractor:

_____ _____

(Signature) (Signature)

_____ _____

(Printed or typed name) Safety Manager (Printed or typed name) Project Manager

_____ _____

(Date) (Date)

Appendix C: PPE Visual Guide

	**Mandatory PPE unless otherwise noted below is Hardhat, Safety Glasses, Safety Vest & Steel/Composite Toe Work Boots** (Rail crews are also required to wear metatarsal foot protection at all times)								
Drills							PEL=Permissible Exposure Limit		
	 (If above PEL)	 (if flying debris)		 (If above PEL)					
		 (If above PEL)	 (if flying debris)		 (If above PEL)				
									
Saws									
	 Concrete						 If above PEL)		
	 Metal								
			 (If above PEL)						
									
						 (If above PEL)			
									
									
Pneumatic	(jack hammers, chipping guns, rivet busters, impact wrenches, scalers, tie tampers, nail guns)								
						 (if visible dust)	 If above PEL)		
				 Anti-vibration			 (if visible dus	 If above PEL)	
									
									

Grinder									
								 If above PEL)	
Percussion	(hammers, hammer drills, rotary hammers)								
						 If above PEL)			
Router									
									
Welding Machine									
							 (if above PEL)		
Cutting Torch									
							 (if above PEL)		
Compactors									
									
									
Vacuum Truck									
									
Concrete Vibrator									
									
Pressure Washer									
									

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Patrick Preusser, Chief Operating Officer
PRESENTER(S):	Bryan Sawyer, Director of Fleet Engineering

TITLE:

Contract: Midvale Rail Service Center Flooring Restoration (CDC Restoration and Construction, L.C.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute contract 24-03915 with CDC Restoration and Construction, L.C. in the amount of $1,516,436.13.

BACKGROUND:
The floor coating at the Midvale Rail Service Center (MRSC) has exceeded its useful life expectancy and needs to be resurfaced. Very little coating remains in the hallways and service bays.

DISCUSSION:
UTA Staff is requesting approval of contract 24-03915 to resurface the floors in the service areas of the garage at the MRSC with CDC Restoration & Construction, L.C. in the amount of $1,516,436.13.

The scope of the contract includes the preparation of the flooring surface by the removal of all covers and plates, cleaning and degreasing, followed by the application of epoxy-based primer and finish coats.

Coordination has been made with the Manager of Vehicle Performance and Maintenance to ensure project completion without undue hindrance to workflow and vehicle maintenance requirements.

This flooring project is funded in the 2025 Facilities budget.

CONTRACT SUMMARY:

Contractor Name:	CDC Restoration and Construction, L.C.
Contract Number:	24-03915
Base Contract Effective Dates:	Effective after last signature - November 17, 2025
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$1,516,436.13
Procurement Method:	RFP
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

Alternative is to not recoat the floor, which would continue to degrade the surface coating, that may affect safe working conditions. UTA does not have the ability to perform this work.

FISCAL IMPACT:

Funds for the flooring replacement project are budgeted under Facilities Rehab and Replacement 2025 Capital budget, FMA653.

2025 Contract Total: $1,516,435.13

ATTACHMENTS:

- Contract: Midvale Rail Service Center Flooring Restoration (CDC Restoration and Construction, L.C.)

GOODS AND SERVICES SUPPLY AGREEMENT

UTA CONTRACT # 24-03915
Shop Floor & Stripe Recoating at Midvale Building#1

THIS GOODS AND NON-PROFESSIONAL SERVICES SUPPLY AGREEMENT ("Contract") is entered into and made effective as of the date of last signature below. ("Effective Date") by and between UTAH TRANSIT AUTHORITY, a public transit district organized under the laws of the State of Utah ("UTA"), and CDC Restoration and Construction, L.C., a Limited Liability Company – S Corporation, located at 130 East Gordon Lane, Salt Lake City, UT 84107 (the "Contractor").

RECITALS

WHEREAS, on February 12, 2025, UTA received competitive proposals to provide and perform floor and wall stripping, preparation, and re-surfacing application of the high-performance epoxy floor coating systems and floor re-striping and (as applicable) all associated hardware, software, tools, installation services, commissioning and testing services, training and documentation (the "Goods and Services") according to the terms, conditions and specifications prepared by UTA in 24-03915CM (the "RFP"); and

WHEREAS, UTA wishes to procure the Goods and Services according to the terms, conditions and specifications listed in the RFP (as subsequently amended through negotiation by the parties); and

WHEREAS, the proposal CDC RESTORATION & CONSTRUCTION QUOTATION dated February 12, 2025, submitted by the Contractor in response to the RFP ("Contractor's Proposal) was deemed to be the most advantageous to UTA; and

WHEREAS, Contractor is willing to furnish the Goods and Services according to the terms, conditions and specifications of the Contract.

AGREEMENT

NOW, THEREFORE, in accordance with the foregoing Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants and agreements hereafter set forth, the mutual benefits to the parties to be derived here from, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. GOOD AND SERVICES TO BE PROVIDED BY CONTRACTOR

Contractor hereby agrees to furnish and deliver the Goods and/or Services in accordance with the Contract as described in Exhibit A (Statement of Work or Services) (including performing any installation, testing commissioning and other Services described in the Contract).

2. **TERM**

This Contract will commence upon the last signature date as indicated on the signature (pg.#19). The Contract shall remain in full force and effect until all Goods have been delivered and all Services have been performed in accordance with the Contract (as reasonably determined by UTA). Contractor shall deliver all Goods and perform all Services no later than November 17, 2025. This guaranteed completion date may be extended if Contractor and UTA mutually agree to an extension evidenced by a written Change Order. The rights and obligations of UTA and Contractor under the Contract shall at all times be subject to and conditioned upon the provisions of the Contract.

3. **COMPENSATION AND FEES**

UTA shall pay Contractor in accordance with the payment milestones or other terms described in Exhibit B. If Exhibit B does not specify any milestones or other payment provisions, then payment shall be invoiced after the Goods have been delivered and the Services have been performed. In no event shall advance payments be made.

The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that: (i) UTA is satisfied that the equipment and materials are suitably stored at either the Site or another acceptable location; (ii) the equipment and materials are protected by suitable insurance; and (iii) upon payment, UTA will receive the equipment and materials free and clear of all liens and encumbrances.

4. **INCORPORATED DOCUMENTS**

a. The following documents hereinafter listed in chronological order, with most recent document taking precedence over any conflicting provisions contained in prior documents (where applicable), are hereby incorporated into the Contract by reference and made a part hereof:

    1. The terms and conditions of this Goods and Services Supply Agreement (including any exhibits and attachments hereto).

    2. Contractor's Proposal including, without limitation, all federal certifications (as applicable);

    3. UTA's RFP including, without limitation, all attached or incorporated terms, conditions, federal clauses (as applicable), drawings, plans, specifications and standards and other descriptions of the Goods and Services;

b. The above-referenced documents are made as fully a part of the Contract as if hereto attached or herein repeated. The Contract (including the documents listed above) constitute the complete contract between the parties.

5. **ORDER OF PRECEDENCE**

The Order of Precedence for this contract is as follows:

1. UTA Contract including all attachments
2. UTA Terms and Conditions
3. UTA Solicitation Terms
4. Contractor’s Bid or Proposal including proposed terms or conditions

Any contractor proposed term or condition which is in conflict with a UTA contract or solicitation term or condition will be deemed null and void.

6. **LAWS AND REGULATIONS**

Contractor and any and all Goods and/or Services furnished under the Contract will comply fully with all applicable Federal and State laws and regulations, including those related to safety and environmental protection. Contractor shall also comply with all applicable licensure and certification requirements.

7. **INSPECTION, DELIVERY AND TRANSFER OF TITLE**

a. Upon UTA's request, UTA's representative shall be provided access to Contractor's facilities to obtain information on production progress and to make inspections during the manufacturing or assembly process. Contractor will make reasonable efforts to obtain, for UTA, access to subcontractor facilities for the purposes described above. If the specifications include pre-shipment inspection requirements, Goods shall not be shipped until UTA or its designee has inspected the Goods, and authorized Contractor to proceed with the shipment.

b. Delivery of the Goods is a substantial and material consideration under the Contract. Unless otherwise specifically set forth in the pricing schedule: (i) Contractor shall be solely responsible for the delivery of the Goods FOB to the delivery point specified in the Contract (or otherwise designated by UTA) and all costs related thereto are included in the pricing; and (ii) Contractor shall retain all liabilities and risk of loss with respect to the Goods until the Goods are delivered to, and accepted by, UTA.

c. After delivery, the Goods shall be subject to inspection, testing and acceptance by UTA, including any testing or commissioning process described in the specifications. UTA shall have the right to reject any Goods or Services that are defective or do not conform to the specifications or other Contract requirements. Goods or Services rejected shall be replaced, repaired or re-performed so as to conform to the Contract (and to UTA's reasonable satisfaction). If Contractor is unable or refuses to correct such Goods within a time deemed reasonable by UTA, then UTA may cancel the order in whole or in part. Any inspection and testing performed by UTA shall be solely for the benefit of UTA. Neither UTA's inspection of the production processes, production progress and/or Goods or Services (nor its failure to inspect) shall relieve Contractor of its obligations to fulfill the requirements of the Contract, or be construed as acceptance by UTA.

d. Contractor warrants that title to all Goods covered by an invoice for payment will pass to UTA no later than the time of payment. Contractor further warrants that upon submittal of an invoice for payment, all Goods and/or Services for which invoices for payment have been previously issued and payments received from UTA shall be free and clear of liens, claims, security interests or encumbrances in favor of Contractor or any subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided

equipment, materials, and labor related to the equipment and/or work for which payment is being requested.

8. INVOICING PROCEDURES

a. Contractor shall invoice UTA after achievement of contractual milestones or delivery of all Goods and satisfactory performance of all Services or in accordance with an approved progress or periodic billing schedule. Contractor shall submit invoices to ap@rideuta.com for processing and payment. In order to timely process invoices, Contractor shall include the following information on each invoice:
   i. Contractor Name
   ii. Unique Invoice Number
   iii. PO Number
   iv. Invoice Date
   v. Detailed Description of Charges
   vi. Total Dollar Amount Due

b. UTA shall have the right to disapprove (and withhold from payment) specific line items of each invoice to address non-conforming Software or Services. Approval by UTA shall not be unreasonably withheld. UTA shall also have the right to offset (against payments) amounts reasonably reflecting the value of any claim which UTA has against Contractor under the Contract. Payment for all invoice amounts not specifically disapproved or offset by UTA shall be provided to Contractor within thirty (30) calendar days of invoice submittal to ap@rideuta.com . Invoices not submitted electronically will shall be paid thirty (30) calendar days from date of receipt by UTA's accounting department.

c. Invoices must include a unique invoice number, UTA's Purchase Order number, a description of the Good or Service provided, line-item pricing, total amount due, and must be submitted electronically to ap@rideuta.com.

9. WARRANTY OF GOODS AND SERVICES

a. Contractor warrants that all Goods (including hardware, firmware, and/or software products that it licenses) and Services shall conform to the specifications, drawings, standards, samples, and other descriptions made a part of (or incorporated by reference into) the Contract. Contractor further warrants that all Goods and Services shall be of the quality specified, or of the best grade if no quality is specified, and, unless otherwise provided in the Contract, will be new, and free from defects in design, materials and workmanship.

b. Contractor warrants that all Goods and Services shall be in compliance with applicable federal, state, and local laws and regulations including, without limitation, those related to safety and environmental protection.

c. At any time for a period of three (3) years from the date that all Goods have been delivered and all Services have been performed in accordance with the Contract, Contractor shall at its own expense promptly repair, replace and/or re-perform any Goods or Services that are defective or in any way fail to conform to the Contract requirements.

d. If Contractor fails to promptly make any repair, replacement or re-performance as required herein, UTA may conduct the necessary remedial work at Contractor's expense. Contractor cannot void the warranty for repair, replacement or re-performance performed under these circumstances. Provided that such repair, replacement or re-performance is conducted in a reasonable manner and with workmanship and care consistent with industry standards, Contractor shall reimburse UTA for the cost of any warranty repair, replacement or re-performance self-performed by UTA.

e. The foregoing warranties are not intended as a limitation, but are in addition to all other express warranties set forth in the Contract and such other warranties as are implied by law, custom, and usage of trade. Contractor (seller) acknowledges that all warranties granted to the buyer by the Uniform Commercial Code of the State of Utah apply to the Contract. Product liability disclaimers and/or warranty disclaimers from the seller are not applicable to the Contract unless otherwise specified and mutually agreed upon elsewhere in the Contract. In general, Contractor warrants that: (1) the Good will do what the salesperson said it would do, (2) the Good will live up to all specific claims that the manufacturer makes in their advertisements, (3) the Goods will be suitable for the ordinary purposes for which such items are used, (4) the Goods will be suitable for any special purposes that UTA has relied on Contractor's skill or judgment to consider when it advised UTA about the Good, (5) the Goods have been properly designed and manufactured, and (6) the Goods are free of significant defects or unusual problems about which UTA has not been warned. Nothing in this warranty will be construed to limit any rights or remedies UTA may otherwise have under the Contract.

10. OWNERSHIP OF DESIGNS, DRAWINGS, AND WORK PRODUCT

Any deliverables prepared or developed pursuant to the Contract including without limitation drawings, specifications, manuals, calculations, maps, sketches, designs, tracings, notes, reports, data, computer programs, models and samples, shall become the property of UTA when prepared, and, together with any documents or information furnished to Contractor and its employees or agents by UTA hereunder, shall be delivered to UTA upon request, and, in any event, upon termination or final acceptance of the Goods and Services. UTA shall have full rights and privileges to use and reproduce said items. To the extent that any deliverables include or incorporate preexisting intellectual property of Contractor, Contractor hereby grants UTA a fully paid, perpetual license to use such intellectual property for UTA's operation, maintenance, modification, improvement and replacement of UTA's assets. The scope of the license shall be to the fullest extent necessary to accomplish those purposes, including the right to share same with UTA's contractors, agent, officers, directors, employees, joint owners, affiliates and consultants.

11. GENERAL INDEMNIFICATION

Contractor shall indemnify, hold harmless and defend UTA, its officers, trustees, agents, and employees (hereinafter collectively referred to as "Indemnitees") from and against all liabilities, claims, actions, damages, losses, and expenses including without limitation reasonable attorneys' fees and costs (hereinafter referred to collectively as "claims") related to bodily injury, including death, or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of the failure of such Contractor to conform to federal, state, and local laws and regulations. If an employee of Contractor, a subcontractor, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable brings a claim against UTA or another Indemnitee, Contractor's indemnity obligation set forth above will not be limited by any limitation on the amount of damages, compensation or benefits payable under any employee benefit acts, including workers' compensation or disability acts. The indemnity obligations of Contractor shall not apply to the extent that claims arise out of the sole negligence of UTA or the Indemnitees.

12. INSURANCE REQUIREMENTS

Standard Insurance Requirements

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The Utah Transit Authority in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this contract by the Contractor, his agents, representatives, employees or subcontractors and Contractor is free to purchase additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Contractor shall provide coverage with limits of liability not less than those Stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a "following form" basis.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage and broad form contractual liability coverage.

- General Aggregate $4,000,000
- Products – Completed Operations Aggregate $1,000,000
- Personal and Advertising Injury $1,000,000
- Each Occurrence $2,000,000

a. The policy shall be endorsed to include the following additional insured language:

"The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor".

2. Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL)	$2,000,000

a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	$100,000
Disease – Each Employee	$100,000
Disease – Policy Limit	$500,000

a. Policy shall contain a waiver of subrogation against the Utah Transit Authority.

b. This requirement shall not apply when a contractor or subcontractor is exempt under UCA 34A-2-103, AND when such contractor or subcontractor executes the appropriate waiver form.

4. Contractors' Pollution Legal Liability and/or Asbestos Legal Liability (if project involves environmental hazards) with limits no less than $1,000,000 per occurrence or claim, and $2,000,000 policy aggregate. *(NOTE: Projects over $10,000,000 will require limits of $2,000,000 per occurrence and $4,000,000 aggregate; Projects over $40,000,000 will require limits of $5,000,000 per occurrence and $5,000,000 aggregate)*

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the Utah Transit Authority is named as an additional insured, the Utah Transit Authority shall be an additional insured to the full limits of liability purchased by the Consultant. Insurance limits indicated in this agreement are minimum limits. Larger limits may be indicated after the consultant's assessment of the exposure for this contract; for their own protection and the protection of UTA.

2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

C. NOTICE OF CANCELLATION: Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the Utah Transit Authority, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice shall be sent directly to (Utah Transit Authority agency Representative's Name & Address).

D. ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers duly licensed or authorized to do business in the State and with an "A.M. Best" rating of not less than A-VII. The Utah Transit Authority in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERIFICATION OF COVERAGE: Contractor shall furnish the Utah Transit Authority with certificates of insurance (on standard ACORD form) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be sent to UTA's Contract Administrator and utahta@ebix.com and received and approved by the Utah Transit Authority before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be emailed directly to UTA's Contract Administrator and Utah Transit Authority's insurance email address at utahta@ebix.com. The Utah Transit Authority project/contract number and project description shall be noted on the certificate of insurance. The Utah Transit Authority reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE UTAH TRANSIT AUTHORITY'S CLAIMS AND INSURANCE DEPARTMENT.

F. SUBCONTRACTORS: Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. Sub-contractors maintaining separate insurance shall name Utah Transit Authority as an additional insured on their policy. Blanket additional insured endorsements are not acceptable from sub-contractors. Utah Transit Authority must be scheduled as an additional insured on any sub-

contractor policies.

G. APPROVAL: Any modification or variation from the insurance requirements in this Contract shall be made by Claims and Insurance Department or the UTA Legal Services, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

13. **OTHER INDEMNITIES**

a. Contractor shall protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all claims of any kind or nature whatsoever on account of infringement relating to Contractor's performance under the Contract. If notified promptly in writing and given authority, information and assistance, Contractor shall defend, or may settle at its expense, any suit or proceeding against UTA so far as based on a claimed infringement and Contractor shall pay all damages and costs awarded therein against UTA due to such breach. In case any Good or Service is in such suit held to constitute such an infringement or an injunction is filed that interferes with UTA's rights under the Contract, Contractor shall, at its expense and through mutual agreement between UTA and Contractor, either procure for UTA any necessary intellectual property rights, or modify Contractor's Goods and Services such that the claimed infringement is eliminated.

b. Contractor shall: (i) protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all liens or claims made or filed against UTA on account of any Goods or Services furnished by subcontractors of any tier; and (ii) keep UTA property free and clear of all liens or claims arising in conjunction with any Goods or Services furnished under the Contract by Contractor or its subcontractors of any tier. If any lien arising out of the Contract is filed in conjunction with any Goods or Services furnished under the Contract, Contractor, within ten (10) calendar days after receiving from UTA written notice of such lien, shall obtain a release of or otherwise satisfy such lien. If Contractor fails to do so, UTA may take such steps and make such expenditures as in its discretion it deems advisable to obtain a release of or otherwise satisfy any such lien or liens, and Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA in obtaining such release or satisfaction. If any non-payment claim is made directly against UTA arising out of non-payment to any subcontractor, Contractor shall assume the defense of such claim within ten (10) calendar days after receiving from UTA written notice of such claim. If Contractor fails to do so, Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA to satisfy such claim.

c. Contractor will defend, indemnify and hold UTA, its officers, agents and employees harmless from liability of any kind or nature, arising from Contractor's use of any copyrighted or un-copyrighted composition, trade secret, patented or un-patented invention, article or appliance furnished or used in the performance of the Contract.

14. **INDEPENDENT CONTRACTOR**

The parties agree that Contractor, in the carrying out of its duties hereunder, is an independent contractor and that neither Contractor nor any of its employees is or are agents, servants or employees of UTA. Neither Contractor nor any of Contractor's employees shall be eligible for any workers compensation insurance, pension, health coverage, or fringe benefits which apply to UTA's employees. Neither federal, state, nor local income tax nor payroll tax of any kind shall be withheld or paid by UTA on behalf of Contractor or the employees of Contractor. Contractor acknowledges that it shall be solely responsible for payment of all payrolls, income and other taxes generally applicable to independent contractors.

15. **STANDARD OF CARE.**

Contractor shall perform any Services to be provided under the Contract in a good and workmanlike manner, using at least that standard of care, skill and judgment which can reasonably be expected from similarly situated independent contractors (including, as applicable, professional standards of care).

16. **USE OF SUBCONTRACTORS**

a. Consultant shall give advance written notification to UTA of any proposed subcontract (not indicated in Consultant's Proposal) negotiated with respect to the Work. UTA shall have the right to approve all subcontractors, such approval not to be withheld unreasonably.

b. No subsequent change, removal or substitution shall be made with respect to any such subcontractor without the prior written approval of UTA.

c. Consultant shall be solely responsible for making payments to subcontractors, and such payments shall be made within thirty (30) days after Consultant receives corresponding payments from UTA.

d. Consultant shall be responsible for and direct all Work performed by subcontractors.

Consultant agrees that no subcontracts shall provide for payment on a cost-plus-percentage-of-cost basis. Consultant further agrees that all subcontracts shall comply with all applicable laws.

17. **CONTRACTOR SAFETY COMPLIANCE**

Contractor, including its employees, subcontractors, authorized agents, and representatives, shall comply with all UTA and industry safety standards, NATE, OSHA, EPA and all other State and Federal regulations, rules and guidelines pertaining to safety and environmental management, and will be solely responsible for any fines, citations or penalties it may receive or cause UTA to receive pursuant to this Contract. Each employee, contractor and subcontractor must be trained in UTA environmental and Safety Management principles. Contractor acknowledges that its Goods and Services might affect UTA's environmental obligations. A partial list of activities, products or Services deemed as have a potential environmental effect is available at the UTA website www.rideuta.com. Upon request by UTA, Contractor shall complete and return a *Contractor Activity Checklist*. If UTA determines that the Goods and/or Services under the Contract has the

potential to impact the environment, UTA may require Contractor to submit additional environmental documents. Contractor shall provide one set of the appropriate safety data sheet(s) (SDS) and container label(s) upon delivery of a hazardous material to UTA.

18. **ENVIRONMENTAL RESPONSIBILITY**

Contractor acknowledges that its Goods and/or Services might affect UTA's ability to maintain environmental obligations. A partial list of activities, products or Services deemed as have a potential environmental effect is available at the UTA website www.rideuta.com. Upon request by UTA, Contractor shall complete and return a *Contractor Activity Checklist*. If UTA determines that the Goods and/or Services under the Contract has the potential to impact the environment, UTA may require Contractor to submit additional environmental documents. Contractor shall provide one set of the appropriate safety data sheet(s) (SDS) and container label(s) upon delivery of a hazardous material to UTA.

19. **CYBER SECURITY**

If the performance requirements of this contract require a Software as a Service (Saas) cloud solution, or custom developed system which will interface or operate within UTA's networks, the solution or system must maintain a high level of cyber security and have a unique URL for UTA. Contractor/Supplier shall ensure a secure environment for all Agency data and any hardware and software (including but not limited to servers, network and data components) provided or used in connection with the performance of the Contract and shall apply or cause application of appropriate controls so as to maintain such a secure environment ("Security Best Practices"). Such Security Best Practices shall comply with an accepted industry standard, such as the National Institute of Standards and Technology (NIST) cybersecurity framework. In addition. Contractor must maintain at least a B rating under the UpGuard Security Rating System (https://www.upguard.com/product/secuity-ratings)

20. **ASSIGNMENT OF CONTRACT**

Contractor shall not assign any of its rights or responsibilities, nor delegate its obligations, under this Contract or any part hereof without the prior written consent of UTA, and any attempted transfer in violation of this restriction shall be void.

21. **SUSPENSION OF WORK**

a. UTA may, at any time, by written order to Consultant, require Consultant to suspend, delay, or interrupt all or any part of the Work called for by this Contract. Any such order shall be specifically identified as a "Suspension of Work Order" issued pursuant to this Article. Upon receipt of such an order, Consultant shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of further costs allocable to the Work covered by the order during the period of Work stoppage.

b. If a Suspension of Work Order issued under this Article is canceled, Consultant shall resume Work as mutually agreed to in writing by the parties hereto.

c. If a Suspension of Work Order is not canceled and the Work covered by such order is terminated for the convenience of UTA, reasonable costs incurred as a result of the Suspension of Work Order shall be considered in negotiating the termination settlement.

d. If the Suspension of Work causes an increase in Consultant's cost or time to perform the Work, UTA's Project Manager or designee shall make an equitable adjustment to compensate Consultant for the additional costs or time, and modify this Contract by Change Order.

22. **TERMINATION**

a. **FOR CONVENIENCE**: UTA shall have the right to terminate the Contract at any time by providing written notice to Contractor. If the Contract is terminated for convenience, UTA shall pay Contractor: (i) in full for Goods delivered and Services fully performed prior to the effective date of termination; and (ii) an equitable amount to reflect costs incurred (including Contract close-out and subcontractor termination costs that cannot be reasonably mitigated) and profit on work-in-progress as of to the effective date of the termination notice. UTA shall not be responsible for anticipated profits based on the terminated portion of the Contract. Contractor shall promptly submit a termination claim to UTA. If Contractor has any property in its possession belonging to UTA, Contractor will account for the same, and dispose of it in the manner UTA directs.

b. **FOR DEFAULT:** If Contractor (a) becomes insolvent; (b) files a petition under any chapter of the bankruptcy laws or is the subject of an involuntary petition; (c) makes a general assignment for the benefit of its creditors; (d) has a receiver appointed; (e) should fail to make prompt payment to any subcontractors or suppliers; or (f) fails to comply with any of its material obligations under the Contract, UTA may, in its discretion, after first giving Contractor seven (7) days written notice to cure such default:

1. Terminate the Contract (in whole or in part) for default and obtain the Goods and Services using other contractors or UTA's own forces, in which event Contractor shall be liable for all incremental costs so incurred by UTA;
2. Pursue other remedies available under the Contract (regardless of whether the termination remedy is invoked); and/or
3. Except to the extent limited by the Contract, pursue other remedies available at law.

c. **CONTRACTOR'S POST TERMINATION OBLIGATIONS:** Upon receipt of a termination notice as provided above, Contractor shall (i) immediately discontinue all work affected (unless the notice directs otherwise); and (ii) deliver to UTA all data, drawings and other deliverables, whether completed or in process. Contractor shall also remit a final invoice for all services performed and expenses incurred in full accordance with the terms and conditions of the Contract up to the effective date of termination. UTA shall calculate termination damages

payable under the Contract, shall offset such damages against Contractor's final invoice, and shall invoice Contractor for any additional amounts payable by Contractor (to the extent termination damages exceed the invoice). All rights and remedies provided in this Article are cumulative and not exclusive. If UTA terminates the Contract for any reason, Contractor shall remain available, for a period not exceeding 90 days, to UTA to respond to any questions or concerns that UTA may have regarding the Goods and Services furnished by Contractor prior to termination.

23. **CHANGES**

a. UTA's Project Manager or designee may, at any time, by written order designated or indicated to be a Change Order, direct changes in the Work including, but not limited to, changes:

1. In the Scope of Services;
2. In the method or manner of performance of the Work; or
3. In the schedule or completion dates applicable to the Work.

To the extent that any change in Work directed by UTA causes an actual and demonstrable impact to: (i) Consultant's cost of performing the work; or (ii) the time required for the Work, then (in either case) the Change Order shall include an equitable adjustment to this Contract to make Consultant whole with respect to the impacts of such change.

b. A change in the Work may only be directed by UTA through a written Change Order or (alternatively) UTA's expressed, written authorization directing Consultant to proceed pending negotiation of a Change Order. Any changes to this Contract undertaken by Consultant without such written authority shall be at Consultant's sole risk. Consultant shall not be entitled to rely on any other manner or method of direction.

c. Consultant shall also be entitled to an equitable adjustment to address the actual and demonstrable impacts of "constructive" changes in the Work if: (i) subsequent to the Effective Date of this Contract, there is a material change with respect to any requirement set forth in this Contract; or (ii) other conditions exist or actions are taken by UTA which materially modify the magnitude, character or complexity of the Work from what should have been reasonably assumed by Consultant based on the information included in (or referenced by) this Contract. In order to be eligible for equitable relief for "constructive" changes in Work, Consultant must give UTA's Project Manager or designee written notice stating:

1. The date, circumstances, and source of the change; and
2. That Consultant regards the identified item as a change in Work giving rise to an adjustment in this Contract.

Consultant must provide notice of a "constructive" change and assert its right to an equitable adjustment under this Section within ten (10) days after Consultant becomes aware (or reasonably should have become aware) of the facts and circumstances giving rise to the "constructive" change. Consultant's failure to provide timely written notice as provided above shall constitute a waiver of Consultant's rights with respect to such claim.

d. As soon as practicable, but in no event longer than 30 days after providing notice, Consultant must provide UTA with information and documentation reasonably demonstrating the actual cost and schedule impacts associated with any change in Work. Equitable adjustments will be made via Change Order. Any dispute regarding the Consultant's entitlement to an equitable adjustment (or the extent of any such equitable adjustment) shall be resolved in accordance with Article 20 of this Contract.

24. INFORMATION, RECORDS and REPORTS; AUDIT RIGHTS

Contractor shall retain all books, papers, documents, accounting records and other evidence to support any cost-based billings allowable under Exhibit B (or any other provision of the Contract). Such records shall include, without limitation, time sheets and other cost documentation related to the performance of labor services, as well as subcontracts, purchase orders, other contract documents, invoices, receipts or other documentation supporting non-labor costs. Contractor shall also retain other books and records related to the performance, quality or management of the Contract and/or Contractor's compliance with the Contract. Records shall be retained by Contractor for a period of at least six (6) years, or until any audit initiated within that six-year period has been completed (whichever is later). During this six-year period, such records shall be made available at all reasonable times for audit and inspection by UTA and other authorized auditing parties including, but not limited to, the Federal Transit Administration. Copies of requested records shall be furnished to UTA or designated audit parties upon request. Contractor agrees that it shall flow-down (as a matter of written contract) these records requirements to all subcontractors utilized in the performance of the Contract at any tier.

25. FINDINGS CONFIDENTIAL

Any documents, reports, information, or other data and materials delivered or made available to or prepared or assembled by Contractor or subcontractor under this Contract are considered confidential and shall not be made available to any person, organization,

or entity by Contractor without consent in writing from UTA. If confidential information is released to any third-party without UTA's written consent as described above, contractor shall notify UTA of the data breach within 10 days and provide its plan for immediate.

mitigation of the breach for review and approval by UTA.

a. It is hereby agreed that the following information is not considered to be confidential:
    1. Information already in the public domain.
    2. Information disclosed to Contractor by a third-party who is not under a confidentiality obligation.
    3. Information developed by or in the custody of Contractor before entering into this Contract.
    4. Information developed by Contractor through its work with other clients; and

5. Information required to be disclosed by law or regulation including, but not limited to, subpoena, court order or administrative order.

26. **PUBLIC INFORMATION.**

Contractor acknowledges that the Contract and related materials (invoices, orders, etc.) will be public documents under the Utah Government Records Access and Management Act (GRAMA). Contractor's response to the solicitation for the Contract will also be a public document subject to GRAMA, except for legitimate trade secrets, so long as such trade secrets were properly designated in accordance with terms of the solicitation.

27. **PROJECT MANAGER**

UTA's Project Manager for the Contract is Dallan Ward, or designee. All questions and correspondence relating to the technical aspects of the Contract should be directed to UTA's Project Manager at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 514-0311.

28. **CONTRACT ADMINISTRATOR**

UTA's Contract Administrator for the Contract is Brent Miller, or designee. All questions and correspondence relating to the contractual aspects of the Contract should be directed to UTA's Grants & Contracts Administrator at UTA offices located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 287-3009.

29. **CONFLICT OF INTEREST**

Contractor represents that it has not offered or given any gift or compensation prohibited by the laws of the State of Utah to any officer or employee of UTA to secure favorable treatment with respect to being awarded the Contract. No member, officer, or employee of UTA during their tenure or one year thereafter shall have any interest, direct or indirect, in the Contract or the proceeds thereof.

30. **NOTICES OR DEMANDS**

a. Any and all notices, demands or other communications required hereunder to be given by one party to the other shall be given in writing and may be electronically delivered , personally delivered, mailed by US Mail, postage prepaid, or sent by overnight courier service and addressed to such party as follows:

If to UTA:
Utah Transit Authority
ATTN: Brent Miller
669 West 200 South

If to Contractor:
CDC Restoration and Construction, L.C.
ATTN: Robbie Bennett
130 East Gordon Lane

Salt Lake City, UT 84101	Salt Lake City, UT 84107
brmiller@rideuta.com	robbie@cdcrestoration.com

b. Either party may change the address at which such party desires to receive written notice of such change to any other party. Any such notice shall be deemed to have been given, and shall be effective, on delivery to the notice address then applicable for the party to which the notice is directed; provided, however, that refusal to accept delivery of a notice or the inability to deliver a notice because of an address change which was not properly communicated shall not defeat or delay the giving of a notice.

31. **CLAIMS/DISPUTE RESOLUTION**

a. "Claim" means any disputes between UTA and the Contractor arising out of or relating to the Contract Documents including any disputed claims for Contract adjustments that cannot be resolved in accordance with the Change Order negotiation process set forth in Article 20. Claims must be made by written notice. The responsibility to substantiate claims rests with the party making the claim.

b. Unless otherwise directed by UTA in writing, Contractor shall proceed diligently with performance of the Work pending final resolution of a Claim, including litigation. UTA shall continue to pay any undisputed payments related to such Claim.

c. The parties shall attempt to informally resolve all claims, counterclaims and other disputes through the escalation process described below. No party may bring a legal action to enforce any term of this Contract without first having exhausted such process.

d. The time schedule for escalation of disputes, including disputed requests for change order, shall be as follows:

Level of Authority	Time Limit
UTA's Project Manager/Contractor's Project Manager	Five calendar days
UTA's Guy Miner / Contractor's Tom Sykes	Five calendar days
UTA's Kevin Anderson / Contractor's Robbie Bennett	Five calendar days

Unless otherwise directed by UTA's Project Manager, Contractor shall diligently continue performance under this Contract while matters in dispute are being resolved.

If the dispute cannot be resolved informally in accordance with the escalation procedures set forth above, then either party may commence formal mediation under the Juris Arbitration and Mediation (JAMS) process using a mutually agreed upon JAMS mediator. If resolution does not occur through Mediation, then legal action may be commenced in accordance the venue and governing law provisions of this contract.

32. **GOVERNING LAW**

The validity, interpretation and performance of the Contract shall be governed by the laws of the

State of Utah, without regard to its law on the conflict of laws. Any dispute arising out of the Contract that cannot be solved to the mutual agreement of the parties shall be brought in a court of competent jurisdiction in Salt Lake County, State of Utah. Contractor consents to the jurisdiction of such courts.

33. **COSTS AND ATTORNEY FEES**.

If any party to this Agreement brings an action to enforce or defend its rights or obligations hereunder, the prevailing party shall be entitled to recover its costs and expenses, including mediation, arbitration, litigation, court costs and attorneys' fees, if any, incurred in connection with such suit, including on appeal.

32. **SEVERABILITY**

Any provision of the Contract prohibited or rendered unenforceable by operation of law shall be ineffective only to the extent of such prohibition or unenforceability without invalidating the remaining provisions of the Contract.

33. **AMENDMENTS**

Any amendment to the Contract must be in writing and executed by the authorized representatives of each party.

34. **FORCE MAJEURE**

Neither party to the Contract will be held responsible for delay or default caused by fire, riot, acts of God and/or war which are beyond that party's reasonable control. UTA may terminate the Contract after determining such delay or default will reasonably prevent successful performance of the Contract.

35. **NO THIRD-PARTY BENEFICIARIES**

The parties enter into the Contract for the sole benefit of the parties, in exclusion of any third-party, and no third-party beneficiary is intended or created by the execution of the Contract.

36. **ENTIRE AGREEMENT**

This Contract shall constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and shall supersede all offers, negotiations and other agreements with respect thereto.

37. **COUNTERPARTS**

This Contract may be executed in any number of counterparts and by each of the parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument. Any signature page of the Contract may be detached from any counterpart and reattached to any other counterpart hereof. The electronic transmission of a signed original of the Contract or any counterpart hereof and the electronic retransmission of any signed copy hereof shall be the same as delivery of an original.

38. **NONWAIVER**

No failure or waiver or successive failures or waivers on the part of either party in the enforcement of any condition, covenant, or article of this Contract shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party to enforce the same in the event of any subsequent breaches by the other party.

39. **SALES TAX EXEMPT**

Purchases of certain materials are exempt from Utah sales tax. UTA will provide a sales tax exemption certificate to Contractor upon request. UTA will not pay Contractor for sales taxes for exempt purchases, and such taxes should not be included in Contractor's Application for Payment.

40. **UTAH ANTI-BOYCOTT OF ISRAEL ACT**

Contractor agrees it will not engage in a boycott of the State of Israel for the duration of this contract.

41. **SURVIVAL**

Provisions of this Contract intended by their nature and content to survive termination of this Contract shall so survive including, but not limited to, Articles 7, 9, 10, 11, 12, 13, 15, 17, 18, 19 ,21, 23, 24,25, 30, 31, 32, and 40.

IN WITNESS WHEREOF, the parties hereto have caused the Contract to be executed by officers duly authorized to execute the same as of the date of last signature below.

UTAH TRANSIT AUTHORITY:

By_____ Date _____

Name_____

Title_____

By_____ Date _____

Name_____

Title_____

By_____ Date _____

Name_____

Title_____

DocuSigned by:
By Mike Bell Date 3/28/2025
70E33A415BA44F6...
UTA Legal Counsel

CONTRACTOR:

DocuSigned by:
By Robbie Bennett Date 3/28/2025
789240AEBAE4497...

Name Robbie Bennett

Title Managing Member

By _____ Date _____

Name_____

Title_____

EXHIBIT A

SCOPE OF WORK

Project Description: Surface preparation, recoating, and restriping of the facility floor and service pits (approximately 68,000 square feet), as outlined in included floor plan highlighting the required areas. The Contractor will be responsible for confirming the actual square footage and shall provide all goods and services set forth in this scope of work and specifications listed herein.

Service Site Location:
Utah Transit Authority – MRSC Bldg#1
613 West 6960 South
Midvale, UT 84047

Project Schedule and Start Time: Upon Effective Date of Contract, tentative May 15, 2025. Tentative Service Times will be based on a standard work week Monday – Friday 8:00am to 5:00pm. This Project will require multiple mobilizations to avoid shutting down the entire area at one time. Contractor must contact Dallan Ward (Facilities Maintenance Supv) 801-514-0311 / dward@rideuta.com or designee to establish and coordinate each mobilization area and schedule all on-site service activities and start times.
Project Schedule Completion Date: No later than November 17, 2025.

System 1: Concrete Floors - Shop Floors and Pit Floors:
Provide Tnemec High Performance Coatings as per the coating systems listed below and accompanying 099600 HIGH-PERFORMANCE COATINGS specification. Local Representative: Michelle Call 801-518-6802 mcall@tnemec.com
Surface Preparation: Prepare in accordance with SSPC-13/NACE No. 6 and ICRI Technical Guidelines. Abrasive blast, shot-blast, or mechanically abrade concrete surfaces to provide a minimum ICRI-CSP 5 or greater surface profile.
Base Coat: Tnemec Series N242 Ultra-Tread S applied at a minimum 1/8" neat. Immediately broadcast into the wet Series N242 at 0.5 – 0.8 lbs. per square foot to refusal with 30/50 aggregate resulting in a minimum total thickness of 3/16"
Grout Coat: Tnemec Series 237 Power-Tread at 60 – 80 square feet per gallon.
Second Grout Coat: Tnemec Series 237 Power-Tread at 80 – 100 square feet per gallon
Finish Coat: Tnemec Series V290 CRU at 300 – 350 square feet per gallon.
Color: White 00WH
Stripes: Tnemec Series 280 Tneme-Glaze – If recoat window has been missed. Prepare the coated surface by aggressively abrading with power sanders to de-gloss and abrade the surface for the stripe to bond. Color: Yellow 02SF, Green 09SF, Red 17SF
Cove Base: Any existing rubber cove base in areas that are to be painted must be removed prior to floor prep and cleaning, then replaced with like color after painting.

System 2: Concrete Floors – Rail Pocket Area and Stairs:
Surface Preparation: Prepare in accordance with SSPC-13/NACE No. 6 and ICRI Technical

Guidelines. Abrasive blast, shot-blast, or mechanically abrade concrete surfaces to provide a minimum ICRI-CSP 3 or greater surface profile.
Primer Coat: Tnemec Series 237 Power-Tread at 260 – 400 square feet per gallon.
Intermediate: Tnemec Series 237 Power-Tread at 200 - 260 square feet per gallon – add aggregate to match texture of adjacent floor.
Finish Coat: Tnemec Series V290 CRU at 300 – 350 square feet per gallon.
Color: White 00WH

System 3: Concrete Maintenance Service Pit Walls

Surface Preparation: High Pressure Wash between 3,500 and 5,000 psi using a 0-degree rotating nozzle to degrease and to remove all loose concrete, paint, and contaminants. Mechanically abrade the entire surface to remove as much existing coating as possible and to feather the sharp edges of the remaining tightly adherent coatings.
Surfacer/Filler: As needed use Tnemec Surfacing Epoxy Series 215 to fill voids and cracks.
Primer: Tnemec Series V69F Hi-Build Epoxoline II at 4.0 – 6.0 mils DFT (about 75 – 100 square feet per gallon)
Intermediate: Tnemec Series V69F Hi-Build Epoxoline II at 4.0 – 6.0 mils DFT (about 75 – 100 square feet per gallon)
Finish: Tnemec CRU Series V290 at 2.0 – 3.0 mils DFT (300 to 350 square feet per gallon)
Color: White 00WH

System 4: Steel around concrete – not diamond plate covers

Surface Preparation: Degrease to remove all contaminants. SSPC-SP2 and SP3 Hand & Power Tool Cleaning to remove all loose paint and create a profile for the new coating system, wipe clean to remove dust,
Primer Coat: Tnemec Series 132 Pro-Tuff Mastic at 4.0 – 6.0 mils DFT
Finish: Tnemec CRU Series V290 at 2.0 – 3.0 mils DFT
Color: Yellow 02SF
Painting of angle-iron steel bars within the rail pockets or adjacent to the vehicle rails: Paint white, same color as the floor. This applies only to the top (horizontal) surface of the steel that is adjacent to the rails, not the exposed side (vertical) surface. No vehicle rails are to be painted.
Surface fill for rail pocket sections missing finish or concrete: No surface repair, fill, or leveling will be required within the areas of typical rail pocket (approximately 6" on either side of rail edge). Contractor will clean, prep, and finish all rail pockets to include sections missing finish or concrete as normal. Lane #1 does not have a typical "rail pocket", however this area must be treated the same as other areas requiring surface preparation.

Material Waste Management and Disposal

Contractor will be responsible for the collection, pick-up, and proper disposal of all material waste and recyclable material throughout the entire service process; and bares the responsibility of having a comprehensive knowledge of and compliance with federal, state, and local regulations.

SPECIFICATIONS (ref: 09-9600 HIGH PERFORMANCE COATINGS):

1.0 PART 1 - GENERAL

1.1 RELATED DOCUMENTS

1.1.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

1.2.1 This Section includes surface preparation and the application of the high-performance coating systems for maintenance facilities.

1.2.1.1 Shop Floor and Maintenance Service Pits

1.3 REFERENCES

1.3.1 This Section contains references to the governing standards and documents listed below. They are a part of this Section as specified and modified; the current version shall apply unless otherwise noted. In case of conflict between the requirements of this section and those of the listed documents, the more stringent of the requirements shall prevail.

1.3.2 ASTM International, (ASTM)

1.3.2.1 ASTM D4263 – Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

1.3.2.2 ASTM D4414 – Standard Practice for Measurement of Wet Film Thickness by Notch Gages

1.3.2.3 ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

1.3.2.4 ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

1.3.3 International Concrete Repair Institute, (ICRI)

1.3.3.1 Guideline No. 310.1 – Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion

1.3.3.2. Guideline No. 310.2 – Selecting and Specifying Concrete Surface Preparation for Sealer, Linings, and Polymer Overlays

1.3.4 SSPC: The Society for Protective Coatings (SSPC)

1.3.4.1 SSPC-PA 1 - Shop, Field, and Maintenance Painting of Steel

1.3.4.2 SSPC-PA 2 - Procedure for Determining Conformance to Dry Coating Thickness Requirements

1.3.4.3 SSPC-PA 11 - Protecting Edges, Crevices, and Irregular Steel Surfaces by Stripe Coating

1.3.4.4 SSPC-SP 2 – Hand Tool Cleaning

1.3.4.5 SSPC-SP 3 – Power Tool Cleaning

1.3.4.6 SSPC-SP 13/NACE No. 6 – Surface Preparation of Concrete

1.3.5 Unless otherwise specified, references to documents shall mean the documents in effect at the time of receipt of Proposals. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents, the last version of the document before it was discontinued.

1.4 ACTION SUBMITTALS

1.4.1 Product Data: Copies of current technical data for each component specified and applied as outlined in this Section.

1.4.2 Safety Data Sheets: Copies of current Safety Data Sheets (SDS) for materials.

1.4.3 Construction Details for floor coatings: Copies of manufacturer's computer-generated standard details for specified materials, including leading edge termination, metal embedment in concrete, joint detail, wall-to-slab detail, pipe termination detail, and any other detail at the request of the Architect/Owner.

1.4.4 Qualifications of Applicator: Submit proof of acceptability of Applicator by manufacturer to Engineer.

1.4.5 Applicator Project List: Submit list of a minimum of five completed projects of similar scope, size and complexity to this Work or a list of equivalent experience. Include for each project:

1.4.5.1 Project name and location.

1.4.5.2 Owner name and phone number.

1.4.5.3 General contractor name and phone number.

1.4.5.4 Architect/Engineer name and phone number.

1.4.5.5 Name of coating manufacturer.

1.4.5.6 Coating system and square footage.

1.4.5.7 Date of completion.

1.4.6 Jobsite Reports: Submit at the completion of Work.

1.4.6.1 Daily Reports: Include surface preparation, ambient conditions, application methods, material applied, material quantities, material batch number, and description of items completed.

1.4.6.2 The applicator shall maintain a copy of records until the expiration of the specified warranty period.

1.5 MAINTENANCE MATERIAL SUBMITTALS

1.5.1 Maintenance Data: Submit cleaning and repair procedures in Operation and maintenance manuals.

1.6 QUALITY ASSURANCE

1.6.1 Applicator Qualifications:

1.6.1.1 Applicators shall have a minimum of five (5) years' experience performing this type of coating application with documented skill and successful experience in the installation of the specified coating systems.

1.6.1.2 Applicator has successfully floor coating systems on projects of similar size and scope.

1.6.1.3 Installation equipment shall be acceptable to the manufacturer.

1.6.1.4 The applicator shall establish quality control procedures and practices to monitor phases of storage, surface preparation, mixing, application, and inspection throughout the duration of the project.

1.6.1.5 The applicator shall provide a full-time, on-site person whose dedicated responsibilities will include quality control of the coating application.

1.6.1.6 Applicator's quality control procedures and practices shall include the following items:

1.6.1.6.1 Training of personnel in the proper surface preparation requirements.

1.6.1.6.2 Training of personnel in the proper storing, mixing, and application and quality control testing.

1.6.2 Pre-Installation Conference:

1.6.2.1 After selection of a successful Proposer, and before start of Work - Applicator, and Manufacturer's Technical Representative shall meet on-site with UTA's Project Manager or delegate to discuss approved products and workmanship to ensure proper surface preparation and application of the coatings.

1.6.2.2 Mockups for Floor Coating: Apply mockups of each system to verify selections and texture, to demonstrate aesthetic effects and set quality standards for materials and execution.

1.6.2.2.1 Apply full-thickness mockup on minimum of 4' x 8' floor area selected by UTA's Project Manager or delegate.

1.6.2.2.2 Hold Point Inspection/Observation of surface preparation prior to application of coating system. Follow Surface Preparation Testing Methods as described in SSPC-SP 13 Section 5 Inspection and Classification of Prepared Concrete Surfaces

1.6.2.2.3 For evaluation of hydrophobic materials on the prepared surface of the concrete perform a simple water drop test as described in SSPC-SP13 A5.1

1.6.2.2.4 After application of the complete concrete floor system and curing. Perform three (3) ASTM D7234 Adhesion Tests – acceptance criteria should be Cohesive Failure at Concrete.

1.6.2.2.5 Approved mockup may become part of the completed work if undisturbed at time of Substantial Completion.

1.6.2.3 Review foreseeable methods and procedures related to the coating Work including but not necessarily limited to the following:

1.6.2.3.1 Review Project requirements and the Contract Documents.

1.6.2.3.2 Review required submittals.

1.6.2.3.3 Review requirements of on-site quality control inspection and testing.

1.6.2.3.4 Review the requirements for preparing the quality control report as specified herein.

1.6.2.3.5 Review availability of materials, tradesmen, equipment, and facilities needed to make progress and avoid delays.

1.6.2.3.6 Review material storage and staging.

1.6.2.3.7 Review equipment storage and staging.

1.6.2.3.8 Review waste management and disposal.

1.6.2.3.9 Review environmental conditions, other Project conditions, and procedures for coping with unfavorable conditions.

1.6.2.3.10 Review regulations concerning code compliance, environmental protection, health, safety, fire and similar considerations.

1.6.2.3.11 Review procedures required for the protection of the completed work during the remainder of the construction period.

1.6.3 Single-Source Responsibility:

1.6.3.1 Materials shall be products of a single manufacturer or items standard with

manufacturer of specified coating materials.

1.6.3.2 Provide secondary materials which are produced or are specifically recommended by coating system manufacturers to ensure compatibility of system.

1.6.4 Regulatory Requirements: Conform to applicable codes and ordinances for flame, fuel, smoke and volatile organic compounds (VOC) ratings requirements for finishes at time of application.

1.7 PRODUCT SUBSITUTIONS

1.7.1 Materials, products, and manufacturers listed are those that have been evaluated for the specific service required. Products of Tnemec Company are listed to establish a standard of performance and quality.

1.7.2 Bidders desiring to use coatings **other than those specified shall submit their proposal based on using the specified materials of this RFP** and then include an alternate proposal showing the sum which will be added to or deducted from the base bid should alternate materials be accepted.

1.7.3 Proposed equivalent materials or other substitutions shall be submitted to UTA's Project Manager or delegate for consideration in compliance and include the following:

1.7.3.1 Equivalent materials of other manufacturers may be substituted only by written approval of UTA's Project Manager or delegate.

1.7.3.2 Manufacturers of "or equal" products shall provide detailed product information including performance criteria. "Or equal" products shall employ the same generic materials and system components as the high-performance coating system specified. "Or equal" products shall provide equivalent performance as the specified system.

1.7.3.3 Request for substitution shall be made at least 10 days prior to the bid date.

1.7.3.4 Requests for substitution shall include evidence of satisfactory, verifiable past performance in similar environments.

1.7.3.5 Samples of proposed substitutions for Verification: For each type of coating system and each color and gloss of topcoat indicated provide paint drawdowns.

1.7.3.6 Submit Samples on rigid backing, 8 inches (200 mm) square of each and all proposed product substitutions.

1.7.3.7 Label each coat of each Sample.

1.7.3.8 Label each Sample for location and application area.

1.7.3.9 Substitutions will not be considered that offer a change in the generic type of coating specified, surface preparation, change the number of coats or do not meet the specified dry film thickness.

1.7.3.10 After the second submittal, Architect/Engineer/UTA or UTA's Agent hourly rates will be charged to review further submittals.

1.7.3.11 Samples of item(s) specified in this bid, must be furnished free of charge. Any item not destroyed by tests may, upon request made at the time the sample is furnished, be returned at the bidder's expense.

1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

1.8.1 Delivery of Materials:

1.8.1.2 Deliver material in manufacturer's original, unopened and undamaged packages.

1.8.1.2 Clearly identify manufacturer, brand name, contents, color, batch number, and any personal safety hazards associated with the use of or exposure to the materials on each package.

1.8.1.3 Packages showing indications of damage that may affect the condition of contents are not acceptable.

1.8.2 Storage of Materials:

1.8.2.1 Materials shall be stored in accordance with the manufacturer's recommendations in enclosed structures and shall be protected from weather and adverse temperature conditions.

1.8.2.2 Flammable materials shall be stored in accordance with state and local codes.

1.8.2.3 Store materials only in area or areas designated by the Architect/Owner solely for this purpose.

1.8.2.4 Materials exceeding storage life as defined by the manufacturer shall be removed promptly from the site.

1.8.2.5 Store in original packaging under protective cover and protect from damage.

1.8.2.6 Stack containers in accordance with manufacturer's recommendations.

1.8.3 Handling of Materials: Handle materials in such a manner as to prevent damage to products or finishes.

1.9 PROJECT CONDITIONS

1.9.1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside the manufacturer's absolute limits.

1.9.2 Ventilation: Provide ventilation during coating evaporation stage in confined or enclosed areas in accordance with manufacturer's instructions.

1.9.3 Dust and Contaminants:

1.9.3.1 Schedule coating work to avoid excessive dust and airborne contaminants.

1.9.3.2 Protect work areas from excessive dust and airborne contaminants during coating application and curing.

1.10 WARRANTY

1.10.1 The manufacturer shall warranty its products as free from material defects for a minimum period of three (3) years. Provide associated Warranty Certificate.

1.10.2 The applicator shall warranty the installed coating systems as free from workmanship defects for a minimum period of three (3) years. Provide associated Warranty Certificate.

2.0 PART 2 - PRODUCTS

2.1 MANUFACTURER

2.1.1 Products of Tnemec Company, Inc., Kansas City, Missouri are listed. Local

Representation: Call Coating Consultants, 801-282-2327, ccc@tnemec.com - no substitutions.

2.2 HIGH-PERFORMANCE COATINGS, PRODUCTS
- 2.2.1 STEEL ENCASEMENT around concrete – not including the diamond plate covers
  - 2.2.1.1 Primer Coat: **Series 132**
  - 2.2.1.2 Finish Coat: **Series V290 CRU**
- 2.2.2 SERVICE PITS – CONCRETE / CMU WALLS
  - 2.2.2.1 Surfacer/Filler (as needed): **Series 215 Surfacing Epoxy**
  - 2.2.2.2 Primer: **Series V69F Hi-Build Epoxoline II**
  - 2.2.2.3 Intermediate: **Series V69F Hi-Build Epoxoline II**
  - 2.2.2.4 Finish: **Series V290 CRU**

2.3 CONCRETE FLOORS – Shop Areas and Pits
- 2.3.1 Base Coat: **Series N242** Ultra-Tread S
  - 2.3.1.1 Immediately broadcast into the wet Series N242 at 0.5 lbs. per square foot to refusal with 30/50 aggregate
- 2.3.2 Grout Coat: **Series 237** Power-Tread
- 2.3.3 Second Grout Coat: **Series 237** Power-Tread
- 2.3.4 Finish Coat: **Series V290** CRU
- 2.3.5 Striping: **Series 280** Tneme-Glaze

2.4 CONCRETE FLOORS – Rail Pocket and Stairs
- 2.4.1 Primer: Series 237 Power-Tread
- 2.4.2 Intermediate: Series 237 Power-Tread
- 2.4.3 Finish Coat: Series V290 CRU

3.0 PART 3 - EXECUTION

3.1 EXAMINATION
- 3.1.1 Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- 3.1.2 Do not begin installation until the substrates have been properly prepared.
- 3.1.3 Proceed with coating application only after unsatisfactory conditions have been corrected.
  - 3.1.3.1 Application of coating indicates acceptance of surfaces and conditions.

3.2 PROTECTION OF SURFACES NOT SCHEDULED TO BE COATED
- 3.2.1 Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings.
- 3.2.2 Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.
- 3.2.3 Protect adjacent areas and surfaces from coatings not scheduled to be applied.
- 3.2.4 Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 3.2.4.1 After completing painting operations, use workers skilled in the trades

involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 SURFACE PREPARATION

3.3.1 Surfaces shall be prepared in accordance with the manufacturer's written instructions as outlined in the product data sheet and application guides.

3.3.2 Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

3.3.3 Steel:

3.3.3.1 Prior to the specified surface preparation SSPC-SP1 Solvent Cleaning shall be performed to all surfaces.

3.3.3.2 SSPC-SP2 Hand Tool Cleaning: Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by hand chipping, scraping, sanding, and wire brushing.

3.3.3.3 SSPC-SP3 Power Tool Cleaning: Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by power tool chipping, descaling, sanding, wire brushing, and grinding.

3.3.4 Concrete and Masonry Substrates:

3.3.4.1 All surfaces must be clean, dry and free of oil, grease and other contaminants, prior to preparation in accordance with SSPC-SP13/NACE No. 6. Concrete surfaces must be sound and capable of supporting the coating system.

3.3.4.2 Prepare concrete surfaces in accordance with SSPC-SP13/NACE No. 6 Joint Surface Preparation Standards and ICRI Technical Guidelines. Abrasive Blast, Shot-blast, water jet or mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers, existing coatings, and other contaminants and to provide the recommended ICRI-CSP Profile.

3.3.4.3 Cracks, voids and other surface imperfections should be filled with the recommended filler or surfacer prior to the installation of the materials.

3.3.4.4 Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through the coating system according to manufacturer's written recommendations.

3.3.4.5 Level or grind concrete substrates to produce a uniform and smooth surface, including removal of sharp edges, ridges, form fins, and other concrete protrusions.

3.3.4.6 All surfaces to be painted or repainted shall be repaired, cleaned and finished to the standards as specified herein and in Division 3 for new concrete.

3.4 APPLICATION

3.4.1 Apply coatings in accordance with manufacturer's written instructions as outlined in the manufacturer's written instructions.

3.4.2 The application of protective coatings to steel shall be in accordance with SSPC-PA 1 – Shop, Field, and Maintenance Painting of Steel.

3.4.3 Use application equipment, tools, pressure settings, and techniques in accordance with manufacturer's instructions.

3.4.4 Uniformly apply coatings at spreading rate required to achieve specified Dry Film Thickness (DFT).

3.4.5 Apply coatings to be free of film characteristics or defects that would adversely affect performance or appearance of coating systems. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4.6 Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

3.4.7 Products applied by roller will require multiple coats to achieve specified thickness.

3.4.8 Joints: Honor all moving expansion/contraction joints.

3.4.8.1 After application, sawcut and reseal flush with flexible sealant

3.4.9 Terminations: Follow standard details for specified materials, including leading edge termination, metal embedment in concrete, joint detail, wall-to-slab detail, pipe termination details

3.5 FIELD QUALITY CONTROL, INSPECTION AND TESTING

3.5.1 The Applicator shall perform the quality control procedures listed below in conjunction with the requirements of this section.

3.5.2 Inspect materials upon receipt to ensure that products are supplied by the approved Manufacturer.

3.5.3 Concrete Surface Profile: Inspect and record substrate profile (anchor pattern). Surfaces shall be profiled equal to the CSP amplitude as recommended by the coating manufacturer in accordance with ICRI Guideline 310.2 and SSPC-SP13/NACE No. 6.

3.5.3.1 Compare the substrate profile once every 50 square feet with the Concrete Surface Profile (CSP) comparators in accordance with ICRI Guideline No. 310.2.

3.5.4 Concrete Moisture Testing: After surface preparation verify concrete dryness in accordance with ICRI Guideline 310.2 and SSPC-SP13/NACE No. 6 and one of the following moisture test methods.

3.5.4.1 ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

3.5.4.2 ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

3.5.4.3 ASTM D4263— Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.

3.5.4.4 Consult manufacturer regarding questions and or recommendations about moisture problems or questions.

3.5.5 Surface Cleanliness: Prepared concrete surfaces shall be inspected for surface cleanliness after cleaning and drying, prior to resurfacing or coating application.

3.5.6 Measure and record ambient air temperature, relative humidity and dew point temperature once every two hours of each work shift to ensure that the products are being applied within the manufacturer’s recommendations.

3.5.7 Measure and record substrate temperature once every two hours using an infrared or other surface thermometer to ensure that the products are being applied within the manufacturer's recommendations.

3.5.8 Film Thickness:

3.5.8.1 Wet-Film Thickness shall be taken every 100 square feet in accordance with ASTM D4414 or other agreed-upon method.

3.5.8.2 Dry Film Thickness Testing:

3.5.8.2.1 Dry-Film Thickness (DFT) shall be measured in accordance with SSPC-PA 2 Measurement of Dry Coating Thickness. Verify DFT of each coat and total DFT of each coating system are as specified.

3.5.8.2.2 Contractor shall touch up and restore coated surfaces damaged by testing.

3.5.8.2.1 If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

3.5.9 Coating Defects: Check coatings for film characteristics or defects that would adversely affect performance or appearance of coating systems.

3.5.10 Report: Submit written reports describing inspections made and actions taken to correct non-conforming work. Report non-conforming work not corrected. Submit copies of report to Architect and Contractor.

3.5.11 The Applicator is responsible for keeping UTA informed of progress so that Architect/UTA may provide additional quality control at their discretion.

3.5.12 Inspection by UTA does not absolve the applicator from his responsibilities for quality control inspection and testing as specified herein or as required by the Manufacturer's instructions.

3.5.13 Manufacturer's Technical Services: Coordinate with coating manufacturer's technical service department or independent sales representative for current technical data and instructions.

3.6 CLEANING AND PROTECTION

3.6.1 At the end of each workday, remove rubbish, empty cans, rags, and other discarded materials from the Project site.

3.6.2 Remove temporary coverings from painting and coating areas and surfaces. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

3.6.3 Protect work of other trades against damage from coating operation. Correct damage to work of other trades by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.

3.6.4 At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.7 ONE-YEAR INSPECTION

3.7.1 UTA's Project Manager will set a date for one-year inspection of coating systems.
3.7.2 Inspection shall be attended by Owner, Contractor, Architect, and manufacturer's representative.
3.7.3 Repair deficiencies in coating systems as determined by Architect in accordance with manufacturer's instructions.

3.8 SCHEDULES

3.8.1 System 4: STEEL ENCASEMENT around concrete – not including the diamond plate covers

3.8.1.1 Surface Preparation for painted surfaces: Degrease to remove all contaminants. SSPC-SP2 and SP3 Hand & Power Tool Cleaning to remove all loose paint and create a profile for the new coating system, wipe clean to remove dust,

3.8.1.2 Primer Coat: **Series 132** Pro-Tuff Mastic at 4.0 – 6.0 mils dft

3.8.1.3 Finish Coat: **Series V290 CRU** at 300 – 350 square feet per gallon

3.8.2 System 3: SERVICE PITS – CONCRETE / CMU WALLS

3.8.2.1 Surface Preparation: High Pressure Wash between 3,500 and 5,000 psi using a 0-degree rotating nozzle to degrease and to remove all loose concrete, paint, and contaminants. Mechanically abrade the entire surface to remove as much existing coating as possible and to feather the sharp edges of the remaining tightly adherent coatings.

3.8.2.2 Surfacer/Filler (as needed): **Series 215** Surfacing Epoxy as needed to fill voids and cracks.

3.8.2.3 Primer: **Series V69F Hi-Build Epoxoline II** at 75 to 100 square feet per gallon

3.8.2.4 Intermediate: **Series V69F Hi-Build Epoxoline II** at 75 to 100 square feet per gallon

3.8.2.5 Finish: **Series V290 CRU** at 300 – 350 square feet per gallon

3.8.3 System 1: CONCRETE FLOORS – SHOP AREAS

3.8.3.1 Surface Preparation: Prepare in accordance with SSPC-13/NACE No. 6 and ICRI Technical Guidelines. Abrasive blast, shot-blast, or mechanically abrade concrete surfaces to provide a minimum ICRI-CSP 5 or greater surface profile. Complete removal on existing floor coating.

3.8.3.2 Base Coat: **Series N242 Ultra-Tread S** applied at a minimum 1/8" neat

3.8.3.2.1 Immediately broadcast into the wet Series N242 at 0.5 – 0.8 lbs. per square foot to refusal with 30/50 aggregate resulting in a minimum total thickness of 3/16"

3.8.3.3 Grout Coat: **Series 237 Power-Tread** at 60 – 80 square feet per gallon

3.8.3.4 Second Grout Coat: **Series 237 Power-Tread** at 80 – 100 square feet per gallon.

3.8.3.5 Finish Coat: **Series V290 CRU** at 300 – 350 square feet per gallon

3.8.3.6 Stripe: **Series 280 Tneme-Glaze** – If recoat window has been missed. Prepare the coated surface by aggressively abrading with power sanders to de-gloss and abrade the surface for the stripe to bond.

3.8.4 System 2: Concrete Floors – Rail Pocket Area and Stairs:

3.8.4.1 Surface Preparation: Prepare in accordance with SSPC-13/NACE No. 6 and ICRI Technical Guidelines. Abrasive blast, shot-blast, or mechanically abrade concrete surfaces to provide a minimum ICRI-CSP 3 or greater surface profile.

3.8.4.2 Primer Coat: Tnemec Series 237 Power-Tread at 260 – 400 square feet per gallon.

3.8.4.3 Intermediate: Tnemec Series 237 Power-Tread at 200 - 260 square feet per gallon – add aggregate to match texture of adjacent floor.

3.8.4.4 Finish Coat: Tnemec Series V290 CRU at 300 – 350 square feet per gallon.

Color: White 00WH

MRSC Shopfloor

Typical Rail Pocket Diagram

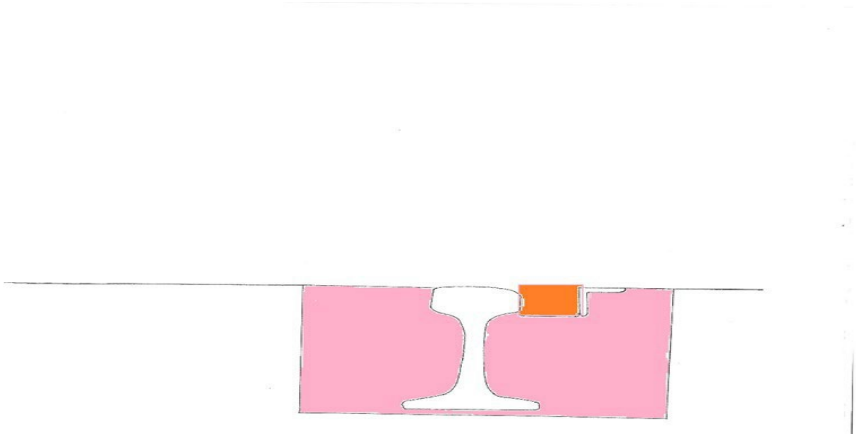
During construction, most of the shop concrete floors were poured utilizing a "Rail Pocket" which allowed the concrete floors to be poured, and then the rails to be installed at later date. A typical rail pocket is approximately 14" wide. The image below represents a typical rail pocket (highlighted in pink). A "Flange Pocket" exists on the inboard side of each rail (highlighted in orange). This is a space approximately 2 ½ "wide X 1 ½ "deep, which is necessary for the flange of the rail wheels.

At the time of installation, a steel angle iron was installed which formed one side of the flange pocket. Over the years some of this angle iron has been removed due to wear and tear, and damage.

For clarification of expectations of work within the area of the rail pocket, the concrete floor should be cleaned, prepared, and painted according to the specifications using System 2, with no filling, or leveling of any of the concrete surface inside the area of the rail pocket. The top (horizontal) surface of the steel angle iron that forms the flange pocket should be cleaned, prepared, and painted according to specifications using System 4 for typical pit steel. In the areas where this angle iron has been removed, the exposed concrete should be cleaned, prepared, and painted with no filling or leveling of the concrete.

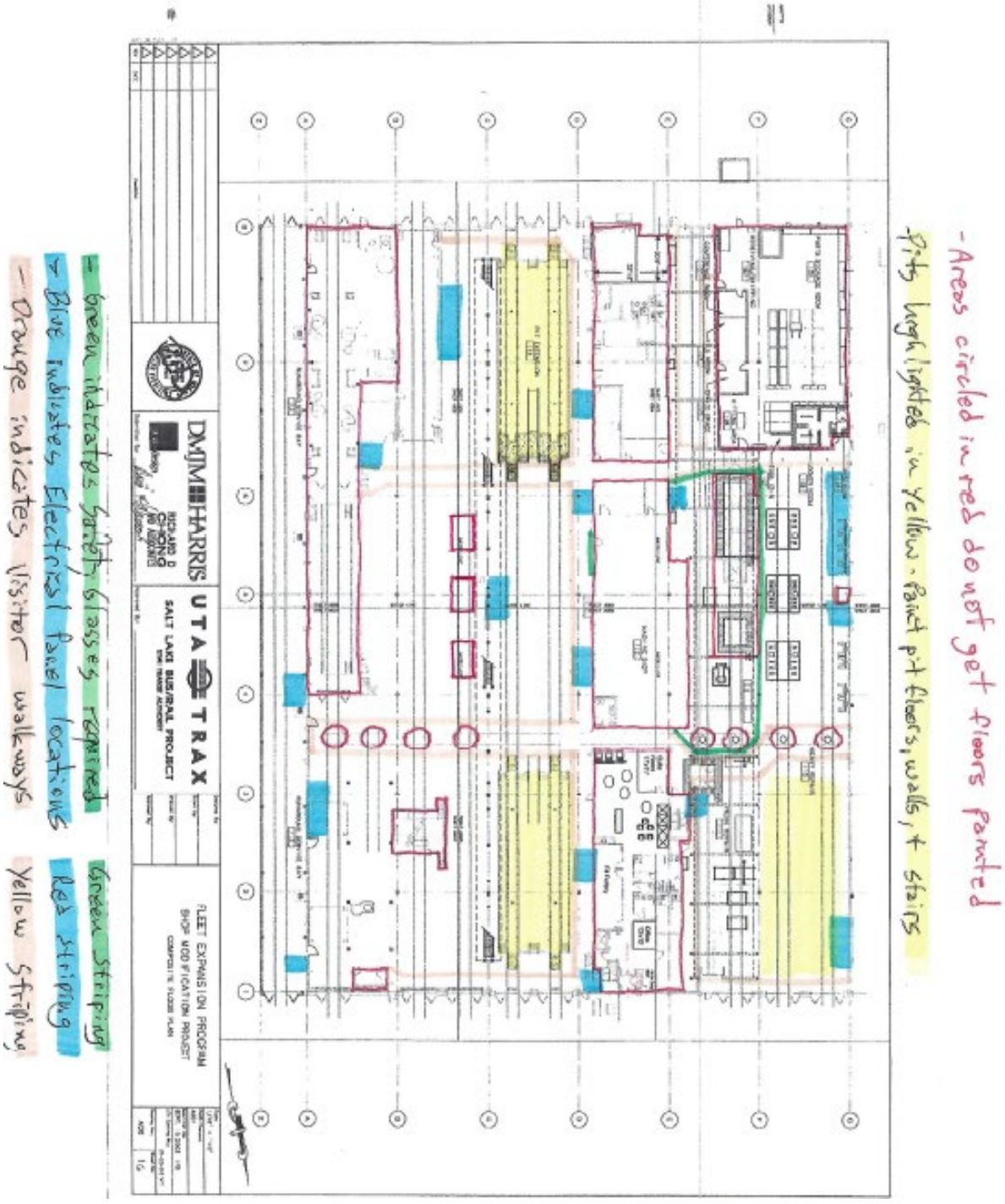
In the areas where a rail pocket was not utilized (i.e. as in lane #1), any concrete within 6" of any rail should be treated just as if a typical rail pocket had been utilized, with no filling or leveling of the concrete. A standard termination sawcut (keyway) will need to be installed to allow for the transition of the Shop Floor Coating System 1 with urethane cement to the Coating System 2 using thin film epoxy system within the rail pocket.

RAIL POCKET DIAGRAM (IMAGE)

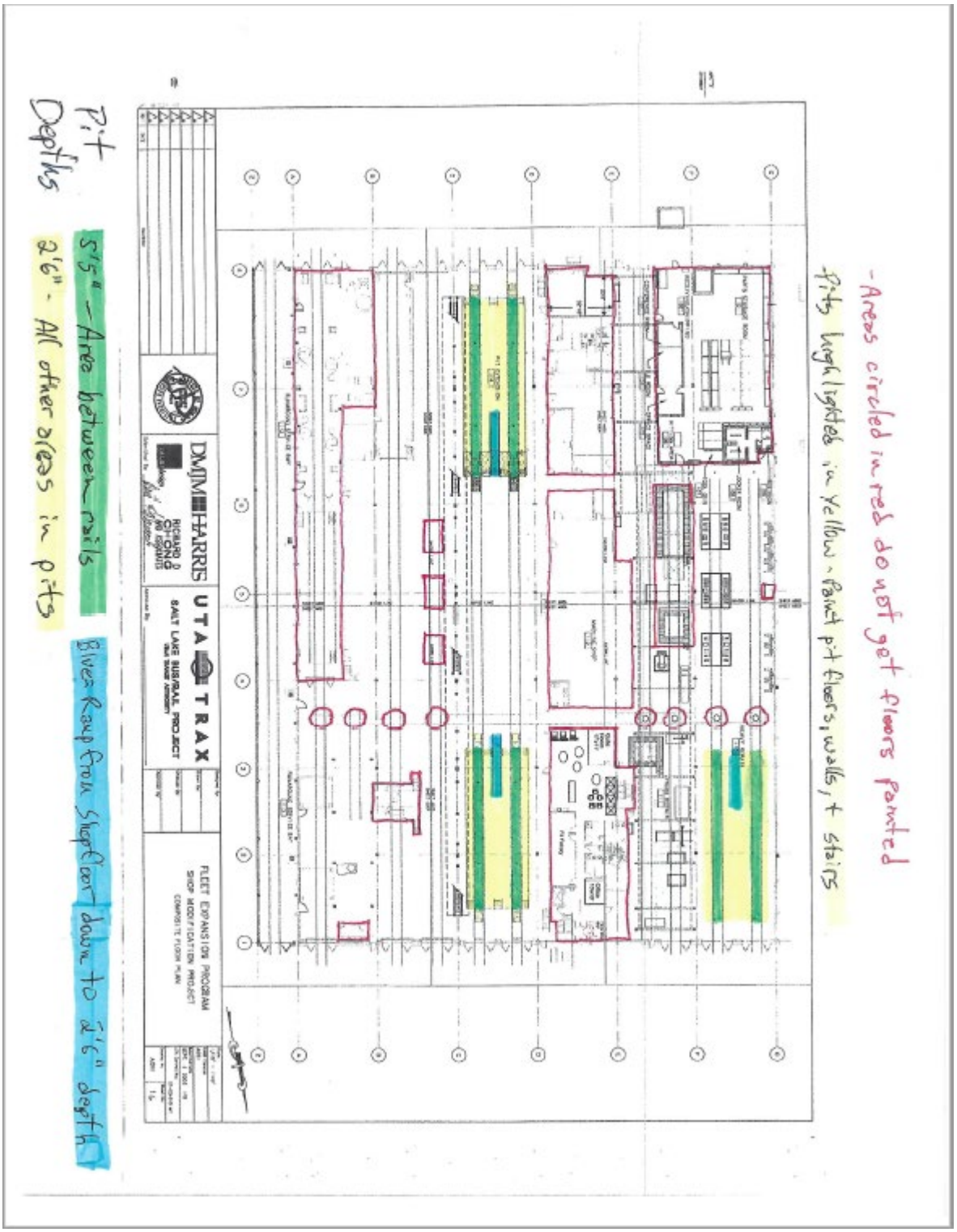


Rail Pocket

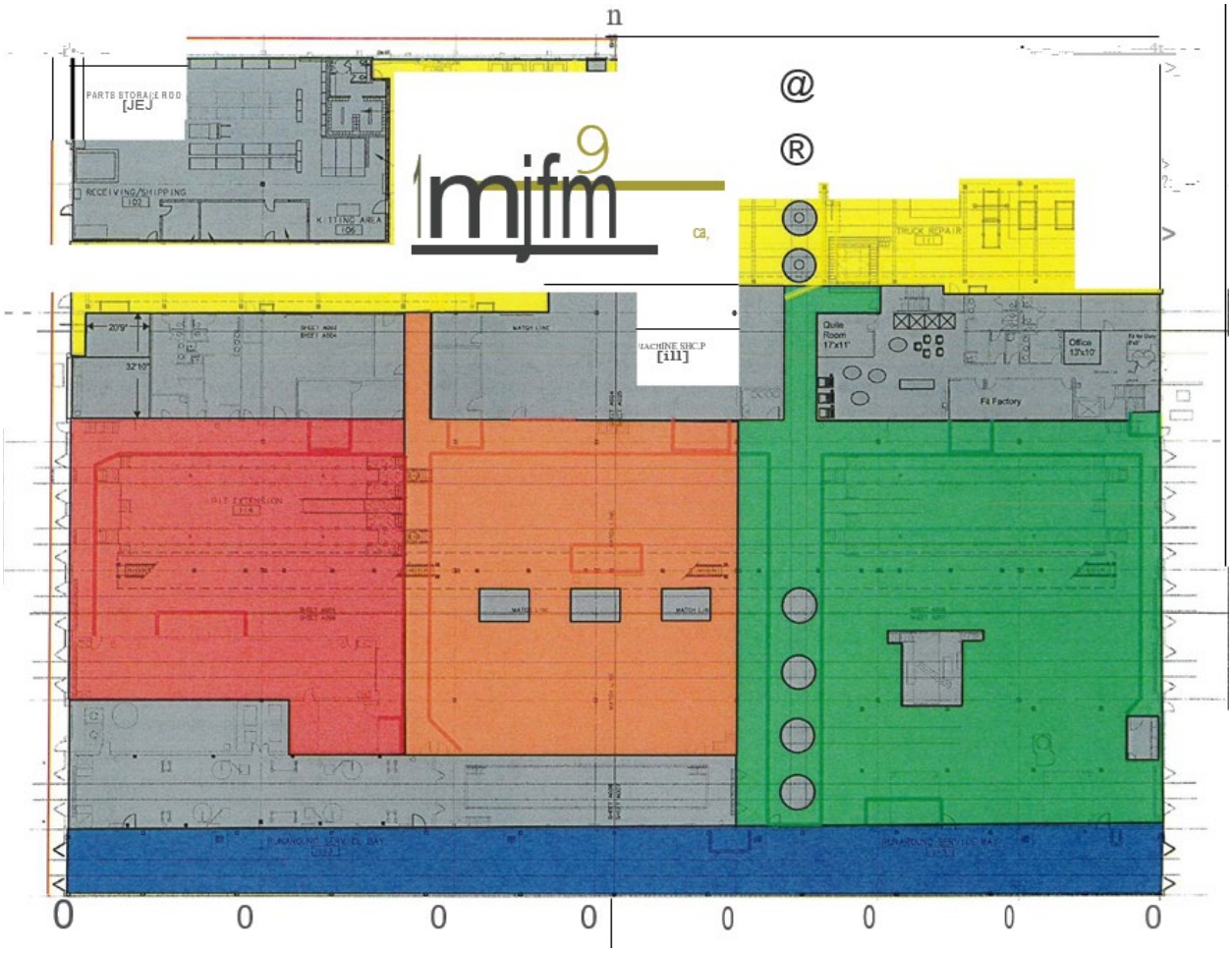
SITE LOCATION FLOOR PLAN
highlighting the required areas for service



HIGHLIGHTED PIT DEPTHS FLOOR PLAN



MOBILIZATION / PHASING AREAS
Blue -Zone 1
Green Zone 2
Orange Zone 3
Red Zone 4
Yellow Zone 5



EHIBIT B
PRICE FORM

FIRM FIXED PRICE TOTAL $1,516,436.13
Total Price is for 69,923 sq ft

PAYMENT TERMS: Net30 upon completion of all services for each Mobilization/Phasing area.

Application for Payments: Progress Payments will be allowed and are subject to completion of each Milestone as listed below:

UTA Midvale BillingSchedule Milestones						
	SF of floor	Material For Floor PPSF	Total Material for floor per Zone	PPSF Labor, Equip, Consumables, ETC..	PPSF Labor, Equip, Consumables, ETC.. Billing Per Zone	Total Cost Per Zone
Zone #1 Floor	7291	$7.85	$57,234.35	$14.10	$102,809.39	$160,043.74
Zone #1 Striping	40.031	$5.33	$213.37	$9.50	$380.29	$593.66
Zone #2 Floor	16554	$7.85	$129,948.90	$14.10	$233,427.95	$363,376.85
Zone #2 Striping	540	$5.33	$2,878.20	$9.50	$5,130.00	$8,008.20
Zone #2 Pitt Walls	1500	$4.98	$7,470.00	$16.40	$24,600.00	$32,070.00
Zone #3 Floor	10819	$7.85	$84,929.15	$14.10	$152,547.90	$237,477.05
Zone #3 Striping	342	$5.33	$1,822.86	$9.50	$3,249.00	$5,071.86
Zone #4 Floor	9972	$7.85	$78,280.20	$14.10	$140,615.17	$218,895.37
Zone #4 Striping	336	$5.33	$1,790.88	$9.50	$3,192.00	$4,982.88
Zone #4 Pitt Walls	1500	$4.98	$7,470.00	$16.40	$24,600.00	$32,070.00
Zone #5 Floor	18562	$7.85	$145,711.70	$14.10	$261,724.20	$407,435.90
Zone #5 Striping	967	$5.33	$5,154.11	$9.50	$9,186.50	$14,340.61
Zone #5 Pitt Walls	1500	$4.98	$7,470.00	$16.40	$24,600.00	$32,070.00
						Total Project
Total Square Footage (SF)	69,923	**Total Project Material**	**$530,373.72**	**Total Project Labor, Equip, Consumables, ETC..**	**$986,062.41**	**$1,516,436.13**

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Contract: Master Task Ordering Agreement - Bond Underwriting Services Pool (Stifel, Nicolaus & Company, Incorporated)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute the Master Task Ordering Agreement ("MTOA") pool for Bond Underwriting with Stifel, Nicolaus & Company, Incorporated ("Stifel") with a Not-to-Exceed amount of $7.5 million for the entire pool.

BACKGROUND:

As of December 31, 2024, UTA has approximately $2 billion in outstanding senior and subordinate sales tax revenue bonds. This bond underwriting engagement encompasses services related to the ongoing management of these bonds, potential refundings, and the issuance of new bonds as needed.

In accessing capital markets, bond underwriters play a critical role as intermediaries. They assist in preparing bond offering documents, developing investor marketing materials, and facilitating the issuance and distribution of UTA bonds to investors.

DISCUSSION:
UTA plans to utilize a pool of bond underwriters to develop diverse financing solutions. By maintaining a pool of underwriters, the Authority can access a broad range of financing strategies, enhancing financial flexibility and ensuring timely access to capital markets.

Under this arrangement, selected underwriters will join the MTOA pool contract, which leverages the collective strengths of its members. This structure provides UTA with access to specialized expertise and competitive advantages, including:

- Expertise in negotiated and competitive bond sales
- Capability to support various issuance sizes
- Flexibility to collaborate within the pool (e.g., senior and co-senior manager partnerships)
- In-depth market research and insights
- Access to skilled professionals with industry expertise

The MTOA pool contract offers a cost-effective approach for UTA to navigate complex capital markets while securing market-competitive financing solutions.

CONTRACT SUMMARY:

Contractor Name:	Stifel, Nicolaus & Company, Incorporated
Contract Number:	25-039305
Base Contract Effective Dates:	Effective after last signature thru 3/31/2030
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$7,500,000 for the entire pool
Procurement Method:	RFP
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:
Pursue procurement through a different contract or solicitation. This would delay issuance of bonds substantially, and limit UTA's financial flexibility.

FISCAL IMPACT:
The MTOA total Not-To-Exceed contract value is $7,500,000, which covers the entire pool and payment for services will com from bond issuance proceeds.

Budget and 5 Year Capital Plan

- 2025 MTOA Pool Total: $1,500,000
- 2026 MTOA Pool Total: $1,500,000
- 2027 MTOA Pool Total: $1,500,000
- 2028 MTOA Pool Total: $1,500,000
- 2029 MTOA Pool Total: $1,500,000

5-year total: $7,500,000

ATTACHMENTS:

- Contract: Master Task Ordering Agreement - Bond Underwriting Services Pool (Stifel, Nicolaus & Company, Incorporated)

MASTER TASK ORDERING AGREEMENT - POOL

UTA CONTRACT # 25-039305PP

BOND UNDERWRITING

This Master Task Ordering Agreement (MTOA) is entered into and made effective as of the date of last signature below (the "Effective Date") by and between UTAH TRANSIT AUTHORITY**,** a public transit district organized under the laws of the State of Utah ("UTA"), and STIFEL, NICOLAUS & COMPANY, INCORPORATED ("Contractor or Consultant").

RECITALS

WHEREAS, UTA desires to establish a pool of contractors available to perform one or more related tasks per the Statement of Services contained at Exhibit A

WHEREAS, on January 17, 2025, UTA issued Request for: Proposal Number 25-03930PP ("RFP") encouraging interested parties to submit a Proposal to perform the services described in the RFP

WHEREAS, upon evaluation of the Proposals s submitted in response to the RFP, UTA selected Contractor as the preferred entity with whom to negotiate a contract to be included in a pool of contractors who may perform the Work if issued a Task or Service Order.

WHEREAS, Contractor is qualified and willing to perform the Work as set forth in the Scope of Services.

AGREEMENT

NOW, THEREFORE, in accordance with the foregoing Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants and agreements hereafter set forth, the mutual benefits to the parties to be derived here from, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. SERVICES TO BE PROVIDED

a. Contractor shall perform all Tasks issued under this TOA as set forth in the Scope of Services (Exhibit A). Except for items (if any) which this Contract specifically states will be UTA-provided, Contractor shall furnish all the labor, material and incidentals necessary for the Work. (The terms "Contractor" and "Consultant" may be used interchangeably throughout this agreement).

b. Contractor shall perform all Work under this TOA in a professional manner, using at least that standard of care, skill and judgment which can reasonably be expected from similarly situated professionals.

c. All Work shall conform to generally accepted standards in the transit industry. Contractor shall perform all Work in compliance with applicable laws, regulations, rules, ordinances, permit constraints and other legal requirements including, without limitation, those related to safety and environmental protection.

d. Contractor shall furnish only qualified personnel and materials necessary for the performance of the Work.

e. When performing Work on UTA property, Contractor shall comply with all UTA work site rules including, without limitation, those related to safety and environmental protection.

f. Contractor acknowledges that it is one of several contractors included in a pool of contractors, any of whom may be called upon to perform the work via issuance of a task or service order. Contractor acknowledges that it is not guaranteed to receive any minimum number of Task or Service Orders under this Agreement.

2. TASK ORDER ISSUANCE

a. The Consultant's shall perform services with respect to a wide variety of tasks, as described in Exhibit A at the request of UTA.

b. Each discrete item is referred to as a "Task." UTA and the Contractor will negotiate scope, schedule, and lump sum or not-to-exceed price for each Task, and document those and other terms, as necessary, in a written "Task Order" in substantively the same format as that attached as Exhibit A. The lump sum or not-to-exceed price for each Task shall be developed in accordance with Section 5 of this Contract and Exhibit C. Upon the execution of a Task Order, the Contractor shall perform services for that Task, including furnishing all the materials, appliances, tools, and labor of every kind required, and constructing and completing in the most substantial and skillful manner, the work identified in the scope of work attached as an Exhibit to that Task Order.

c. If UTA, in its sole discretion, decides not to issue additional task orders beyond those already issued, this agreement shall be cancelled at no additional cost (beyond task orders already issued) to either Party.

d. If UTA and the Contractor are unable to agree on the price, scope, or other terms of a Task Order, UTA shall retain the right to remove the Task from the scope of the on-call Contractor and procure the item outside this Contract.

3. PROGRESS OF WORK

a. Contractor shall prosecute the Work in a diligent and continuous manner and in accordance with all applicable notice to proceed, critical path schedule and guaranteed completion date requirements set forth in (or developed and agreed by the parties in accordance with) the Scope of Services.

b. Contractor shall conduct regular meetings to update UTA's Project Manager regarding the progress of the Work including, but not limited to, any unusual conditions or critical path schedule items that could affect or delay the Work. Such meetings shall be held at intervals mutually agreed to between the parties.

c. Contractor shall deliver monthly progress reports and provide all Contract submittals and other deliverables as specified in the Scope of Services.

d. Any drawing or other submittal reviews to be performed by UTA in accordance with the Scope of Services are for the sole benefit of UTA and shall not relieve Contractor of its responsibility to comply with the Contract requirements.

e. UTA will have the right to inspect, monitor and review any Work performed by Contractor hereunder as deemed necessary by UTA to verify that such Work conforms to the Contract requirements. Any such inspection, monitoring and review performed by UTA is for the sole benefit of UTA and shall not relieve Contractor of its responsibility to comply with the Contract requirements.

f. UTA shall have the right to reject Work which fails to conform to the requirements of this Contract. Upon receipt of notice of rejection from UTA, Contractor shall (at its sole expense and without entitlement to equitable schedule relief) promptly re-perform, replace or re-execute the Work to conform to the Contract requirements.

g. If Contractor fails to promptly remedy rejected Work as provided in Section 3 (f) UTA may (without limiting or waiving any rights or remedies it may have) perform necessary corrective action using other Consultants or UTA's own forces. Any costs reasonably incurred by UTA in such corrective action shall be chargeable to Consultant.

4. FINAL ACCEPTANCE OF TASKS

Each Task shall be entirely completed – including all punch list items, final cleanup, etc. – by the final acceptance date specified in the applicable Task Order. When, in the opinion of UTA's PM, the Contractor has fully performed the work under a Task Order, UTA's PM will notify the Contractor of final acceptance.

Final acceptance will be final and conclusive except for defects not readily ascertainable by UTA, actual or constructive fraud, gross mistakes amounting to fraud, or other errors which the Contractor knew or should have known about, as well as UTA's rights under any warranty or guarantee. Final acceptance may be revoked by UTA at any time prior to the issuance of the final payment by UTA or upon UTA's discovery of such defects, mistakes, fraud, or errors in the work even after final payment is issued.

5. PERIOD OF PERFORMANCE

This Contract shall commence as of the Effective Date. This Contract shall remain in full force and effect until all Work is completed in accordance with this Contract, as reasonably determined by UTA. Contractor shall complete all Work no later than March 31, 2030, however, the period of performance shall be automatically extended to cover any outstanding tasks which have been issued. (This contract contains one additional option year which may be exercised in the sole discretion of UTA with 60 days advance written notice. The option period will be subject to the same terms and conditions which are contained in this TOA. This guaranteed completion date may be extended if Contractor and UTA mutually agree to an extension evidenced by a written Change Order. The rights and obligations of UTA and Contractor under this Contract shall at all times be subject to and conditioned upon the provisions of this Contract.)

6. COMPENSATION

Unless otherwise agreed in a Task Order, payment for the completion of Tasks will be in the form of a lump sum or not-to-exceed price negotiated between UTA and the Contractor and set forth in an executed Task Order. The lump sum or not-to-exceed price will be negotiated through an open-book cost estimating process based on the pricing elements set forth in Exhibit C. The lump sum or not-to-exceed price will be paid to the Contractor for satisfactory completion of all work identified in the applicable Task Order. Except as amended by UTA-issued change orders, the amount to be paid to the Contractor for all costs necessary to complete the work, whether stated or reasonably implied in the Task Order or other contract documents, will not exceed the lump sum or not-to-exceed price, including all labor, materials, equipment, supplies, small tools, incidental expenses, and any other direct or indirect associated costs.

7. INCORPORATED DOCUMENTS

a. The following documents hereinafter listed in chronological order, are hereby incorporated into the Contract by reference and made a part hereof:

    1. The terms and conditions of this Task Ordering Agreement (including any exhibits and attachments hereto).

2. UTA's RFP (or RFQU including, without limitation, all attached or incorporated terms, conditions, federal clauses (as applicable), drawings, plans, specifications and standards and other descriptions of the Goods and Services;
3. Consultant's Proposal including, without limitation, all federal certifications (as applicable);

b. The above-referenced documents are made as fully a part of the Contract as if hereto included or attached.

8. ORDER OF PRECEDENCE

The Order of Precedence for this contract is as follows:

1. UTA Contract including all attachments
2. UTA Terms and Conditions
3. UTA Solicitation Terms
4. Contractor's Bid or Proposal including proposed terms or conditions

Any Contractor proposed term or condition which is in conflict with a UTA contract or solicitation term, or condition will be deemed null and void.

9. CHANGES

a. UTA's Project Manager or designee may, at any time, by written order designated or indicated to be a Change Order, direct changes in the Work including, but not limited to, changes:

   A. In the Scope of Services;

   B. In the method or manner of performance of the Work; or

   C. In the schedule or completion dates applicable to the Work.

   To the extent that any change in Work directed by UTA causes an actual and demonstrable impact to: (i) Consultant's cost of performing the work; or (ii) the time required for the Work, then (in either case) the Change Order shall include an equitable adjustment to this Contract to make Contractor whole with respect to the impacts of such change.

b. A change in the Work may only be directed by UTA through a written Change Order or (alternatively) UTA's expressed, written authorization directing Contractor to proceed pending negotiation of a Change Order. Any changes to this Contract undertaken by Contractor without such written authority shall be at Consultant's sole risk. Contractor shall not be entitled to rely on any other manner or method of direction.

c. Contractor shall also be entitled to an equitable adjustment to address the actual

and demonstrable impacts of "constructive" changes in the Work if: (i) subsequent to the Effective Date of this Contract, there is a material change with respect to any requirement set forth in this Contract; or (ii) other conditions exist or actions are taken by UTA which materially modify the magnitude, character or complexity of the Work from what should have been reasonably assumed by Contractor based on the information included in (or referenced by) this Contract. In order to be eligible for equitable relief for "constructive" changes in Work, Contractor must give UTA's Project Manager or designee written notice stating:

A. The date, circumstances, and source of the change; and

B. That Contractor regards the identified item as a change in Work giving rise to an adjustment in this Contract.

Contractor must provide notice of a "constructive" change and assert its right to an equitable adjustment under this Section within ten (10) days after Contractor becomes aware (or reasonably should have become aware) of the facts and circumstances giving rise to the "constructive" change. Consultant's failure to provide timely written notice as provided above shall constitute a waiver of Consultant's rights with respect to such claim.

d. As soon as practicable, but in no event longer than 30 days after providing notice, Contractor must provide UTA with information and documentation reasonably demonstrating the actual cost and schedule impacts associated with any change in Work. Equitable adjustments will be made via Change Order. Any dispute regarding the Consultant's entitlement to an equitable adjustment (or the extent of any such equitable adjustment) shall be resolved in accordance with Article 21 of this Contract.

10. INVOICING PROCEDURES

a. Contractor shall invoice UTA after achievement of contractual milestones or delivery of all Goods and satisfactory performance of all Services or in accordance with an approved progress or periodic billing schedule. Contractor shall submit invoices to ap@rideuta.com for processing and payment. In order to timely process invoices, Contractor shall include the following information on each invoice:
    i. Contractor Name
    ii. Unique Invoice Number
    iii. PO Number
    iv. Invoice Date
    v. Detailed Description of Charges
    vi. Total Dollar Amount Due

b. UTA shall have the right to disapprove (and withhold from payment) specific line items of each invoice to address non-conforming Software or Services. Approval

by UTA shall not be unreasonably withheld. UTA shall also have the right to offset (against payments) amounts reasonably reflecting the value of any claim which UTA has against Contractor under the Contract. Payment for all invoice amounts not specifically disapproved or offset by UTA shall be provided to Contractor within thirty (30) calendar days of invoice submittal to ap@rideuta.com . Invoices not submitted electronically will shall be paid thirty (30) calendar days from date of receipt by UTA's accounting department.

11. Invoices must include a unique invoice number, UTA's Purchase Order number, a description of the Good or Service provided, line-item pricing, total amount due, and must be submitted electronically to ap@rideuta.com. **OWNERSHIP OF DESIGNS, DRAWINGS, AND WORK PRODUCT**

Any deliverables prepared or developed pursuant to the Contract including without limitation drawings, specifications, manuals, calculations, maps, sketches, designs, tracings, notes, reports, data, computer programs, models and samples, shall become the property of UTA when prepared, and, together with any documents or information furnished to Contractor and its employees or agents by UTA hereunder, shall be delivered to UTA upon request, and, in any event, upon termination or final acceptance of the Goods and Services. UTA shall have full rights and privileges to use and reproduce said items. To the extent that any deliverables include or incorporate preexisting intellectual property of Consultant, Contractor hereby grants UTA a fully paid, perpetual license to use such intellectual property for UTA's operation, maintenance, modification, improvement and replacement of UTA's assets. The scope of the license shall be to the fullest extent necessary to accomplish those purposes, including the right to share same with UTA's Consultants, agent, officers, directors, employees, joint owners, affiliates and consultants.

12. USE OF SUBCONTRACTORS

a. Contractor shall give advance written notification to UTA of any proposed subcontract (not indicated in Consultant's Proposal) negotiated with respect to the Work. UTA shall have the right to approve all subconsultants, such approval not to be withheld unreasonably.

b. No subsequent change, removal or substitution shall be made with respect to any such subcontractor without the prior written approval of UTA.

c. Contractor shall be solely responsible for making payments to subconsultants, and such payments shall be made within thirty (30) days after Contractor receives corresponding payments from UTA.

d. Contractor shall be responsible for and direct all Work performed by subconsultants.

e. Contractor agrees that no subcontracts shall provide for payment on a cost-plus-

percentage-of-cost basis. Contractor further agrees that all subcontracts shall comply with all applicable laws.

12. **KEY PERSONNEL**

Contractor shall provide the key personnel as indicated in Consultant's Proposal (or other applicable provisions of this Contract) and shall not change any of said key personnel without the express written consent of UTA. The following personnel are considered to be "key" under this clause:

Stifel	Stifel	Stifel	Stifel
John Crandall	Matt Dugdale	Laynie Markisich	Elizabeth Read
Managing Director	Managing Director	Vice President	Director
385-799-7233	385-799-7236	385-799-7235	385-799-7232
crandallj@stifel.com	dugdalem@stifel.com	markisichl@stifel.com	reade@stifel.com

If the key personnel listed above are changed without UTA's permission, the Contractor is in default of the contract and liable for default damages.

13. **SUSPENSION OF WORK**

a. UTA may, at any time, by written order to Consultant, require Contractor to suspend, delay, or interrupt all or any part of the Work called for by this Contract. Any such order shall be specifically identified as a "Suspension of Work Order" issued pursuant to this Article. Upon receipt of such an order, Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of further costs allocable to the Work covered by the order during the period of Work stoppage.

b. If a Suspension of Work Order issued under this Article is canceled, Contractor shall resume Work as mutually agreed to in writing by the parties hereto.

c. If a Suspension of Work Order is not canceled and the Work covered by such order is terminated for the convenience of UTA, reasonable costs incurred as a result of the Suspension of Work Order shall be considered in negotiating the termination settlement.

d. If the Suspension of Work causes an increase in Consultant's cost or time to perform the Work, UTA's Project Manager or designee shall make an equitable adjustment to compensate Contractor for the additional costs or time and modify this Contract by Change Order.

14. **TERMINATION**

a. FOR CONVENIENCE: UTA shall have the right to terminate the Contract at any time by providing written notice to Consultant. If the Contract is terminated for

convenience, UTA shall pay Consultant: (i) in full for Goods delivered and Services fully performed prior to the effective date of termination; and (ii) an equitable amount to reflect costs incurred (including Contract close-out and subcontractor termination costs that cannot be reasonably mitigated) and profit on work-in-progress as of to the effective date of the termination notice. UTA shall not be responsible for anticipated profits based on the terminated portion of the Contract. Contractor shall promptly submit a termination claim to UTA. If Contractor has any property in its possession belonging to UTA, Contractor will account for the same and dispose of it in the manner UTA directs.

b. **FOR DEFAULT:** If Contractor (a) becomes insolvent; (b) files a petition under any chapter of the bankruptcy laws or is the subject of an involuntary petition; (c) makes a general assignment for the benefit of its creditors; (d) has a receiver appointed; (e) should fail to make prompt payment to any subconsultants or suppliers; or (f) fails to comply with any of its material obligations under the Contract, UTA may, in its discretion, after first giving Contractor seven (7) days written notice to cure such default:

   1. Terminate the Contract (in whole or in part) for default and obtain the Goods and Services using other Consultants or UTA's own forces, in which event Contractor shall be liable for all incremental costs so incurred by UTA;
   2. Pursue other remedies available under the Contract (regardless of whether the termination remedy is invoked); and/or
   3. Except to the extent limited by the Contract, pursue other remedies available at law.

c. **CONSULTANT'S POST TERMINATION OBLIGATIONS:** Upon receipt of a termination notice as provided above, Contractor shall (i) immediately discontinue all work affected (unless the notice directs otherwise); and (ii) deliver to UTA all data, drawings and other deliverables, whether completed or in process. Contractor shall also remit a final invoice for all services performed and expenses incurred in full accordance with the terms and conditions of the Contract up to the effective date of termination. UTA shall calculate termination damages payable under the Contract, shall offset such damages against Consultant's final invoice, and shall invoice Contractor for any additional amounts payable by Contractor (to the extent termination damages exceed the invoice). All rights and remedies provided in this Article are cumulative and not exclusive. If UTA terminates the Contract for any reason, Contractor shall remain available, for a period not exceeding 90 days, to UTA to respond to any questions or concerns that UTA may have regarding the Goods and Services furnished by Contractor prior to termination.

d. TERMINATION OF TASKS OR TOA

UTA's termination rights under this Article shall apply, in UTA's discretion, to either an individual task order or the entire TOA. Where the TOA is terminated for convenience, the Contractor shall be entitled to payment in full for all tasks satisfactorily completed prior to the termination date. Where a task is terminated prior to acceptance by UTA, Contractor shall be entitled to its actual allowable and allocable costs expended to the date of termination for the terminated task.

15. **INFORMATION, RECORDS and REPORTS; AUDIT RIGHTS**

Contractor shall retain all books, papers, documents, accounting records and other evidence to support any cost-based billings allowable under Exhibit B (or any other provision of this Contract). Such records shall include, without limitation, time sheets and other cost documentation related to the performance of labor services, as well as subcontracts, purchase orders, other contract documents, invoices, receipts or other documentation supporting non-labor costs. Contractor shall also retain other books and records related to the performance, quality or management of this Contract and/or Consultant's compliance with this Contract. Records shall be retained by Contractor for a period of at least six (6) years after completion of the Work, or until any audit initiated within that six-year period has been completed (whichever is later). During this six-year period, such records shall be made available at all reasonable times for audit and inspection by UTA and other authorized auditing parties including, but not limited to, the Federal Transit Administration. Copies of requested records shall be furnished to UTA or designated audit parties upon request. Contractor agrees that it shall flow-down (as a matter of written contract) these records requirements to all subconsultants utilized in the performance of the Work at any tier.

16. FINDINGS CONFIDENTIAL

Any documents, reports, information, or other data and materials delivered or made available to or prepared or assembled by Contractor or subcontractor under this Contract are considered confidential and shall not be made available to any person, organization,

or entity by Contractor without consent in writing from UTA. If confidential information is released to any third-party without UTA's written consent as described above, contractor shall notify UTA of the data breach within 10 days and provide its plan for immediate

mitigation of the breach for review and approval by UTA.

a. It is hereby agreed that the following information is not considered to be confidential:
   A. Information already in the public domain.
   B. Information disclosed to Contractor by a third-party who is not under a confidentiality obligation.

C. Information developed by or in the custody of Contractor before entering into this Contract.
D. Information developed by Contractor through its work with other clients; and
E. Information required to be disclosed by law or regulation including, but not limited to, subpoena, court order or administrative order.

17. **PUBLIC INFORMATION.**

Contractor acknowledges that the Contract and related materials (invoices, orders, etc.) will be public documents under the Utah Government Records Access and Management Act (GRAMA). Consultant's response to the solicitation for the Contract will also be a public document subject to GRAMA, except for legitimate trade secrets, so long as such trade secrets were properly designated in accordance with terms of the solicitation.

18. GENERAL INDEMNIFICATION

Contractor shall indemnify, hold harmless and defend UTA, its officers, trustees, agents, and employees (hereinafter collectively referred to as "Indemnitees") from and against all liabilities, claims, actions, damages, losses, and expenses including without limitation reasonable attorneys' fees and costs (hereinafter referred to collectively as "claims") caused, or alleged to be caused, in whole or in part, by the acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subconsultants. This indemnity includes any claim or amount arising out of the failure of such Contractor to conform to federal, state, and local laws and regulations. If an employee of Consultant, a subconsultant, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable brings a claim against UTA or another Indemnitee, Consultant's indemnity obligation set forth above will not be limited by any limitation on the amount of damages, compensation or benefits payable under any employee benefit acts, including workers' compensation or disability acts. The indemnity obligations of Contractor shall not apply to the extent that claims arise out of the sole negligence of UTA or the Indemnitees.

19. INSURANCE REQUIREMENTS

Standard Insurance Requirements

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The Utah Transit Authority in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this contract by the Contractor, his agents, representatives, employees or subcontractors and Contractor is free to purchase additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE: Contractor shall provide coverage with limits of liability not less than those Stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a “following form” basis.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage and broad form contractual liability coverage.

- General Aggregate $4,000,000
- Products – Completed Operations Aggregate $1,000,000
- Personal and Advertising Injury $1,000,000
- Each Occurrence $2,000,000

a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor".

2. Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL) $2,000,000

a. The policy shall be endorsed to include the following additional insured language: "The Utah Transit Authority shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

Workers' Compensation Statutory

Employers' Liability

Each Accident $100,000

Disease – Each Employee $100,000

Disease – Policy Limit $500,000

a. Policy shall contain a waiver of subrogation against the Utah Transit Authority.

b. This requirement shall not apply when a contractor or subcontractor is exempt under UCA 34A-2-103, AND when such contractor or subcontractor executes the appropriate waiver form.

4. Professional Liability (Errors and Omissions Liability)

The policy shall cover professional misconduct or lack of ordinary skill for those positions defined in the Scope of Services of this contract.

Each Claim	$1,000,000
Annual Aggregate	$2,000,000

a. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained, or an extended discovery period will be exercised for a period of three (3) years beginning at the time work under this Contract is completed.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include the following provisions:

1. On insurance policies where the Utah Transit Authority is named as an additional insured, the Utah Transit Authority shall be an additional insured to the full limits of liability purchased by the Consultant. Insurance limits indicated in this agreement are minimum limits. Larger limits may be indicated after the consultant's assessment of the exposure for this contract; for their own protection and the protection of UTA.

2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

C. NOTICE OF CANCELLATION: Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days prior written notice has been given to the Utah Transit Authority, except when cancellation is for non-payment of premium, then ten (10) days prior notice may be given. Such notice shall be sent directly to (Utah Transit Authority agency Representative's Name & Address).

D. ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers duly licensed or authorized to do business in the State and with an "A.M. Best" rating of

not less than A-VII. The Utah Transit Authority in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. VERIFICATION OF COVERAGE: Contractor shall furnish the Utah Transit Authority with certificates of insurance (on standard ACORD form) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be sent to utahta@ebix.com and received and approved by the Utah Transit Authority before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be emailed directly to Utah Transit Authority's insurance email address at utahta@ebix.com. The Utah Transit Authority project/contract number and project description shall be noted on the certificate of insurance. The Utah Transit Authority reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE UTAH TRANSIT AUTHORITY'S CLAIMS AND INSURANCE DEPARTMENT.

F. SUBCONTRACTORS: Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. Sub-contractors maintaining separate insurance shall name Utah Transit Authority as an additional insured on their policy. Blanket additional insured endorsements are not acceptable from sub-contractors. Utah Transit Authority must be scheduled as an additional insured on any sub-contractor policies.

G. APPROVAL: Any modification or variation from the insurance requirements in this Contract shall be made by Claims and Insurance Department or the UTA Legal Services, whose decision shall be final. Such action will not require a formal Contract amendment but may be made by administrative action.

20. INTELLECTUAL PROPERTY INDEMNIFICATION

a. Contractor shall protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all Claims of any kind or nature

whatsoever on account of infringement relating to Consultant's performance under this Contract. If notified promptly in writing and given authority, information and assistance, Contractor shall defend, or may settle at its expense, any suit or proceeding against UTA so far as based on a claimed infringement and Contractor shall pay all damages and costs awarded therein against UTA due to such breach. In case any portion of the Work is in such suit held to constitute such an infringement or an injunction is filed that interferes with UTA's rights under this Contract, Contractor shall, at its expense and through mutual agreement between the UTA and Consultant, either procure for UTA any necessary intellectual property rights, or modify Consultant's services or deliverables such that the claimed infringement is eliminated.

b. Contractor shall: (i) protect, release, defend, indemnify and hold harmless UTA and the other Indemnitees against and from any and all liens or Claims made or filed against UTA or upon the Work or the property on which the Work is located on account of any labor performed or labor, services, and equipment furnished by subconsultants of any tier; and (ii) keep the Work and said property free and clear of all liens or claims arising from the performance of any Work covered by this Contract by Contractor or its subconsultants of any tier. If any lien arising out of this Contract is filed, before or after Work is completed, Consultant, within ten (10) calendar days after receiving from UTA written notice of such lien, shall obtain a release of or otherwise satisfy such lien. If Contractor fails to do so, UTA may take such steps and make such expenditures as in its discretion it deems advisable to obtain a release of or otherwise satisfy any such lien or liens, and Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA in obtaining such release or satisfaction. If any non-payment claim is made directly against UTA arising out of non-payment to any subconsultant, Contractor shall assume the defense of such claim within ten (10) calendar days after receiving from UTA written notice of such claim. If Contractor fails to do so, Contractor shall upon demand reimburse UTA for all costs incurred and expenditures made by UTA to satisfy such claim.

21. INDEPENDENT CONTRACTOR

Contractor is an independent Contractor and agrees that its personnel will not represent themselves as, nor claim to be, an officer or employee of UTA by reason of this Contract. Contractor is responsible to provide and pay the cost of all its employees' benefits.

22. PROHIBITED INTEREST

No member, officer, agent, or employee of UTA during his or her tenure or for one year thereafter shall have any interest, direct or indirect, including prospective employment by Contractor in this Contract or the proceeds thereof without specific written authorization by UTA.

23. CLAIMS/DISPUTE RESOLUTION

a. "Claim" means any disputes between UTA and the Contractor arising out of or relating to the Contract Documents including any disputed claims for Contract adjustments that cannot be resolved in accordance with the Change Order negotiation process set forth in Article 6. Claims must be made by written notice. The responsibility to substantiate claims rests with the party making the claim.

b. Unless otherwise directed by UTA in writing, Contractor shall proceed diligently with performance of the Work pending final resolution of a Claim, including litigation. UTA shall continue to pay any undisputed payments related to such Claim.

c. The parties shall attempt to informally resolve all claims, counterclaims and other disputes through the escalation process described below. No party may bring a legal action to enforce any term of this Contract without first having exhausted such process.

d. The time schedule for escalation of disputes, including disputed requests for change order, shall be as follows:

Level of Authority	Time Limit
UTA's Project Manager/ Director	Five calendar days
UTA's CPO /Managing Director	Five calendar days
UTA's Executive Manager/Vice President	Five calendar days

Unless otherwise directed by UTA's Project Manager, Contractor shall diligently continue performance under this Contract while matters in dispute are being resolved.

If the dispute cannot be resolved informally in accordance with the escalation procedures set forth above, then either party may commence formal mediation under the Juris Arbitration and Mediation (JAMS) process using a mutually agreed upon JAMS mediator. If resolution does not occur through Mediation, then legal action may be commenced in accordance the venue and governing law provisions of this contract.

24. GOVERNING LAW

This Contract shall be interpreted in accordance with the substantive and procedural laws of the State of Utah. Any litigation between the parties arising out of or relating to this Contract will be conducted exclusively in federal or state courts in the State of Utah and Contractor consents to the jurisdiction of such courts.

25. ASSIGNMENT OF CONTRACT

Contractor shall not assign, sublet, sell, transfer, or otherwise dispose of any interest in this Contract without prior written approval of UTA, and any attempted transfer in violation of this restriction shall be void.

26. NONWAIVER

No failure or waiver or successive failures or waivers on the part of either party in the enforcement of any condition, covenant, or article of this Contract shall operate as a discharge of any such condition, covenant, or article nor render the same invalid, nor impair the right of either party to enforce the same in the event of any subsequent breaches by the other party.

27. NOTICES OR DEMANDS

a. Any formal notice or demand to be given by one party to the other shall be given in writing by one of the following methods: (i) hand delivered; (ii) deposited in the mail, properly stamped with the required postage; (iii) sent via registered or certified mail; or (iv) sent via recognized overnight courier service. All such notices shall be addressed as follows:

If to UTA:
Utah Transit Authority
ATTN: Pat Postell
669 West 200 South
Salt Lake City, UT 84101

with a required copy to:
Utah Transit Authority
ATTN: Legal Counsel
669 West 200 South
Salt Lake City, UT 84101

If to Consultant:
Stifel, Nicolaus & Company, Incorporated
ATTN: John Crandall, Matt Dugdale,
Kelly Murdock, Laynie Markisich,
Elizabeth Read
15 West South Temple, Suite 1090
Salt Lake City, UT 84101

b. Any such notice shall be deemed to have been given, and shall be effective, on

delivery to the notice address then applicable for the party to which the notice is directed; provided, however, that refusal to accept delivery of a notice or the inability to deliver a notice because of an address change which was not properly communicated shall not defeat or delay the giving of a notice. Either party may change the address at which such party desires to receive written notice by providing written notice of such change to any other party.

c. Notwithstanding Section 23.1, the parties may, through mutual agreement, develop alternative communication protocols to address change notices, requests for information and similar categories of communications. Communications provided pursuant to such agreed means shall be recognized as valid notices under this Contract.

28. CONTRACT ADMINISTRATOR

UTA's Contract Administrator for this Contract is Pat Postell, or designee. All questions and correspondence relating to the contractual aspects of this Contract should be directed to said Contract Administrator, or designee.

29. INSURANCE COVEREAGE REQUIREMENTS FOR CONTRACTOR EMPLOYEES ON DESIGN AND CONSTRUCTION CONTRACTS

a. The following requirements apply to design and construction contracts to the extent that: (i) the initial value of this Contract is equal to or in excess of $2 million; (ii) this Contract, with subsequent modifications, is reasonably anticipated to equal or exceed $2 million; (iii) Contractor has a subcontract at any tier that involves a sub-contractor that has an initial subcontract equal to or in excess of $1 million; or (iv) any subcontract, with subsequent modifications, is reasonably anticipated to equal or exceed $1 million:

b. Contractor shall, prior to the effective date of this Contract, demonstrate to UTA that Contractor has and will maintain an offer of qualified health insurance coverage (as defined by Utah Code Ann. § 17B-2a-818.5) for the Consultant's employees and the employee's dependents during the duration of this Contract.

c. Contractor shall also demonstrate to UTA that subconsultants meeting the above-described subcontract value threshold have and will maintain an offer of qualified health insurance coverage (as defined by Utah Code Ann. § 17B-2a-818.5for the subconsultant's employees and the employee's dependents during the duration of the subcontract.

30. COSTS AND ATTORNEY'S FEES

If any party to this Agreement brings an action to enforce or defend its rights or obligations hereunder, the prevailing party shall be entitled to recover its costs and expenses, including

mediation, arbitration, litigation, court costs and attorneys' fees, if any, incurred in connection with such suit, including on appeal

31. NO THIRD-PARTY BENEFICIARY

The parties enter into this Contract for the sole benefit of the parties, in exclusion of any third-party, and no third-party beneficiary is intended or created by the execution of this Contract.

32. FORCE MAJEURE

Neither party to the Contract will be held responsible for delay or default caused by fire, riot, acts of God and/or war which are beyond that party's reasonable control. UTA may terminate the Contract after determining such delay or default will reasonably prevent successful performance of the Contract.

33. UTAH ANTI-BOYCOTT OF ISRAEL ACT

Contractor agrees it will not engage in a boycott of the State of Israel for the duration of this contract.

34. SEVERABILITY

Any provision of this Contract prohibited or rendered unenforceable by operation of law shall be ineffective only to the extent of such prohibition or unenforceability without invalidating the remaining provisions of this Contract.

35. ENTIRE AGREEMENT

This Contract shall constitute the entire agreement and understanding of the parties with respect to the subject matter hereof, and shall supersede all offers, negotiations and other agreements with respect thereto. The terms of the Contract supersede any additional or conflicting terms or provisions that may be preprinted on Vendor's work plans, cost estimate forms, receiving tickets, invoices, or any other related standard forms or documents of Vendor that may subsequently be used to implement, record, or invoice Goods and/or Services hereunder from time to time, even if such standard forms or documents have been signed or initialed by a representative of UTA. The terms of the Contract prevail in any dispute between the terms of the Contract and the terms printed on any such standard forms or documents, and such standard forms or documents will not be considered written amendments of the Contract.

35. AMENDMENTS

Any amendment to this Contract must be in writing and executed by the authorized representatives of each party.

36. COUNTERPARTS

This Contract may be executed in any number of counterparts and by each of the parties hereto on separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument. Any signature page of the Contract may be detached from any counterpart and reattached to any other counterpart hereof. The electronic transmission of a signed original of the Contract or any counterpart hereof and the electronic retransmission of any signed copy hereof shall be the same as delivery of an original.

37. SURVIVAL

Provisions of this Contract intended by their nature and content to survive termination of this Contract shall so survive including, but not limited to, Articles 5, 7, 8, 10, 14, 15, 17, 18, 19, 20, 23, 29 and 30.

IN WITNESS WHEREOF, the parties have made and executed this Contract as of the day, month and year of the last signature contained below.

UTAH TRANSIT AUTHORITY:

By_____
Jay Fox
Executive Director

By_____
Viola Miller
Chief Procurement Officer

UTA Legal Counsel

DocuSigned by:
By Mike Bell
Mike Bell
Utah Attorney General

STIFEL, NICOLAUS & COMPANY, INCORPORATED:

Signed by:
By John Crandall 4/4/2025
Name: John T. Crandall
Title: Managing Director

EXHIBIT A
SCOPE OF WORK

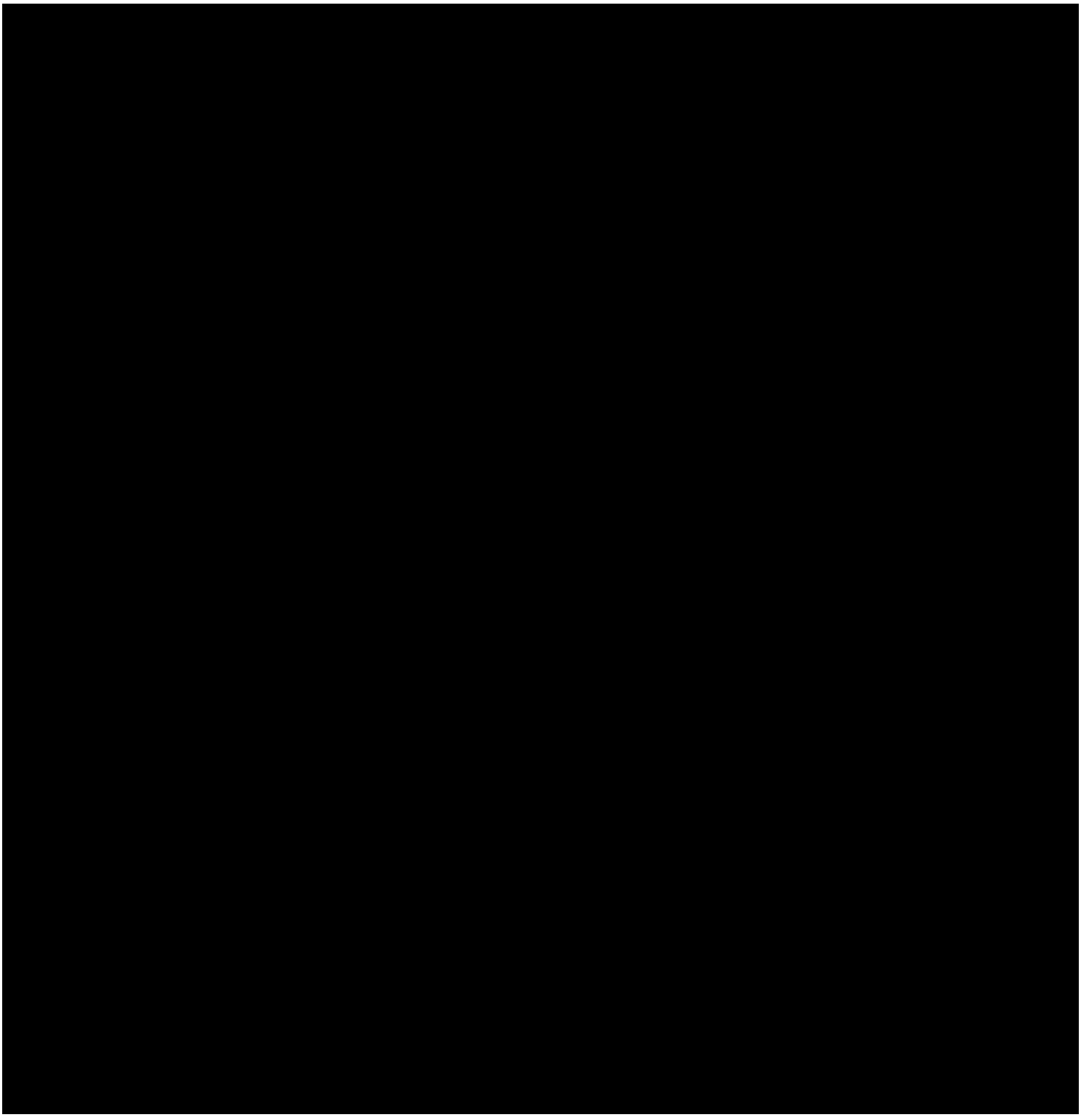
Utah Transit Authority expects a high degree of expertise and professionalism from its underwriter(s). The scope of services requested by this contract and the engagement by agreement is to provide the following professional and expert services:

1. Become a member of the Authority's financing team for designated bond issues;
2. Provide input regarding the structure and terms of bond issues;
3. Provide input on refunding and/or tender of outstanding bonds issued;
4. Provide input regarding financing tools or strategies that may be of benefit to the Authority;
5. Provide input regarding the Authority's disclosure documents;
6. Develop a marketing plan for designated bonds to be issued to assure that the issue is priced at prevailing market rates to the advantage of the Authority;
7. Provide a thorough distribution of the issue and be willing to underwrite unsold balances if required;
8. Execute a definitive bond purchase contract.
9. Provide market data pertaining to supply, demand, rates, pricing, and structure.

CONFIDENTIAL

EXHIBIT B
PRICING

This is a Pool Contract. The Not-to-Exceed amount for the ENTIRE POOL is $7,500,000. Each



669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	David Hancock, Chief Capital Services Officer
PRESENTER(S):	Jared Scarbrough, Director of Capital Design & Construction

TITLE:

Change Order: Mid-Valley Express Bus Rapid Transit (MVX) Construction Change Order 15 - 4700 South Mill and Overlay (Stacy & Witbeck, Inc.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute Change Order Number 15 and associated disbursements with Stacy & Witbeck, Inc. (SWI) in the amount of $1,182,177.21 for the mill and asphalt overlay of portions of 4700 South associated with construction of the Mid-Valley Bus Rapid Transit (MVX).

BACKGROUND:
On January 24 2024, the Board of Trustees approved Contract 23-03786 with Stacy and Witbeck, Inc to construct the Mid-Valley Express (MVX) project. This change order is for additional work on that project.

DISCUSSION:
Execution of this change order will allow Stacy & Witbeck, Inc to complete a mill and overlay along 4700 South from Redwood Road to Riverboat Road, which will enhance safety and ride quality for the traveling public.

UTA staff is requesting approval to execute Change Order No. 15 in the amount of $1,182,177.21 on the Stacy & Witbeck, Inc contract for the MVX project. There is project funding in 2025 to cover these costs which will be matched with federal funding.

CONTRACT SUMMARY:

Contractor Name:	Stacy & Witbeck, Inc.
Contract Number:	23-03786-15
Base Contract Effective Dates:	January 10, 2024 - December 31, 2026
Extended Contract Dates:	N/A
Existing Contract Value:	$54,182,977.41
Amendment Amount:	$1,182,177.21
New/Total Contract Value:	$55,365,154.62
Procurement Method:	RFP- Best Value
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

If this change order is not approved, the roadway will be striped as currently planned.

FISCAL IMPACT:

The approved 2025 Capital Budget includes a budgeted amount of $45,000,000 from the MSP253 - Mid-Valley Connector capital project.

The majority of these costs are offset by State Allocations, State Transit Transportation Investment Funds (TTIF), and a federal Small Starts Grant Agreement. The Small Starts Grant Agreement was recently executed. Funding agreements are in place for the outside revenue sources.

2025 Change Order Total $1,182,177.21

ATTACHMENTS:

- Change Order: Mid-Valley Express BRT (MVX) Construction Change Order 15 - (Stacy & Witbeck, Inc.)

CCO #SWI-CO-015

Project: MSP253 - Mid-Valley Connector
4700 West Redwood Road
Taylorsville, Utah 84123

Subcontract Change Order #SWI-CO-015: CE #SWI-CE-029 - 4700 S Mill & Overlay

CONTRACT COMPANY:	**Stacy and Witbeck, Inc.** 1958 W North Temple Salt Lake City, Utah 84116	**CONTRACT FOR:**	233786-OG:Commitment to Stacy and Witbeck, Inc.
DATE CREATED:	3/24/2025	**CREATED BY:**	Todd Hopkins **(Utah Transit Authority)**
CONTRACT STATUS:	Pending - Proceeding	**REVISION:**	0
REQUEST RECEIVED FROM:		**LOCATION:**	
DESIGNATED REVIEWER:		**REVIEWED BY:**	
DUE DATE:		**REVIEW DATE:**	
INVOICED DATE:		**PAID DATE:**	
REFERENCE:		**CHANGE REASON:**	Configuration Change (Update to the deliverable like painting, updated materials, etc.)
PAID IN FULL:	No	**EXECUTED:**	No
ACCOUNTING METHOD:	Amount Based	**SCHEDULE IMPACT:**	
FIELD CHANGE:	No	**SIGNED CHANGE ORDER RECEIVED DATE:**	
		TOTAL AMOUNT:	$1,182,177.21

DESCRIPTION:

CE #SWI-CE-029 - 4700 S Mill & Overlay

During construction it was noted that the project has and will continue to move striping along 4700 S. When the project is completed, the contractor is required to restripe the road; however, with all the ground out areas it will be confusing for drivers, especially in low light conditions. The best course of action is to finish the pavement with a mill and overlay. UDOT agrees with this decision. This change order is for the mill and overlay and the raising of manholes as needed. Requested change order amount is $1,182,177.21. There is no schedule impact associated with this requested change. This change order will require UTA Board approval.

ATTACHMENTS:

MVX - SWI COR 029 - 4700 S Mill Overlay.pdf, MSP253 ICE cor 29 4700 s mill .pdf

IT IS MUTUALLY AGREED UPON, THERE IS A SCHEDULE IMPACT DUE TO THIS CHANGE ORDER:	No	**DATE OF DESIRED EXTENSION:**	
THIS ITEM IS UNDER UTA'S SIMPLIFIED ACQUISITION THRESHOLD ($200,000) AND REQUIRES NO ICE. THE COST WAS DETERM:	No	**THIS ITEM IS GREATER THAN UTA'S SIMPLIFIED ACQUISITION THRESHOLD ($200,000) AND THUS REQUIRES AN INDEPENDENT :**	Yes
INDEPENDENT COST ESTIMATE (ICE) LINK, IF APPLICABLE:		**DIRECTION OR AUTHORIZATION TO PROCEED (DAP)**	No

CCO #SWI-CO-015

PREVIOUSLY EXECUTED::

CHANGE ORDER APPROVAL

CHANGE ORDER LEGAL STATEMENT:	The amount of any adjustment to time for Substantial Completion and/or Guaranteed Completion or Contract Price includes all known and stated impacts or amounts, direct, indirect and consequential, (as of the date of this Change Order) which may be incurred as a result of the event or matter giving rise to this Change Order. Should conditions arise subsequent to this Change Order that impact the Work under the Contract, including this Change Order, and justify a Change Order under the Contract, or should subsequent Change Orders impact the Work under this Change Order, UTA or the Contractor may initiate a Change Order per the General Provisions, to address such impacts as may arise.
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):	By: _____ Name: Michael Bell Date: 3/25/2025 DocuSigned by: Michael Bell 70E33A415BA44F6...
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):	By: _____ Name: Andrea Pullos Date: 3/25/2025 DocuSigned by: Andrea Pullos 5D51572AEF504AC...
DIRECTOR CO APPROVAL:	I have evaluated the content of this change order and the scope of work described in the contract. I have determined that this change order pricing is fair and reasonable based on a review of contractor quotes and the original contract rates.
SIGNATURE (DIRECTOR):	By: _____ Name: _____ Date: _____
SIGNATURE (PROCUREMENT):	By: _____ Name: Vicki Woodward Date: 3/25/2025 DocuSigned by: Vicki Woodward 730838A1B5E7493...
SIGNATURE (CHIEF SERVICE DEVELOPMENT OFFICER):	By: _____ David Hancock, Chief Service Development Officer Date: _____
SIGNATURE (EXECUTIVE DIRECTOR):	By: _____ Jay Fox, Executive Director Date: _____

CHANGE ORDER LINE ITEMS:

#	Budget Code	Description	Amount
1	20-2506.63000.14011002.10.02 GUIDEWAY & TRACK ELEMENTS	CE-029 4700 S Mill & Overlay	$949,192.70
2	20-2506.64000.14044002.40.02 Site Utilities, Utility Reloca	CE-029 4700 S Mill & Overlay	$48,469.26

CCO #SWI-CO-015

#	Budget Code	Description	Amount
3	20-2506.64000.14044008.40.08 Temporary Facilities and other	CE-029 4700 S Mill & Overlay	$184,515.25
		Grand Total:	**$1,182,177.21**

The original (Contract Sum)	$ 4,090,470.00
Net change by previously authorized Change Orders	$ 50,092,507.41
The contract sum prior to this Change Order was	$ 54,182,977.41
The contract sum would be changed by this Change Order in the amount of	$ 1,182,177.21
The new contract sum including this Change Order will be	$ 55,365,154.62

The contract time will not be changed by this Change Order.

Stacy and Witbeck, Inc.
1958 W North Temple
Salt Lake City, Utah 84116

N/A

SIGNATURE **DATE**

DocuSigned by:
C963A5B280B24C0...

3/24/2025

SIGNATURE **DATE**

Maverick Gibbons

Printed on Mon Mar 24, 2025 at 01:56 pm MDT

Job #: MSP253 Mid-Valley Connector
4700 West Redwood Road
Taylorsville Utah. 84123

Change Orders: Commitments (14)

Contract	#	Revision	Title	Date Initiated	Contract Company	Designated Reviewer	Due Date	Review Date	Status	Signatures Required	Amount
Contract #233786-OG	SWI-CO-015	0	CE #SWI-CE-029 - 4700 S Mill & Overlay	03/24/25	Stacy and Witbeck, Inc.	Unassigned			Pending - Proceeding		$1,182,177.21
Contract #233786-OG	SWI-CO-014	0	CE #SWI-CE-014 - SLCC Irrigation Mainline to Daycare (RFI 044) | CE #SWI-CE-027 - Riverboat WB Station - Platform Barrier Detail (RFI 107)	03/14/25	Stacy and Witbeck, Inc.	Unassigned		03/19/25	Approved		$107,131.54
Contract #233786-OG	SWI-CO-013	0	CE #SWI-CE-006 - 4700 Drainage Changes 2 | CE #SWI-CE-007 - SLCC Light Pole Removals | CE #SWI-CE-011 - Murray Utility Changes (RFIs 046 & 059)	03/12/25	Stacy and Witbeck, Inc.	Unassigned		03/19/25	Approved		$147,844.44
Contract #233786-OG	SWI-CO-012	0	CE #SWI-CE-5.1 - NDC 001	03/11/25	Stacy and Witbeck, Inc.	Unassigned		03/19/25	Approved		$149,508.63
Contract #233786-OG	SWI-CO-011	0	CE #SWI-CE-022 - Privacy Wall Utility Conflicts	02/27/25	Stacy and Witbeck, Inc.	Unassigned		03/04/25	Approved		$188,853.34
Contract #233786-OG	SWI-CO-010	0	CE #SWI-CE-019 - Procure Alerton Panels | CE #SWI-CE-026 - Lutheran Church ROW Agreement	02/20/25	Stacy and Witbeck, Inc.	Unassigned		02/27/25	Approved		$174,738.86
Contract #233786-OG	SWI-CO-009	0	CE #SWI-CE-018 - Landscape Weed Barrier (RFI 072)	02/17/25	Stacy and Witbeck, Inc.	Unassigned		02/27/25	Approved		$127,897.68
Contract #233786-OG	SWI-CO-008	0	CE #SWI-CE-013 - SLCC Shared Use Path-HMA to Concrete | CE #SWI-CE-010 - Murray SSOD Testing Delays	02/14/25	Stacy and Witbeck, Inc.	Unassigned		02/27/25	Approved		$162,216.13
Contract #233786-OG	SWI-CO-007	0	CE #SWI-CE-016 - GHID Double Check Detector Assembly (RFI 067)	01/27/25	Stacy and Witbeck, Inc.	Unassigned		02/14/25	Approved		$63,913.77
Contract #233786-OG	SWI-CO-006	0	CE #SWI-CE-006 - OFCI Material (RFI 014)	01/10/25	Stacy and Witbeck, Inc.	Unassigned		02/14/25	Approved		$433,096.22
Contract #233786-OG	SWI-CO-005	0	CE #SWI-CE-005 - Water Loops (RFI 064 and RFI 075)	12/23/24	Stacy and Witbeck, Inc.	Unassigned		12/26/24	Approved		$117,263.80
Contract #233786-OG	SWI-CO-003	0	CE #SWI-CE-003 - Mid-Valley BRT (MVX) Phase II ATP3 Construction	11/03/24	Stacy and Witbeck, Inc.	Unassigned		12/23/24	Approved		$34,309,128.00
Contract #233786-OG	SWI-CO-002	0	CE #SWI-CE-002 - 4700 South Drainage Changes	10/18/24	Stacy and Witbeck, Inc.	Unassigned		10/18/24	Approved		$131,937.00
Contract #233786-OG	SWI-CO-001	0	CE #SWI-CE-001 - Mid-Valley BRT (MVX) Phase II LONP ATP Construction Services	10/18/24	Stacy and Witbeck, Inc.	Unassigned		10/18/24	Approved		$13,978,978.00

Total: $51,274,684.62

STACYWITBECK

March 10, 2025 SWI Change Order Request 029

Andrea Pullos
Project Manager
Utah Transit Authority
669 West 200 South
Salt Lake City, UT 84101

Reference: Midvalley Connector
UTA Contract No. 23-03786VW

Subject: MVX - SWI COR 029 – 4700 S Mill & Overlay

Dear Andrea,

Stacy Witbeck respectfully submits the following price proposal for a 1-inch Mill & OGSC Overlay on 4700 South between Redwood Road and Riverboat Road on the Midvalley Connector Project.

The construction of the Midvalley BRT dedicated lanes on 4700 South will create areas where sawcut lines and new pavement joints fall within the wheel path, along with trench patches from utility installations and ghost lines from multiple removed pavement markings. To address these issues, Stacy Witbeck proposes a 1-inch profile mill and an open-graded surface course overlay using PG 64-34 oil, as requested by UDOT. This work will be conducted at night and is expected to take approximately ten days, this includes the time to pre-lower and raise the manholes and valve boxes to grade.

Based on the changes enumerated above, we are requesting a change order in the amount of $1,182,177.21 and 0 additional days.

If you have any questions or need any additional information, please do not hesitate to contact us.

Sincerely,

Stacy Witbeck

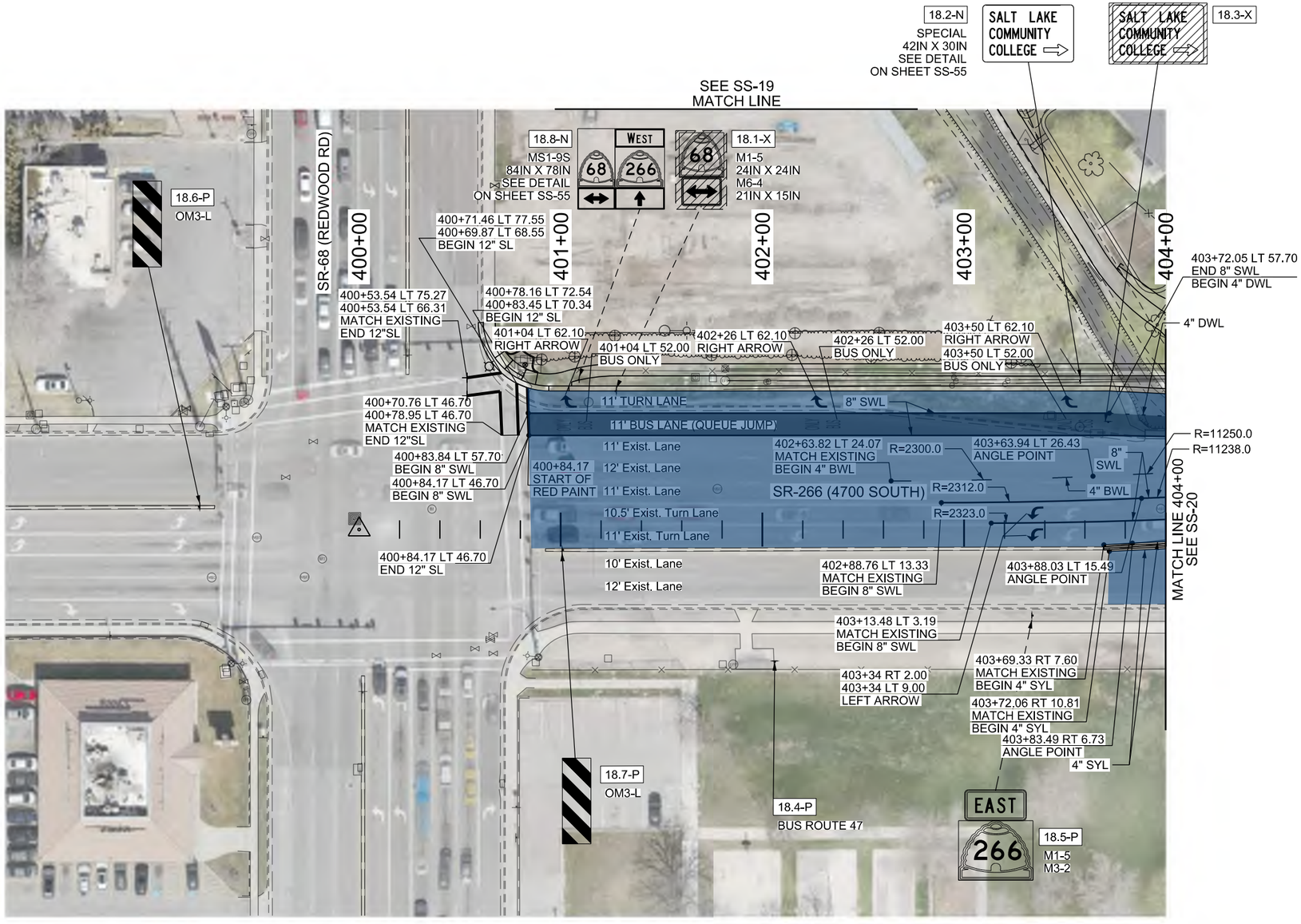
Maverick Gibbons
2025.03.10
09:17:57-06'00'

Maverick Gibbons
Project Manager

1958 West North Temple St.
Salt Lake City, UT 84116
t: 801-666-7840 f: 801-432-7489

BIDITEM	SCC #	DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	BID TOTAL
NEW	10.02	ROTOMILL	90745	SY	$ 2.14	$ 194,194.30
NEW	10.02	1" OGSC - PG 64-34	90745	SY	$ 8.32	$ 754,998.40
NEW	40.02	ADJUST VALVE BOXES TO FINISH GRADE	6	EA	$ 1,442.54	$ 8,655.24
NEW	40.02	ADJUST MANHOLES TO FINISH GRADE	18	EA	$ 2,211.89	$ 39,814.02
NEW	40.08	TRAFFIC CONTROL	9	DAY	$ 5,690.51	$ 51,214.59
		DIRECT TOTAL				$ 1,048,876.55
3110	40.08	QC & QA (1.52%)	1	LS	$ 18,058.55	$ 18,058.55
3130	40.08	PUBLIC INFORMATION (0.82%)	1	LS	$ 9,742.12	$ 9,742.12
3140	40.08	TRAFFIC CONTROL (COVERED ABOVE)	0	LS	$ -	$ -
3150	40.08	TEMP PED ACCESS (0.11%)	1	LS	$ 1,306.87	$ 1,306.87
3160	40.08	SURVEY (0.79%)	1	LS	$ 9,385.70	$ 9,385.70
3170	40.08	CONTRACTOR INDIRECTS (6.71%)	1	LS	$ 79,719.00	$ 79,719.00
3180	40.08	MISC INS/BOND/CONTING (1.27%)	1	LS	$ 15,088.42	$ 15,088.42
		INDIRECT TOTAL				$ 133,300.66
		BID TOTAL				$ 1,182,177.21

Proposed Overlay Limits



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

XXX
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	QC CHECKED BY	APPROVED
IZR	APM	

07/17/2023 DATE

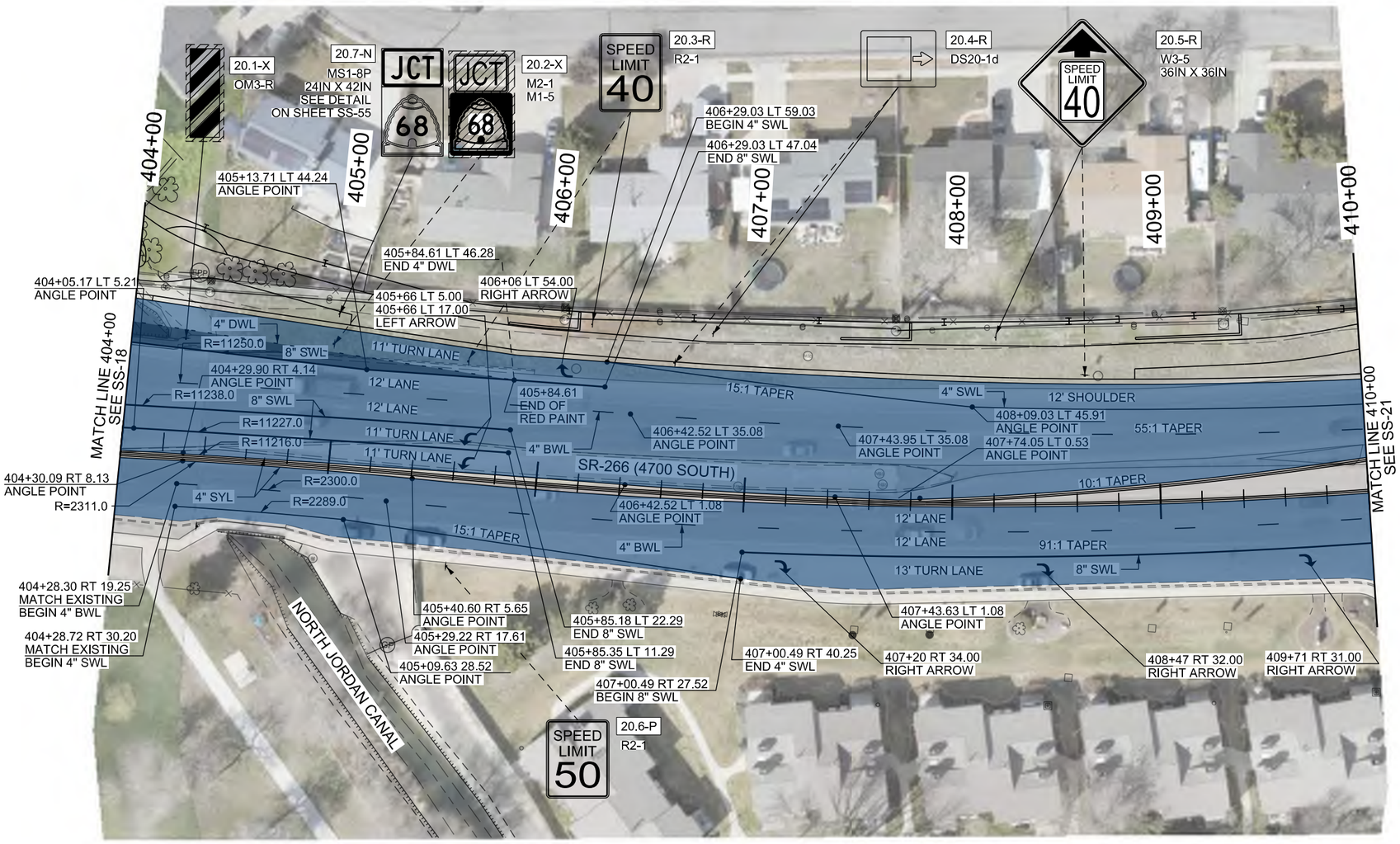
MIDVALLEY CONNECTOR
BUS RAPID TRANSIT

PROJECT

PROJECT NUMBER: MSP253
PIN: 17842

SIGNING & STRIPING

SHEET NO. S 489



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

XXX
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
DATE	07/17/2023
APPROVED	

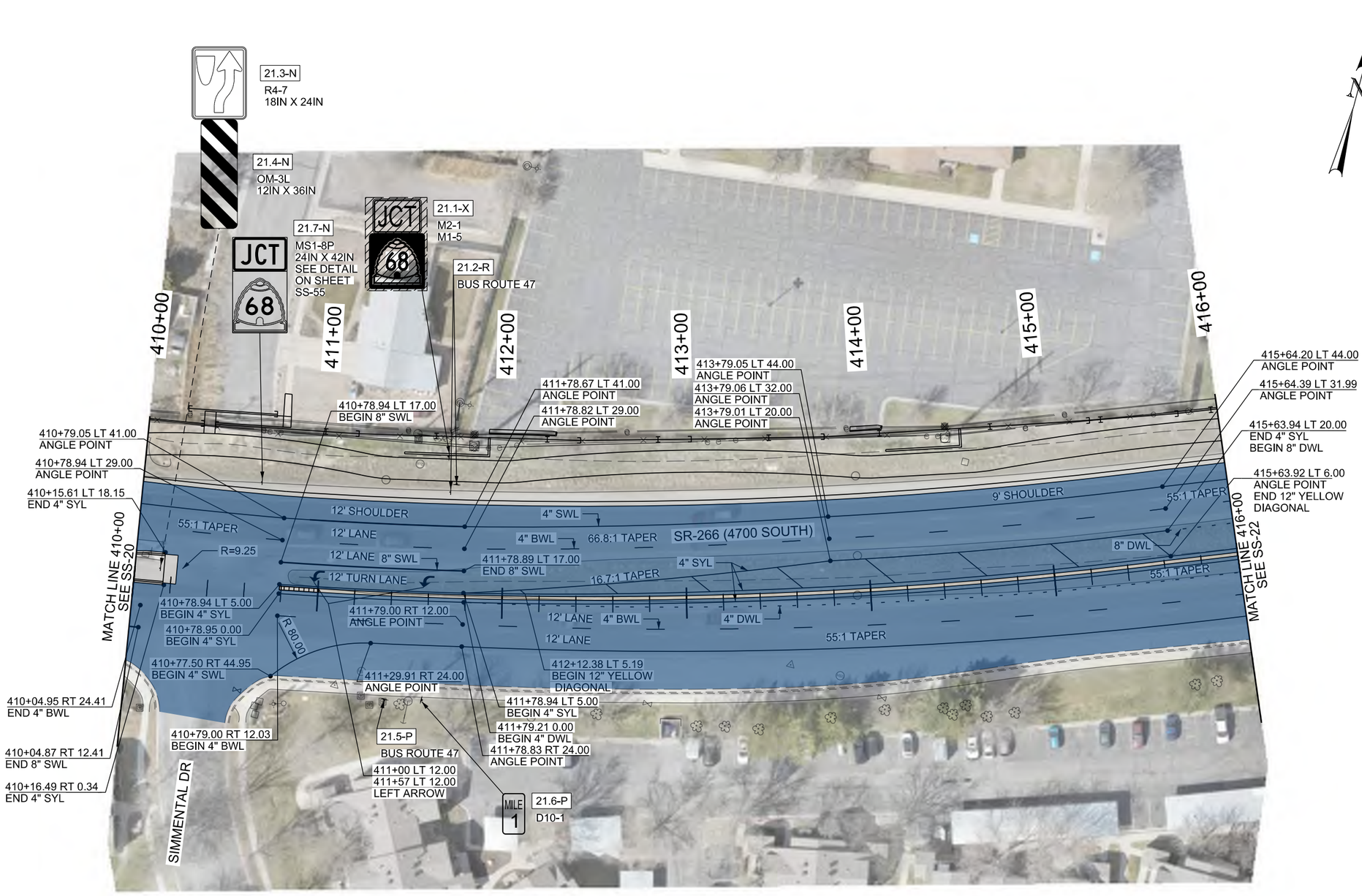
MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
MSP253
PIN 17842

SIGNING & STRIPING

PROJECT
PROJECT NUMBER

SHEET NO. S 490

c:\pwworking\nal\jeg.asantag\d0514637\81000_SS-20.dgn
7/17/2023



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR	APM
QC CHECKED BY		
APPROVED	07/17/2023	
DATE		

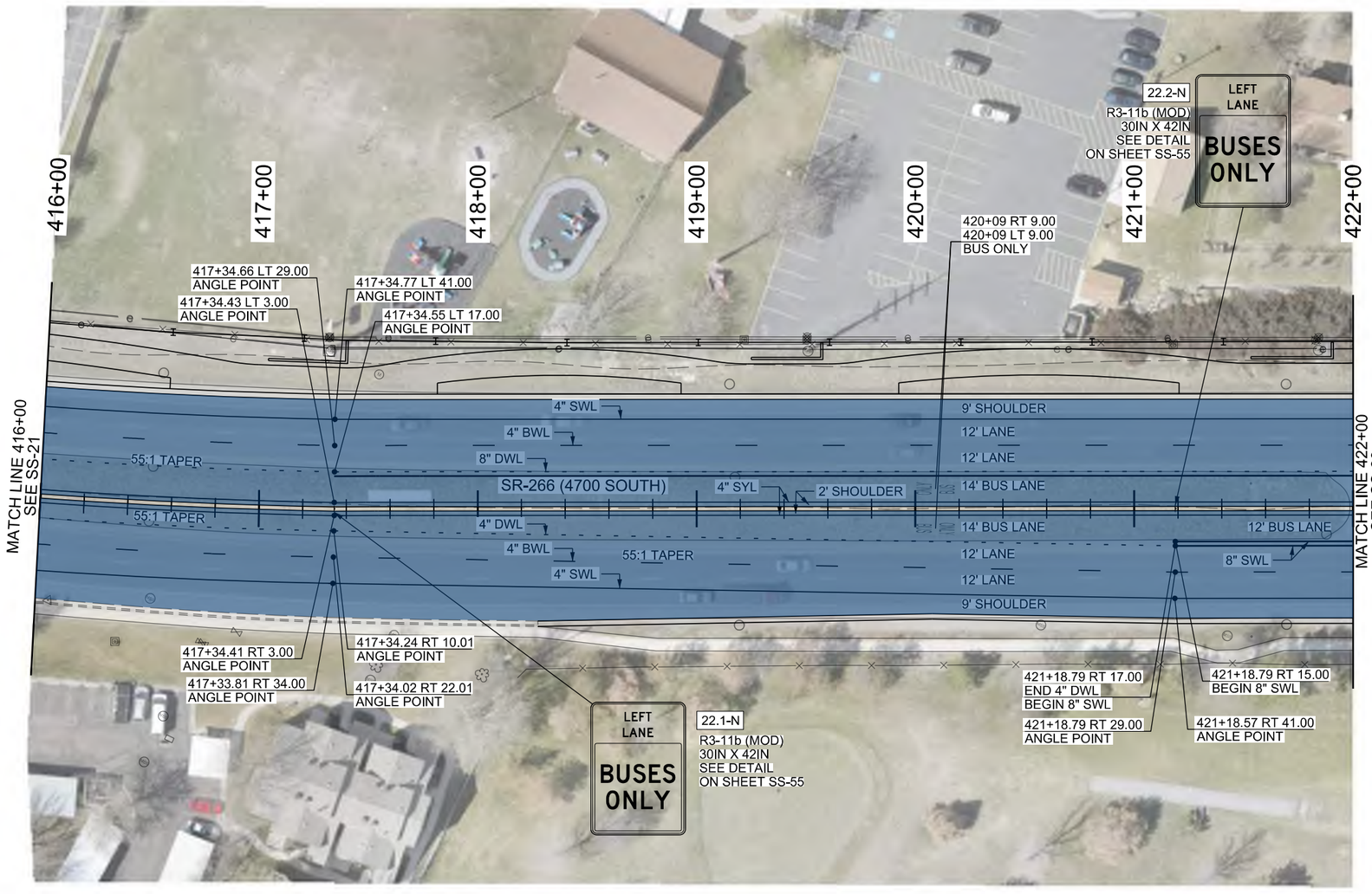
MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT

PIN 17842
PROJECT NUMBER MSP253

SIGNING & STRIPING

SHEET NO. S 491

c:\working\nal_eg-esantos\d0514637-8100_SS-21.dgn
7/17/2023



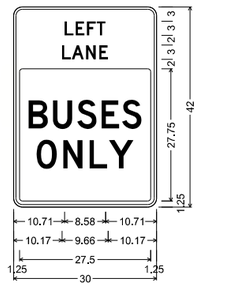
SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE



R3-11b_30x42;
1.88" Radius, 0.50" Border, White on, Black;
"LEFT", D 2K;
"LANE", D 2K;
Rounded Rectangle 0.63" Radius;

R3-11b (MOD)

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
APPROVED	
07/17/2023 DATE	

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT

PIN 17842

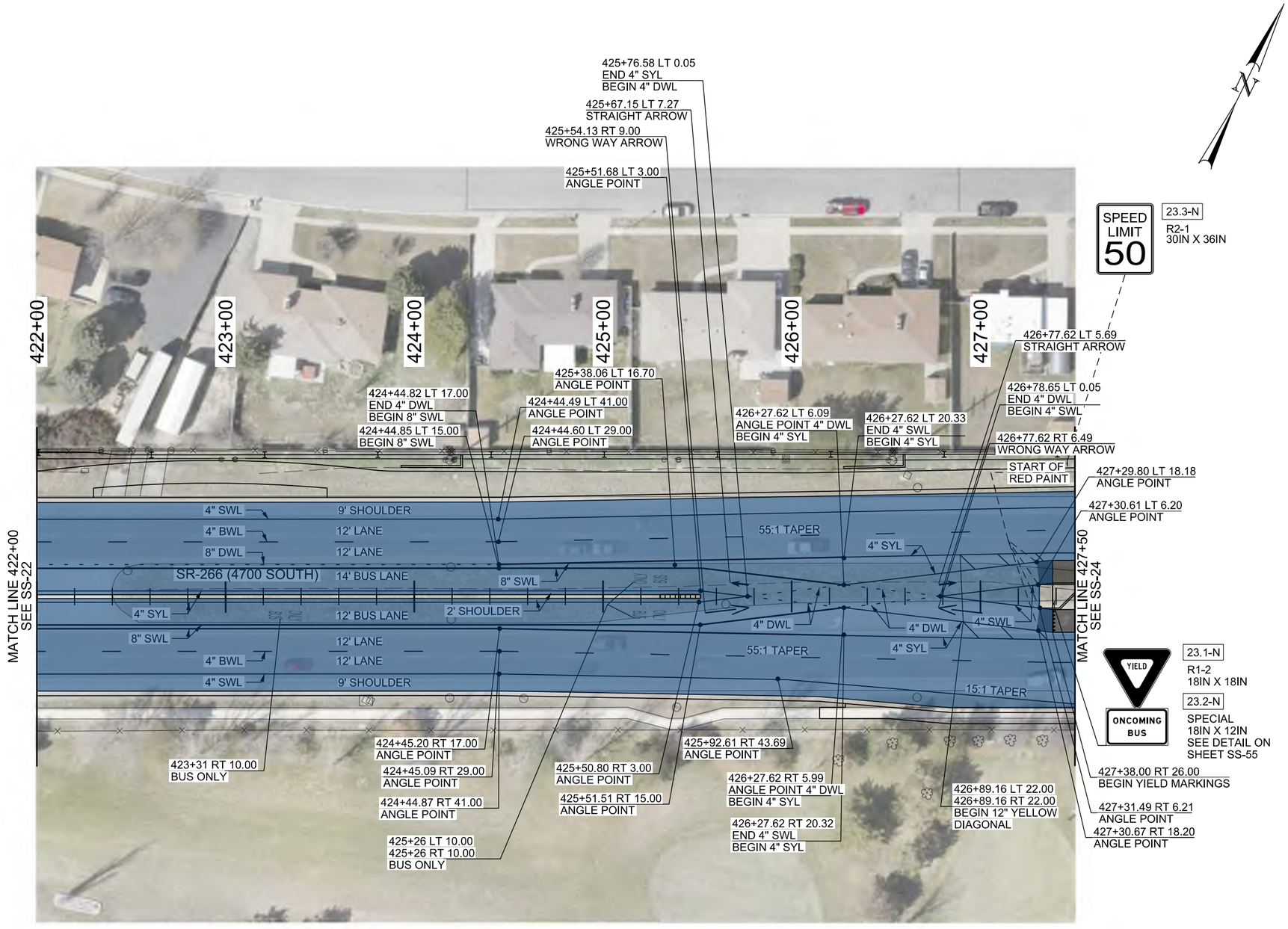
PROJECT
MSP253

PROJECT NUMBER

SIGNING & STRIPING

SHEET NO. S 492

c:\pwworking\na1_eg.asantiag\d0514637\8100_SS-22.dgn
7/17/2023



1300 WEST STATION

SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	CHECKED BY
IZR	APM

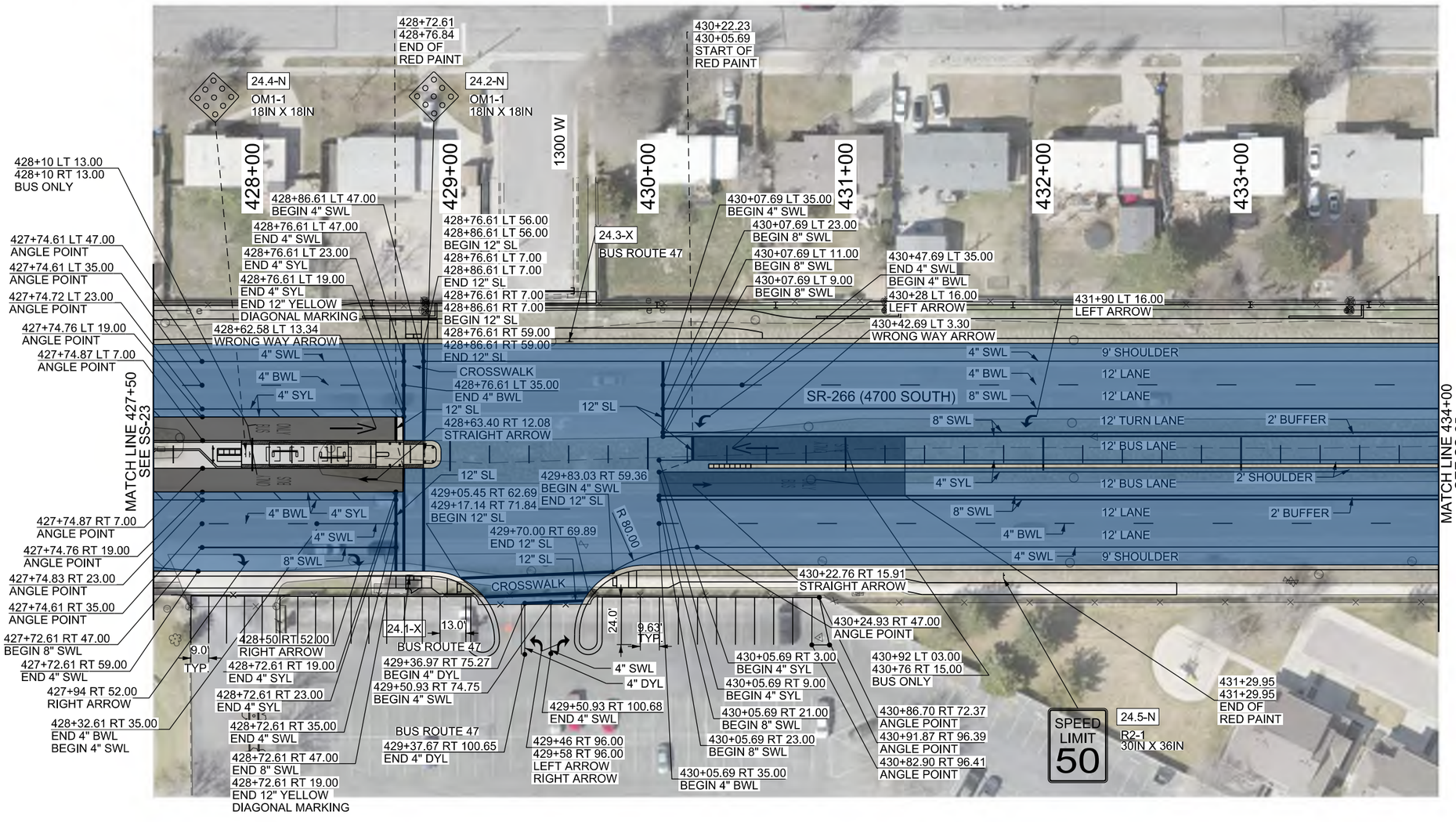
QC
APPROVED
07/17/2023
DATE

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PIN 17842
MSP253
SIGNING & STRIPING

PROJECT
PROJECT NUMBER

SHEET NO. S 493

c:\pwworking\mai\jpg.asantag\d0514637\8100_SS-23.dgn
7/17/2023



1300 WEST STATION

SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
SIGN CODE
SIGN NUMBER
SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

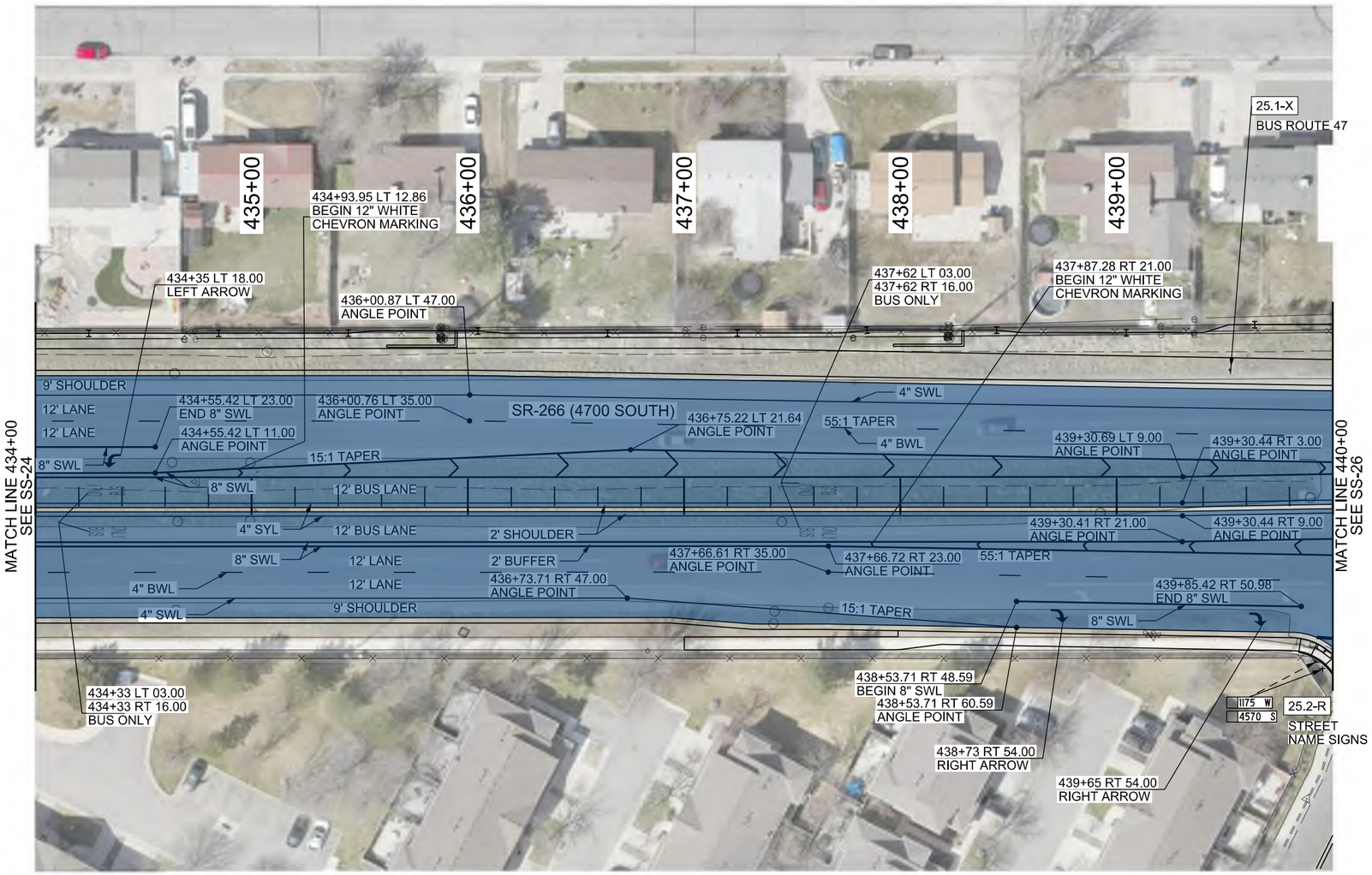
UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR	APPROVED	07/17/2023
QC CHECKED BY	APM		DATE

PROJECT: MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT NUMBER: MSP253
PIN: 17842
SIGNING & STRIPING

SHEET NO. S 494

c:\pwworking\na\jeg.stanley\d0514637\B1B0_SS-24.dgn
7/17/2023



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
APPROVED	
DATE	07/17/2023

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT
PROJECT NUMBER MSP253
PIN 17842
SIGNING & STRIPING
SHEET NO. S 495

c:\pwworking\na\jfg_seantag\d0514637\B100_SS-25.dgn
7/17/2023

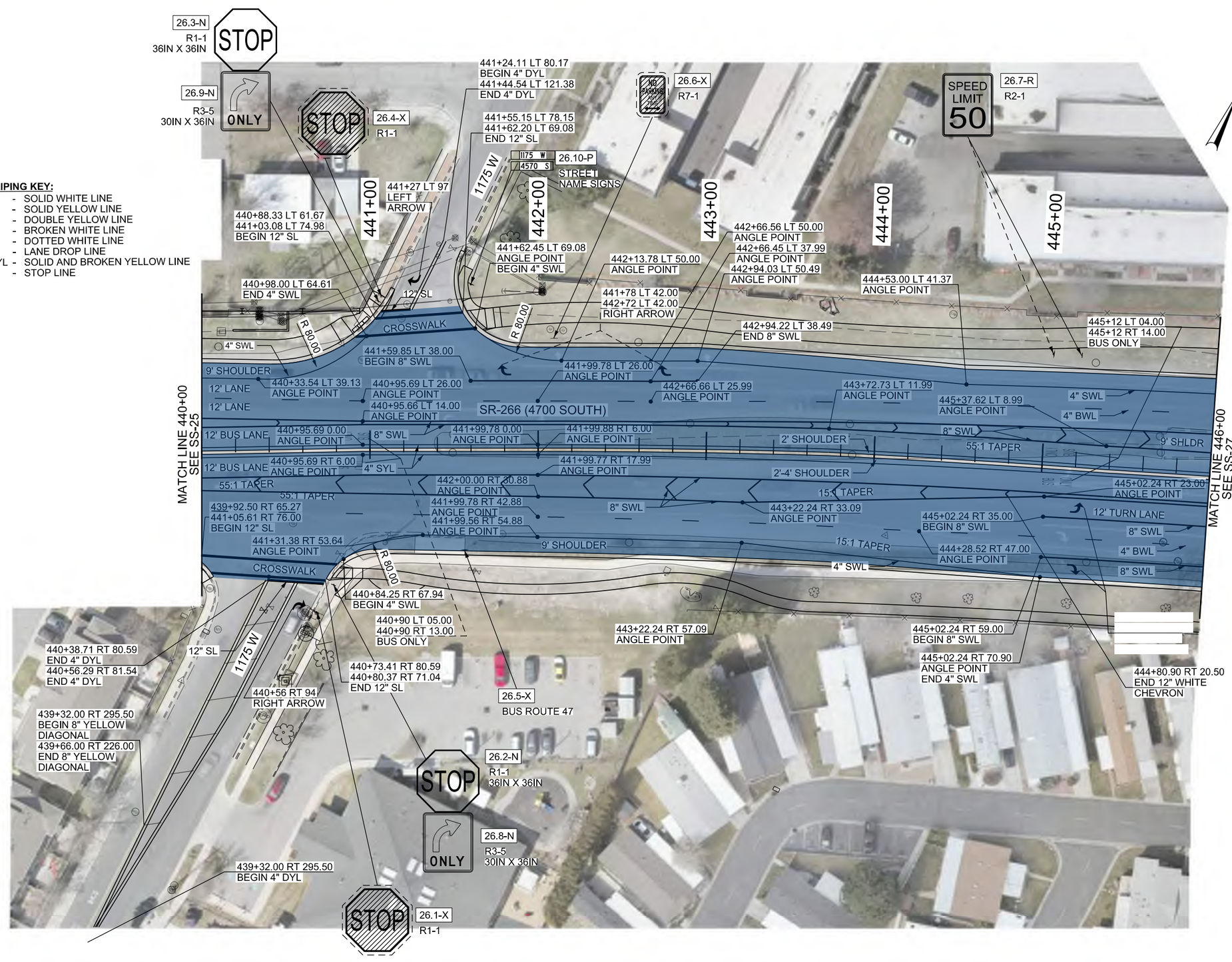
SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE



MIDVALLEY CONNECTOR
UTA

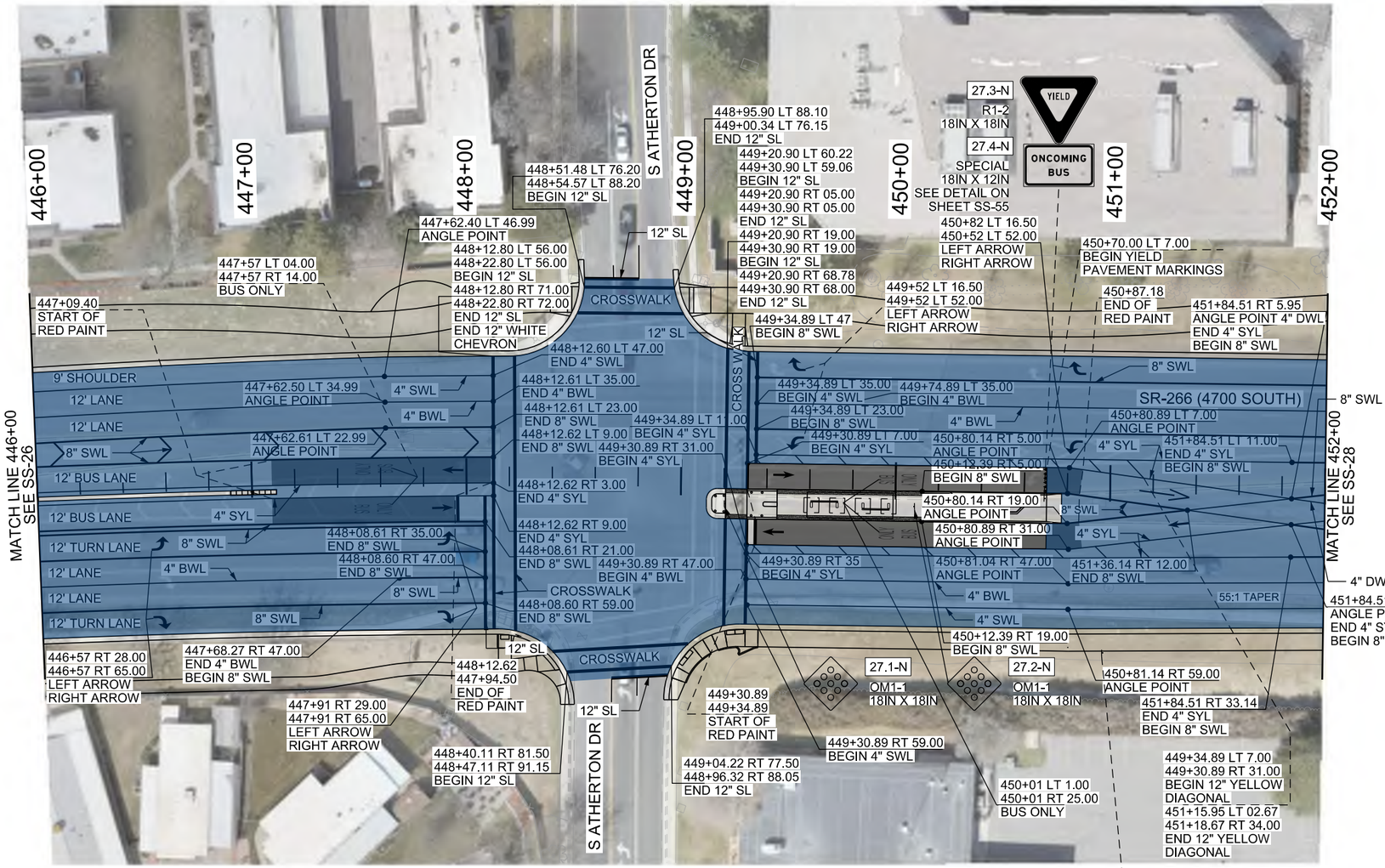
UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR		
QC CHECKED BY	APM		
07/17/2023	DATE		
APPROVED			

PROJECT	MIDVALLEY CONNECTOR		
	BUS RAPID TRANSIT	PIN	17842
PROJECT NUMBER	MSP253		
	SIGNING & STRIPING		

SHEET NO. S 496

c:\pwworking\na\jeg.asantiag\d0514637\81000_SS-26.dgn
7/17/2023



ATHERTON WEST STATION

SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

XXX
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
07/17/2023 DATE	
APPROVED	

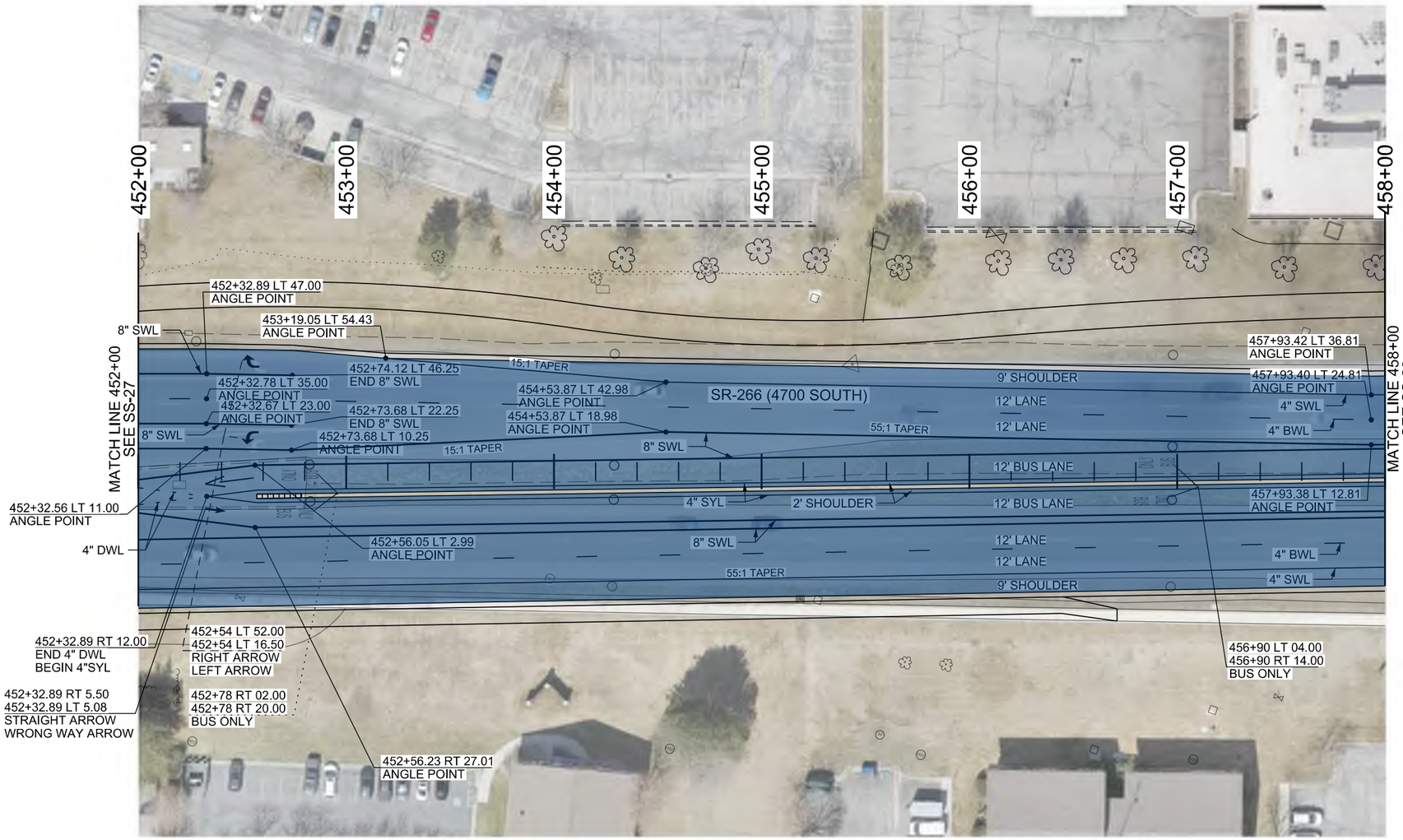
MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT

MSP253
PROJECT NUMBER
PIN 17842

SIGNING & STRIPING

SHEET NO. S 497

c:\pwworking\nel_eng_essential\d0514637\B100_SS-27.dgn
7/17/2023



ATHERTON WEST STATION

SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

XXX
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	QC CHECKED BY	APPROVED
IZR	APM	

07/17/2023 DATE

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT

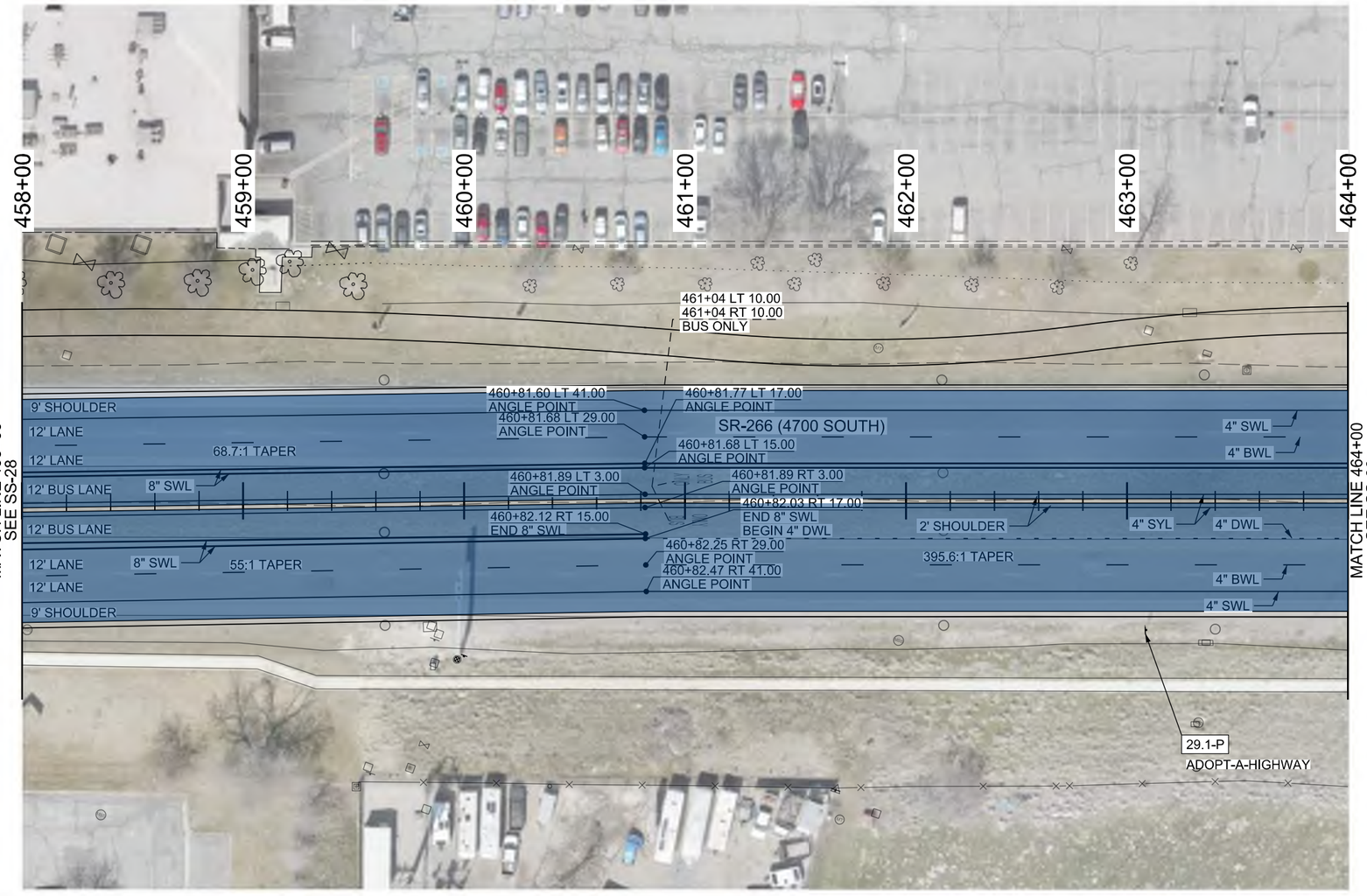
MSP253
PROJECT NUMBER

17842
PIN

SIGNING & STRIPING

SHEET NO. S 498

c:\pwworking\na\jeg.easmtseg\d0514637-8180_SS-28.dgn
7/17/2023



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

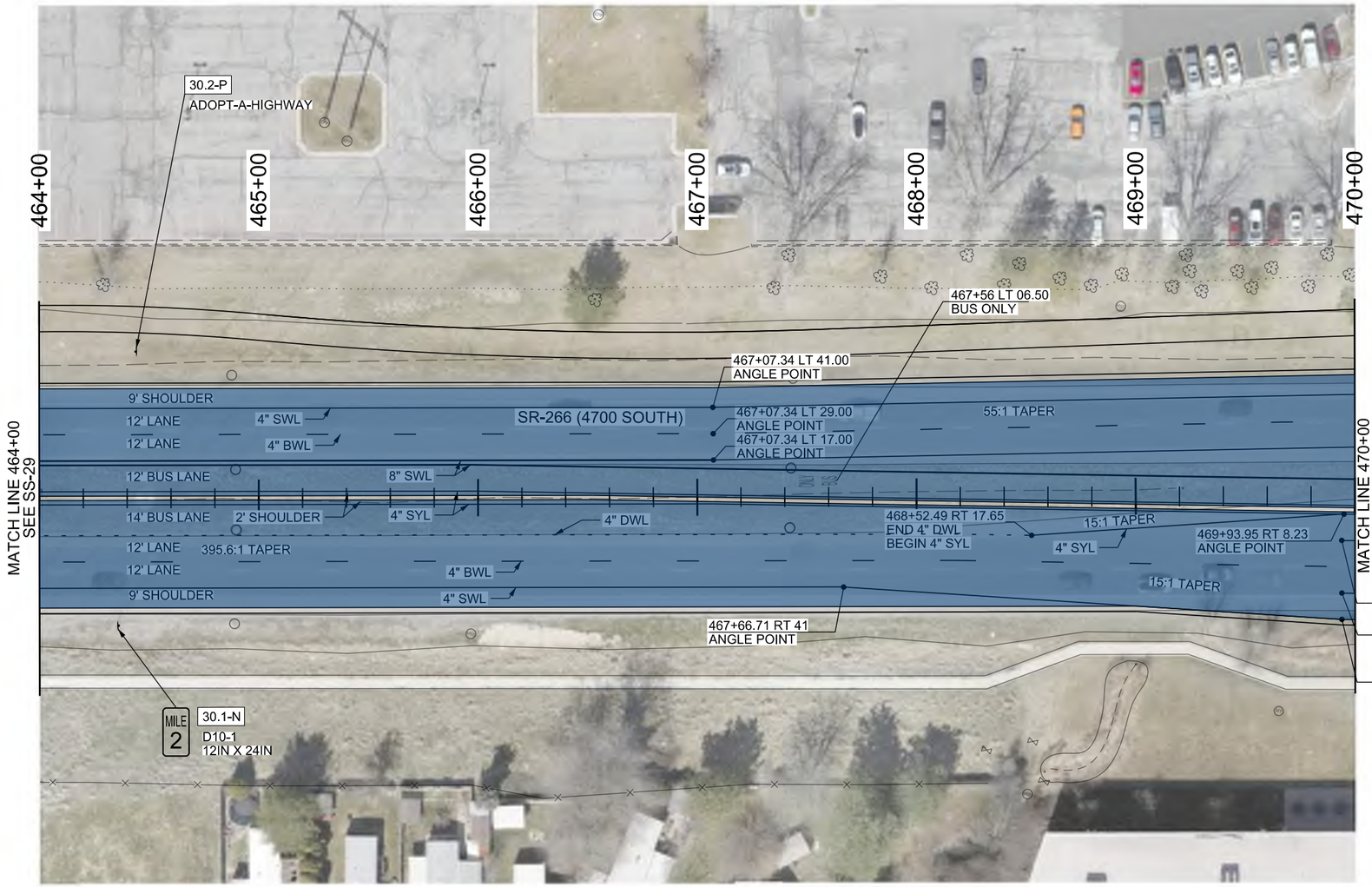
UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
DATE	07/17/2023
APPROVED	

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT
PROJECT NUMBER
MSP253
PIN 17842
SIGNING & STRIPING

SHEET NO. S 499

c:\pwworking\va1\jeg.esantag\d0514637\B180_SS-29.dgn
7/17/2023



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	CHECKED BY	APPROVED
IZR	APM	07/17/2023

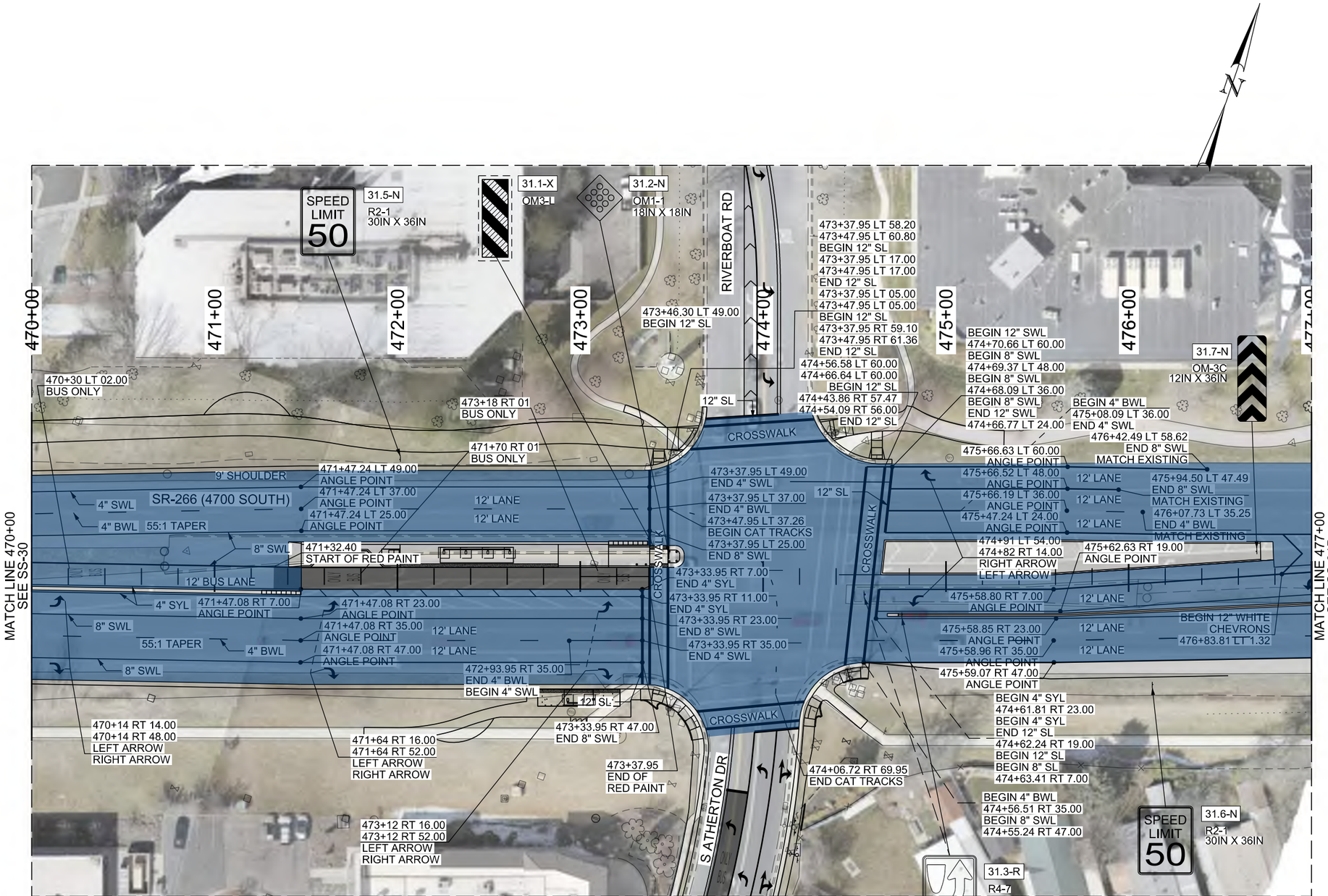
MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT

PROJECT NUMBER: MSP253
PIN: 17842

SIGNING & STRIPING

SHEET NO. S 500

c:\powerking\no_jeg.asentuq\d0514637\8100_SS-30.dgn
7/17/2023



RIVERBOAT ROAD STATION

SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

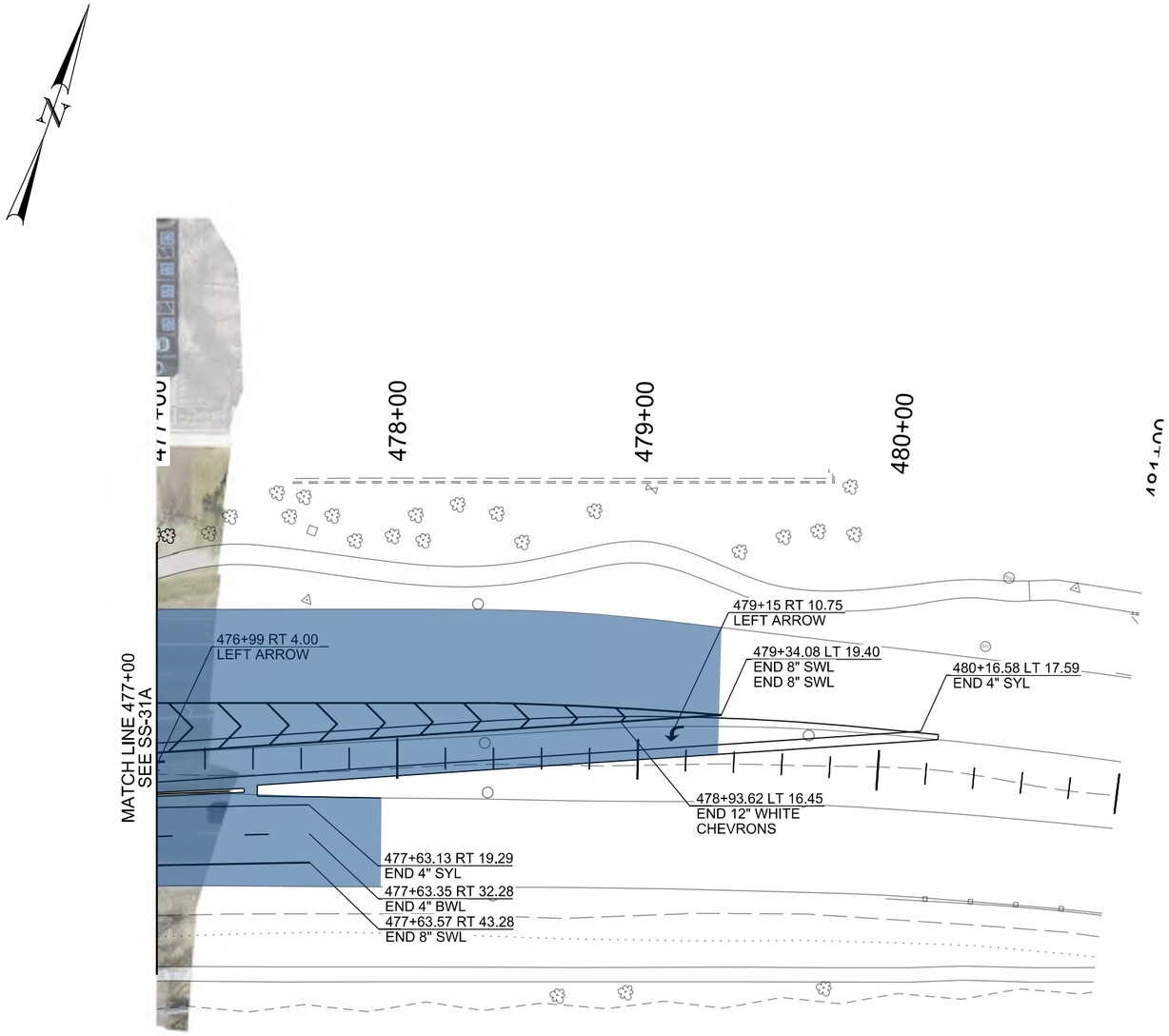
MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR	APM
QC CHECKED BY		
DATE	07/17/2023	
APPROVED		

MIDVALLEY CONNECTOR
BUS RAPID TRANSIT
PROJECT
MSP253
PROJECT NUMBER
17842
PIN
SIGNING & STRIPING
SHEET NO. SS 501

c:\powerking\nai_prg_asantag\d0514637\8180_SS-31.dgn
7/17/2023



SIGN CODE LEGEND:

P - EX. SIGN TO REMAIN
N - NEW SIGN
R - RELOCATE SIGN
X - REMOVE SIGN

X-X-X
- SIGN CODE
- SIGN NUMBER
- SHEET NUMBER

STRIPING KEY:

SWL	-	SOLID WHITE LINE
SYL	-	SOLID YELLOW LINE
DYL	-	DOUBLE YELLOW LINE
BWL	-	BROKEN WHITE LINE
DWL	-	DOTTED WHITE LINE
LDL	-	LANE DROP LINE
S&BYL	-	SOLID AND BROKEN YELLOW LINE
SL	-	STOP LINE

MIDVALLEY CONNECTOR
UTA

UTAH TRANSIT AUTHORITY
JACOBS ENGINEERING

DRAWN BY	IZR
QC CHECKED BY	APM
APPROVED	
DATE	07/17/2023

PROJECT	MIDVALLEY CONNECTOR BUS RAPID TRANSIT
PROJECT NUMBER	MSP253 PIN 17842
	SIGNING & STRIPING

SHEET NO. SS 502

c:\pwworking\jacobs\jeg.esantiag\d05l4637\8100.SS-318.dgn
7/17/2023

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	David Hancock, Chief Capital Services Officer
PRESENTER(S):	Jared Scarbrough, Director of Capital Design & Construction

TITLE:

Change Order: Construction Services Agreement for Jordan River Bldg #2 Remodel Change Order 14 - Secure Walls and Bracing (Paulsen Construction, LLC)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute Change Order Number 14 and associated disbursements with Paulsen Construction, LLC in the amount of $905,674.98.

BACKGROUND:
On May 22, 2024, the UTA Board of Trustees approved contract 24-03813 with Paulsen Construction, LLC to remodel Jordan River #2, which is an existing building owned by UTA and has been mostly vacant and used as overflow warehouse space.

DISCUSSION:
Execution of this change order will allow Paulsen Construction, LLC to provide strapping and bracing of the current structure to provide more stability to the existing structure. UTA staff is requesting approval to execute Change Order No. 14 in the amount of $905,674.98 on the Paulsen Construction, LLC contract for the Jordan River #2 project.

CONTRACT SUMMARY:

Contractor Name:	Paulsen Construction, LLC
Contract Number:	24-03813

Base Contract Effective Dates:	May 31, 2024 - March 31, 2026
Extended Contract Dates:	N/A
Existing Contract Value:	$8,063,587.96
Amendment Amount:	$905,674.98
New/Total Contract Value:	$8,969,262.94
Procurement Method:	RFP - Best Value
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

The alternative would be to do nothing. It is not a code requirement to perform these upgrades. The building can still function as intended. This improvement would help the building to perform better in a seismic event.

FISCAL IMPACT:

The approved 2025 Capital Budget includes a budgeted amount of $7,380,000 from the SGR390 Jordan River #2 Remodel - capital project, which are lease funds.

2025 Change Order Total: $905,674.98

ATTACHMENTS:

- Change Order 14 - Secure Walls and Bracing (Paulsen Construction, LLC)

CCO #PAU-CO-014

Project: SGR390 - Jordan River #2
JRRSC
Salt Lake City, Utah 84119

Subcontract Change Order #PAU-CO-014: CE #PAU-CE-050 - Secure Walls And Bracing

CONTRACT COMPANY:	**PAULSEN CONSTRUCTION, INC.** 3075 S Specialty Cir South Salt Lake City, Utah 84115	**CONTRACT FOR:**	243813-OG:Commitment to PAULSEN CONSTRUCTION, INC.
DATE CREATED:	4/10/2025	**CREATED BY:**	Leslie Saddler **(Utah Transit Authority)**
CONTRACT STATUS:	Pending - Proceeding	**REVISION:**	0
REQUEST RECEIVED FROM:		**LOCATION:**	
DESIGNATED REVIEWER:		**REVIEWED BY:**	
DUE DATE:		**REVIEW DATE:**	
INVOICED DATE:		**PAID DATE:**	
REFERENCE:		**CHANGE REASON:**	Configuration Change (Update to the deliverable like painting, updated materials, etc.)
PAID IN FULL:	No	**EXECUTED:**	No
ACCOUNTING METHOD:	Amount Based	**SCHEDULE IMPACT:**	
FIELD CHANGE:	No	**SIGNED CHANGE ORDER RECEIVED DATE:**	
		TOTAL AMOUNT:	$905,674.98

DESCRIPTION:
CE #PAU-CE-050 - Secure Walls And Bracing
This change order is for additional structural seismic improvement in the building. This would be applied on the east and west areas of the building where the offices are and includes installing strapping and bracing on the first floor and the underside of the roof. The contractor is continuing to install drywall and may not have access to all areas by the time the change order is approved. They will only bill us for the amount they are actually able to install. This change order will require board approval. Requested NTE change order amount is $905,674.98. There is no schedule impact associated with this change request.

ATTACHMENTS:
2410-PCO#050r0 PR-015 Secure walls and bracing.pdf, JR2 Secure Walls and Bracing-V3_2025-03-31.pdf

IT IS MUTUALLY AGREED UPON, THERE IS A SCHEDULE IMPACT DUE TO THIS CHANGE ORDER:	No	**DATE OF DESIRED EXTENSION:**	
THIS ITEM IS UNDER UTA'S SIMPLIFIED ACQUISITION THRESHOLD ($200,000) AND REQUIRES NO ICE. THE COST WAS DETERM:	No	**THIS ITEM IS GREATER THAN UTA'S SIMPLIFIED ACQUISITION THRESHOLD ($200,000) AND THUS REQUIRES AN INDEPENDENT :**	Yes
INDEPENDENT COST ESTIMATE (ICE) LINK, IF APPLICABLE:		**DIRECTION OR AUTHORIZATION TO PROCEED (DAP) PREVIOUSLY EXECUTED::**	

CCO #PAU-CO-014

CHANGE ORDER APPROVAL

CHANGE ORDER LEGAL STATEMENT:	The amount of any adjustment to time for Substantial Completion and/or Guaranteed Completion or Contract Price includes all known and stated impacts or amounts, direct, indirect and consequential, (as of the date of this Change Order) which may be incurred as a result of the event or matter giving rise to this Change Order. Should conditions arise subsequent to this Change Order that impact the Work under the Contract, including this Change Order, and justify a Change Order under the Contract, or should subsequent Change Orders impact the Work under this Change Order, UTA or the Contractor may initiate a Change Order per the General Provisions, to address such impacts as may arise.
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):	By: _____ Name: Mike Bell Date: 4/11/2025 DocuSigned by: Mike Bell 70E33A415BA44F6...
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):	By: _____ Name: David Osborn Date: 4/11/2025 DocuSigned by: David Osborn AD6AFC15F32A4DE...
DIRECTOR CO APPROVAL:	I have evaluated the content of this change order and the scope of work described in the contract. I have determined that this change order pricing is fair and reasonable based on a review of contractor quotes and the original contract rates.
SIGNATURE (DIRECTOR):	By: _____ Name: _____ Date: _____
SIGNATURE (PROCUREMENT):	By: _____ Name: Daniel Merritt Date: 4/11/2025 Signed by: Daniel Merritt 7BB337FB60E04D0...
SIGNATURE (CHIEF SERVICE DEVELOPMENT OFFICER):	By: _____ David Hancock, Chief Service Development Officer Date: _____
SIGNATURE (EXECUTIVE DIRECTOR):	By: _____ Jay Fox, Executive Director Date: _____

CHANGE ORDER LINE ITEMS:

#	Budget Code	Description	Amount
1	40-7390.63000.3004 Storage / MoW Bldg	PAU-CE-050 Secure Walls And Bracing	$905,674.98
		Grand Total:	**$905,674.98**

CCO #PAU-CO-014

The original (Contract Sum)	$ 7,266,150.78
Net change by previously authorized Change Orders	$ 737,984.80
The contract sum prior to this Change Order was	$ 8,004,135.58
The contract sum would be changed by this Change Order in the amount of	$ 905,674.98
The new contract sum including this Change Order will be	$ 8,909,810.56

The contract time will not be changed by this Change Order.

PAULSEN CONSTRUCTION, INC.
3075 S Specialty Cir
South Salt Lake City, Utah 84115

N/A	DocuSigned by: John Paulsen A3ED71B967AB428... 4/11/2025
SIGNATURE DATE	**SIGNATURE** DATE
	John Paulsen

Printed on Thu Apr 10, 2025 at 03:11 pm MDT

Job #: SGR390 Jordan River #2
JRRSC
Salt Lake City Utah. 84119

Change Orders: Commitments (19)

Contract	#	Revision	Title	Date Initiated	Contract Company	Designated Reviewer	Due Date	Review Date	Status	Signatures Required	Amount
Contract #243813-OG	PAU-CO-014	0	CE #PAU-CE-050 - Secure Walls And Bracing	04/10/25	PAULSEN CONSTRUCTION, INC.	Unassigned			Pending - Proceeding		$905,674.98
Contract #243813-OG	PAU-CO-013	0	CE #PAU-CE-048 - Flip Room | CE #PAU-CE-058 - Interior Stair Finishes | CE #PAU-CE-059 - Over Excavation West Parking Lot | CE #PAU-CE-057 - Ceiling Insulation Repairs	04/10/25	PAULSEN CONSTRUCTION, INC.	Unassigned			Pending - Proceeding		$59,452.38
Contract #243813-OG	PAU-CO-012	0	CE #PAU-CE-049 - Grading Changes | CE #PAU-CE-051 - EV Charger Changes | CE #PAU-CE-052 - Add Chase Door | CE #PAU-CE-053 - Gate 1 Change | CE #PAU-CE-054 - Fencing Credit | CE #PAU-CE-055 - Joist Repair	03/24/25	PAULSEN CONSTRUCTION, INC.	Unassigned		03/25/25	Approved		$45,532.56
Contract #243813-OG	PAU-CO-011	0	CE #PAU-CE-042 - Increase Dumpster Pad | CE #PAU-CE-043 - Change Water Main | CE #PAU-CE-044 - Level 2 Skylights | CE #PAU-CE-045 - Pit Infill Slab | CE #PAU-CE-046 - Block, Brick, and Window Infills | CE #PAU-CE-047 - Replace East Side Storefront	03/06/25	PAULSEN CONSTRUCTION, INC.	Unassigned		03/24/25	Approved		$81,131.95
Contract #243813-OG	PAU-CO-010	0	CE #PAU-CE-041 - Additional Data and Power Connections for Conference Rooms and Hall	02/25/25	PAULSEN CONSTRUCTION, INC.	Unassigned		03/03/25	Approved		$14,512.59
Contract #243813-OG	PAU-CO-009	0	CE #PAU-CE-035 - Fire Line Asbestos Testing | CE #PAU-CE-037 - Replace Fire Line (RFI 063) | CE #PAU-CE-038 - New Overhead Door at Crane (RFI 048) | CE #PAU-CE-039 - Shear Walls and CMU Demolition | CE #PAU-CE-040 - Oil Separator	02/11/25	PAULSEN CONSTRUCTION, INC.	Unassigned		02/25/25	Approved		$190,994.36
Contract #243813-OG	PAU-CO-008	0	CE #PAU-CE-021 - East Side Floor Repairs, Leveling & Stabilization-DAP 02 | CE #PAU-CE-025 - Concrete Floor Replacement and Leveling East Side Floor – DAP 3 | CE #PAU-CE-036 - Additional Wall and Door Framing OH140 and Door 145A	01/24/25	PAULSEN CONSTRUCTION, INC.	Unassigned		02/03/25	Approved		$87,450.43
Contract #243813-OG	PAU-CO-007	0	CE #PAU-CE-031 - Remove and Replace Curb Box in 900 West | CE #PAU-CE-028 - Roof Drains | CE #PAU-CE-029 - Storm Drain Credit for 2300 South | CE #PAU-CE-032 - Repair Damaged Joists | CE #PAU-CE-033 - Joist Hangers | CE #PAU-CE-034 - Patch Fire Line	01/15/25	PAULSEN CONSTRUCTION, INC.	Unassigned		01/24/25	Approved		$117,920.64
Contract #243813-OG	PAU-CO-006	0	CE #PAU-CE-026 - Demo Existing Plywood on Second Floor | CE #PAU-CE-027 - Add Fabric and Geogrid Under West Parking Lot	12/16/24	PAULSEN CONSTRUCTION, INC.	Unassigned		12/30/24	Approved		$33,592.57
Contract #243813-OG	PAU-CO-005	0	CE #PAU-CE-023 - Frame in Windows 101 & 104 (RFI #38) | CE #PAU-CE-024 - Add Plywood East Mezzanine Floor	11/14/24	PAULSEN CONSTRUCTION, INC.	Unassigned		11/22/24	Approved		$38,031.56
Contract #243813-OG	PAU-CO-004	0	CE #PAU-CE-018 - Add Integral Batteries R1 & R2 Fixtures (RFI#002) | CE #PAU-CE-020 - Repair Damaged Structural Support | CE #PAU-CE-022 - Additional Door	11/03/24	PAULSEN CONSTRUCTION, INC.	Unassigned		11/14/24	Approved		$10,699.76
Contract #243813-OG	PAU-CO-003	0	CE #PAU-CE-012 - Add Second Floor Room | CE #PAU-CE-014 - Add Wall and Footing at ADA Ramp | CE #PAU-CE-015 - Asbestos Abatement | CE #PAU-CE-016 - Network Lighting Connection | CE #PAU-CE-017 - Additional Window Shade	10/15/24	PAULSEN CONSTRUCTION, INC.	Unassigned		11/03/24	Approved		$38,958.38
Contract #243813-OG	PAU-CO-002	0	CE #006 - SWPPP Inspection Frequency Change | CE #007 - Move Mop Sink and Shower | CE #008 - East ADA Stairway | CE #009 - Elevator Sump Pump | CE #010 - Change PVC Storm Drain to RCP | CE #011 - Level 1 Floor Plan Revisions	09/27/24	PAULSEN CONSTRUCTION, INC.	Osborn, David (Utah Transit Authority)		10/02/24	Approved		$50,402.00
Contract #2135113-OG	FFKR-CO-006	0	CE #FKR-CE-009 - Additional Geotech Services for Fill Recommendations	02/12/25	FFKR ARCHITECTS	Unassigned			Pending - Proceeding		$1,000.00

Total:$1,768,175.66

Printed on Thu Apr 10, 2025 at 03:11 pm MDT

Job #: SGR390 Jordan River #2
JRRSC
Salt Lake City Utah. 84119

Contract	#	Revision	Title	Date Initiated	Contract Company	Designated Reviewer	Due Date	Review Date	Status	Signatures Required	Amount
Contract #2135113-OG	FFKR-CO-005	0	CE #FKR-CE-008 - Additional Contractor Requested Geotech Site Visit	12/16/24	FFKR ARCHITECTS	Unassigned		02/12/25	Approved		$597.50
Contract #2135113-OG	004	0	CE #FKR-CE-006 - Additional Design Work for Roof Drain & Gate Modifications | CE #FKR-CE-007 - Additional Structural Analysis and Design	11/05/24	FFKR ARCHITECTS	Unassigned		11/14/24	Approved		$33,706.00
Contract #2135113-OG	003	0	CE #FKR-CE-005 - Design RWP Office (Level 2 Office Addition)	09/03/24	FFKR ARCHITECTS	Unassigned		09/19/24	Approved		$7,050.00
Contract #2135113-OG	002	0	CE #FKR-CE-001 - Additional Geotechnical and Plat Application Services | CE #FKR-CE-002 - Seismic Study Jordan River 2 | CE #FKR-CE-003 - Design Sump Pump to the Elevator Pit | CE #FKR-CE-004 - East Floor Plan Re-design	08/19/24	FFKR ARCHITECTS	Unassigned		08/20/24	Approved		$22,710.00
Contract #243813-OG	001	0	CE #PAU-CE-001 - Broken Joist Repair-RFI #15 | CE #PAU-CE-002 - Underground Plumbing Spoils-RFI #18 | CE #PAU-CE-003 - Rebar Addition to SOG Repairs -RFI #21 | CE #PAU-CE-004 - Footing Changes -RFI #009 | CE #PAU-CE-005 - Panel Board Breaker Revision	09/03/24	PAULSEN CONSTRUCTION, INC.	Unassigned		09/19/24	Approved		$28,758.00

Total:$1,768,175.66

PROPOSED CHANGE ORDER

JOB: UTA Jordan River Rail Service Center #2 Reno
FROM: PAULSEN CONSTRUCTION
PAULSEN PCO: 050r0
DATE: 3/14/2025

To: David Osborn
To:
CC:

Attn:
Attn:

Project Contract No. RFP #24-03813VW
Paulsen Job No. 2410
Permit # CTI23-490

DESCRIPTION & SUBCONTRACTOR		Unit	SUBCONTRACT OR G.C. COST	SUBTOTAL	Profit 10.00%	Overhead 5.00%	TOTALS
2410-PCO#050r0 PR-015 Secure walls and bracing							
Secure walls, floors, straping and bracing per included, Marked-up plans and details.	Burton Lumber	1	$ 777,565.00	$ 777,565.00	$ 77,756.50	$ 38,878.25	$ 894,199.75
Paulsen PM	Paulsen PM	8	$ 80.00	$ 640.00	$ 64.00	$ 32.00	$ 736.00

Note: This PCO does not include the Double Wythe Wall Ties. That SOW will be under a forthcoming PCO.
If any of this SOW is found to be unable to do because of inability of access, it will be credited back to UTA.

SUBTOTAL	$ 894,935.75
1.2% BOND and GL Ins.	$ 10,739.23
TOTAL	$ 905,674.98

ACCEPTED

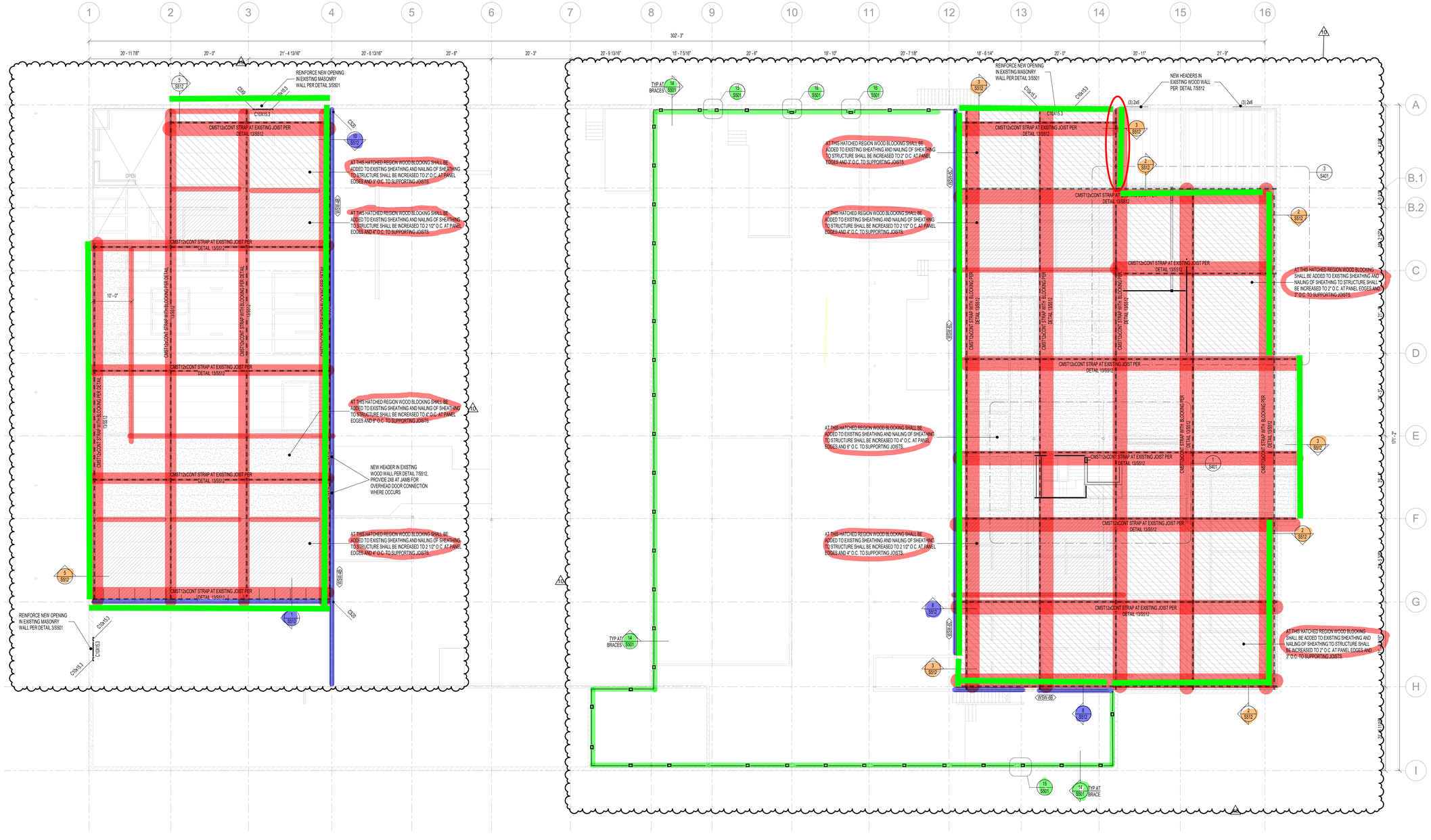
Please email this signed Change Order Request to Paulsen Construction for authorization to proceed with work.
Any alteration or deviation from this Change Order Request, involving extra cost, will be executed only upon written orders and will become an additional charge.
PAYMENT DUE UPON INVOICE.

DATE SIGNED: _____ *SIGNED BY:* _____

DATE SIGNED: _____ *SIGNED BY:* _____

FLOOR AND ROOF FRAMING PLAN NOTES

1. CONTRACTOR TO SHORE EXISTING FLOOR AND ROOF STRUCTURE AS REQUIRED TO INSTALL NEW STRUCTURAL ELEMENTS.
2. ALL EXISTING FRAMING SHOWN IS APPROXIMATE. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS. SEE "EXISTING CONDITIONS" NOTES ON S001.
3. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF ALL ROOFTOP EQUIPMENT. SEE 15/S511 FOR FRAMING TO SUPPORT MECHANICAL UNITS.
4. SEE DETAIL 16/S511 WHERE MECHANICAL OPENINGS INTERFERE WITH SINGLE EXISTING ROOF JOIST. WHERE OPENING CONFLICT WITH MULTIPLE JOISTS, CONTACT THE EOR.



3 LEVEL 2 FRAMING PLAN

3/32" = 1'-0" 0" 8'-0" 16'-0" 32'-0"

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

UTA

UTA JRRSC #2 - RENOVATION
2340 S 900 W, SOUTH SALT LAKE, UT 84111
UTAH TRANSIT AUTHROITY
BID SET - 06/23/2023

01.23.25

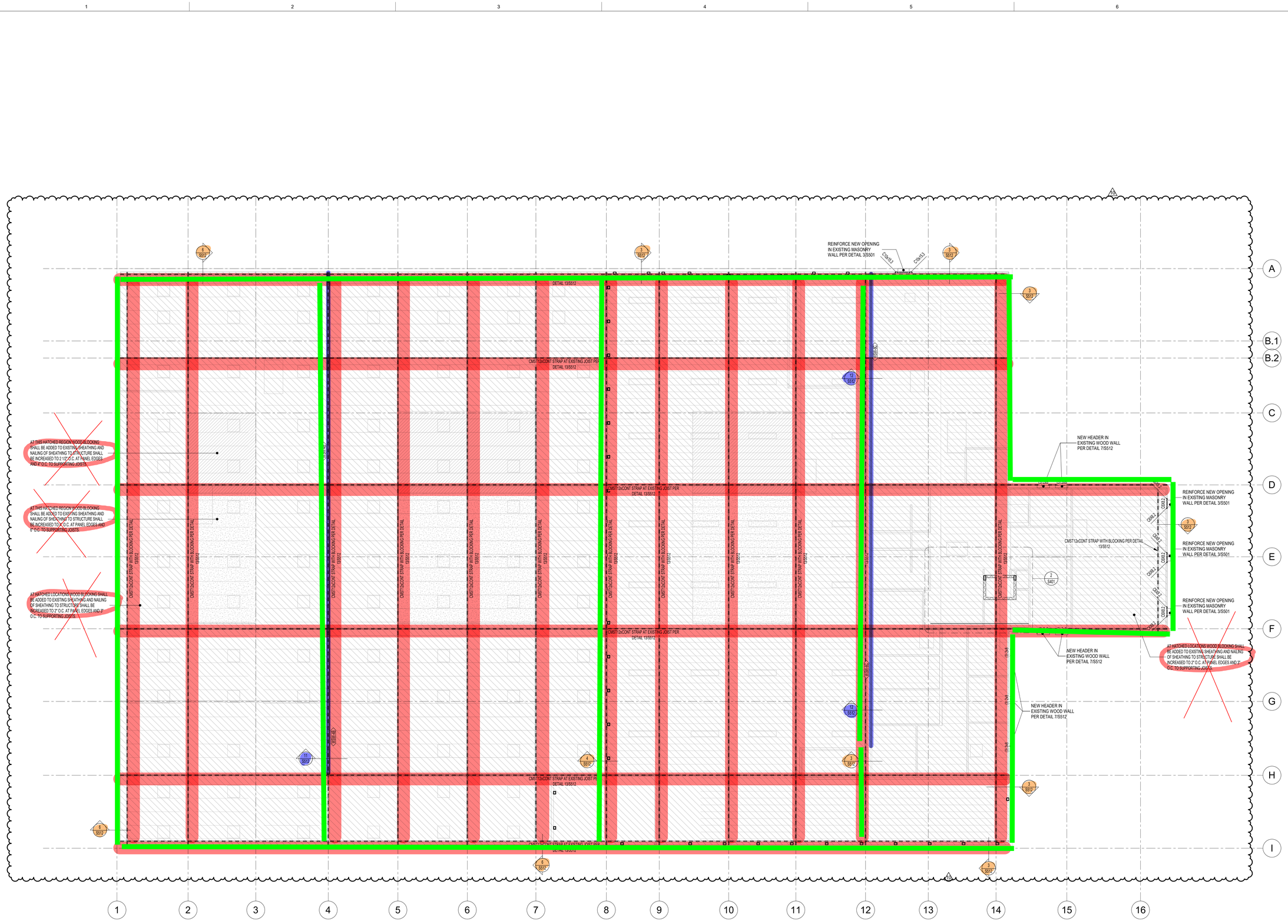
△	DATE	REVISION
5	09/16/24	PR-006
7	10/23/24	ASI-005
10	01/23/25	PR15

PROJECT NUMBER 230033

LEVEL 2 FRAMING PLAN

S102

1/23/2025 4:53:01 PM



1 ROOF FRAMING PLAN
3/32" = 1'-0"

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · **FFKR.COM**

UTA

UTA JRRSC #2 - RENOVATION
2340 S 900 W, SOUTH SALT LAKE, UT 84111
UTAH TRANSIT AUTHROITY
BID SET - 06/23/2023

BRETT KARL GOODMAN
No. 7991094-2203
STATE OF UTAH

01.23.25

△	DATE	REVISION
10	01/23/25	PR15

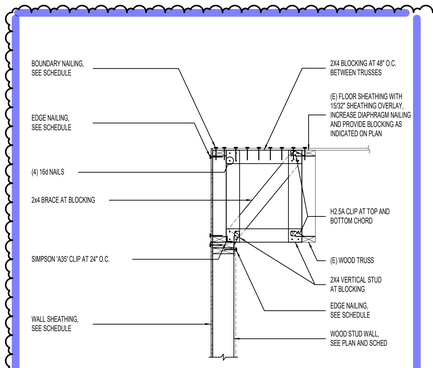
PROJECT NUMBER 230033

ROOF FRAMING PLAN

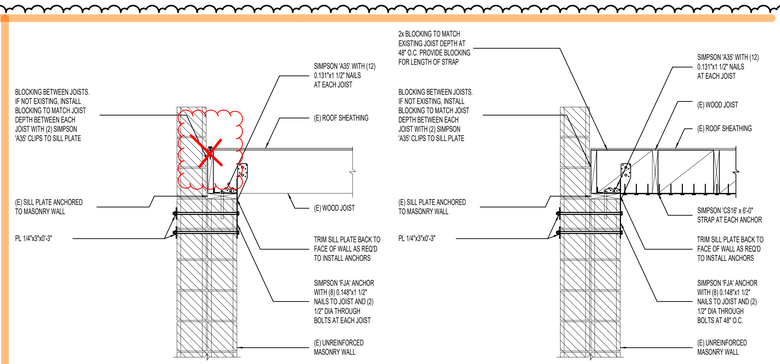
S103

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

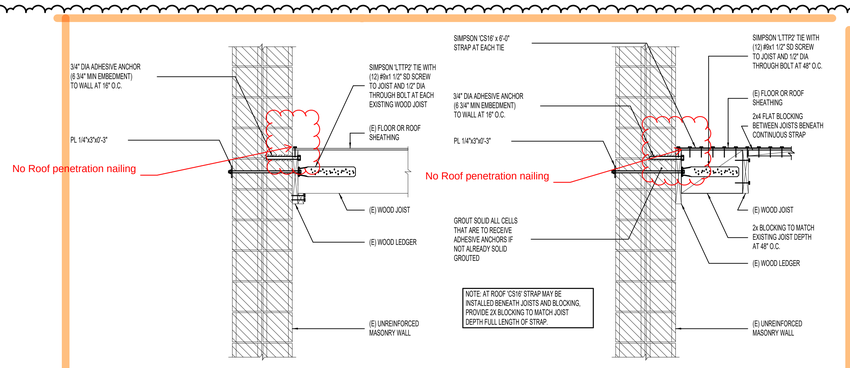
1/23/2025 4:53:04 PM



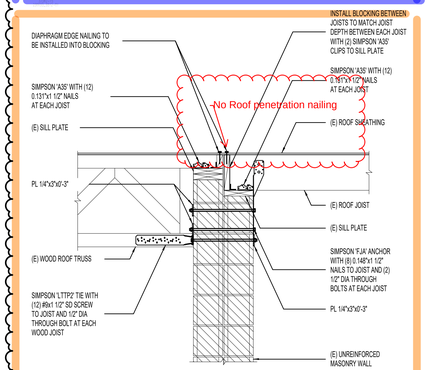
1 WOOD STUD WALL AT EXISTING FLOOR TRUSS — NO SCALE



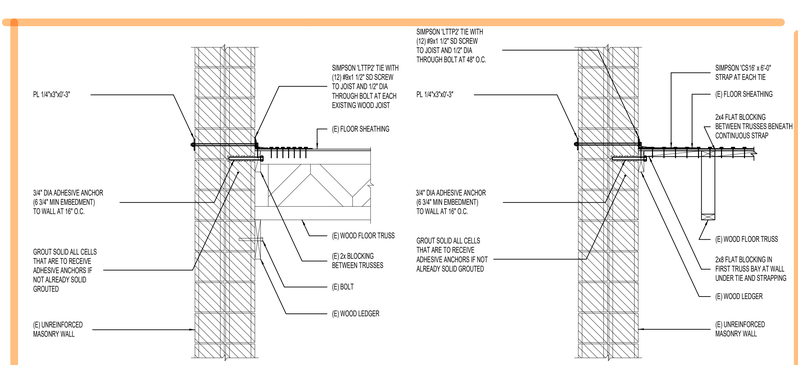
2 WALL BRACING AT WOOD ROOF JOIST — NO SCALE



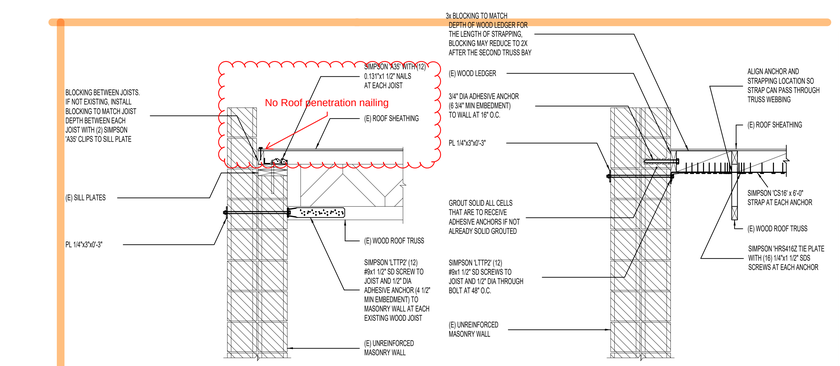
3 WALL BRACING AT WOOD ROOF/FLOOR JOISTS WITH LEDGER — NO SCALE



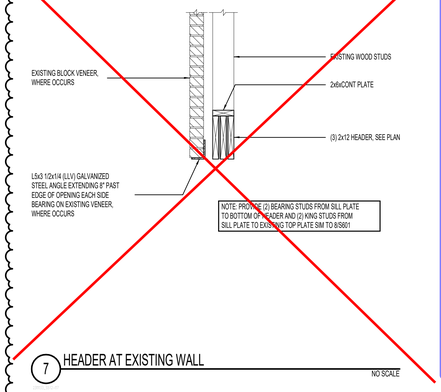
4 WALL BRACING AT INTERIOR MASONRY WALL — NO SCALE



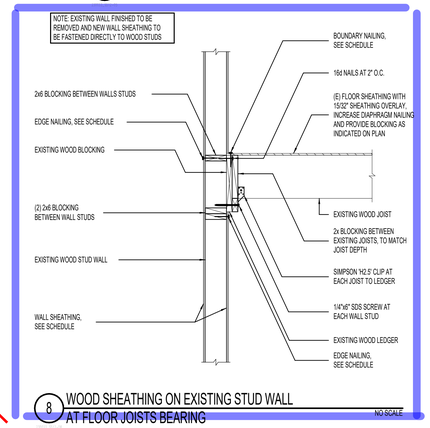
5 WALL BRACING AT WOOD FLOOR TRUSSES — NO SCALE



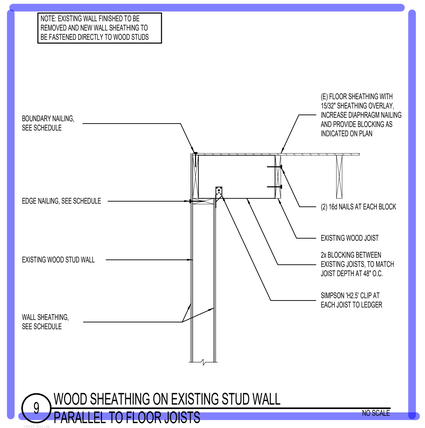
6 WALL BRACING AT WOOD ROOF TRUSSES — NO SCALE



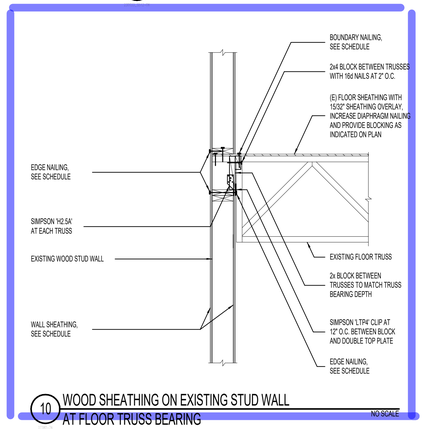
7 HEADER AT EXISTING WALL — NO SCALE



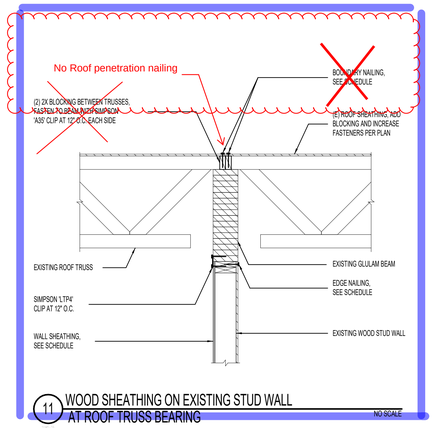
8 WOOD SHEATHING ON EXISTING STUD WALL AT FLOOR JOISTS BEARING — NO SCALE



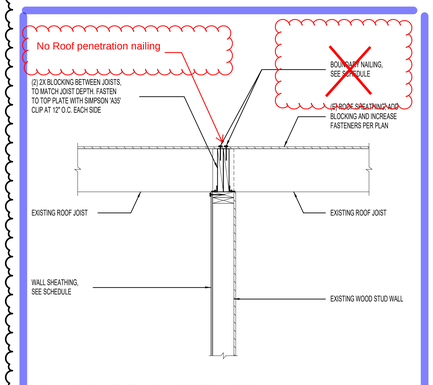
9 WOOD SHEATHING ON EXISTING STUD WALL PARALLEL TO FLOOR JOISTS — NO SCALE



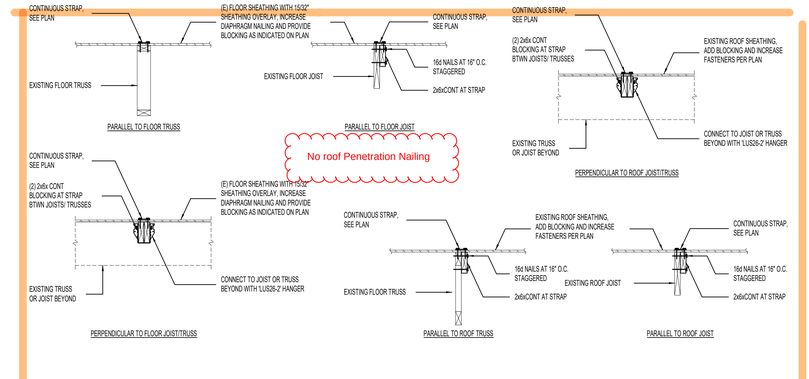
10 WOOD SHEATHING ON EXISTING STUD WALL AT FLOOR TRUSS BEARING — NO SCALE



11 WOOD SHEATHING ON EXISTING STUD WALL AT ROOF TRUSS BEARING — NO SCALE



12 WOOD SHEATHING ON EXISTING STUD WALL AT ROOF JOIST BEARING — NO SCALE



13 TYPICAL DIAPHRAGM STRAP DETAIL — NO SCALE

1/23/2025 4:53:04 PM

FFKR ARCHITECTS
730 Pacific Avenue · Salt Lake City, Utah 84104
O 801.521.6186 · FFKR.COM

UTA

UTA JRRSC #2 - RENOVATION
2340 S 900 W, SOUTH SALT LAKE, UT 84111
UTAH TRANSIT AUTHROITY
BID SET - 06/23/2023

BRETT KARL GOODMAN
LICENSED PROFESSIONAL STRUCTURAL ENGINEER
No. 7991094-2203
STATE OF UTAH

01.23.25

△	DATE	REVISION
10	01/23/25	PR15

PROJECT NUMBER 230033

DETAILS

S512

BHB STRUCTURAL
2766 South Main Street
Salt Lake City, Utah 84115
801-355-5656
bhb@bhbengineers.com

Level 2 Framing Plan West Section Drawing S102

Floor Nailing and blocking per colored plan and hatches(has no overlay)
Continuous Strapping (CMST 12) and blocking (All Directions) per detail 13/S512

Floor Tie-in's	Grid Lines	Detail	Note
	1	5/S512	Per Plan M-U
	A / 2 thru 4	5/S512	Per Plan M-U
	G / 1 thru 4	5/S512	Per Plan M-U
	4 / A thru G	5/S512	Per Plan M-U

Level 2 Framing Plan East Section Drawing S102

Floor Nailing and blocking per colored plan and hatches(with floor overlay)
Continuous Strapping (CMST) and blocking (All Directions) per detail 13/S512

Floor Tie-in's	Grid Lines	Detail	Note
	A / 12 thru 14.25	3/S512	North Wall
	B.1 / 14.25 thru 16	2/S512	North Wall
	12 / A thru H	8/S512 and 3/S512	West Wall
	14 and 16 / A thru H	2/S512 and 3/S512	East Wall
	H / 12 thru 16	2/S512 and 8/S512	South Wall

Roof Framing Plan Drawing S103

NO ROOF NAILING PER COLORED PLAN AND HATCHES as we are not pulling the roof
This is the circled areas that point to the hatched locations
Continuous Strapping (CMST) and blocking (All Directions) per detail 13/S512

Floor Tie-in's	Grid Lines	Detail	Note
	A / 12 thru 14	3/S512 and 6/512	North Wall
	A thru I / 14 thru 16	3/S512	Entire East end of Area
	I / 1 thru 14	3/S512 and 6/S512	Entire South Wall
	1 / A thru I	6/S512	Entire West Wall
	4 / A thru I	11/S512	NOTE: A35 is not included as they can't be fastened to the glulam beam. Only LTP4 will be installed
	8 / A thru I	4/S512	NOTE: Diaphragm Edge Nailing is not included as this is a roof penetration. LTTP2, A35, FJA, Through Bolts and plates are included.
	12 / A thru I	3/S512 and 12/S512	NOTE: No roof penetrations per detail 12/S512. Only A35's.

The Contractor's Choice

BURTON LUMBER Since 1911

1911 100 YEARS 2011

Customer Change Order Request

No. 5

Job #: _____

Date: 3/11/2025

Bldg or Location P. R. # 015 Name: UTA Jordan River Rail Service Center

Job Address: 2340 South 900 West South Salt Lake, Utah

Customer: Paulsen Construction Phone: 801- 484-5545

Customer P.O.C. Sam Shaw / Thomas Skuppin Email: sam@paulsenconstruction.com

Customers Address: 3075 South 230 West, Salt Lake City, Utah 84115

Reason for change order and scope of work:

Request For Pricing - #015 - Phase 4 Securing Walls and Bracing

Materials required and schedule impact:

2x4, 2x6, 2x12
Various kinds of Simpson type hardware
Machine bolts, threaded rod, nuts and washers, epoxy, SDS screws

Description of Services	Quantity	Unit Cost	Extended Cost
Phase 4 - Securing Walls and Bracing			
Materials			$144,090.00
Labor			
Floor			$235,045.00
Roof			$380,880.00
Nails and Equipment			$17,550.00
		Current change request	$777,565.00

Authorization to Proceed Signature: _____

Printed Name & Title: _____

* The above signed document guarantees payment of the above mentioned amount in addition to the original contract amount.

Burton Lumber Turnkey Division
1170 South 4400 West Salt Lake City Utah 84104 (801)-952-3700 Fax (801)-952-3901

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	David Hancock, Chief Capital Service Officer
PRESENTER(S):	Jared Scarbrough- Director of Capital Construction and Design

TITLE:

Change Order: On-Call Infrastructure Maintenance Contract Task Order #25-002 - 450 East Interlocking Construction (Stacy and Witbeck, Inc.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute Task Order no. 25-002, and associated disbursements, on the on-call infrastructure maintenance task ordering contact with Stacy and Witbeck, Inc. in the amount of $4,073,652.

BACKGROUND:
In December 2023, UTA released a Request for Proposal (RFP) for an on-call maintenance contractor focused specifically on infrastructure assets. Bids were received and evaluated, and Stacy and Witbeck, Inc. was selected. The UTA Board of Trustees approved contract 23-03811 with Stacy and Witbeck Inc. on April 18, 2024. The contract is for three (3) years, plus two (2) one-year options, with a total 5-year not-to-exceed value of $45,000,000.

UTA's rail infrastructure is at an age where yearly rehabilitations and replacements need to occur to maintain the infrastructure in a state of good repair. These projects typically address three concerns:

- Passenger ride quality
- Operational improvements
- Future Maintenance ease

DISCUSSION:
UTA Staff is requesting approval of Task Order 25-002 with Stacy and Witbeck, Inc. to complete the removal and replacement of the Rice Interlocking on the Red Line in the amount of $4,073,652.00.

The scope of this request includes all time, labor, and other items needed to remove existing embedded crossover and replace it with new direct fixation crossover and 500 East embedded at-grade crossing. By replacing the crossover, UTA extends its useful life, provides new track components and enhances safety and reliability.

This task order is within the scope of the master task ordering agreement. The task order pricing has been determined to be fair and reasonable based on both a UTA-independent cost estimate and the performance of a price analysis.

CONTRACT SUMMARY:

Contractor Name:	Stacy and Witbeck, Inc.
Contract Number:	23-03811-25-002
Base Contract Effective Dates:	April 18, 2024 - December 31, 2027 Task Order Effective Dates: Effective after last Signature - December 31, 2025
Extended Contract Dates:	N/A
Existing Contract Value:	$12,399,791
Amendment Amount:	$4,073,652
New/Total Contract Value:	$16,473,443
Procurement Method:	RFP Best Value
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:
Not replace the worn track components which would result in the inability to use the crossover, negatively affecting UTA's service delivery.

FISCAL IMPACT:
The 2025 approved budget includes $12,000,00.00 for UTA's rail infrastructure rehabilitations and replacements.

These costs will be offset by using federal grant funds. These funds are part of UTA's yearly apportionment. This task order will utilize funds from Capital Project SGR385 - Rail Replacement Program

2025 Contract Total: $4,073,652

Total not-to-exceed contract amount: $45,000,000

ATTACHMENTS:
- Task Order: On-Call Infrastructure Maintenance Contract Task Order #25-002 - 450 East Interlocking

Construction (Stacy and Witbeck, Inc.)

Project: SGR385 Rail Replacement Project
2264 S 900 W,
south Salt Lake, Utah 84119

Task Order Request #TO25-002 - 450 E Interlocking Construction

Status	Open	**Assignees**	Jacob Wouden
Created Date	Mar 11, 2025	**Issued Date**	Mar 18, 2025
		Location	25-002 450 E construction

TASK ORDER IDENTIFICATION

Contract No	23-03811		
Contractor Name ("Contractor")	Stacy and Witbeck, Inc.	**Contract Start Date**	04/19/24
Account Code(s)	20-7385.63000.1010		

THE PURPOSE OF THIS TASK ORDER IS TO SPECIFICALLY DEFINE THE SCOPE, SCHEDULE, LUMP SUM PRICE, AND OTHER TERMS APPLICABLE TO THE WORK IDENTIFIED HEREIN.

UTA AND THE CONTRACTOR HEREBY AGREE AS FOLLOWS:

1.0 SCOPE OF SERVICES

The contractor's scope letter and price estimate is hereby attached and incorporated into this Task Order	25-612 - 450 E Interlocking Construction - Scope Letter and Price Proposal.pdf

2.0 SCHEDULE

The Substantial Completion Date for this Task is	12/31/25	**The Final Acceptance Date for this Task is**	12/31/25

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**	$4,073,652.00
Independent Cost Estimate (ICE) link, if applicable	TO25-002_ICE.xlsx	**This item is under UTA's simplified acquisition threshold ($200,000) and requires no ICE. The cost was determined to be fair and reasonable based on a review of contractor quotes and the**	N/A

		original contract rates	
This item is greater than UTA's simplified acquisition threshold ($200,000) and thus requires an Independent Cost Estimate (ICE). I have reviewed and found the ICE within the appropriate range for approval	Yes		

4.0 APPLICABILITY OF FEDERAL CLAUSES

Does this Task Order include federal assistance funds which requires the application of the Federal Clauses appended as Exhibit D to the Contract?	Yes	**If federal assistance funds are anticipated, the UTA Civil Rights group has set a Disadvantaged Business Enterprises (DBE) participation goal for this Task Order of**	3%

IN WITNESS WHEREOF, THIS TASK ORDER HAS BEEN EXECUTED BY UTA AND CONTRACTOR OR ITS APPOINTED REPRESENTATIVE

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:
By: Mike Bell
70E33A415BA44F6...
Name: Mike Bell
Date: 3/19/2025

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)

DocuSigned by:
By:
D5E0DB8278A44C4...
Name: Jacob Wouden
Date: 3/18/2025

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:
By:
91ABD751A0BD4BE...

Name: Jared Scarbrough

Date: 3/18/2025

Signature (Procurement)

By: _____

Name: _____

Date: _____

Signature (Chief Service Development Officer)

By: _____
David Hancock, Chief Service Development Officer

Date: _____

Signature (Executive Director)

By: _____
Jay Fox, Executive Director

Date: _____

COMPANY:

COMPANY: Stacy and Witbeck, Inc.

Signature (Contractor)

By: DocuSigned by: Collin Christensen
ACA3AB62608B4E2...

Name: Collin Christensen

Date: 3/20/2025

STACYWITBECK

February 21, 2025 On Call Services

Mr. Jake Wouden
Rail Infrastructure Project Manager
Utah Transit Authority
2264 South 900 West
South Salt Lake City, UT 84119

Reference: On-Call Transit Infrastructure Construction, Maintenance and Repair
Project No: 23-03811VW

Subject: 25-612 – 450 E Interlocking Construction

Dear Jake:

We are pleased to provide the attached cost estimate to demolish the existing #6 Double Crossover at 450 E Interlocking and replace it with a #6 Direct Fixation Double Crossover. This proposal also includes removal and replacement of all infill and edge-fill within the project limits. Includes extended track length of DF track on the east and west ends of the double crossover. Includes replacing 450 TF of embedded track through the 500 East crossing. Include excavation for infrastructure related to the new signal house and power needs related to powering and signalizing the double crossover.

Exclusions:

- Railroad Flagging
- Track to Earth Testing
- Sales Tax on Permanent Materials
- OSC power down
- Taking crossings and signals out of service
- Any signal or comm related work items
- Grade Stabilization outside of Trackway
- Utility relocations outside of what is shown on approved drawings.

Clarifications:

- Please see detailed list of each bid item below.
- 115# rail to be provided by UTA.
- SWI has assumed the replacement will take place during one continuous shutdown with no trains running, and a bus bridge in affect to service UTA riders
- The unit costs for each bid item includes the costs of insurance, bond, and risk at the agreed upon rates.
- We are excluding all utility relocations and conflicts from our pricing. Any conflicts or relocations will need to be addressed as a change of condition.
- The scope of work is inclusive of only the items and scope that are listed below. Any other items of work or changes to the below scope will need to be repriced.

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

STACY WITBECK

Bid Item 1000 – Field Engineering and Project Controls – 1 LS – Total of $449,796.00 – This bid item includes Stacy and Witbeck field support from field engineer to manage construction. The field engineer will also perform pre-task planning and coordination with UTA. This item also includes office manager time for payroll and accounts payable.

Bid Item 2000 – Safety Program and Administration – 1 LS – Total of $25,364.00 – Cost of Safety Supplies, safety personnel to visit the site, and incidental drug testing.

Bid Item 3000 – QC Program & Testing – 1 LS – Total $80,869.00 – This bid item includes cost for SWI QC manager and CMT to provide field and lab technicians to test and monitor materials. Also includes their management personnel to oversee testing and documentation. Includes weld testing on thermite welds.

Bid Item 4000– Permits and Fees – 1 LS – Total $1,297.00 – This bid item includes the cost to obtain all necessary city permits required to perform the work.

Bid Item 5000 – Traffic and Pedestrian Control – 1 LS – Total of $35,301.00 – This bid item includes the cost to provide traffic control and pedestrian control required for the project.

Bid Item 6000– Key Personnel Travel & Subsistence – 1 LS – Total $11,495.00 – This bid item includes cost to provide travel arrangements and subsistence for key track personnel for the duration of the work.

Bid Item 7000 – Construction Survey and Layout – 1 LS – Total $40,868.00 – This bid item includes the cost for construction layout survey. Also include design survey that was performed before the project.

Bid Item 8000 – Preconstruct Track in Laydown – 1 LS – Total $152,168.00 – This bid item includes the cost to pre-build special trackwork components at Beck yard before the shutdown begins. Includes load, haul, and unloading of track work onsite.

Bid Item 9000 – Mobilization – 1 LS – Total $27,857.00 – This bid item includes the cost for mobilizing heavy equipment to and from the project site prior to the shutdown, and final project cleanup. includes street sweeping, field sanitary expenses, temporary site lighting, field office supplies, and jobsite dumpster.

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

STACYWITBECK

Bid Item 10000 – Demolition – 1 LS – Total of $500,668.00 – This bid item includes the cost to demolish the existing #6 double crossover and the concrete tub it sits in. Includes demo of all infill and edge-fill shown in the drawings. Includes demo of embedded track and infill through the 500 East crossing.

Bid Item 15000 – Drainage – 1 LS – Total of $75,075.00 – This bid item includes the cost to install all drainage as shown on the drawings including all pipe work and all galvanized drainage features with in the track way.

Bid Item 20000 – Grade Prep – 1 LS – Total of $26,845.00 – This bid item includes the cost of all finish grade prep and compaction for all surfaces where concrete will be placed.

Bid Item 30000 – Construct Embedded Track – 450 TF – Total of $44,100.00 – This bid item includes the cost to distribute rail, OTM, and construct all embedded track on the project. Includes the cost for final line and elevation of track.

Bid Item 35000 – Construct DF Track – 898 TF – Total of $420,264.00 – This bid item includes the cost to distribute all pre-built track components in the guideway, to assemble all track components together, re-set all DF plates, and to establish final line of the track.

Bid Item 40000 – Thermite Welding – 54 EA – Total of $73,872.00 – This bid item Includes the cost of purchasing and performing all thermite welds required for the project.

Bid Item 50000 – Form, Pour, Strip, Embedded Track – 215 CY – Total of $338,840.00 – This bid item includes the cost of all concrete form work purchasing and placing concrete in the embedded track areas, and to strip and cure all concrete.

Bid Item 55000 – F/P/S DF Track – 898 TF – Total of $1,256,302.00 – This bid item includes the cost of all concrete form work purchasing and placing 280 CY of concrete in the DF slab track areas, and to strip and cure all concrete. Includes distribution and temporary construction of all track work necessary to cast DF plates in proper alignment location in the concrete. Includes cost to remove the track after concrete has set. Includes cost to place concrete for small curb wall on sides of DF track.

Bid Item 60000 – F/P/S Infill, Edge Fill – 110 CY – Total of $119,680.00 – This bid item includes the cost to form and place all concrete for the infill and edge-fill areas.

Bid Item 70000 – Signal Conduit Trench – 80 CY – Total of $49,600.00 – This bid item includes the cost to excavate and backfill the trench along the track and across 500 south for installation of conduit from the proposed house location to the track work. Conduits to be installed by others.

Bid Item 80000 – Pavement Striping & Markings – 1 LS – Total of $3,369.00 – This bid item includes the cost to replace striping and pavement markings.

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

STACY WITBECK

Subtotal - $3,733,630.00

Bid Item 100000 – Fee (7.5%) – 1 LS – Total of $280,022.00 – This is the agreed to 7.5% GMGC fee.

Bid Item 200000 – Provisional Sum – Unknown Circumstances – 1 PS – Total of $60,000.00 – This is a provisional sum item that will only be billed against for unknow work items that come about during construction. Stacy Witbeck will perform this additional work at the direction of UTA, and will bill for actual cost plus associated insurance costs, plus 7.5% fee.

The total price for this scope of work is **$4,073,652.00**

If you have any questions, please contact me.

Sincerely,
Stacy and Witbeck, Inc.

Collin Christensen
Project Manager

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

02/21/2025 10:26
25-612 450 E Interlocking Construction
*** Collin Christensen, CC

BID TOTALS

Biditem	Description	Quantity	Units	Unit Price	Bid Total
1000	Field Engineering & Project Controls	1.000	LS	449,796.00	449,796.00
2000	Safety Program & Administration	1.000	LS	25,364.00	25,364.00
3000	QC Program & Testing	1.000	LS	80,869.00	80,869.00
4000	Permits & Fees	1.000	LS	1,297.00	1,297.00
5000	Traffic & Pedestrian Control	1.000	LS	35,301.00	35,301.00
6000	Key Personnel Travel & Subsistence	1.000	LS	11,495.00	11,495.00
7000	Survey	1.000	LS	40,868.00	40,868.00
8000	Preconstruct Track in Laydown	1.000	LS	152,168.00	152,168.00
9000	Mobilization	1.000	LS	27,857.00	27,857.00
10000	Demolition	1.000	LS	500,668.00	500,668.00
15000	Drainage	1.000	LS	75,075.00	75,075.00
20000	Grade Prep	1.000	LS	26,845.00	26,845.00
30000	Construct Embedded Track	450.000	TF	98.00	44,100.00
35000	Construct DF Track	898.000	TF	468.00	420,264.00
40000	Thermite Welding	54.000	EA	1,368.00	73,872.00
50000	Form, Pour, Strip Embedded Track	215.000	CY	1,576.00	338,840.00
55000	F/P/S DF Track Slab	898.000	TF	1,399.00	1,256,302.00
60000	F/P/S Infill, Edge Fill	110.000	CY	1,088.00	119,680.00
70000	Signal Conduit Trench	80.000	CY	620.00	49,600.00
80000	Pavement Striping & Markings	1.000	LS	3,369.00	3,369.00
	Subtotal				$3,733,630.00
100000	Fee (7.5%)	1.000	LS	280,022.00	280,022.00
200000	Provisional Sum - Unknown Circumstances	1.000	PS	60,000.00	60,000.00
	Bid Total ========>				$4,073,652.00

Stacy and Witbeck On-Call Maintenance Contract #23-03811

Original Contract Amount	45,000,000.00
Change Orders	-
Total Expenditures to Date	16,473,443.00
Remaining Balance	**28,526,557.00**

Year	TO #	Stacy Proposal Title	Proposal #	Cost	Change Order	Project Budget Allocation	Running Contract Total	Board Approval (if, appl.)	Subledger	Account number	Est Completion Date	Notes
						$ -						
2024	24-015	3900 S Grade Crossing	24-614	$ 392,230.00	$ -	$ 392,230.00	$ 392,230.00	6/12/2024	SGR393	40-7393.63000.1002	6/19/2024	
2024	24-018	5900 S Trax Grade Crossing	24-613	$ 345,847.00	$ -	$ 345,847.00	$ 738,077.00	6/12/2024	SGR393	40-7393.63000.1002	6/12/2024	
2024	24-012	100 E American Fork Frontrunner Grade Crossing	24-606	$ 132,528.00	$ -	$ 132,528.00	$ 870,605.00	N/A	SGR393	40-7393.63000.1002		
2024	24-022	1700 S Grade Crossing	24-616	$ 332,276.00	$ -	$ 332,276.00	$ 1,202,881.00	6/26/2024	SGR393	40-7393.63000.1002		
2024	24-023	1300 S Grade Crossing	24-617	$ 273,834.00	$ -	$ 273,834.00	$ 1,476,715.00	EXP 7/10/24	SGR393	40-7393.63000.1002		
2024	24-042	July-Dec Pre-Construction Fees	Letter 1	$ 299,520.00	$ -	$ 299,520.00	$ 1,776,235.00	7/31/2024	SGR385	40-7385.63000.1010		
2024	24-618	300 W Grade Crossing	24-618	$ 324,236.00	$ -	$ 324,236.00	$ 2,100,471.00	7/31/2024	SGR393	40-7393.63000.1002		
2024	24-039	Library Station Trackboxes	24-631	$ 117,159.00	$ -	$ 117,159.00	$ 2,217,630.00	N/A	SGR385	40-7385.63000.1010		
2024	24-029	Rambutan Crossing Foam Injection	24-629	$ 27,783.00	$ -	$ 27,783.00	$ 2,245,413.00	N/A	SGR385	40-7385.63000.1010		
2024	24-036	Garfield tie and ballast replacement	24-608	$ 270,703.00	$ -	$ 270,703.00	$ 2,516,116.00	8/14/2024	SGR401	40-7401.63000.1011		
2024	24-025	Parkway Ave Grade Crossing	24-620	$ 309,677.00	$ -	$ 309,677.00	$ 2,825,793.00	8/14/2024	SGR393	40-7393.63000.1002		
2024	24-026	9400 S Grade Crossing	24-621	$ 353,051.00	$ -	$ 353,051.00	$ 3,178,844.00	8/14/2024	SGR393	40-7393.63000.1002		
2024	24-027	9000 S Grade Crossing	24-622	$ 521,516.00	$ -	$ 521,516.00	$ 3,700,360.00	8/14/2024	SGR393	40-7393.63000.1002		
2024	24-046	Union Interlocking Trackwork Install	24-619	$ 246,686.00	$ -	$ 246,686.00	$ 3,947,046.00	8/14/2024	SGR385	40-7385.63000.1010		
2024	24-043	Rambutan Way Foam Stabilization	24-629	$ 27,783.00	$ -	$ 27,783.00	$ 3,974,829.00	N/A	SGR385	40-7385.63000.1010		
2024	24-052	3300/3500 S. Bus Stops	24-636	$ 890,433.00	$ -	$ 890,433.00	$ 4,865,262.00	9/11/2024	MSP207	40-3207.63000.2001		
2024	24-019	TO24-019 Main Street FR Grade Crossing	24-628	$ 181,323.00	$ -	$ 181,323.00	$ 5,046,585.00	N/A	SGR393	40-7393.63000.1002		
2024	24-020	5900 S Frontrunner Grade Crossing	24-615	$ 120,978.00	$ -	$ 120,978.00	$ 5,167,563.00	N/A	SGR393	40-7393.63000.1002		
2024	24-045	Center Street NSL FR Crossing	24-634	$ 140,296.00	$ -	$ 140,296.00	$ 5,307,859.00	N/A	SGR385	40-7385.63000.1010		
2024	24-035	Welby Canal Repair	24-625	$ 64,243.00	$ -	$ 64,243.00	$ 5,372,102.00	N/A	SGR385	40-7385.63000.1010		
2024	24-028	Front Runner Tamping Q4	Agreed Rates for Tamping	$ 199,000.00	$ -	$ 199,000.00	$ 5,571,102.00	N/A	SGR385	40-7385.63000.1010		
2024	24-029	Trax Tamping	Agreed Rates for Tamping	$ 199,000.00	$ -	$ 199,000.00	$ 5,770,102.00	N/A	SGR385	40-7385.63000.1010		
2024	23-129	Rio Grand OCS Pole Relocation	24-610	$ 41,307.00	$ -	$ 41,307.00	$ 5,811,409.00	N/A	SGR385	40-7385.63000.1010		
2025	25-004	2025 Frontrunner Tamping	25-601	$ 800,000.00	$ -	$ 800,000.00	$ 6,611,409.00	1/15/2025	SGR385	40-7385.63000.1010		
2024	24-047	Centerville Frog Repair	24-635	$ 48,103.00	$ -	$ 48,103.00	$ 6,659,512.00	N/A	SGR385	40-7385.63000.1010		
2024	24-040	JRRSC Fire Line Repair	24-632	$ 192,978.00	$ -	$ 192,978.00	$ 6,852,490.00	N/A	SGR393	40-7393.63000.1002		
2024	24-050	Midvale Freight Yard Derailment	24-637	$ 129,068.00	$ -	$ 129,068.00	$ 6,981,558.00	N/A	SGR385	40-7385.63000.1010		
2024	24-051	Power Station Water Line Repair	24-632	$ 40,153.00	$ -	$ 40,153.00	$ 7,021,711.00	N/A	SGR385	40-7385.63000.1010		
2025	25-001	Project Management Fees	Letter 02 - PM Fees	$ 626,080.00	$ -	$ 626,080.00	$ 7,647,791.00	2/28/2025	SGR385	40-7385.63000.1010		
2025	25-007	9800 S Concrete	25-602	$ 35,807.00	$ -	$ 35,807.00	$ 7,683,598.00	N/A	SGR403	40-7403.68000.8003		
2025	24-049	Midvale Concrete Pad and Stairs	24-639	$ 37,478.00	$ -	$ 37,478.00	$ 7,721,076.00	N/A	SGR385	40-7385.63000.1010		
2025	24-048	IJ Replacement	25-603	$ 198,594.00	$ -	$ 198,594.00	$ 7,919,670.00	N/A	SGR385	40-7385.63000.1011		
2025	24-054	Dry Creek Siding	24-643	$ 63,989.00	$ -	$ 63,989.00	$ 7,983,659.00	N/A	SGR385	40-7385.63000.1010		
2025	24-059	450 E OTM	25-606	$ 155,900.00	$ -	$ 155,900.00	$ 8,139,559.00	N/A	SGR385	40-7385.63000.1010		
2025	24-056	Midvale Yard Asphalt Crossing	25-604	$ 32,542.00		$ 32,542.00	$ 8,172,101.00	N/A	SGR393	40-7393.63000.1002		
2025	24-057	Daybreak Station Conduit Run	25-607	$ 35,085.00		$ 35,085.00	$ 8,207,186.00	N/A	MSP300	40-3300.63000.2001		
2025	24-058	Crossing Plowable End Change	25-605	$ 53,641.00		$ 53,641.00	$ 8,260,827.00	N/A	SGR393	40-7393.63000.1002		
2025	25-001	Bus Stops 8 & 31	24-636	$ 66,711.00		$ 66,711.00	$ 8,327,538.00	N/A	MSP207	40-3207.63000.2001		
2025	25-006	5th South Grade Crossing	25-610	$ 569,173.00		$ 569,173.00	$ 8,896,711.00	3/27/2025	SGR393	20-7393.63000.1002		
2025	25-021	SGR OTM and Rail Buy	25-614	$ 1,045,584.00		$ 1,045,584.00	$ 9,942,295.00	4/9/2025	SGR393	20-7393.63000.1002		
2025	25-003	Rice Interlocking Construction	25-611	$ 2,457,496.00		$ 2,457,496.00	$ 12,399,791.00	4/9/2025	SGR385	20-7385.63000.1010		
2025	25-002	450 E Interlocking Construction	25-612	$ 4,073,652.00		$ 4,073,652.00	$ 16,473,443.00	4/23/2025	SGR385	20-7385.63000.1010		
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
						$ -	$ 16,473,443.00					
							$ 16,473,443.00					
				$ 16,473,443.00	**$ -**	**$ 16,473,443.00**						

Current Contract Value	12,399,791.00
Total Budgeted Contract Value	16,473,443.00

Project: SGR385 Rail Replacement Project
2264 S 900 W,
south Salt Lake, Utah 84119

UTA Scope #TO25-002 - 450 E Interlocking Construction

Status	Open	**Assignees**	Collin Christensen
Created Date	Nov 20, 2024	**Issued Date**	Nov 20, 2024
		Location	25-002 450 E construction
Attachments			

OFFICIAL CORRESPONDENCE

		Contractor Name ("Contractor")	Stacy and Witbeck, Inc.
Contract No	23-03811VW	**TASK ORDER NO#**	25-002
TASK ORDER NAME	450 E Interlocking Construction	**Type of Estimate**	
		The hours will be accrued from	

UTA Scope Letter

To whom it may concern,

This document describes the scope of work that is being requested for the following task within the contract:

Contact UTA Scope

Please contact the Project Manager via email if you have any questions:

Services Provided

Replace double XO at 450 E on the RED Line as per design plans submitted by SENER. Work shall include the 5th East Grade Crossing panels replacement to embedded section. Task order shall include a $60,000.00 provisional sum line to be used in the event of unknown site conditions or field changes directed by the Project Manager within UTA.

Signature (Project Manager)

By: DocuSigned by: D5E0DB8278A44C4...

Name: Jacob Wouden

Date: 3/18/2025

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Change Order: On-Call Infrastructure Maintenance Contract Task Order #25-014 - U-Line Welded to Bolted Connections (Stacy and Witbeck, Inc.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute Task Order 25-014 and associated disbursements with Stacy and Witbeck, Inc. in the amount of $652,168.

BACKGROUND:
UTA executed contract 23-03811 with Stacy and Witbeck, Inc. for on-call maintenance services with a focus on rehab and replacement of UTA's rail infrastructure to maintain a state of good repair. The term of this contract is for three (3) years with two (2) one-year term options. The UTA Board of Trustees approved the contract on April 18, 2024, and it was fully executed on April 19, 2024. The original contract value is not-to-exceed $45,000,000.

DISCUSSION:
The TRAX traction power substations deliver electrical power to the light rail vehicles via the overhead catenary system and the running rails. The electrical connection between the substations to the running rails is accomplished using negative return cables. Additionally, cross bonds and impedance bonds are used to ensure electrical conductivity through the running rails. In several locations, the negative return cables are welded to the running rails. These welded connections break over time due to the vibration caused by train movements.

Under Task Order 25-014, Stacy Witbeck, Inc. will remove and replace 61 track box locations with welded connections to enable the use of hand tools for the replacement and adjustment of negative return cable-to-

rail connections. Currently, when a welded cable-to-rail connection breaks, it must be repaired using specialized welding equipment. This practice is time-consuming and requires the affected track to be out of service during the rail welding activities. Rails with bolted connections allow for quick and safe repair of power cable connections, while eliminating the need to suspend revenue service to perform these repairs.

CONTRACT SUMMARY:

Contractor Name:	Stacy and Witbeck, Inc.
Contract Number:	23-03811-25-014
Base Contract Effective Dates:	April 18, 2024 - December 31, 2027 Task Order Period of Performance: Effective after last Signature - December 31, 2025
Extended Contract Dates:	N/A
Existing Contract Value:	$17,305,566.00
Amendment Amount:	$652,168.00
New/Total Contract Value:	$17,957,734.00
Procurement Method:	RFP Best Value
Budget Authority:	Approved 2025 Capital Budget

ALTERNATIVES:

Not approve the Task Order and continue repairs using specialized welding equipment.

FISCAL IMPACT:

The 2025 approved budget for SGR404 includes $4,500,000 for the removal and replacement of track box locations with welded connections along the Red Line.

2025 Task Order Total: $652,168

2025 Capital Budget Remaining: $1,925,686

Overall not-to-exceed value for this contract is $45,000,000.00.

ATTACHMENTS:

- Task Order: On-Call Infrastructure Maintenance Contract Task Order #25-014 U-Line Welded to Bolted Connections (Stacey and Witbeck, Inc.)

Utah Transit Authority
669 West 200 South
Salt Lake City, Utah 84101
P: +18017433882

Project: SGR404 Rail Switches & Trackwork Ctrl

Task Order Request #25-014 - U-Line Welded to Bolted Connections

Status	Open	**Assignees**	Dean Hansen
Created Date	Apr 17, 2025	**Issued Date**	Apr 17, 2025

TASK ORDER IDENTIFICATION

Contract No	23-03811VW		
Contractor Name ("Contractor")	Stacy and Witbeck, Inc.	**Contract Start Date**	04/19/24
Account Code(s)	REQ 15307 40-7404.68000.8003 TO 25-014 Weld to Bolt PM ($92,629.00) 40-7404.68000.8007 TO 25-014 Weld to Bolt Testing ($11,733.00) 40-7404.63000.1010 TO 25-014 Weld to Bolt Track: Embedded ($547,806.00)		

1.0 SCOPE OF SERVICES

The contractor's scope letter and price estimate is hereby attached and incorporated into this Task Order	25-014_U-Line Welded to Bolted Connections_Scope_DH.pdf

2.0 SCHEDULE

The Substantial Completion Date for this Task is	08/31/25	**The Final Acceptance Date for this Task is**	12/31/25

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**	$652,168.00
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.	N/A	**Independent Cost Estimate (ICE) link, if applicable**	25-014_U-Line Welded to Bolted Connections_ICE.xlsx

4.0 APPLICABILITY OF FEDERAL CLAUSES

Does this Task Order include federal assistance funds which requires the	No	**If federal assistance funds are anticipated, the UTA Civil Rights group has set a**	N/A

application of the Federal Clauses appended as Exhibit D to the Contract?	**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:
By: Mike Bell
70E23A415BA44F6...
Name: Mike Bell
Date: 4/21/2025

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:
By: Dean Hansen
25AB79CEE8544A7...
Name: Dean Hansen
Date: 4/17/2025

DocuSigned by:
By:
D550DB82Z8A44C4...
Name: Jacob Wouden
Date: 4/17/2025

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:
By:
91ABD751A0BD4BE...
Name: Jared Scarbrough
Date: 4/18/2025

Signature (Procurement)

By: _____
Name: _____
Date: _____

Signature (Chief Service Development Officer)

By: _____
David Hancock, Chief Service Development Officer
Date: _____

Signature (Executive Director)

By: _____
Jay Fox, Executive Director
Date: _____

COMPANY:

COMPANY: Stacy and Witbeck, Inc.

RMSS Required Signature Explanation

- Up to $100K – Josh Lafleur (jlafleur@modrailsystems.com)
- $100K - $500K – Anthony Ortolani (aortolani@modrailsystems.com)
- $500K – $2.5M - Shon Tulik (stulik@modrailsystems.com)
- >$2.5M or Contract Time Extensions – Paul Reiger (prieger@modrailsystems.com)

Signature (Contractor)

DocuSigned by:
By: Collin Christensen
ACA3AB62608B4E2...
Name: Collin Christensen
Date: 4/19/2025

STACY WITBECK

April 11, 2025 On Call Services

Mr. Jake Wouden
Rail Infrastructure Project Manager
Utah Transit Authority
2264 South 900 West
South Salt Lake City, UT 84119

Reference: On-Call Transit Infrastructure Construction, Maintenance and Repair
Project No: 23-03811VW

Subject: 25-621 - U-Line Welded to Bolted Connections

Dear Jake:

We are pleased to provide the attached cost estimate to remove and replace 61 EA existing track boxes on the University Line at various locations along the alignment. The work consists of concrete demo, box installation, and installation of Elastomeric Rail Grout around the boxes and exposed rail areas.

Exclusions:

- Sales Tax on Permanent Materials
- All cable removal and reinstalment performed by RMSS
- Cembre connections to the rail performed by RMSS

Clarifications:

- Please see detailed list of each bid item below.
- The unit costs for each bid item includes the costs of insurance, bond, and risk at the agreed upon rates.
- We are excluding all utility relocations and conflicts from our pricing. Any conflicts or relocations will need to be addressed as a change of condition.
- The scope of work is inclusive of only the items and scope that are listed below. Any other items of work or changes to the below scope will need to be repriced.

Bid Item 1000 – Field Engineering and Project Controls – 1 LS – Total $25,621.00 – This bid item includes Stacy and Witbeck field support from field engineer to manage construction. The field engineer will also perform pre-task planning and coordination with UTA. This item also includes office manager time for payroll and accounts payable.

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

STACY WITBECK

Bid Item 2000 – Safety Program and Administration – 1 LS – Total $7,788.00 – Cost of Safety Supplies, safety personnel to visit the site, and incidental drug testing.

Bid Item 3000 – QC Program & Testing – 1 LS – Total $11,733.00 – This bid item includes the cost of a QC manager and applicable QC testing for the project

Bid Item 6000 – Demo, Install, Pour back Boxes – 1 LS – Total $547,806.00 – This bid item includes the cost to sawcut and demo concrete, remove 61 existing track boxes, install and set new track boxes, and place elastomeric rail grout around the box.

Bid Item 10000 – Mobilization – 1 LS – Total $13,720.00 – This bid item includes the cost for mobilizing heavy equipment to and from the project site, and final project cleanup. Includes field sanitary expenses, field office supplies, and jobsite dumpster.

Bid Item 100000 – Fee (7.5%) – 1 LS – Total $45,500.00 – This is the agreed to 7.5% GMGC fee.

The total price for this scope of work is **$652,168.00**

If you have any questions, please contact me.

Sincerely,
Stacy and Witbeck, Inc.

Collin Christensen
Project Manager

1958 West North Temple
Salt Lake City, UT 84116
801.666.7840 (office) 801.432.7849 (fax)

04/10/2025 10:10
25-621 U-Line Welded to Bolted Connections
*** Collin Christensen, CC **BID TOTALS**

Biditem	Description	Quantity	Units	Unit Price	Bid Total
1000	Field Engineering & Project Controls	1.000	LS	25,621.00	25,621.00
2000	Safety Program & Administration	1.000	LS	7,788.00	7,788.00
3000	QC Program & Testing	1.000	LS	11,733.00	11,733.00
6000	Demo, Install, Pour back Boxes	1.000	LS	547,806.00	547,806.00
10000	Mobilization	1.000	LS	13,720.00	13,720.00
		Subtotal			$606,668.00
100000	Fee (7.5%)	1.000	LS	45,500.00	45,500.00
		Bid Total ========>			$652,168.00

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

- **Arctic Bearing Repair Kits**
- **Maintenance of Way Positive Train Control Training and Certification**
- **Organizational Excellence Support Services**
- **Locomotive Electric Wiper Upgrade**

AGENDA ITEM TYPE:
Pre-Procurement

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
Utah's Public Transit District Act requires all contracts valued at $200,000 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:

- ***Arctic Bearing Repair Kits.***

  The Fleet Engineering Department is seeking to contract with one or more vendors to provide the required parts needed to overhaul both articulation sections of UTA's 77 Light Rail Vehicle (LRV) fleet to ensure the continuation of reliable service. The overhaul is planned to be conducted by UTA personnel and utilizing UTA's existing LRV facilities.

UTA Technicians will remove and inspect critical wear items and install and test replacement parts as needed.

This procurement will be conducted as an Invitation for Bid (IFB) where the contract award will be given to the lowest bid. The term of this contract is for three (3) years. Funding for this project is included in the approved 2025 State of Good Repair budget under SGR040. (Req 15089, PM Ryan Gardner)

- ***Locomotive Electric Wiper Upgrade***.

This is a procurement to contract with a vendor to upgrade the existing pneumatic windshield wiper system with an electric wiper with integrated washer system on UTA's eighteen (18) locomotives. Pneumatic wiper systems have been phased out on many different vehicle types such as Bus, Light Rail, and Commuter Rail vehicles due to the inferior performance in comparison to their electric counterparts. The current Locomotive wiper system is approximately 17 years old and is exhibiting diminished functionality requiring frequent maintenance and repairs to the pneumatic motors and linkages. The new electric wiper/washer system shall improve reliability, functionality, controls, and performance under various operational and environmental conditions.

The term of this contract is for one (1) year. Funding for this project is in the approved 2025 State of Good Repair budget under SGR391, and this procurement will be conducted as an RFP. The (Req 15261, PM Ryan Gardner)

- ***Maintenance of Way Positive Train Control Training and Certification***.

The Training and Development Department seeks to contract with a firm to support federally required Positive Train Control (PTC) training and certification for Maintenance of Way (MOW) employees. The training is necessary to meet compliance with the Code of Federal Regulations and to address critical gaps identified during a recent Federal Railroad Administration audit. This investment will allow UTA to return to full compliance with federal regulations while improving safety and accountability.

The term of this contract will be three (3) years, with two (2) one-year options for extension. Funding for this project is included in the approved 2025 Training Department Operating Expense budget. This procurement will be conducted as a Request for Proposal (RFP) where contract award will be based on a competitive solicitation and given to the most qualified firm. (Req 15123, PMs; Ann Green Barton, Stacey Palacios, Lamar Whitehorse)

- ***Organizational Excellence Support Services.***

The Enterprise Strategy Office is seeking to establish a contract with SISU Consulting to provide training, support, and assessments of UTA organizational excellence maturity journey to achieve our 2030 board strategic objective.

SISU Consulting specializes in deploying organizational excellence (OE) management systems across various industries that drive both people and performance results. UTA has been in the process of implementing and adopting this model and the OE management systems that are proprietary to SISU

Consulting. UTA is 2.5 years into a 7-year journey of deploying the Own the Gap management systems and implementing the OE coaching systems.

This will be a Sole Source contract with SISU Consulting and was approved by the Sole Source Review Board on April 16, 2025. The term of this project is five (5) years. Funding for this purchase is included in the approved 2025 Enterprise Strategy Office Operating Budget. (Req 15253, PM Alisha Garrett)

ATTACHMENTS:

N/A

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Fare Agreement: Special Events Agreement for Salt Lake Twilight & Kilby Court Concert Series (Sartain and Saunders, LLC)

AGENDA ITEM TYPE:
Service or Fare Approval

RECOMMENDATION:
Approve and authorize the Executive Director to execute a contract with Sartain and Saunders, LLC (S&S Presents) for a Special Events Pass Agreement.

BACKGROUND:
UTA has historically partnered with S&S Presents to offer Ticket-as-Fare to the Salt Lake Twilight Concert Series and the Kilby Court Concert Series. This Partnership allows ticket holders to use their event ticket to ride UTA services on the date printed on the ticket. Valid services include: Bus, TRAX, FrontRunner, Streetcar, BRT and Microtransit. Paratransit eligibility applies.

The concert series will once again take place in 2025, and both Parties desire to partner together to offer Ticket-as-Fare to the event's ticket holders for both concert series.

DISCUSSION:
Staff recommend continuing to partner with S&S Presents to offer the Special Events Pass Agreement for their Twilight Concert Series and Kilby Court Concert Series. The pricing for the 2025 concert series is $32,832.

The pricing is calculated based on a standard formula which uses historical trip data obtained from the automated passenger counter system. The trip count from historical data, and other variables such as event location and time of day, are used to forecast trips for the event. The fare rate ($3.75 group pass rate) is

multiplied by the forecasted trips.

CONTRACT SUMMARY:

Contractor Name:	Sartain and Saunders, LLC
Contract Number:	25-F28268
Base Contract Effective Dates:	May 15, 2025 through September 22, 2025
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$32,832
Procurement Method:	N/A
Budget Authority:	N/A

ALTERNATIVES:

Do not enter into an agreement and forego revenue.

FISCAL IMPACT:

$32,832 in additional revenue

ATTACHMENTS:

- Fare Agreement: Salt Lake Twilight & Kilby Court Concert Series (Sartain and Saunders, LLC)

SPECIAL EVENTS PASS AGREEMENT
Sartain and Saunders, LLC

This Special Events Pass Agreement ("Agreement") is entered into on this 1st day of May 2025, by and between the Sartain and Saunders, LLC a Utah LLC whose address is 350 E 400 S #301 Salt Lake City, UT 84111 ("Sponsor"), and Utah Transit Authority, a public transit district organized under the laws of the State of Utah ("UTA"). Sponsor and UTA may be collectively referred to as the "parties," and either of the parties may be individually referred to as "party," all as governed by the context in which such words are used.

RECITALS

WHEREAS, Sponsor hosts a Salt Lake Twilight concert series on a weekly basis from July 12, 2025 through September 22, 2025; and Sponsor will host Kilby Court concert series on May 15-18, 2025 (collectively, the "Concert Series").

WHEREAS, Sponsor desires to purchase transit passes for transportation to its Concert Series using UTA's transit system.

WHEREAS, the parties desire to establish a program in which Sponsor is authorized to purchase transit passes for those attending its Concert Series.

AGREEMENT

NOW THEREFORE, in consideration of the mutual covenants set forth in this Agreement and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. Concert Pass Program. The Parties agree to establish a Concert Pass Program through which Sponsor purchases transit passes for ticket holders to the Concert Series (the "Special Event Transit Pass").

2. Authorized Users. Upon the terms and conditions contained in this Agreement, UTA agrees to allow Sponsor to provide a Special Events Transit Pass to Concert Series ticket holders ("Authorized Users") attending Concert Series events in 2025. Sponsor agrees to provide UTA with the final event dates and start times by June 1, 2025.

3. Price. Sponsor shall pay UTA the base purchase price as follows:

Concert Series	Base Price	Authorized Users (Tickets Holders)	Venue
Salt Lake Twilight	$7,969	25,000	Gallivan Center
Kilby Court	$24,863	78,000	Utah Fair-park
Total	$32,832	103,000	

Sponsor shall also provide, via donation:

a. Twilight Concert Series: 20 VIP Sponsor badges to UTA entitling the badge holders to non-alcoholic beverages and seating in a reserved VIP section and 20 VIP Guest badges entitling the guest badge holders access to the reserved VIP sponsor section and hospitality area.

b. Kilby Court Concerts: 6 VIP Sponsor badges to UTA entitling the badge holders to nonalcoholic beverages and seating in the reserved VIP section and 6 VIP Guest badges entitling the guest badge holders access to the reserved VIP sponsor section and hospitality area.

The donated tickets as listed will be delivered to UTA no later than one (1) week before each event's start date, and will be given to the public through promotional campaigns to cross-promote the show and using transit. Please deliver passes to:

Utah Transit Authority FLHQ
Attention: Jordan Eves
669 West 200 South
Salt Lake City, UT 84101

4. Pass Recognized as Fare Payment. An Authorized User's ticket to a Concert Series event shall serve as a Special Event Transit Pass when: (1) printed with the UTA logo, a copy of which is attached to this Agreement as Exhibit "A" (the "UTA Logo") and (2) used for fare payment on the date of the Concert Series event stated on the ticket. The Special Events Transit Pass shall be recognized by UTA as fare payment on all Local Bus Routes, TRAX Light Rail Routes, Streetcar Light Rail, FrontRunner Commuter Rail Routes, Express Bus Routes, and Microtransit on the day of the Concert Series event. The Special Events Transit Pass shall not be recognized as fare payment on Ski Service. Paratransit Eligibility applies.

5. Payment. On or before June 1, 2025, UTA shall invoice Sponsor for the amount owed as described in Paragraph 3. Sponsor shall pay the invoiced amount within thirty (30) days of its receipt of the invoice. Sponsor shall pay a one percent (1%) late fee onbalances

due under this Agreement that remain unpaid within thirty (30) days from the due date indicated on the invoice.

6. Use of the UTA Logo.

a. The UTA Logo, which is attached to this Agreement as Exhibit A, is the sole and exclusive property of UTA. UTA hereby grants Sponsor, so long as it is not in breach of this Agreement, a limited and revocable license to use or print the UTA logo as specified in this Agreement. The interpretation and enforcement (or lack of interpretation and enforcement) of these terms and conditions, and compliance, shall be in UTA's sole discretion. The UTA Logo may not be altered in any way and must be displayed in the same form as produced by UTA. The UTA Logo must be printed in either black or in the official UTA color of blue and red.

b. The UTA Logo shall be used in a professional manner on the Concert Series' main entrance, VIP area, stage banners, website, posters, and in print advertising for the Concert Series.

c. Notwithstanding the foregoing, the UTA Logo may not be used in any manner that (1) discredits UTA or tarnishes its reputation and goodwill; (2) is false or misleading; (3) violates the rights of others; (4) violates any law, regulation, or other public policy; (5) or mischaracterizes the relationship between UTA and the user, including but not limited to any use of the UTA Logo that might be reasonably construed as an endorsement, approval, sponsorship, or certification by UTA of Sponsor, Sponsor's business or organization, Sponsor's products or services, or that might be reasonably construed as support or encouragement to purchase or utilize Sponsor's products or services.

d. Use of the UTA Logo shall create no rights for Sponsor in or to the UTA Logo or its use beyond the terms and conditions set forth in this Agreement. The UTA Logo shall remain at all times the sole and exclusive intellectual property of UTA. UTA shall have the right, from time to time, to request from Sponsor samples of its use of the UTA Logo from which UTA may determine compliance with these terms and conditions. Without further notice, UTA reserves the right to prohibit use of the UTA Logo if it determines that Sponsor's UTA Logo usage, whether willful or negligent, is not in strict accordance with the terms and conditions set forth in this Agreement, otherwise could discredit UTA or tarnish its reputation and goodwill, or Sponsor is otherwise in breach of this Agreement.

7. Pass Distribution. Sponsor shall be solely responsible for issuing Special Event Transit Passes to Authorized Users.

8. Public Transit Services. The Parties understand that the transit services being purchased under this Agreement are public transit services. As such, Authorized Users must comply with all UTA Rider Rules and rules governing the use of public transit services. Authorized Users must present their Special Event Transit Passes as proof of fare

payment to UTA bus operators and fare inspectors. Authorized Users who do not have possession of a Special Event Transit Pass must pay the regular fare for the transit service they use. UTA reserves the right to modify its service and schedules as it deems appropriate in its sole discretion.

9. Indemnification. Each party to this Agreement agrees to be responsible and assume liability for its own negligent or wrongful acts or omissions or those of its officers, agents, or employees to the full extent required by law, and further agrees to indemnify and hold the other party harmless from any such liability, damage, expense, cause of action, suit, claim, judgment, or other action arising from participation in this Agreement. Both parties are subject to the provisions of the Utah Governmental Immunity Act. Neither party waives any legal defenses or benefits available to it under applicable law, and both agree to cooperate in good faith in resolving any disputes that may arise under this Agreement.

10. Termination. This Agreement shall continue in full force and effect during the term of this Agreement unless it is terminated earlier by either party. Either party, in its sole discretion, may terminate this Agreement by giving the other party written notice of termination at least forty-five (45) days prior to the termination date. If UTA terminates this Agreement before the Concert Series ends, Sponsor shall pay the amount described in Paragraph 3 for the concerts for which UTA provided transportation services.

11. Nondiscrimination. Sponsor agrees that it shall not exclude any individual from participation in or deny any individual the benefits of this Agreement on thebasis of race, color, national origin, creed, sex, or age in accordance with the requirements of Title 49 U.S.C. §5332.

12. Third Party Interests. No person who is not a party to this Agreement shall haveany rights or entitlements of any nature under it.

13. Entire Agreement. This Agreement contains the entire agreement between the parties for the term stated and cannot be modified except by written agreement signed by both parties. Neither party shall be bound by any oral agreements or special arrangements contrary to or in addition to the terms and conditions stated in thisAgreement.

14. Costs and Attorney's Fees. If either party pursues legal action to enforce any covenant of this Agreement, the parties agree that all costs and expenses of the prevailing party in such legal action, including reasonable attorney fees and court costs, shall be paid by the non-prevailing party.

UTAH TRANSIT AUTHORITY

By: _____
Jay Fox
Executive Director

By: _____
Viola Miller
Chief Financial Officer

APPROVED AS TO FORM:

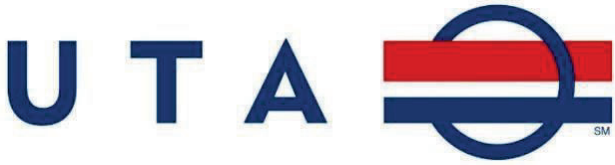
By: _____
James Morgan
UTA Counsel

SPONSOR

By: _____
Name: Nic Smith
Title: CEO

Exhibit "A"

UTA Logo



669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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

TITLE:

Fare Agreement: Special Events Agreement for Western Stampede Rodeo (City of West Jordan)

AGENDA ITEM TYPE:
Service or Fare Approval

RECOMMENDATION:
Approve and authorize the Executive Director to enter a Special Events Agreement with the City of West Jordan.

BACKGROUND:
UTA has historically partnered with events to allow attendees to use their event ticket as fare on the UTA system. Event tickets are printed with the UTA logo and specific wording that identifies the ticket as valid transit fare for the date identified on the event ticket. This partnership is formalized through a Special Event Pass Agreement that is negotiated by the Fares team and approved by the Board of Trustees.

DISCUSSION:
UTA is partnering with the City of West Jordan to allow event attendees to use their ticket as fare for the following events taking place at the West Jordan Rodeo Grounds from July 3-5: Western Stampede Rodeo and Carnival.

This partnership allows ticket holders to use their event ticket to ride UTA services on the date printed on the ticket. Valid services include all Local Bus Routes, TRAX Light Rail Routes, Streetcar Light Rail, FrontRunner Commuter Rail Routes, and BRT Routes on the day of the event. Paratransit eligibility applies. In exchange for the transit fare, the City of West Jordan agrees to pay the base purchase price of $5,625.

The pricing is calculated based on a standard formula which uses historical trip data obtained from the automated passenger counter system. The trip count from historical data, and other variables such as event

location and time of day, are used to forecast trips for the event. The fare rate ($3.75 group pass rate) is multiplied by the forecasted trips.

CONTRACT SUMMARY:

Contractor Name:	City of West Jordan
Contract Number:	25-F28273
Base Contract Effective Dates:	July 1, 2025 through July 6, 2025
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$5,625
Procurement Method:	N/A
Budget Authority:	N/A

ALTERNATIVES:

Do not enter an agreement with the City of West Jordan for ticket-as-fare, requiring attendees to utilize other fare alternatives.

FISCAL IMPACT:

$5,625 in fare revenue

ATTACHMENTS:

- Fare Agreement: Western Stampede Rodeo (City of West Jordan)

SPECIAL EVENTS AGREEMENT
Tickets for Transit

This Special Events Agreement-Tickets for Transit ("Agreement") is entered into on July 1, 2025, by and between the City of West Jordan, a municipal corporation and a political subdivision of the state of Utah ("Sponsor"), and Utah Transit Authority, a public transit district organized under the laws of the State of Utah ("UTA"). Sponsor and UTA hereafter collectively referred to as the "parties" and either of the foregoing may be individually referred to as "party," all as governed by the context in which such words are used.

RECITALS

WHEREAS Sponsor will host a Western Stampede Rodeo and Carnival July 3,4, and 5 in 2025 at the West Jordan Fairgrounds which is located 1985 W. 7800 S. West Jordan, UT ("Venue"); and

WHEREAS Sponsor desires to procure transit passes for transportation to its Special Event using UTA's transit system; and

WHEREAS the parties desire to establish a program whereby Sponsor is authorized to procure transit passes by providing a lump sum payment for an anticipated number of tickets.

AGREEMENT

NOW THEREFORE, on the stated Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants herein and in the Agreement, the mutual benefits to the parties to be derived here from, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

SECTION I: DEFINITIONS

1) The term **"Base Service"** means public transit service as produced in UTA's ordinary operations and published at www.rideuta.com.

2) The term **"Effective Date"** shall mean July 1, 2025, unless the parties agree otherwise above.

3) The term **"Special Event"** shall mean an event sponsored by West Jordan City and held at the Venue stated above.

SECTION II: TERMS AND CONDITIONS

1) Tickets for Transit Program. The parties agree to establish a Tickets for Transit Program (the "Program"), whereby the Sponsor procures transit passes for ticket holders to its Special Event (the "Tickets for Transit Pass").

2) Authorized Users. Upon the terms and conditions contained herein, UTA agrees to allow

Sponsor to provide a Tickets for Transit Pass to ticket holders ("Authorized Users") attending the Special Event at the Venue.

3) Payment.

a) Sponsor shall pay to UTA the base purchase price of $5,625 for the Special Event and 30,000 authorized users.

b) On or before July 1, 2025, UTA shall invoice Sponsor for the amount owed as described in Paragraph 3. Sponsor shall pay the invoiced amount within thirty (30) days of its receipt of the invoice. Sponsor shall pay a one percent (1%) late fee on balances due under this Agreement which remain unpaid within thirty (30) days from the due date indicated on the invoice.

4) Term of Agreement. The term of this Agreement shall be from the Effective Date and runs through July 6, 2025.

5) Pass Recognized as Fare Payment. An Authorized User's Special Event ticket shall also serve as a transit pass when: (1) printed with the wording "Valid as UTA fare on the date indicated" or similar wording approved by UTA; (2) used for fare payment on the date of the event stated on the ticket (Tickets for Transit Pass shall be recognized by UTA as fare payment on all Local Bus Routes, TRAX Light Rail Routes, Streetcar Light Rail, FrontRunner Commuter Rail Routes, and BRT Routes on the day of the event, paratransit eligibility applies); and (3) issued to event attendees via email, home delivery, or through an app. Attendees using transit to get to/from the Special Event present acceptable fare media upon boarding the bus or upon rail inspection. Acceptable fare media for events includes: a printed copy of the Sponsor-issued email displaying the attendee's ticket, a Sponsor-issued ticket, electronic ticket, or a mobile app with the ticket displayed. Fare media that is not accepted includes: generic download from the vendor's website, a form of ticket not provided to UTA as an acceptable ticket type, a camera image of the ticket, or any other form not listed as acceptable. Sponsor must provide UTA with images of all the different ticket types. UTA will use the images to verify the logo is printed and distribute to operators and fare collectors, so they are aware of them prior to the event.

6) Use of the UTA Logo.

a. The UTA Logo, which is attached hereto as Exhibit A, is the sole and exclusive property of UTA. UTA hereby grants Sponsor, so long as it is not in breach of this Agreement a limited and revocable license to use or print the UTA logo as specified herein. The interpretation and enforcement (or lack thereof) of these terms and conditions, and compliance therewith, shall be in UTA's sole discretion. The UTA Logo may not be altered in any way and must be displayed in the same form as produced by UTA. The UTA Logo must be printed in either black or in the official color of blue and red.

b. If and when Sponsor chooses to use the UTA Logo, the UTA Logo shall be used in a professional manner.

c. Notwithstanding the foregoing, the UTA Logo may not be used in any manner that, in the sole discretion of UTA: discredits UTA or tarnishes its reputation and goodwill; is false or misleading; violates the rights of others, violates any law, regulation or other public policy; or mischaracterizes the relationship between UTA and the user, including but not limited to any use of the UTA Logo that might be reasonably construed as an endorsement, approval, sponsorship or certification by UTA of Sponsor, Sponsor's organization, or Sponsor's products or services or that might be reasonably construed as support or encouragement to utilize Sponsor's services.

d. Use of the UTA Logo shall create no rights for Sponsor in or to the UTA Logo or their use beyond the terms and conditions of this limited and revocable license. The UTA Logo shall remain at all times the sole and exclusive intellectual property of UTA. UTA shall have the right, from time to time, to request samples of use of the UTA Logo from which it may determine compliance with these terms and conditions. Without further notice, UTA reserves the right to prohibit use of the UTA Logo if it determines, in its sole discretion, that Sponsor's UTA Logo usage, whether willful or negligent, is not in strict accordance with the terms and conditions of this license, otherwise could discredit UTA or tarnish its reputation and goodwill, or Sponsor is otherwise in breach of this Agreement.

7) Pass Distribution. Sponsor shall be solely responsible for issuing Tickets for Transit Passes to Authorized Users.

8) Public Transit Services. The Parties understand that the transit services being used under this Agreement are public transit services. As such, Authorized Users must comply with all UTA rider rules and rules governing the use of public transit services. Authorized Users must present their Tickets for Transit Passes as proof of fare payment to UTA bus operators and fare inspectors. Authorized Users who do not have possession of a Tickets for Transit Pass must pay the regular fare for the transit service they use. UTA reserves the right to modify its service and schedules as it deems appropriate in its sole discretion.

9) Waiver and Release. The Parties hereby agree that Sponsor shall not be responsible or liable for the actions; omissions; negligent, intentional, or reckless conduct; or behavior of any Authorized User. Sponsor's in-kind purchasing of fares does not create an agency, representative, or special relationship with any Authorized User. All Authorized Users shall be deemed and treated as if they had paid their own fare and subject to the same terms and conditions applicable to any other UTA rider who has not benefitted from the Program. The Parties agree that Authorized User will not be deemed an agent, representative, or licensee of Sponsor. UTA hereby expressly waives and releases Sponsor from any liability, damage, expense, cause of action, suit, claim, judgment, or other action arising from or related to the actions; omissions; negligent, intentional, or reckless conduct; or behavior of any Authorized User.

10) Indemnification. Each party hereby agrees to be responsible and assume liability for its own negligent or wrongful acts or omissions or those of its officers, agents or employees to the full extent required by law from participation in this Agreement and agrees to indemnify and hold the other party harmless from any such liability, damage, expense, cause of action, suit, claim, judgment, or other action arising from such negligent or wrongful acts or omissions. Except

as set forth herein, neither party waives any legal defenses or benefits available to them under applicable law, and both agree to cooperate in good faith in resolving any disputes that may arise under this Agreement.

11) Termination. This Agreement shall continue in full force and effect during the term of this Agreement unless it is terminated earlier by either party. Sponsor may terminate all or part of this agreement in the event of a pandemic (as specified by the World Health Organization) preventing all or part of the Event from taking place. Sponsor shall only be responsible to pay UTA a pro-rated amount owed under this Agreement for the portions of the Event that occurred.

11. Nondiscrimination. Sponsor and UTA shall not exclude any individual from participation in or deny any individual the benefits of this Agreement, based on race, color, national origin, creed, sex, or age in accordance with the requirements of 49 U.S.C. §5332.

12. Third Party Interests. No person not a party to this Agreement shall have any rights or entitlements of any nature under it.

13. Entire Agreement. This Agreement contains the entire agreement between the parties hereto for the term stated and cannot be modified except by written agreement signed by both parties. Neither party shall be bound by any oral agreements or special arrangements contrary to or in addition to the terms and conditions as stated herein.

14. Dispute Resolution. In the event there is a dispute arising under this Agreement it shall be referred to successive levels of leadership for resolution, beginning with the UTA Fares Director and her equivalent in Sponsor's organization and culminating with the Executive Director of UTA and the Managing Director of Sponsor's Headquarters' Facilities. If resolution is not achieved as the Executive Director/Managing Director level, either Party may bring the issue to litigation in a court of competent jurisdiction within Salt Lake County, Utah.

15. Costs and Attorney's Fees. If either party pursues legal action to enforce any covenant of this Agreement, the parties agree that all costs and expenses of the prevailing party incident to such legal action, including reasonable attorney fees and court costs shall be paid by the non-prevailing party.

16. Governing Law. This Agreement will be construed as a whole in accordance with its fair meaning and in accordance with the laws of the state of Utah. The Parties acknowledge that they have read this Agreement and are fully aware of its content and its legal effect. The terms of this Agreement have been negotiated by the Parties and their respective legal counsel. Accordingly, the terms of this Agreement may not be construed in favor of or against any Party. The headings used in this Agreement are for reference only and may not affect the construction of this Agreement.

17. Counterparts. This Agreement may be executed simultaneously in two or more counterparts, all of which together shall constitute one and the same instrument. Any copy, facsimile, electronic, or other non-original duplication of an original signature of this Agreement shall be deemed an original for purposes of the enforcement or establishment of the validity or

authenticity of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth herein.

SPONSOR

By: _____

Name: Dirk Burton
Title: Mayor

Attest: _____
City Recorder

UTAH TRANSIT AUTHORITY

By: _____

Name: Jay Fox
Title: Executive Director

By: _____

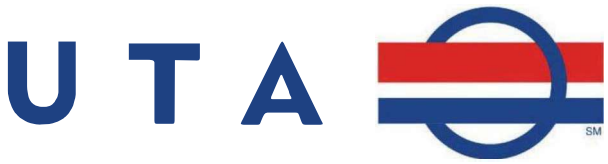
Name: Viola Miller
Title: Chief Financial Officer

APPROVED AS TO FORM

Signed by:
By: James Morgan
B720C03671B4489...

Name: D. James Morgan
Title: Counsel for UTA

Exhibit "A"
UTA Logo



Western_Stampede_TAF_2025 lf pages

Final Audit Report 2025-04-10

Created:	2025-04-09
By:	Sheri Miller (sheri.miller@westjordan.utah.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAc6_uOAgE-HAy1PnqCSmpMbyg3YmKEfqu

"Western_Stampede_TAF_2025 lf pages" History

Document created by Sheri Miller (sheri.miller@westjordan.utah.gov)
2025-04-09 - 5:33:02 PM GMT

Document emailed to Dirk Burton (dirk.burton@westjordan.utah.gov) for signature
2025-04-09 - 5:33:06 PM GMT

Email viewed by Dirk Burton (dirk.burton@westjordan.utah.gov)
2025-04-10 - 4:09:01 AM GMT

Document e-signed by Dirk Burton (dirk.burton@westjordan.utah.gov)
Signature Date: 2025-04-10 - 4:09:23 AM GMT - Time Source: server

Document emailed to Tangee Sloan (tangees@wjordan.com) for signature
2025-04-10 - 4:09:25 AM GMT

Email viewed by Tangee Sloan (tangees@wjordan.com)
2025-04-10 - 6:17:39 PM GMT

Document e-signed by Tangee Sloan (tangees@wjordan.com)
Signature Date: 2025-04-10 - 6:17:50 PM GMT - Time Source: server

Agreement completed.
2025-04-10 - 6:17:50 PM GMT

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

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:

TBA2025-05-01 - Technical Budget Adjustments
- 2025 Capital Budget
- 2025 Operating Budget

AGENDA ITEM TYPE:
Other Approval

RECOMMENDATION:
Approve TBA2025-05-01 to authorize transfer of $16,363,000 between various projects within the 2025 Capital Budget, authorize the addition of 0.5 position (FTE) to the Board Office and 2.0 positions (FTE) to the Enterprise Strategy Office within the 2025 Operating Budget.

BACKGROUND:
Board Policy 2.3 Budget allows the Board of Trustees to amend or supplement the Authority's budget at any time after its adoption. The Board may do this through a Technical Budget Adjustment (TBA) when the request does not increase budget authority, or through a Budget Amendment, after consultation with the Local Advisory Council, when an increase in the annual appropriation authority is requested.

DISCUSSION:
This Technical Budget Adjustment will make the following changes:

2025 Capital Budget**:**

Transfer a total of $16,363,000 between 11 projects, including the Capital Contingency (MSP999), within UTA's 2025 capital program to aid in project delivery this year. This request, if approved by the Board, will affect the current budget total of 10 different projects within UTA's capital program and shift funds out of the Capital

Contingency.

These adjustments should better align these projects with the planned 2025 Milestones and cover additional obligations.

The attached exhibits provide detail for all projects included in this budget adjustment.

The main benefit UTA anticipates receiving from the proposed Technical Budget Adjustment includes:

- Aligning budgets with remaining obligations and anticipated expenditure amounts for the projects through the end of 2025 including unfinished 2024 work.

2025 Operating Budget**:**

Add a new 0.5 FTE Board Office Assistant position to the Board Office to support management of elected officials lists and other administrative functions. This change will have a net neutral budget impact, with funding for the position coming from current salary savings in the Government Relations and Board Office budgets. Add 2.0 FTE Senior Systems Administrator positions to the Enterprise Strategy Office to support UTA's efforts to support the installation and expansion of the Enterprise Asset Management System. This change will have a net neutral budget impact, with funding for the positions coming from the current 2025 capital budget for technology items.

ALTERNATIVES:

The following are options the Board could consider and the potential impacts of those decisions:

- The Board may reject the requested Technical Budget Adjustments. The impact of this would be UTA would need to revise its spending plan, or projects could be delayed due to lack of funding. If the operating changes are not made, then support for UTA's Board administrative activities and Asset Management process may be impacted.

- The Board may request revisions to the proposed Technical Budget Adjustment. This could have the same impact as mentioned above.

FISCAL IMPACT:

Capital Budget:

The proposed TBA of $16,363,000 will be funded by the approved 2025 Capital Budget. Funds will be redistributed among the projects described in the presentation and supplemental material contained within this packet.

If TBA is approved, there will be a balance remaining in the Capital Contingency of $4,516,000. The funding source amounts for the Capital Contingency line are as follows: $555,000 in Bonds, $1,237,000 in State funds, $296,000 in Local Partner funds, and $2,428,000 in UTA funds. This TBA would have a net decrease of $5,508,000 to the Contingency.

Operating Budget:

The proposed addition of the Board Office Assistant 0.5 FTE position will be funded from the 2025 Operating Budget using operating savings.

The proposed addition of the Enterprise Strategy 2.0 FTE positions will be funded from existing funding available in the 2025 Capital Budget.

There is no increase in budget authority. There is no impact on UTA's Fund Balance within this TBA.

ATTACHMENTS:

- TBA2025-05-01 - Capital
- TBA2025-05-01 - Operating Exhibit A Financial (by mode/function)
- TBA2025-05-01 - Operating Exhibit A-2 Financial (by Office)
- TBA2025-05-01 - Operating Exhibit A-2 FTE

UTAH TRANSIT AUTHORITY
2025 CAPITAL BUDGET
May 14, 2025

REF#: TBA2025-05-01
Date: May 14, 2025

	Funding Sources	Adopted 2025 Budget	Technical Budget Adjustment	Adjusted 2025 Capital Budget
1	UTA Current Year Funding	$ 96,314,000		$ 96,314,000
2	Grants	127,571,000		127,571,000
3	Local Partner Contributions	5,020,000		5,020,000
4	State Contribution	45,619,000		45,619,000
5	Leasing	32,652,000		32,652,000
6	Bonds	23,055,000		23,055,000
7	**Total Funding Sources**	**330,231,000**	**-**	**330,231,000**
	Expense			
8	**Capital Services**	**268,027,000**	**4,736,000**	**272,763,000**
	MSP253 - Mid-Valley Connector	45,000,000	(4,000,000)	41,000,000
	MSP258 - Mt. Ogden Amin Bldg. Expansion	6,356,000	(5,356,000)	1,000,000
	MSP271 - MOW Training Yard	2,884,000	1,809,000	4,693,000
	MSP320- TRAX Modernization Program	100,000	400,000	500,000
	REV232 - Van Pool Van Replacements	1,513,000	182,000	1,695,000
	REV238 - SD100/SD160 Light Rail Vehicle Replacement	30,000,000	13,000,000	43,000,000
	SGR040 - Light Rail Vehicle Rehab	9,200,000	(1,499,000)	7,701,000
	SGR407 - Bus Stop Enhancements	1,500,000	200,000	1,700,000
9	**Enterprise Strategy**	**18,592,000**	**-**	**18,592,000**
10	**Executive Director (Safety)**	**1,760,000**	**-**	**1,760,000**
11	**Finance**	**26,699,000**	**(4,948,000)**	**21,751,000**
	MSP308 - FFY 2024 SL/WV 5310	1,000,000	560,000	1,560,000
	MSP999 - Capital Contingency	10,024,000	(5,508,000)	4,516,000
12	**Operations**	**10,218,000**	**212,000**	**10,430,000**
	FMA685 - Wheel Truing Machine JRSC	3,150,000	212,000	3,362,000
13	**People**	**2,470,000**	**-**	**2,470,000**
14	**Planning & Engagement**	**2,465,000**	**-**	**2,465,000**
15	**Grand Total**	**330,231,000**	**-**	**330,231,000**

UTAH TRANSIT AUTHORITY

Exhibit A

2025 OPERATING BUDGET TECHNICAL ADJUSTMENT

May 14, 2025

REF#: TBA2025-05-01

		Tech Adj II 2025 Budget	Board Office Assistant	Sr Systems Admin	Tech Adj III 2025 Budget
	Revenue				
1	Sales Tax	$ 505,193,000			$ 505,193,000
2	Formula Funds (FTA)	72,411,000			72,411,000
3	Passenger Revenue	38,620,000			38,620,000
4	Advertising	2,351,000			2,351,000
5	Investment Income	5,085,000			5,085,000
6	Other Revenues	14,826,000			14,826,000
7	Stimulus Funding	-			-
8	**Total Revenue**	**638,486,000**	**-**	**-**	**638,486,000**
	Operating Expense				
9	Bus	160,507,000			160,507,000
10	Commuter Rail	38,543,256			38,543,256
11	Light Rail	69,094,758			69,094,758
12	Paratransit	29,991,000			29,991,000
13	Rideshare/Vanpool	4,034,000			4,034,000
14	Microtransit	16,811,000			16,811,000
15	Operations Support	66,949,986			66,949,986
16	Management & Support*	63,428,000	-	-	63,428,000
17	Planning/Capital Support	14,292,000			14,292,000
18	Non-Departmental	858,000			858,000
19	**Total Operating Expense**	**464,509,000**	**-**	**-**	**464,509,000**
	Debt Service, Contribution to Reserves, and Transfer to Capital				
20	Principal and Interest	161,849,000			161,849,000
21	Bond Service Utah County for UVX BRT	3,378,000			3,378,000
22	Contribution to Reserves	15,576,000			15,576,000
23	Transfer to Capital	(6,826,000)			(6,826,000)
24	**Total Debt Service and Reserves**	**173,977,000**	**-**	**-**	**173,977,000**
25	**Total Expense**	**$ 638,486,000**	**$ -**	**$ -**	**$ 638,486,000**

* Additional FTE cost covered by current year savings

UTAH TRANSIT AUTHORITY
2025 OPERATING BUDGET TECHNICAL ADJUSTMENT
May 14, 2025

Exhibit A-2
Financial
REF#: TBA2025-05-01

		Tech Adj II 2025 Budget	Board Office Assistant	Sr Systems Admin	Tech Adj III 2025 Budget
	Revenue				
1	Sales Tax	$ 505,193,000			$ 505,193,000
2	Formula Funds (FTA)	72,411,000			72,411,000
3	Passenger Revenue	38,620,000			38,620,000
4	Advertising	2,351,000			2,351,000
5	Investment Income	5,085,000			5,085,000
6	Other Revenues	14,826,000			14,826,000
7	Stimulus Funding	-			-
8	**Total Revenue**	**638,486,000**			**638,486,000**
	Operating Expense				
9	Board of Trustees*	3,769,000	-		3,769,000
10	Executive Director	7,539,000			7,539,000
11	Communications	4,842,000			4,842,000
12	Operations	347,118,014			347,118,014
13	Finance	19,667,986			19,667,986
14	Service Development	8,183,000			8,183,000
15	Planning & Engagement	27,397,000			27,397,000
16	Enterprise Strategy*	31,267,000		-	31,267,000
17	People Office	13,868,000			13,868,000
18	Non-Departmental	858,000			858,000
19	**Total Operations**	**464,509,000**	**-**	**-**	**464,509,000**
20	Debt Service	165,227,000			165,227,000
21	Contribution to Reserves	15,576,000			15,576,000
22	Transfer to Capital Budget	(6,826,000)			(6,826,000)
23	**Total 2024 Operating Budget**	**$ 638,486,000**	**$ -**	**$ -**	**$ 638,486,000**

* Additional FTE cost covered by current year savings

UTAH TRANSIT AUTHORITY
2025 OPERATING BUDGET TECHNICAL ADJUSTMENT
May 14, 2025

Exhibit A-2
FTE
REF#: TBA2025-05-01

		Tech Adj II 2025 Budget	New FTE Positions	Tech Adj III 2025 Budget
	Executive			
1	Board of Trustees	15.0	0.5	15.5
2	Executive Director	32.5		32.5
3	Communications	19.0		19.0
4	Operations	2,385.7		2,385.7
5	Finance	121.0		121.0
6	Capital Services	64.0		64.0
7	Planning & Engagement	100.6		100.6
8	Enterprise Strategy	131.0	2.0	133.0
9	People Office	105.8		105.8
10	Non-Departmental	-	-	-
11	**Total FTE**	**2,974.6**	**2.5**	**2,977.1**

***Change in FTE Positions**

Board Positions	**FTE**
Board Office Assistant	0.5
Enterprise Strategy Positions	
Sr. Systems Administrator	2.0
Total Changes	**2.5**

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Nichol Bourdeaux, Chief Planning and Engagement Officer
PRESENTER(S):	Jaron Robertson, Planning Director Alex Beim, Manager Long Range Strategic Planning

TITLE:

Paratransit Forward Study

AGENDA ITEM TYPE:
Discussion

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
In 2023, an Areas of Persistent Poverty (AoPP) Grant was awarded to UTA by the Federal Transit Administration (FTA) to fund the Paratransit Forward study (Study). UTA partnered with the University of Utah and Via Mobility, LLC to conduct the Study. These partners contributed the 12.5% required match. The goal of the Study was to evaluate UTA's existing paratransit service, and the transportation needs of riders with disabilities. This included evaluating options for how UTA can expand or improve paratransit service, and the customer experience. The Study was completed in March 2025 and evaluated the potential benefits and costs associated with various alternatives to changes in UTA's Paratransit service.

DISCUSSION:
This is an informational presentation to inform the UTA Board of Trustees about the recently completed Study. Action on specific alternatives is not requested at this time, as the purpose of the Study was to provide a menu of options for UTA consideration. The findings of the Study and appendices are intended to inform UTA leaders what options exist to improve or expand Paratransit services, including the major benefits, costs, and considerations of each alternative. Alternatives as conceptual options include the following:

1. Integrate with Transportation Network Companies (TNCs)
2. Coverage Expansion (three approaches)

3. Comingle with On Demand (three approaches)
4. Reduced Off-Peak Fare
5. Additional Eligibility Centers
6. Rider App/Web Portal and Communication

ALTERNATIVES:
N/A

FISCAL IMPACT:
- UTA: Staff Time Only
- FTA AoPP Grant: $385,584
- Local Match: University of Utah and Via Mobility, LLC: $55,000

Costs associated in the Study are intended to be high-level estimates to aid UTA leadership with decision-making and are not formal recommendations for spending.

ATTACHMENTS:
UTA Paratransit Forward Study

UTA Paratransit Forward Study

Task 3: Alternatives Analysis

University of Utah
Via Strategies

March 2025

Executive Summary

The Paratransit Forward Study, commissioned by the Utah Transit Authority (UTA), aims to evaluate and enhance the current state of UTA's paratransit services to better serve riders with disabilities. Currently, UTA provides Americans with Disability Act (ADA) paratransit service in full compliance with federal ADA laws and regulations. This service is available within a ¾-mile radius of existing bus routes and light rail stations, operates during the same hours as those fixed routes, and requires advance reservations. Task 3 of this study focuses on identifying key areas for improvement to create a more inclusive, accessible, and efficient paratransit system. By leveraging community feedback, stakeholder input, and data analysis, the study outlines a strategic framework that addresses both immediate and long-term needs, ensuring that UTA's paratransit services not only meet but exceed the ADA requirements.

The recommendations in this report are designed to bridge existing service gaps and improve the overall customer experience for paratransit users. A frequent request from riders and stakeholders is to accommodate trips within the UTA service district that fall outside the current ADA paratransit service area. The following alternatives explore potential solutions to address this need and extend service beyond existing boundaries. These enhancements include strategies for optimizing operational efficiency, reducing costs, and increasing rider satisfaction, all while promoting sustainable growth and adherence to UTA's strategic goals. Each opportunity discussed in the report offers a unique approach to meeting UTA's objectives of accessibility, efficiency, and sustainability. Together, these strategies offer a holistic framework for UTA to improve its paratransit services to meet the diverse needs of its riders. The alternatives outlined in the following sections go beyond current regulatory requirements, and therefore, would necessitate additional resources for implementation. It is important to note that these alternatives are presented as conceptual options, designed to inform UTA leadership, and would require further development and operational planning before implementation.

While the study outlines several cost-saving opportunities, it is important to note that these figures represent potential savings under ideal conditions. In reality, UTA's costs are influenced by fixed expenses, such as vehicle maintenance and staffing, which do not decrease on a per-trip basis. Achieving actual savings will require systemic changes, like optimizing fleet size and staffing levels. Moreover, each alternative was evaluated independently. Should UTA proceed with implementations of more than one alternative, the estimated impacts would likely be different. Further analysis is recommended to evaluate the estimated impacts of specific combinations of alternatives

Six main alternatives were evaluated:

1. Integrating Transportation Network Companies

One of the key opportunities identified in this study is the potential use of Transportation Network Companies (TNCs), such as Uber and Lyft, to provide same-day paratransit trips. It is important to note that offering same-day service is beyond the requirements of the ADA for complementary paratransit, which mandates next-day booking. Incorporating TNCs offers several advantages, including greater flexibility in trip scheduling, reduced wait times, and potential cost savings through dynamic pricing models. TNCs can enhance the scalability of paratransit services by utilizing their existing driver networks and platforms, which allows UTA to meet fluctuations in demand without the need for significant investment in additional vehicles or resources. This approach can also help address gaps in service availability, particularly in areas where traditional paratransit coverage is limited. To promote the use of TNCs among paratransit riders, UTA could consider various incentive programs, potentially offering benefits such as bonus trips, discounted fares, or other rewards for choosing this option.

The analysis evaluated three primary subsidy models to determine the most effective financial structure for TNC integration:

- **Fixed-based subsidy:** provides a fixed subsidy amount per trip, with any additional costs borne by the rider.
- **Distance-based subsidy:** fully subsidizes trips up to a certain distance (e.g., 10 miles), with riders covering any additional mileage costs.
- **Co-pay subsidy:** involves a fixed co-pay by riders, with UTA covering the remaining cost up to a predetermined maximum.

The project team used trip data from UTA's paratransit service and conducted a comparative cost analysis against estimated TNC costs, applying various fare models and considering real-world factors like surge pricing and trip distance. The study revealed the following key findings:

- Traditional paratransit services have a higher cost per trip, averaging $67 for a 10-mile journey, compared to TNCs, which range from $20 (without surge pricing) to $40 (with surge pricing).
- The co-pay subsidy model demonstrated the most significant cost savings, reducing UTA's expenditure by approximately $1.4 million in 2022, balancing affordability for riders with overall cost-effectiveness for UTA.
- Transitioning approximately 15% of paratransit trips (based on 2022 ridership data) to TNCs could result in cost savings, with the cost of providing these trips via TNCs being roughly one-quarter of the of the current paratransit expenses.

Should UTA proceed with TNC integration, there is potential to achieve significant financial savings while ensuring the service remains accessible and reliable for all paratransit users.

The project team also outlined several operational and administrative changes necessary to support TNC integration, such as adjusting service policies, setting clear eligibility criteria, and ensuring ADA compliance among TNC providers. These recommendations are further detailed in the Implementation section of this report. Cost estimates provided in the analysis include potential costs associated with these changes. Should UTA choose to move forward, collaboration with TNC vendors will be crucial to finalize the pricing, the implementation requirements, and the expected savings.

2. Expanding Paratransit Service Coverage

Another critical opportunity lies in expanding paratransit service coverage beyond the standard ADA-required ¾-mile boundary, presenting a strategic opportunity for UTA to enhance service accessibility and inclusivity. This initiative aims to serve more riders in underserved areas, improve customer satisfaction, and provide flexible service models that balance cost and coverage. However, expanding coverage also poses challenges related to operational costs, financial sustainability, and equitable service delivery.

Three primary scenarios were developed to explore different approaches for expanding paratransit service:

- **Scenario 1: Legacy Service Continuation**
  This scenario focuses on maintaining paratransit coverage in areas that would otherwise lose service due to future changes in the fixed-route network but still have residual demand. The approach maintains continuity of service for areas with ongoing customer usage while aligning with ADA compliance. The primary advantage of this scenario is its low operational complexity and cost-effectiveness, as it leverages existing infrastructure and does not require major service changes. However, its impact is limited to specific regions with historical ridership, potentially overlooking areas with emerging needs.
- **Scenario 2: 1-Mile (or More) Premium Expansion**
  This scenario proposes extending the paratransit service boundary by up to 2 miles beyond the current ADA limit. It aims to increase accessibility in suburban and rural areas that currently have limited paratransit coverage. A tiered fare structure would be introduced, charging higher fares for extended coverage zones. This approach provides broader geographic coverage and service options, balancing accessibility with revenue generation. However, it involves higher operational costs and requires clear communication about the new fare tiers and service boundaries.
- **Scenario 3: Paratransit Expansion into Innovative Mobility Zones**
  In this scenario, paratransit services are extended into existing or planned Innovative Mobility Zones (IMZs). This approach allows paratransit vehicles to enter and operate within these flexible zones, providing additional coverage beyond the standard boundary. The IMZ expansion leverages existing infrastructure while offering scalable, long-term savings. It provides more coverage options for riders in areas where traditional paratransit services are less effective.

The outcome of these proposed scenarios is closely tied to UTA's Five-Year Service Plan (FYSP) for 2025-2029, which serves as a strategic roadmap for service changes. Each scenario implicates specific elements of the FYSP, such as restoring services in areas with historical demand (Scenario 1) or expanding coverage through new routes and IMZs (Scenarios 2 and 3). At the time of this study's analysis, the FYSP phasing schedule was still under development; however, it has now been finalized.

The demand for expanded paratransit services was estimated using data from the American Community Survey (ACS) to calculate the capture rate — the percentage of the eligible population expected to use the service. The analysis showed that extending coverage by up to 1 mile could lead to a 270% increase in potential customers, particularly in areas just beyond the current boundary. However, further expansion beyond 1.5 miles showed diminishing returns, with fewer additional customers relative to the increased cost.

Cost projections were developed for each expansion scenario based on the estimated number of additional trips and a detailed fare structure analysis. For example, extending coverage to 1.5 miles is projected to increase total costs by approximately 43% by 2029, compared to maintaining the current boundary. The analysis considered various fare structures, including a tiered premium fare model, to improve cost recovery. The financial viability of the coverage expansion depends on the fare structure chosen. At the current $4 fare, farebox recovery remains low, covering only about 5% of the total costs for a 1-mile expansion. To improve cost recovery, the team evaluated alternative fare models, such as distance-based fares ranging from $6 to $14 for different coverage tiers. This tiered fare approach could help UTA recoup between 8% and 12% of the total costs by 2029, depending on the expansion distance.

3. Commingling Paratransit with UTA On Demand Services

Another opportunity is to commingle paratransit trips with the Innovative Mobility Solutions' (IMS) UTA On Demand service, using the UTA On Demand service to take on paratransit passengers and, ideally, resulting in a lower overall cost for UTA, as the paratransit service is significantly more expensive on a per-trip basis. This form of commingling would effectively serve as a paratransit overflow service. "Overflow" generally refers to transferring ride requests from one demand response service to another. In this instance, the project team uses "paratransit overflow service" to refer to the idea of using the UTA On Demand service to serve paratransit trips. This is sometimes also referred to as "relief" or "support" service, but for the purposes of this report, it will be referred to either as commingling or overflow.

This analysis explored three different criteria for choosing which paratransit trips could be transferred to the UTA On Demand service:[1]

- **Within IMZs only:** commingle paratransit overflow rides for paratransit rides that start and end in the current IMZs and potential new IMZs
- **Within IMZs and nearby catchment areas:** commingle paratransit overflow rides for rides occurring within current IMZs, as well as in select areas nearby the current IMZs
- **Under a given duration during peak hours:** expand paratransit availability based on time of day (e.g., peak hours) and trip length (e.g., for trips less than 35 minutes in duration)

Additionally, any paratransit trip that is selected through any combination of criteria determined by UTA could be designated for service by UTA On Demand. Each scenario analyzed assumes that all paratransit trips that fit the criteria will be served by UTA On Demand, therefore representing the maximum potential savings. The number of paratransit trips sent to the IMZ was estimated using trip data from UTA's current paratransit service and UTA On Demand service in 2022 and 2023.[2] The existing service parameters, such as booking models and pick-up location, were applied to trips of each of the two service types, where applicable. The team then calculated the following outputs:

- Additional UTA On Demand vehicles needed for the incurred ridership demand
- Estimated additional cost to UTA On Demand of serving paratransit trips with UTA On Demand vehicles (including additional recommended driver training)
- Estimated savings realized by UTA's paratransit service by reallocating some trips to UTA On Demand
- Overall cost impact to UTA as a whole based on the estimated costs and savings (calculated as the cost savings to UTA paratransit minus the additional cost to UTA On Demand).

For each scenario, the maximum potential cost savings for UTA are estimated. Furthermore, each proposed scenario can be independently applied to an IMZ or potential service area or combined with other scenarios to launch a holistic paratransit overflow service. Scenario 1, which investigated commingling within both the proposed East Salt Lake County (SLCO) and proposed West SLCO

[1] This study does not address or discuss existing UTA On Demand capacity challenges. All analysis assumes that the current level of service for UTA On Demand will be consistent. Any additional vehicle hours that are calculated as costs to UTA as part of this study are costs associated with serving commingled paratransit rides, not existing unmet UTA Demand.

[2] UTA currently does not track how often paratransit eligible riders are currently using UTA On Demand. Separate from this approach, UTA could also conduct outreach and marketing efforts to understand how many paratransit riders are using UTA On Demand and how to encourage more use of the service among the paratransit community.

IMZs, would result in the greatest savings for UTA overall relative to the other scenarios. When considering proposed IMZs, this is UTA's greatest opportunity for cost savings. Across existing IMZs, Scenario 2, which would entail enabling UTA On Demand to serve some additional paratransit trips outside of current IMZ boundaries, would result in savings of around $600,000 total, or the greatest savings across existing IMZs (based on about $900,000 in UTA Paratransit savings and about $300,000 in additional cost to UTA On Demand). Scenario 3, which would commingle paratransit trips under a certain duration during peak service hours, could be added to Scenario 1 for additional cost savings. Results aim to inform UTA's decisions about whether to move forward with a commingled paratransit overflow service and, if so, about the potential for commingling in the proposed new zones.

The project team also investigated several operational and administrative changes that are required to support a commingled service, which are included in the Implementation section. Recommendations include training drivers and dispatchers in both UTA On Demand and paratransit services, ensuring that UTA On Demand drivers and operators are trained to deliver the same level of service to paratransit passengers as paratransit drivers and operators. Note that all cost estimates included in this report account for the additional costs required to train drivers. The table below summarizes the findings from the analysis. Should UTA decide to move forward with paratransit commingling, it is recommended that UTA work with their on-demand vendor to finalize the pricing, implementation requirements, and potential savings for the decided commingling approach.

4. Adjusting Fares for Off-Peak Periods

Another promising opportunity to optimize UTA's paratransit operations involves implementing fare adjustments during off-peak periods. The goal is to encourage riders to shift their trips from peak hours (7 to 10 a.m. and 1 to 4 p.m.) to off-peak times by reducing fares during less busy periods. This strategy aims to alleviate high demand during peak times, improve service reliability, and potentially reduce operational costs without compromising affordability for riders who are predominantly low-income or have limited transportation options.

The effectiveness of off-peak fare adjustments depends on the price sensitivity, or elasticity, of UTA's paratransit riders. While paratransit demand is generally considered inelastic due to the limited transportation alternatives available to riders, fare reductions during off-peak hours could still encourage some riders to shift their trips outside of peak demand periods. Based on research from the Transit Cooperative Research Program (TCRP) and general assumptions about fare elasticity, the team estimated the potential impact of introducing reduced fares during off-peak periods:

- **Impact of $1 fare reduction:** A reduction in off-peak fares by $1 (from $4 to $3) is projected to decrease peak trips by approximately 16,400 annually. However, this would also reduce fare revenue by about $35,000 due to the lower price point.
- **Impact of $2 fare reduction:** A reduction of $2 (from $4 to $2) could lead to a more significant reduction of around 60,000 peak trips annually. The resulting fare revenue loss is estimated at about $50,000.

These estimates are based on current ridership patterns, where 70% of total trips occur during peak hours, and reflect the potential demand shift as riders take advantage of the lower fares outside of peak periods.

Introducing reduced fares during off-peak periods could yield several benefits for UTA:

- **Reduced peak demand:** By incentivizing off-peak travel, UTA could shift some demand away from peak periods, potentially reducing the required peak fleet size and the number of drivers needed.
- **Improved on-time performance:** Lower demand during peak periods would likely improve on-time performance, as drivers would have more flexibility and buffer time between trips, minimizing delays and service disruptions.
- **Less trip negotiation:** With fewer rides scheduled during peak hours, the need for trip negotiations (adjustments to pick-up times due to simultaneous demand) could decrease, reducing operational complexities and manual intervention.

While fare adjustments during off-peak periods could offer operational and financial benefits, further research into the specific price sensitivity of UTA's paratransit riders is recommended to fine-tune the approach. Factors such as the type of trips (essential versus non-essential) and rider demographics (transit-dependent versus choice riders) will play a critical role in determining the overall effectiveness of this strategy. Additionally, any fare changes must comply with the Federal Transit Administration's (FTA) regulations that ADA paratransit fares should not exceed twice the fare charged on the entity's fixed-route system.

5. Expanding Eligibility Centers

Expanding eligibility centers represents an opportunity for UTA to enhance access to its paratransit services by reducing the travel burden for current and potential riders. Currently, all applicants must visit the Mobility Center in Murray for in-person functional assessments and mobility device certifications, a process that can be time-consuming and challenging for those living in more distant areas, such as Ogden and Provo.

To address this issue, the project team explored the potential benefits of adding new eligibility centers in strategic locations, such as Ogden, Salt Lake City, Provo, and West Valley City. Additional centers would reduce travel distances for many applicants, improve the overall accessibility of the service, and potentially lower costs for UTA by shortening trip distances for applicants traveling to the centers.

While establishing new centers would involve significant operational costs (approximately $400,000 per year, similar to the current center), UTA could seek funding through federal grants, such as the Bus and Bus Facilities Program, to support capital expenses. Alternatively, UTA might consider more cost-effective options, like partnering with community organizations to utilize existing facilities for mobility device certifications.

These initiatives would reduce barriers for paratransit riders and ensure a more equitable assessment process across UTA's service area.

6. Enhancing Communication Through a Rider App and Web Portal

Improving communication through a rider app and web portal presents an opportunity for UTA to enhance the accessibility and efficiency of its paratransit service. This new platform would allow riders to book, edit, and cancel trips, as well as track vehicle arrival times, without needing to call UTA, offering greater flexibility and convenience.

By supplementing the existing call-in booking system, the app and web portal could reduce manual processes for UTA staff, decrease no-show rates through ride reminders, and improve overall operational efficiency. Survey results show strong support for these features, with over 50% of respondents indicating that app-based booking and vehicle tracking would increase their likelihood of using paratransit services.

In addition to streamlining ride booking, the platform could result in cost savings by reallocating dispatcher hours, reducing vehicle wait times, and minimizing rider complaints related to service timing and missed rides. These enhancements are expected to improve the overall user experience and operational performance of UTA's paratransit services.

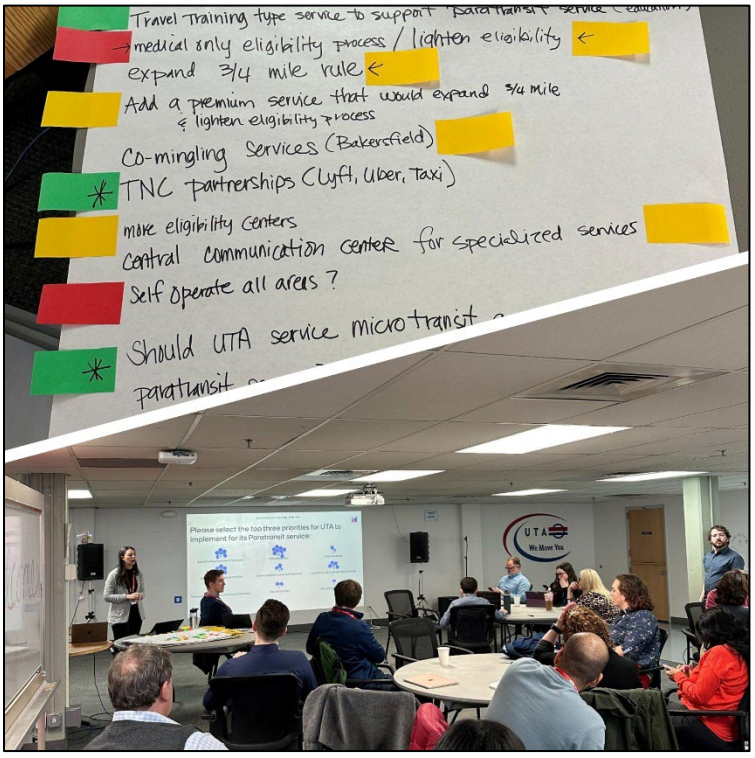
Table Of Contents

1. Background

The Utah Transit Authority (UTA) paratransit service operates a specialized fleet designed to serve individuals with disabilities, ensuring accessible transportation within a ¾-mile boundary of fixed-route services and during standard operating hours. As part of its commitment to promoting equity, sustainability, and service efficiency, UTA launched the Paratransit Forward Study to evaluate the current state of its paratransit operations and identify areas for improvement. The initial assessment, alongside comprehensive surveys of current and potential future users, highlighted several inefficiencies within the existing system. Additionally, insights gathered from stakeholder interviews and peer transit agencies presented examples of alternative service models and strategies that could significantly enhance overall service delivery if implemented. The Alternatives Analysis study presented here is a critical phase aimed at identifying, evaluating, and comparing various operational strategies that could enhance UTA's paratransit services. The goal of this analysis is to develop viable service delivery scenarios that address the unique needs of the customers within the UTA service area while promoting access, reliability, and cost-efficiency.

The community engagement sessions and peer agency interviews provided critical insights that were further explored during a paratransit workshop held on February 27, 2024. In this workshop, stakeholders engaged in a comprehensive brainstorming session, leading to the generation of multiple opportunities aimed at enhancing UTA's paratransit services. Based on these discussions, the alternatives were categorized into two key areas:

1. **Focused Analysis** involves ideas that require detailed data examination and sophisticated modeling techniques. These alternatives focus on in-depth assessments of operational changes that could substantially impact service delivery, reliability, and cost-effectiveness. The complexity of these analyses is justified by the potential for significant improvements.
2. **High-Level Exploration** includes strategies that are less data-intensive but still hold promise for meaningful enhancements. These alternatives are primarily evaluated through a broad overview of their benefits and potential costs, offering a quicker path to implementation if found feasible.



Brainstorming session at the paratransit workshop

Figure 1 presents the ideas generated during the workshop, organized into six key areas that are particularly relevant to UTA and its customers. These ideas can be classified under either Focused Analysis or High-Level Exploration, based on their level of complexity, data requirements, and potential impact. From this list, UTA identified seven initiatives with the highest potential to enhance the paratransit service.

For the Focused Analysis, UTA prioritized the following initiatives:

- **Allow same-day TNC trips:** Facilitate same-day paratransit bookings through third-party services like Uber and Lyft, providing greater flexibility for riders.
- **Enable commingling of vehicles and shifts between UTA On Demand and Paratransit:** Optimize resource allocation by allowing shared use of vehicles and driver shifts from UTA On Demand to serve paratransit trips to enhance coverage and operational efficiency.
- **Expand service coverage:** Explore the possibility of extending the paratransit service area beyond the current ¾-mile radius of fixed-route services.

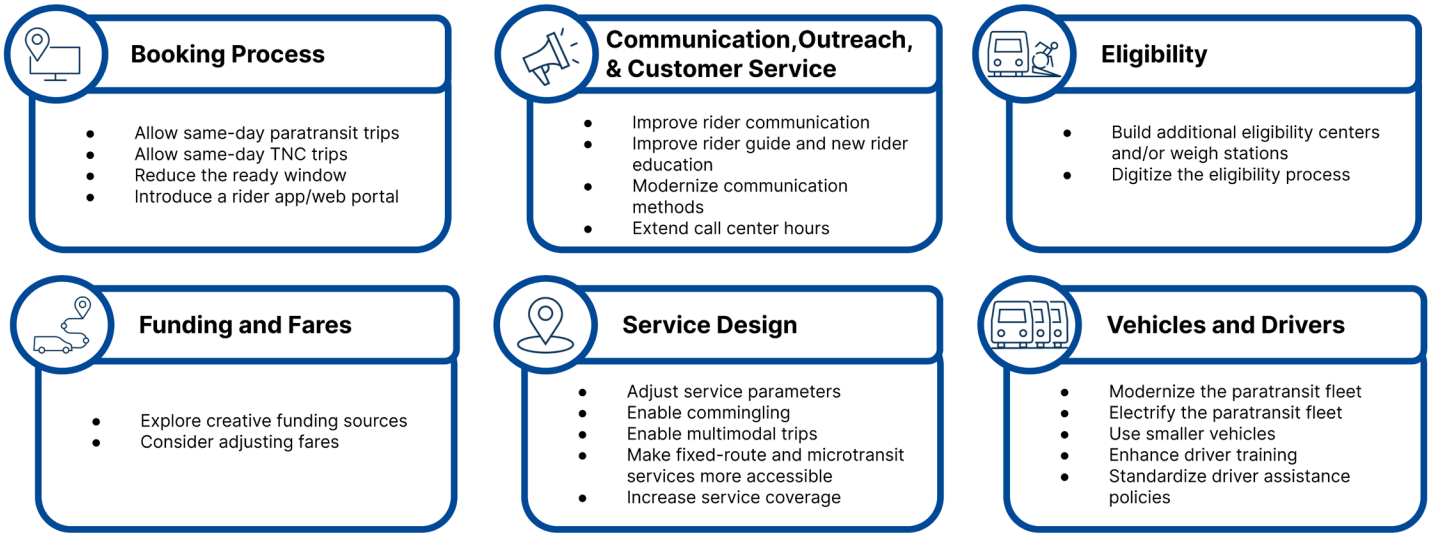


Figure 1 – Proposed Opportunities for Analysis: This figure categorizes ideas from the workshop into six key areas: Booking Process, Communication, Outreach & Customer Service, Eligibility, Funding and Fares, Service Design, and Vehicles and Drivers. These categories outline the proposed strategies for improving service delivery and efficiency.

- **Evaluate fare adjustment:** Investigate fare modifications, such as off-peak discounts or premium fares for certain rides, aimed at improving affordability and optimizing service efficiency.

In terms of High-Level Exploration, UTA selected the following strategies:

- **Build additional eligibility centers and/or mobility certification centers:** Expand the number of locations where potential riders can complete eligibility assessments and certify mobility devices, reducing the travel burden for many current and prospective users.
- **Introduce a rider app or web portal:** Develop a digital platform, either a mobile app or a website, that allows riders to conveniently book trips, manage their accounts, and receive real-time updates.
- **Improve rider communication:** Implement improvements in communication channels to provide timely updates on eligibility status, ride scheduling, service alerts, and other critical information to better serve riders' needs.

Consequently, this task will prioritize the highest-potential initiatives identified by UTA that offer the greatest benefits.

2. Needs Assessment

The UTA paratransit service area spans 475 square miles and provides coverage within a ¾-mile boundary from UTA's fixed routes. In 2022, UTA delivered 303,282 paratransit trips to various locations within this service area. The average travel time to the top 30 destinations was approximately 44 minutes, covering an average distance of 8 miles. These trips are generally short and often take a reasonable amount of time when considering the need for assistance, boarding, and alighting. However, the financial implications are significant. According to 2022 financial data, UTA operates at an average cost of $74 per trip. Compared to other transit modes, this cost is substantially higher. Under FTA regulations, paratransit fares cannot exceed twice the fare charged for a comparable trip on the fixed-route system. This regulation limits farebox recovery, which currently covers only about 5% of operating costs, highlighting the financial challenges inherent in the current paratransit model.

While traditional paratransit services can be effective for trips scheduled at least 24 hours in advance, they are less flexible and more costly for on-demand, same-day travel. Transportation Network Companies (TNCs) and comingling with on-demand vehicles within the Innovative Mobility Zones (IMZs) offer a cost-effective solution for these same-day trips due to their ability to dynamically match supply with demand and provide immediate service. This improved flexibility benefits riders by better accommodating spontaneous or urgent transportation needs, which traditional paratransit services may struggle to fulfill efficiently.

Another key challenge is the restriction that the current paratransit service model places on UTA's ability to redesign and optimize its fixed-route network. Because ADA paratransit service is required to mirror fixed-route service areas, any adjustments to bus or rail routes must account for the corresponding impact on paratransit coverage. This limits UTA's ability to make changes that improve efficiency, expand service to high-demand corridors, or restructure routes to better meet evolving community needs. Expanding paratransit coverage beyond the ¾-mile boundary, particularly through flexible service models like premium-fare zones, could provide UTA with greater operational freedom. By decoupling fixed-route modifications from paratransit constraints, UTA can plan a more effective transit network while ensuring that paratransit users retain or even gain access to high-quality services.

Moreover, UTA could also benefit from expanding eligibility centers and weight stations across the service area to streamline the rider eligibility process, reduce wait times, and improve accessibility. Additionally, implementing a rider app and web portal would allow for more flexible trip management, reducing the dependency on call-in services and improving communication through features like real-time tracking and ride notifications. Finally, adjusting fare structures, particularly by offering reduced off-peak fares, could help balance demand throughout the day and optimize resource allocation during peak hours.

The high operating costs are driven by factors such as low passenger density, specialized vehicles, and extended trip distances, which make it difficult to achieve cost efficiency while maintaining compliance with ADA requirements. The alternatives discussed in this study aim to address these financial pressures by introducing more flexible and scalable service models and qualitative improvements. This needs assessment is informed by findings from previous studies, survey results, stakeholder feedback, and peer agency insights. It highlights the challenges faced by current and prospective paratransit users. Therefore, the suggested strategies enhance service accessibility, improve efficiency, and elevate overall customer satisfaction.

The following sections outline the selected alternatives identified to address the customers desired service highlighted in this assessment.

An ambulatory wheelchair rider using UZURV. UZURV is an Adaptive TNC designed to provide safe, reliable, and affordable transportation for individuals with mobility needs.

2.1 TNC Integration: Addressing Service Gaps and Improving Operational Efficiency

While the current paratransit service model effectively serves many riders, the inherent limitations of a pre-scheduled, shared-ride system can lead to challenges in specific situations. These situations may include long-distance trips, peak-hour demand, and service to less densely populated areas,

potentially resulting in longer wait times, extended ride durations, or less direct routing for some riders. These challenges were highlighted in the Task 1 report, which underscored the operational strain and customer burden associated with existing service patterns. Integrating TNCs such as Uber and Lyft can alleviate these issues by offering a flexible and scalable alternative. Importantly, TNC integration is not limited to same-day trips; it can also enhance scheduled paratransit services by providing more options for riders who need timely, reliable transportation. However, it is crucial to acknowledge that TNC integration presents challenges regarding regulatory compliance and service provision. TNCs may face difficulties in meeting all FTA regulatory requirements for paratransit, particularly concerning drug and alcohol testing and driver training. Furthermore, UTA's contract with the State of Utah to provide trips through the Division of Services for People with Disabilities (DSPD) includes requirements that TNCs may not be able to meet. TNCs also typically offer very limited support for passengers requiring mobility device transport and may not be equipped to respond to reasonable modification requests as mandated by the ADA.

With these substantial limitations in mind, integrating TNCs could offer a flexible and scalable alternative for specific trip types or situations. Importantly, TNC integration is not limited to same-day trips; it can also enhance scheduled paratransit services by providing more options for riders who need timely, reliable transportation, provided that the aforementioned challenges can be addressed.

Survey results further support the need for TNC integration. Approximately 15% of respondents (190) reported that they currently use rideshare services in addition to paratransit, while 16% (269) expressed interest in same-day booking options. Peer agencies interviewed during this study also emphasized the significant operational benefits of incorporating TNCs, which have proven effective for overflow, rescue rides (trips that address immediate service gaps due to operation or logistics errors, such as vehicle breakdowns, driver shortages, or scheduling conflicts), and as a supplementary service during peak times. In terms of costs, peer agencies reported that integrating TNCs resulted in per-trip costs as low as $15 to $20, far below the $74 currently incurred by UTA’s paratransit service. For example, the Denver Regional Transportation District (RTD), which uses TNCs for 40% of their paratransit trips, reported substantial savings while maintaining service quality and compliance with ADA requirements. It is important to note that these cost savings may not be directly transferable to UTA's context without careful consideration of the specific challenges and requirements outlined above. Expanding TNC use can result in reduced ride times, enhanced service reliability, and better customer experiences. However, achieving these benefits would require UTA to implement a robust driver training program for any TNC drivers participating in the paratransit program, ensuring they meet the necessary standards for assisting passengers with disabilities and complying with ADA regulations.

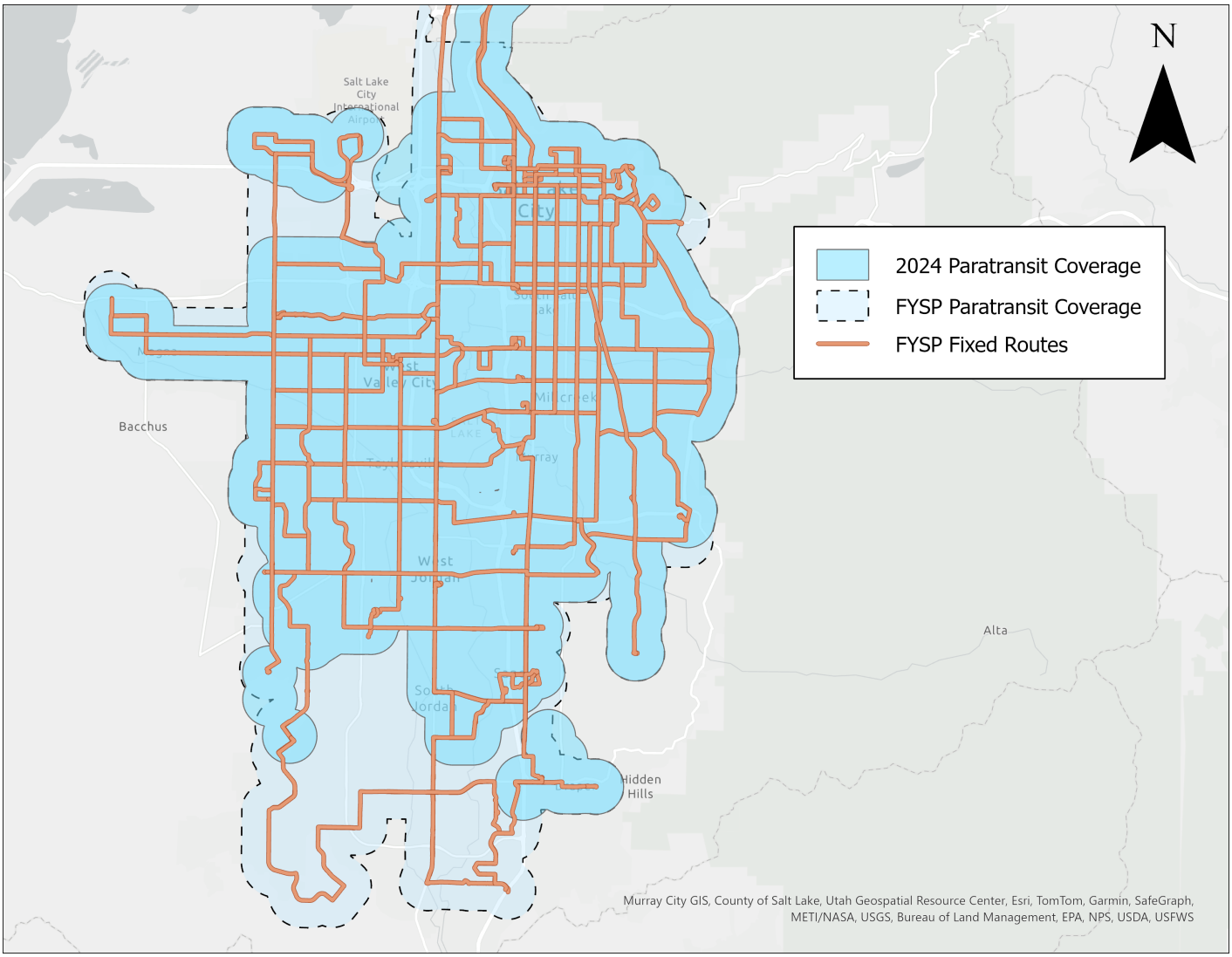
2.2 Coverage Expansion: Bridging Accessibility Gaps and Meeting Demand

The existing service coverage, which adheres to the ¾-mile boundary from fixed routes, limits accessibility for a significant portion of potential riders. According to the survey results, 53% of respondents (210) indicated that they are unable to use paratransit for specific trips due to their location outside the current service area. Additionally, 20% (269) of respondents prioritized coverage expansion as a key area for improvement in UTA's paratransit service.

Expanding service coverage also aligns with broader community goals of improving accessibility and mobility for underserved populations and particularly Areas of Persistent Poverty (AoPP). Feedback from the workshop indicated strong support for increasing paratransit ridership by reaching more communities, particularly in suburban and rural areas that currently fall outside the coverage zone. This feedback, combined with survey data and peer agency experiences, highlights the potential benefits of thoughtful coverage expansion, both in terms of service equity and operational effectiveness.

Although expanding paratransit coverage improves accessibility, the actual ridership growth depends on other factors. Estimates suggest up to 10% of the population may have disabilities. However, actual paratransit enrollment and utilization are much lower due to eligibility criteria, alternative transportation options, and individual travel preferences. For example, many individuals rely on personal vehicles, accessible fixed-route transit, or community programs that reduce their need for paratransit.

Therefore, service expansion alone will not proportionally increase ridership. Factors such as ADA eligibility, existing mobility choices, and public awareness influence adoption. To maximize the benefits of expanded coverage, UTA must pair geographic expansion with outreach, travel training, and coordination with other transit options. This approach ensures accessibility improvements while maintaining service efficiency.



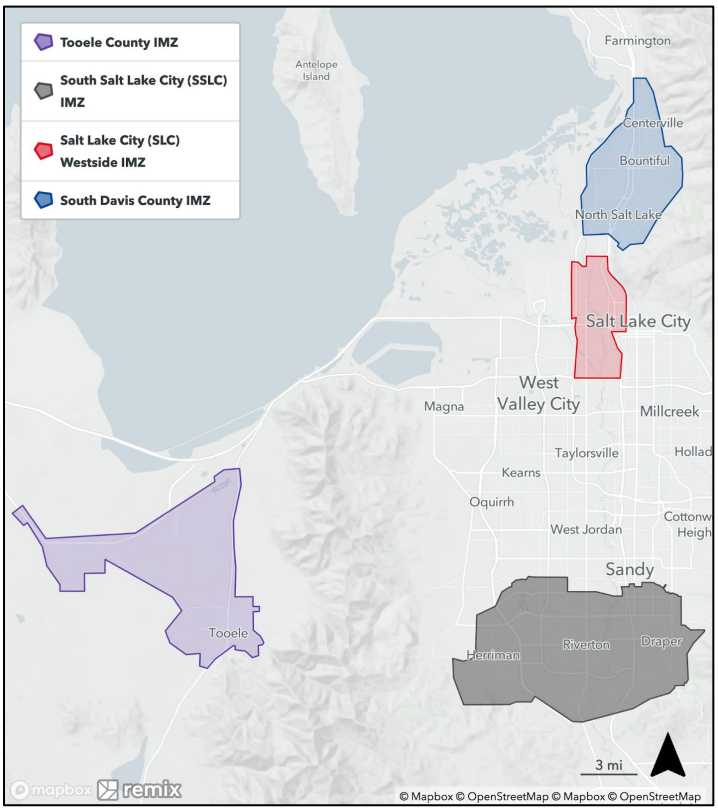
Map of Paratransit Coverage in Salt Lake County: This map highlights the existing 2024 paratransit coverage, and the proposed expansions identified in the Five-Year Service Plan (FYSP). The map illustrates how the new fixed-route services will extend paratransit access, significantly expanding the coverage area.

2.3 Commingling: Optimizing Service Delivery Through Integrated Operations

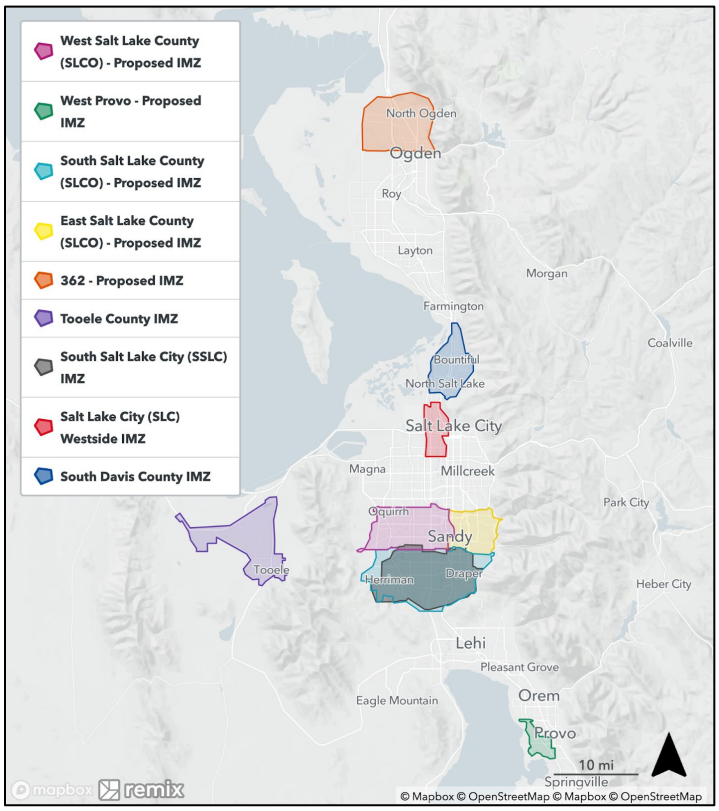
Like many ADA-compliant services, UTA's paratransit service is costly to operate — significantly more so than UTA On Demand, which averages between $19 and $22 per ride across all Innovative Mobility Zones (IMZs). Given UTA's commitment to maintaining affordable fares for high-need, low-income passengers, managing these high operating costs is crucial. A key strategy for cost reduction involves commingling paratransit trips with UTA On Demand, allowing UTA to leverage the less expensive, flexible service while maintaining ADA compliance.

Integrating these services through a commingling approach, utilizing a unified fleet for both paratransit and on-demand trips, could address high operational costs, improve vehicle utilization, and enhance service flexibility. UTA's On Demand platform supports this strategy by dynamically allocating vehicles to meet diverse service needs, providing a cost-effective, reliable, and fully accessible transportation solution.

A successful commingling model requires partnerships with vendors who understand agency needs and can deliver tailored, accessible solutions. Examples of transit agencies successfully commingling riders using on-demand platform technology platforms



(a) UTA IMZs



(b) Current and Proposed UTA IMZs

This figure illustrates the (a) current UTA IMZs and (b) the proposed expansions under the Five-Year Service Plan (FYSP). The existing IMZs highlight areas where on-demand services are currently offered, while the proposed expansions aim to extend coverage, enhancing flexibility and access to paratransit and general transit services within the UTA network.

include High Valley Transit in Summit County, Utah; Golden Empire Transit District in Bakersfield, California; StarTran in Lincoln, Nebraska; and Citibus in Lubbock, Texas.

2.4 Addressing Peak Demand with Off-Peak Fare Adjustments

Managing peak demand is a critical component of improving the cost-effectiveness and service quality of UTA's paratransit operations. One potential strategy to achieve this is through the adjustment of fare structures, specifically by introducing reduced fares during off-peak hours. Currently, a significant portion of paratransit trips occur during peak periods, placing substantial pressure on UTA's resources, such as vehicle availability and driver capacity.

By lowering fares during off-peak hours, UTA could incentivize riders to schedule trips outside of peak times, thereby balancing demand throughout the day. This approach would help reduce congestion during high-demand periods, improve on-time performance, and potentially decrease the need for additional vehicles and drivers during peak hours.

Interpreting Cost Savings and Operational Realities

While the cost savings presented in this study provide a useful baseline for evaluating different alternatives, it is essential to understand that these numbers represent the maximum potential savings under ideal conditions. The alternatives explored in this study are designed to highlight opportunities for optimizing resource use and improving cost-efficiency. However, these savings are not guaranteed and depend on several operational factors.

The per-trip cost estimates used in the analysis are based on a simplified model that assumes direct cost reductions by shifting trips to lower-cost alternatives. In reality, UTA's cost structure is largely influenced by fixed and semi-fixed overhead costs — such as vehicle maintenance, administrative staffing, and contractor management — that do not decrease on a trip-by-trip basis. To achieve actual savings, there would need to be systemic reductions in these overhead costs, such as decreasing fleet size, optimizing staffing levels, or renegotiating service contracts.

For example, while commingling UTA On Demand trips with paratransit has the potential to reduce the cost per trip by better utilizing vehicles and drivers, it may also introduce new administrative and operational complexities. Commingling requires additional coordination and scheduling resources to manage trips effectively, particularly to ensure ADA compliance and service quality for paratransit riders.

2.5 Expanding Eligibility Centers

Building additional eligibility centers and mobility device certification sites throughout the UTA service area is essential to enhance the accessibility and efficiency of paratransit services. Currently, having one center cover the entire service area results in many passengers and potential passengers having to travel long distances for eligibility approval. Expanding the network of these centers would help streamline the eligibility determination process, ensuring that new riders can access services promptly.

In addition to improving service accessibility, strategically located mobility device certification centers would reduce travel times for current riders who must get their mobility devices approved more often than they are required to take the full eligibility assessment. During recent workshops and stakeholder surveys, feedback indicated a strong preference for more localized eligibility centers to better serve the geographically diverse UTA service area. Implementing these expansions would not only facilitate faster eligibility assessments but also optimize the use of vehicles tailored to specific mobility needs, ultimately contributing to a more efficient and responsive paratransit system.

2.6 Enhancing Rider Communication Through a Rider App and Web Portal

Introducing a rider app and web portal is a critical step toward modernizing UTA's paratransit services and improving rider communication. The app would allow users to book, modify, or cancel trips directly, reducing reliance on the traditional call-in method and offering greater convenience and flexibility. During community engagement sessions, over 50% of surveyed participants expressed a preference for app-based booking and vehicle tracking features, indicating a strong demand for digital tools to enhance the user experience.

Furthermore, the app could provide real-time vehicle tracking, ride reminders, and push notifications for service updates, enhancing transparency and reliability. This feature set would be particularly beneficial in reducing no-show rates and improving on-time performance by keeping riders informed about their trips. Enhanced communication capabilities were highlighted as a priority in stakeholder meetings and feedback from riders, highlighting the need for a digital platform that supports seamless communication and better service management. By adopting these tools, UTA can improve customer satisfaction, streamline operations, and ultimately lower costs associated with manual booking and trip coordination.

3. Opportunity #1: TNC

TNCs are an established mode of transportation, often referred to by the general public as rideshare services, that leverage online platforms to provide on-demand rides by connecting passengers directly with drivers. TNCs offer both exclusive rides for individual passengers and shared trips where multiple passengers with similar destinations are grouped together. Integrating TNCs into paratransit services is an increasingly popular approach among transit agencies seeking cost-effective and responsive solutions to meet diverse rider needs. However, for UTA, the primary consideration in evaluating TNC integration is the overall customer experience; any cost savings must not come at the expense of significantly diminished rider experience.

Agencies across the U.S. have successfully implemented TNC partnerships with various fare and subsidy models that attract and accommodate paratransit riders. For example, the Greater Richmond Transit Company (GRTC) partnered with UZURV and Roundtrip to launch CARE On-Demand, a same-day service for paratransit customers that has achieved a 97% on-time performance rate and saved approximately $574,000 since its launch in 2017. CARE On-Demand trips cost an average of $26, with GRTC subsidizing up to $15 of the fare, illustrating significant savings compared to the $74 average cost per trip of traditional paratransit services.

Lessons from peer agencies interviewed, such as Denver RTD and Dallas Area Rapid Transit (DART), highlight the importance of clear trip eligibility criteria, adaptable fare structures, and strong performance monitoring to ensure cost savings and service quality. Additionally, effective integration requires managing operational challenges, such as ADA compliance and system coordination, to provide a seamless, equitable experience for all riders.

Building on the success of other transit agencies, UTA is exploring the integration of TNCs into its paratransit services to offer more flexible, cost-effective, and responsive transportation options for riders. Unlike UTA's current ADA paratransit service, which requires trips to be booked at least 24 hours in advance, the proposed TNC integration would allow for same-day or real-time booking, giving riders more flexibility and freedom. This service would be particularly valuable for those with spontaneous or urgent transportation needs, providing a convenience that the current system does not offer. Additionally, TNCs can operate in areas and during times when paratransit services might not be available, thereby enhancing overall service coverage and accessibility.

Therefore, implementing TNCs would offer several value-added benefits:

- **Same-day booking:** Allowing riders to book trips on the same day provides flexibility for last-minute needs.
- **Expanded reach:** TNCs can extend UTA’s service area to locations that are costly or difficult for traditional paratransit to serve.
- **Cost savings:** Using TNCs for simpler trips reduces reliance on specialized vehicles, lowering operational costs.
- **Improved experience:** App-based booking, real-time tracking, and precise pick-up windows enhance convenience and satisfaction.

Following the description of the proposal, this section evaluates how TNC integration could be implemented, potential challenges (such as ensuring ADA compliance and maintaining service quality), and the projected financial impact of these changes.

3.1 Evaluating TNC Integration Criteria

Partnering with TNCs to supplement certain ADA paratransit services could potentially optimize operating costs and increase service flexibility for UTA. However, to evaluate the feasibility and effectiveness of this integration, several key factors must be examined to ensure the approach is equitable, meets service standards, and aligns with UTA’s goals. The following criteria outline the key considerations that were assessed in this study to determine the potential benefits and challenges of TNC integration:

TNC Demand and Eligible Trips

First, it is essential to identify the target ridership for TNC integration. Understanding which segments of the paratransit user base are most likely to adopt TNC services is crucial. This could involve analyzing rider demographics, preferences, and mobility needs to determine what percentage of customers are open to incorporating TNCs into their daily commute.

To determine which trips are best suited for TNC integration, a series of selection criteria that focus on rider needs and trip characteristics is used:

1. **Ambulatory vs. wheelchair users:** TNC services are generally more suitable for ambulatory passengers, as most TNC vehicles and/or drivers are not equipped to accommodate mobility devices such as wheelchairs. Since ADA compliance for TNCs remains a challenge, it is crucial to prioritize paratransit services for riders who require specialized vehicles and assistance.
2. **Solo riders vs. personal care attendants and additional passengers:** Riders who travel alone are generally better suited for TNC trips because these services typically use smaller vehicles and are designed for individual or single-passenger transport. For group trips involving multiple passengers or individuals who travel with personal care attendants (PCAs), traditional paratransit services are more appropriate. Paratransit vehicles are larger and better equipped to accommodate multiple passengers and any necessary mobility aids, ensuring adequate space and support for all riders.
3. **Subscription vs. casual trips:** TNCs are generally designed for on-demand, casual trips rather than regular, subscription-based rides. Subscription trips — those scheduled on a recurring basis — are more efficiently handled by traditional paratransit services, which can plan routes and allocate resources more effectively for repeated journeys. Conversely, casual trips that are more sporadic or unpredictable align well with the flexibility offered by TNCs.

By applying these criteria in succession, we can effectively segment the ridership and determine which trips can be shifted to TNC services. The goal is to match the right mode of service with the unique needs of each rider. Paratransit riders have varying needs, with some using mobility devices or requiring specialized equipment, such as ramps, to board vehicles. For the first selection criterion, as discussed earlier, ambulatory riders are the most suitable candidates for TNC services, given the limited availability of WAVs in TNC fleets.

Table 1: Mobility device information for UTA paratransit riders

Mobility Device / Equipment Tags	Number of Trips	Type of Mobility
Ambulatory	177,514	Ambulatory
Needs a Ramp	53,352	Ambulatory
Wheelchair	40,569	Wheelchair
Power Chair	27,744	Wheelchair
Scooter	1,828	Wheelchair
Rider Requires 2 Seats	1,766	Ambulatory
Not Available	405	-
Extra Wide Long WC	84	Ambulatory
Total	303,282	

UTA's ridership data includes detailed information on the mobility devices used by passengers. Leveraging this data, the team applied a filtering process to identify potential riders who meet the first selection criterion. In this process, mobility devices were categorized based on whether the system indicates that the rider is ambulatory or requires a wheelchair. The data shown in Table 1 reveals that a significant portion of trips involve ambulatory riders, suggesting substantial opportunities for outsourcing these trips to TNCs. In total, from the first selection criterion, 232,778 trips are deemed candidates for TNC outsourcing.

Paratransit vehicles are specifically equipped to handle multiple passengers, including those traveling with PCAs or mobility aids, and provide trained drivers who can offer assistance beyond what a typical TNC driver might provide. Thus, while both TNCs and paratransit can serve solo riders and those with PCAs, paratransit remains the better option for group trips or when specialized

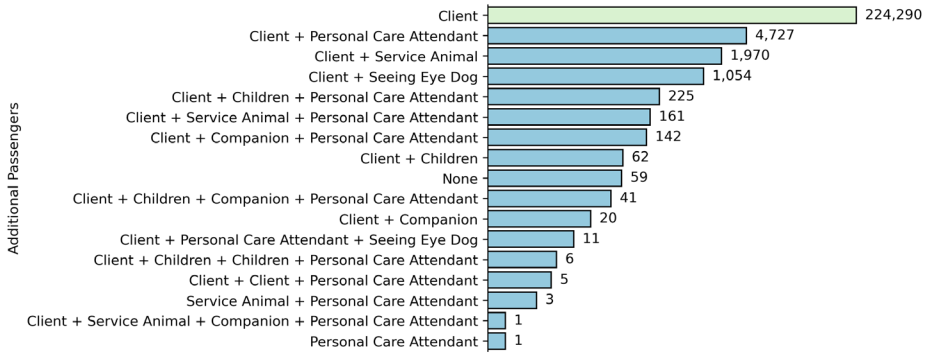


Figure 2 – Distribution of Additional Passenger Types in Paratransit Trips: The figure displays a bar plot (not to scale) showing the distribution of different passenger types accompanying paratransit riders. Solo riders represent the most significant category by a wide margin, accounting for the majority of trips. Other categories, such as riders traveling with a PCA or companions, are present in smaller numbers.

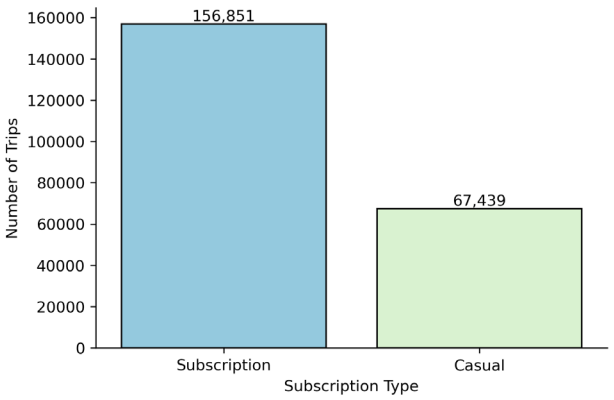


Figure 3 – Distribution of Subscription vs. Casual Trips for Paratransit Riders: The bar plot illustrates the distribution of subscription and casual trips among UTA paratransit riders in 2022. Out of the 224,290 trips identified from the second selection criterion, 67,439 (or 30%) are casual trips, while the remaining trips are subscription-based.

support and larger vehicle capacity are required. Therefore, for the second selection criterion, the team examined the presence of additional passengers traveling with the primary rider. Out of the 232,778 trips identified from the first selection criterion, 224,290 were completed by solo riders, as illustrated in Figure 2. These trips are considered more suitable for outsourcing to TNCs, as they align with the capabilities of current TNC services for riders who do not require additional support.

The final selection criterion considers the type of trips, categorizing them as either 1) subscription or 2) casual. Subscription trips are recurring rides scheduled regularly, such as weekly medical appointments or work commutes, whereas casual trips are more sporadic and typically requested on-demand, such as grocery shopping or leisure activities. Given that TNC services are predominantly designed for on-demand real-time bookings, they are less suitable for subscription trips that require advanced scheduling and consistent service reliability. Pre-booking through TNC platforms is not only less common but often incurs higher costs compared to on-demand requests.

As shown in Figure 3, out of the 224,290 trips selected based on the second criterion, 67,439 are designated as casual trips. This means that, from the total of 303,282 trips provided in 2022, approximately 67,439 trips — 22% of all trips — could potentially be shifted to TNC services. In terms of ridership, out of a total of 1,906 riders in 2022, 1,222 riders — approximately 64% of all riders — are identified as potential TNC users.

TNC Coverage Area

Service area coverage is another key consideration. Should TNCs be available across the entire service area, or should trips be limited to specific zones, such as low-density areas or regions where traditional paratransit is less efficient? Defining the geographic boundaries for TNC use will be critical to optimizing both cost and service delivery. For this study, it is reasonable to assume that TNC services would initially be offered within the existing paratransit coverage area, which encompasses a ¾-mile radius from fixed routes. Depending on the performance, the service area could be downsized to limited zones, expanded to provide 24/7 service throughout the service area (similar to Denver RTD's approach), or include specific regions outside of the service area such as underserved zones or AoPP.

TNC Subsidy Model and Service Cap

Cost considerations are central to the success of any TNC partnership. Determining an appropriate fare strategy, including how much UTA should subsidize each ride, will directly impact both rider participation and financial sustainability. The fare structure should provide a balance between affordability for riders and cost-effectiveness for UTA. For example, Table 2 highlights the various subsidy models employed by the agencies interviewed. Among these, the **shared cost model**, implemented by agencies like DART and Denver RTD, and the **capped fare model**, used by Pinellas Suncoast Transit Authority (PSTA), stand out as effective approaches.

To ensure fair and manageable usage of TNC services, a service cap should be implemented. For instance, the Denver RTD applies a maximum of 60 TNC requests per rider per month (equivalent to 30 round trips). For this study, the team analyzed the 67,473 eligible trips to understand the distribution of trip counts per rider per month. The analysis shown in Figure 4 indicates that almost all riders use paratransit services fewer than 60 times per month, with approximately 80% of riders taking between 2 to 20 trips monthly. Based on these results, there is no immediate indication that a strict service cap needs to be enforced under a 60-trip limit. However, a modest cap during the pilot phase may be advisable to monitor rider behavior and gauge the voluntary adoption of TNC services, helping UTA better understand patterns of usage before full-scale implementation.

Alongside service caps, the study also considers three primary fare and subsidy models for integrating TNC services:

1. **Fixed-based subsidy:** UTA would cover a fixed amount per trip (for example, up to $20) with any additional cost being the rider's responsibility.
2. **Distance-based subsidy:** UTA would fully subsidize trips up to a certain distance, with this analysis assuming a limit of 10 miles. Any distance beyond that would be covered by the rider.
3. **Co-pay subsidy:** In this model, similar to what the DART uses, the rider pays a fixed co-pay of $4 (the current paratransit fare), while UTA covers the remaining cost up to a $20 maximum.

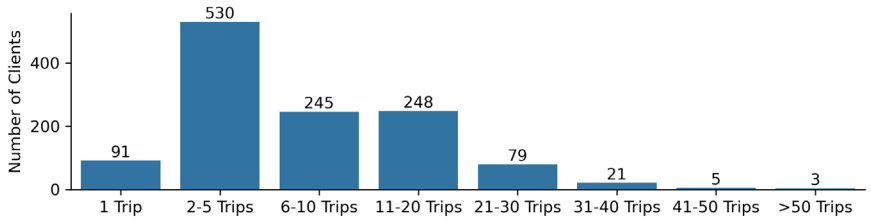


Figure 4 – Distribution of Paratransit Usage per Rider per Month: The figure shows a bar plot illustrating the distribution of how frequently riders use paratransit services on a monthly basis. The majority of riders (about 80%) utilize the service between 2 to 20 times per month, with very few exceeding 60 trips. This indicates that most riders fall well below the proposed service cap of 60 trips per month, supporting the conclusion that a strict cap may not be necessary.

UTA has shown particular interest in the co-pay subsidy model due to its potential to balance affordability for riders with cost-effectiveness for the agency. Currently, UTA charges a fare of $4 per trip for paratransit services, which is less than twice the standard fixed-route fare of $2.50, in compliance with FTA regulations. The co-pay subsidy model allows UTA to maintain an affordable fare structure for riders while potentially reducing the overall cost per trip by covering only a portion of the fare, rather than the entire cost, making it a financially sustainable option.

Vehicle Accessibility and ADA Compliance

A critical aspect of integrating TNCs is ADA compliance. While TNCs offer flexibility, many agencies struggle to fully comply with ADA requirements, particularly in terms of vehicle accessibility and driver training. UTA must determine the level of ADA compliance required for the partnership. TNCs could be strategically utilized to cover trips that are not currently feasible within UTA's existing structure, such as emergency backup rides, late-night service gaps, or same-day trip requests that cannot be accommodated due to capacity constraints.

Table 2: Subsidy structure used by different agencies.

Peer Agency	Subsidy
DART	Customer Pays: First $3 Agency Pays: Up to $35
RTD	Agency Pays: Up to $25
PSTA	Customer Pays: $3.50 for the first four rides in a day; Customer Pays: $6.00 for the fifth trip and beyond

3.2 TNC and Paratransit Cost Calculation

Paratransit Cost Estimation

To calculate the cost of operating paratransit, we use the cost per passenger mile provided by UTA for 2022. This figure is calculated as Total Expenditure / Total Passenger Miles. For 2022, the total expenditure for paratransit services was reported as $30 million, while the total passenger miles traveled was 4.4 million miles. This results in a cost per passenger mile of $6.72. Therefore, the cost of a paratransit trip can be calculated by multiplying the cost per passenger mile by the paratransit distance traveled[3].

[3] The distance traveled was recalculated using reprocessed odometer data. Due to errors in the original data, the team employed an algorithm to reconstruct the vehicle pick-up and drop-off sequence for each trip, which was then processed through a locally hosted GraphHopper Routing API to determine accurate distances.

TNC Cost

To estimate the TNC cost, the team used the Uber Fare Estimator[4] for several representative locations. Based on these calculations, the total TNC cost is calculated as:

- **Base fare:** A fixed starting fee of $0.49.
- **Time component:** $0.27 per minute multiplied by the total trip time.[5]
- **Distance component:** $0.81 per mile multiplied by the total trip distance.[6]
- **Booking fee:** A fee calculated as $0.13 multiplied by the trip distance, plus an additional $2.6.

In other words, the TNC cost is the sum of the base fare, a time-based charge, a distance-based charge, and a booking fee that depends on both the distance and a fixed amount.

The derived fare model was validated against actual Uber fare estimates for different locations, resulting in a RMSE of 1.9, indicating strong alignment between the predicted and observed fares. The comparison results are presented in Table 3.

Table 3: Validating the TNC fare model

Location	TNC Estimated	TNC Actual (UberX)	Difference
1	$22.86	$19.59	$3.27
2	$8.61	$9.38	($0.77)
3	$11.46	$13.66	($2.20)
4	$10.23	$11.10	($0.87)
5	$23.40	$24.23	($0.83)
6	$4.08	$6.54	($2.46)
7	$11.31	$11.88	($0.57)
8	$6.47	$8.15	($1.68)
9	$17.64	$15.63	$2.01
10	$20.74	$18.51	$2.23

TNC rides are generally more affordable than traditional taxis, largely due to competitive pricing and efficient operations. However, these rides are also subject to algorithmically driven "surge pricing" during peak demand periods, which can significantly increase cost for passengers. Surge pricing is influenced by dynamic factors such as the number of users requesting rides, driver availability, and region-specific demand patterns. Given the variability and unpredictability of these factors, a straightforward approach to estimate the impact of surge pricing is to apply a peak hour surge multiplier to the base TNC cost.

Peak hours can be easily identified using ridership data, as illustrated in Figure 6. The analysis shows that peak times typically occur between 6 and 9 a.m., and again from 1 to 4 p.m. During these periods, higher traffic volumes and extended travel times lead to increased demand for rides, triggering surge pricing. Based on the observed patterns, a surge multiplier of 2 is applied to all trips where the pick-up time falls within the identified peak hour windows. This conservative multiplier reflects common industry practices and accounts for the elevated pricing that passengers are likely to encounter during high-demand periods.

[4] https://www.uber.com/global/en/price-estimate/

[5] For comparison purposes, the team assumed an average speed of 25 mph to calculate the trip time component in the TNC cost model.

[6] The trip distance was calculated using the GraphHopper API to determine the shortest path between pick-up and drop-off locations. This routing did not account for real-time traffic conditions and assumed maximum speed limits, resulting in fare estimates that represent lower bounds or best-case scenarios.

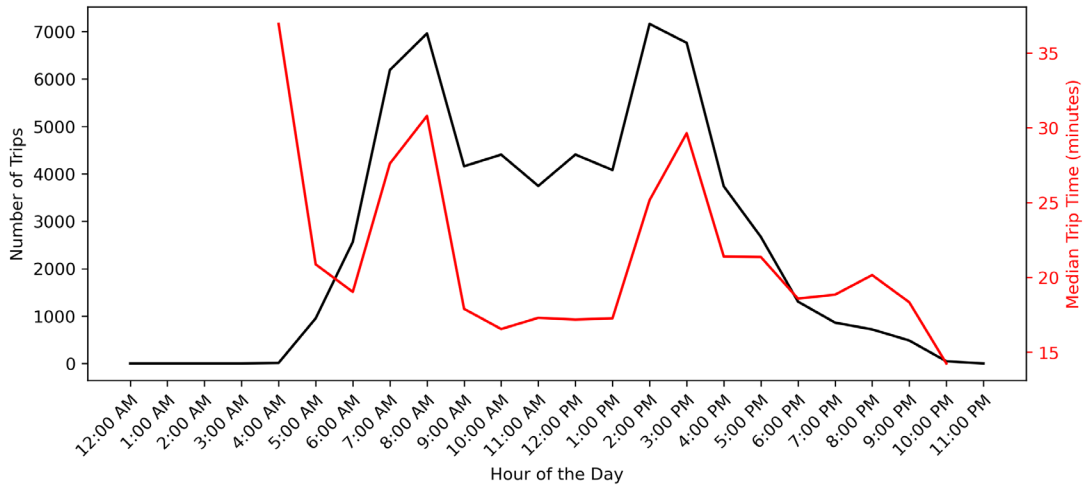


Figure 6 – Number of Trip Requests and Median Travel Times Across Different Hours of the Day: The figure displays the distribution of trip requests alongside the median travel times throughout the day. The data serves as the basis for applying a surge multiplier in cost estimates during these peak periods, from 6 to 9 a.m. and from 1 to 4 p.m., where higher trip volumes and extended travel times are recorded.

Taxicab Fare

TNCs have historically received substantial venture capital funding to accelerate their growth. This funding has allowed them to subsidize various aspects of their operations, including marketing, technology development, and driver incentives. These subsidies have kept ride prices lower than what would be sustainable under normal market conditions, raising concerns that current TNC pricing may not fully reflect long-term operational costs. Therefore, to estimate a higher bound for the TNC cost, it is sensible to also consider traditional taxicab fares, which are less influenced by such subsidies.

For this analysis, the team uses the fare structure provided by Yellow Cab Utah as a benchmark. The taxicab fare was calculated using a base fare of $2.50, plus an additional charge of $2.50 per mile traveled, providing a simple cost estimate based on distance alone. In this fare model, the initial $2.50 is a fixed charge known as the "flag drop fee", which is automatically added when the meter starts to account for the cost of short rides.

This traditional taxicab fare model serves as a useful comparison to the subsidized TNC fare structure. By incorporating both lower-bound TNC estimates and higher-bound taxicab estimates, UTA can better understand the range of potential costs associated with integrating TNC services into paratransit operations.

Figure 5 illustrates the relationship between trip distance and cost across different transportation modes, including paratransit, TNC, and taxi services. For instance, at a distance of 10 miles, the average cost for a paratransit trip is approximately $67, while the cost for a TNC ride ranges from $20 (without surge pricing) to $40 (with surge pricing). In comparison, the cost for a taxi ride is around $30.

The figure clearly shows that TNC services, without surge pricing, offer the lowest cost, followed by

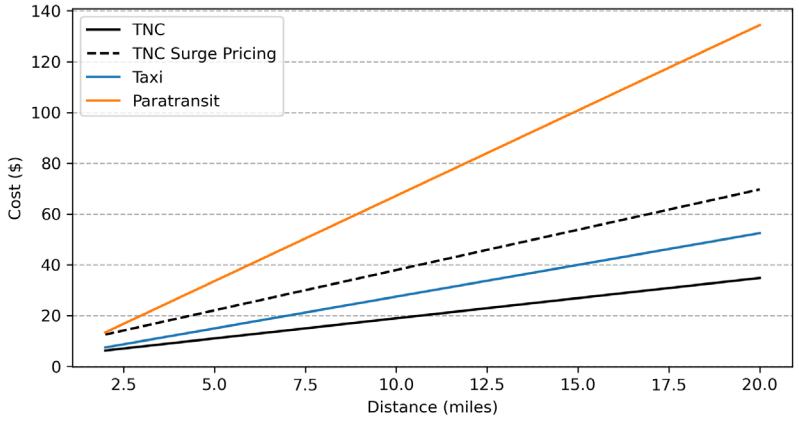


Figure 5 – Cost Comparison for Paratransit, TNC, and Taxi Services Across Different Trip Distances: The figure compares the cost of paratransit, TNC (with and without surge pricing), and taxi services across varying trip distances. As shown, paratransit consistently incurs the highest costs, particularly over longer distances. TNC services, even with a surge multiplier of 2, remain more affordable than paratransit. The lower bound of TNC costs (without surge pricing) offers the most cost-effective option, followed by traditional taxi services.

traditional taxi services and TNC rides with surge pricing. This visual comparison highlights the upper and lower bounds of TNC costs, demonstrating TNC services remain competitive with traditional taxi fares while still being significantly cheaper than paratransit.

3.3 TNC Potential Cost Saving

In calculating the cost to UTA under these subsidy models, the team focuses on trips where the rider's co-pay remains within a reasonable range — specifically, where it does not exceed the current paratransit fare of $4. For example, if a TNC trip costs $40 and UTA's subsidy covers only $35, the rider's co-pay would be $5, exceeding the $4 paratransit fare. In such cases, this trip would not be considered suitable for TNC service under the given subsidy model.

Beyond the financial considerations for UTA, it is important to acknowledge the potential for TNC integration to improve the rider experience through reduced travel times. While this study did not quantify potential time savings, the on-demand nature of TNCs, combined with their ability to utilize real-time traffic information and potentially more direct routing, suggests that wait times and overall trip durations could be shortened for many paratransit users, compared to traditional pre-scheduled service.

Based on the different subsidy models analyzed, UTA can anticipate the following cost outcomes as shown in Table 4:

Table 4: TNC cost for different subsidy models

Subsidy	Trips Outsourced	Paratransit Cost	Outsourcing Cost	Total cost	Saving
Fixed-based	45,627	$1,874,000	$640,000	$2,931,000	$1,234,000
Distance-based	50,367	$2,101,000	$826,000	$2,890,000	$1,275,000
Co-pay	45,627	$1,874,000	$475,000	$2,766,000	$1,399,000
Paratransit service	67,439 eligible	$4,165,000			

It is important to note that the number of trips outsourced for the fixed-based and co-pay subsidy models is the same (45,627 trips). This is because both models assume a maximum UTA contribution of $20 per trip, and based on the prior assumption made, only trips where the rider's co-pay does not exceed $4 are considered. However, under the co-pay model, riders consistently contribute an additional $4, which results in a lower overall outsourcing cost compared to the fixed-based model.

In terms of cost efficiency, the co-pay subsidy model emerges as the most favorable, delivering the highest savings at $1,399,000 compared to the baseline paratransit cost of $4,165,000. Despite outsourcing the same number of trips as the fixed-based model, the co-pay approach reduces UTA's cost by requiring a consistent rider contribution. The distance-based subsidy, while outsourcing more trips (50,367), incurs higher outsourcing costs due to covering trips up to 10 miles entirely. However, it still offers substantial savings compared to the existing paratransit operations. This model is more advantageous for shorter trips, especially in low-demand areas, where the cost of traditional paratransit would be disproportionately high.

Figure 7 illustrates the variation in total cost to UTA for different ranges of subsidy parameters across the fixed-based, distance-based, and co-pay models. The x-axis represents the dollar amount of the subsidy, while the secondary x-axis shows the miles covered under the distance-based model. As shown, the co-pay subsidy model is consistently cheaper to implement on average, although the cost

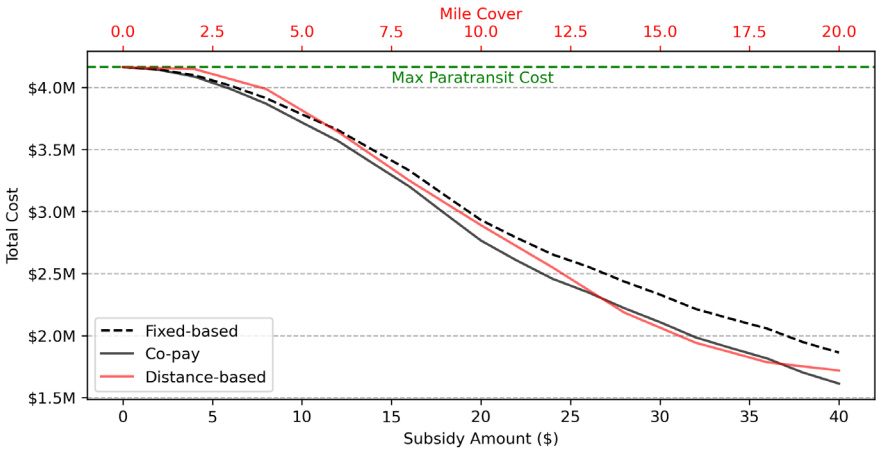


Figure 7 – Comparison of Total Cost for Various Subsidy Models: The figure shows how the total cost to UTA varies with changes in subsidy amounts (in dollars) and miles covered for different subsidy models. The co-pay subsidy model consistently demonstrates lower total costs compared to the fixed-based and distance-based models, although the differences between the models are relatively small.

difference between the subsidy models is relatively small.

Moreover, as shown in Figure 8, the average cost per trip for UTA under the TNC subsidy models is approximately $10, which is sufficient to cover 50% of all customers. This represents an 86% reduction in cost per trip compared to the traditional paratransit service, which averages $73.59 per trip. The significant cost savings highlight the potential of integrating TNC services as a more efficient and sustainable alternative for certain trip types, while still maintaining accessibility for a broad range of users.

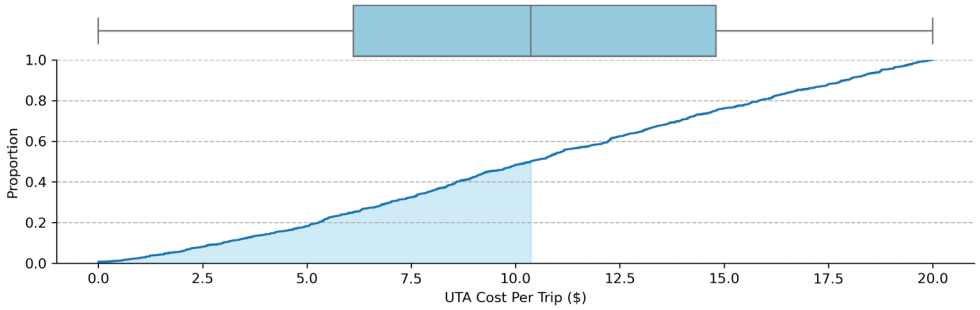


Figure 8 – UTA Cost per Trip Distribution under Co-Pay Subsidy Model. The plot indicates that for 50% of all customers under co-pay subsidy model, UTA average trips cost is at most $10, significantly less than compared to the traditional paratransit service cost of $73.59 per trip.

3.4 Voluntary Adoption of TNC Services Among Paratransit Riders

The integration of TNCs into UTA's paratransit service is designed to be voluntary, allowing riders to opt in based on their preferences and trip needs. Given this flexibility, the actual percentage of passengers who choose to shift from traditional paratransit to TNC services will vary. Additionally, the introduction of TNC options may lead to "net new rides," where passengers who previously did not use paratransit services decide to utilize the new TNC offerings. This could potentially increase overall ridership, adding another dimension to the cost implications.

To better understand the potential cost implications, several scenarios were simulated with different percentages of passengers opting to use TNC services. These simulations provide estimates of the overall cost savings and identify tipping points where the shift yields the most significant financial benefits.

Figure 9 shows total cost saved by UTA for different percentage of rider shift from 0 to 100%. For each scenario, the cost was calculated using the co-pay subsidy model, which emerged as the most favorable based on previous analyses. The results indicate as the percentage of passengers opting for TNC increases, the total cost to UTA decreases proportionally due to the lower per-trip cost associated with TNC services.

The voluntary nature of TNC adoption adds a layer of unpredictability to these cost estimations. Rider education, targeted outreach, and user experience during the initial pilot phase will be key factors influencing the percentage of passengers willing to transition to TNCs. Monitoring adoption rates and collecting feedback

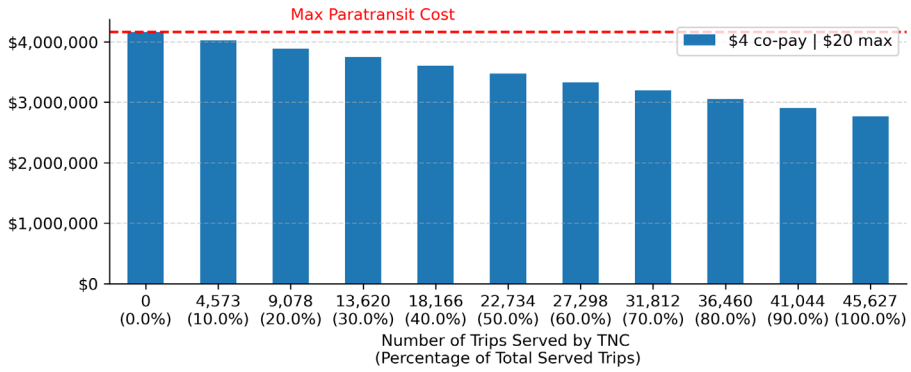


Figure 9 – Total Cost Savings Based on Percentage Shift to TNC Services: The figure illustrates the relationship between the percentage of paratransit riders shifting to TNC services and the corresponding total cost savings for UTA. As the percentage of riders opting for TNCs increases, the cost savings become more significant,

during the pilot phase will be critical for refining the subsidy models and adjusting the cost strategies to maximize savings while ensuring equitable access across the service area. Furthermore, UTA could consider offering incentives to encourage riders to choose TNC services for eligible trips. These incentives could include offering a free trip after a certain number of TNC rides and/or providing a discount on TNC trips compared to the standard paratransit fare.

3.5 Is TNC a Viable Solution?

Collaborating with TNCs to complement specific ADA paratransit trips could offer UTA a strategic opportunity to reduce operating costs while enhancing service flexibility. However, successful implementation will require addressing several operational challenges and considerations:

- **Scheduling and dispatching:** Ensuring seamless coordination between paratransit and TNC services is crucial. Advanced scheduling systems that integrate both traditional and TNC platforms are needed to optimize dispatching and minimize service gaps, especially during peak times.
- **Driver screening and specialized training:** While TNCs already conduct background checks and basic driver screenings, paratransit services require additional specialized training, particularly regarding ADA compliance, sensitivity training, and assistance for passengers with disabilities. If UTA were to offer a separate, supplemental service using TNCs that is beyond the required ADA-complementary paratransit service, and this supplemental service were not designated as part of the mandated ADA paratransit, then the full scope of ADA paratransit driver training and background check requirements might not be mandatory for that specific, supplemental service. It is highly recommended to check with the FTA on those requirements. However, it is crucial to clearly communicate to riders using any such non-ADA-designated TNC service that the drivers may not have undergone FTA-level background checks or specialized ADA training and that the service may not meet all ADA paratransit standards. This transparency is essential for informed consent.
- **Negotiated rates and fare structures:** Establishing cost-effective pricing models that benefit both UTA and passengers while still providing incentives for TNC participation is a key factor. Negotiating favorable rates with TNCs is critical to maintaining affordability while ensuring the service remains financially sustainable.
- **Accessible vehicles:** A significant limitation of current TNC services is the lack of wheelchair-accessible vehicles (WAVs). While agencies like the PSTA have partnered with specialized providers to address this gap, ensuring a sufficient supply of WAVs remains a challenge, particularly given that TNC vehicles are owned by individual drivers. UTA would need to explore a range of options, which might include: 1) offering financial incentives (e.g., higher fares, subsidies) to encourage drivers to purchase and operate WAVs, 2) contracting with companies that specialize in providing accessible transportation, or 3) requiring a percentage of TNC vehicles to be WAV.
- **Service reliability and equity:** Although TNCs offer flexibility and lower costs, they may not fully cover the diverse needs of all paratransit users, particularly those in low-density or underserved areas. UTA would need to evaluate how TNC integration could maintain equitable access for all eligible riders.
- **Data integration and performance monitoring:** To effectively integrate TNCs, UTA needs strong data-sharing agreements that enable monitoring of performance and service quality. For TNC services operated separately from ADA requirements, it remains important to track key metrics and ensure transparency about the level of service provided to riders who opt out of ADA-compliant trips. For instance, GoLink, a microtransit service integrated into the DART system, uses the GOPASS app to track average rider ratings. Contractors are required to maintain a high average rating, typically 4.95 out of 5 stars, with financial penalties imposed for non-compliance.

In this analysis, the co-pay subsidy model was applied, where UTA would outsource 45,627 trips (or 15% of total 2022 trips) to TNCs. Under this model, riders pay a $4 co-pay, while UTA covers up to $20 of the remaining fare. Additionally, traditional taxi services were used as a benchmark to evaluate the feasibility and practicality of TNC pricing. The analysis aimed to determine whether the dynamic, demand-driven pricing of TNCs could deliver a cost-effective alternative to paratransit services. Table 5 shows the overall cost of outsourcing the potential and feasible trips to TNCs or taxi services. The analysis reveals that if 45,627 trip candidates were to continue using traditional paratransit services, UTA would pay roughly four times the cost of the other alternatives.

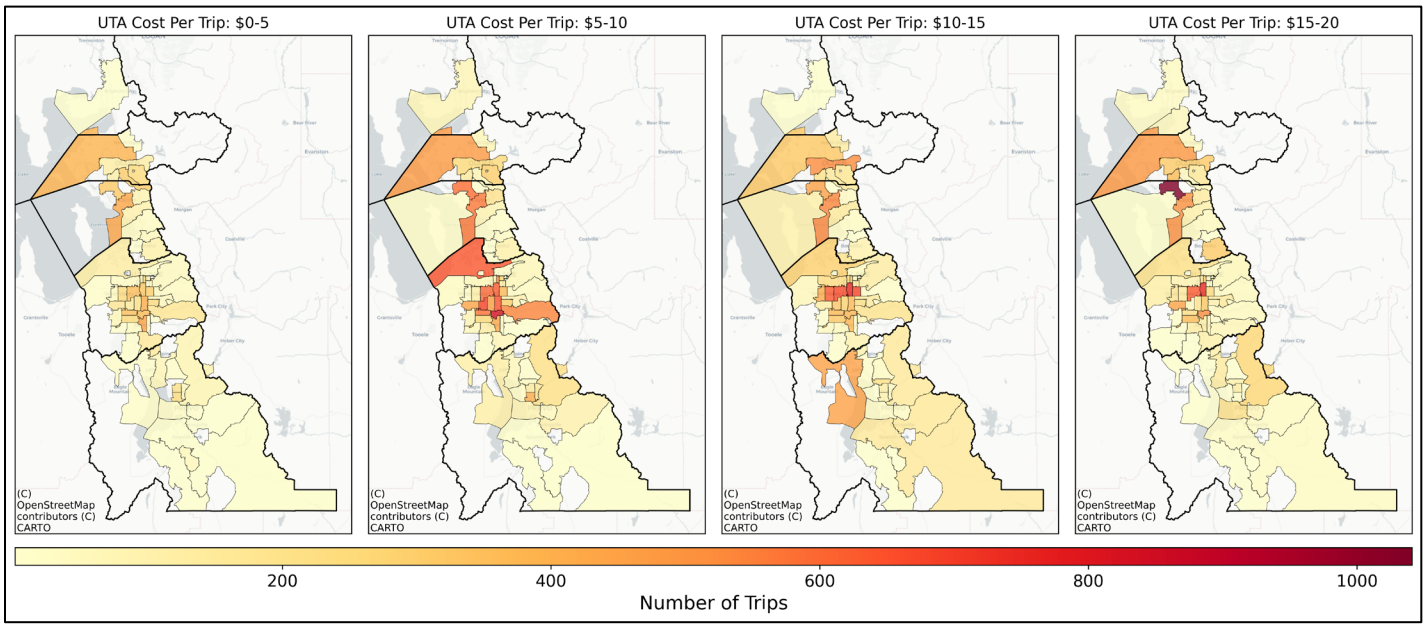


Figure 10 – Geographic Distribution of UTA Paratransit Costs Per Trip by Price Range Across the Service Area: The maps display the distribution of UTA paratransit costs per trip by pick-up location across different regions within the service area, highlighting patterns in key cities and regions. In the central Salt Lake City area, including downtown and South Salt Lake, there is a high concentration of trips in the $15-20 range due to higher demand and urban density. Meanwhile, suburban areas like Draper, Clearfield, and Ogden exhibit a mix of lower-cost trips ($0-5) and mid-range trips ($5-10), reflecting lower-density service areas but consistent trip demand. In the Provo region, a more balanced cost distribution is observed, with a significant portion of trips falling in the $10-15 range. This spatial variation provides insights into overall trip patterns and how costs differ depending on trip density and regional characteristics across UTA's paratransit service area.

While traditional taxis offer a predictable, fixed fare structure, the dynamic pricing of TNCs — which fluctuates based on demand, time of day, driver availability, and other factors — resulted in a similar overall cost to UTA. In the taxi benchmark scenario, the same fare structure was assumed, where passengers would still pay a $4 co-pay, and UTA would cover the remaining cost up to $20. This comparison revealed that, even with the variability of TNC pricing, the costs align closely with those of the taxi model when managed within the established subsidy limits.

Despite the comparable cost structures, TNCs present several distinct advantages over traditional taxi services. For example, TNCs offer greater flexibility in service provision, allowing for real-time adjustments based on demand. This flexibility is particularly beneficial in paratransit, where riders' needs can be unpredictable and efficient scheduling is crucial. Moreover, TNC platforms provide enhanced real-time tracking and communication features, giving riders greater confidence and control over their trips.

The cost per outsourced trips and their patterns across UTA's service area as shown in Figure 10 reveal critical insights into the distribution of paratransit demand. In the $0-5 range, we observe a relatively even distribution of low-cost trips throughout the service area, with higher concentrations in suburban regions like Draper, Clearfield, and Ogden. These likely represent short, within-county travel distances, indicating efficient local service in these areas. As we move to the $5-10 range, there's a noticeable increase in trip volume, particularly in central Salt Lake City and its immediate suburbs. This price bracket might capture a mix of longer within-county trips and shorter between-counties journeys, reflecting the growing riders' needs as distances increase. The $10-15 and $15-20 cost range maps reveal several high-volume locations, particularly in Central Salt Lake City, Clearfield, Ogden, and Provo. These price ranges likely reflect trips that involve travel beyond a rider's immediate vicinity to various destinations across the service area, such as activity centers and other key locations.

Table 5: Total Cost of TNCs and Taxi Services

Transportation Mode	Outsourcing Cost To UTA
Paratransit	$1,874,000
TNC	$475,000
Taxi	$509,000

The patterns suggest that TNCs could replace certain paratransit trips more cost-effectively, particularly in areas where there is consistent demand and the

current costs are higher, such as central Salt Lake City. By understanding these cost distributions, UTA can better identify where TNC services are likely to offer the greatest financial benefits.

All in all, TNC services, when implemented under the right subsidy model, particularly the co-pay approach, can deliver financial outcomes that are comparable to or even more cost-effective than traditional paratransit service, while remaining competitive with traditional taxi services. When considering the broader advantages, TNCs emerge as a compelling alternative for enhancing service efficiency, improving rider experience, and maintaining financial sustainability in UTA's paratransit program.

4. Opportunity #2: Beyond the ¾-Mile

The expansion of paratransit service coverage beyond the standard ADA-mandated ¾-mile boundary has been a growing area of interest among transit agencies nationwide. As demand for more inclusive and accessible transportation options rises, many agencies are exploring ways to extend their paratransit service areas, thereby enhancing access for underserved populations. This approach is not without challenges, as expanding coverage typically results in increased operating costs and requires careful planning to ensure sustainability and equity.

For example, the Rhode Island Public Transit Authority (RIPTA) conducted a statewide Paratransit Expansion Study to assess the feasibility, and costs associated with extending their RIde Paratransit Program service beyond the ADA minimum. The study projected that expanding service statewide would lead to a 31% to 33% increase in ridership, with operating costs rising by 50% to 59%, or approximately $5.4 to $6.4 million annually. The expansion would also require a capital investment of around $3.9 to $4.2 million, emphasizing the financial considerations involved in extending service coverage.

Similarly, the Niagara Frontier Transportation Authority (NFTA) initiated a comprehensive evaluation of its Paratransit Access Line (PAL) service in 2022 to explore opportunities for improving efficiency and expanding service beyond the current ADA-required coverage. The study, funded by the State of New York, examines the potential benefits of extending paratransit service into areas not currently served within Erie and Niagara counties. By gathering input from users and conducting cost-benefit analyses, NFTA aims to identify strategies for enhancing service quality while balancing the financial implications of expanded coverage.

Implementing an expansion beyond the ¾-mile boundary offers several benefits:

- **Increased accessibility:** extends paratransit services to more areas, particularly those in underserved areas or AoPP
- **Improved customer satisfaction:** provides additional transportation options to riders who have struggled to access UTA services due to geographic limitations as indicated in the community surveys, potentially improving overall satisfaction and ridership
- **Flexibility in service models:** allows UTA to explore various models, such as premium fare zones to balance cost and service delivery

This section evaluates the potential benefits and challenges of expanding beyond the ¾-mile boundary. Considerations include analyzing the cost implications of additional service coverage and determining appropriate fare structures (such as premium fares for extended zones) for multiple different scenarios.

4.1 Assessing the Feasibility of Coverage Expansion

This analysis focuses on evaluating different paratransit coverage expansion strategies, incorporating both demand estimation and financial considerations as detailed in Figure 11. The team begins by evaluating multiple expansion scenarios. Each scenario is assessed for operational feasibility, cost implications, and fare structure options to determine the most effective approach.

Coverage Expansion Scenarios

This study initially developed six key scenarios, each offering unique perspectives to expanding paratransit service coverage:

Scenario 1: Legacy Service Continuation

This scenario focuses on extending paratransit coverage to areas that may be impacted by the future removal of fixed routes. It ensures continuity of service for areas with residual demand that no longer fall within the ADA-required ¾-mile boundary. The scenario maintains the same fare structure as current ADA service, with minimal operational changes. It is a straightforward strategy with lower complexity, relying largely on existing infrastructure and ridership patterns.

Scenario 2: 1-Mile (or More) Coverage Expansion

This scenario involves a static or dynamic expansion of the service boundary by 1 to 2 miles beyond the current ADA limit. It aims to increase accessibility in suburban and rural areas that currently have limited paratransit coverage. Depending on the specific distance, the cost can range from moderate to high. The fare structure remains largely standard but may include a premium for extended coverage. Operationally, the expanded areas require new routing and scheduling strategies, especially in low-density regions.

Scenario 3: Paratransit Expansion Into IMZs

This approach expands paratransit services into existing or planned IMZs to further extend coverage. This continued expansion approach is ideal for regions where traditional coverage is inefficient or infeasible.

Scenario 4: Flex-Route Integration for Paratransit Passengers

This scenario explores enhancing the integration between UTA's existing Flex Routes and paratransit services to better serve paratransit-eligible individuals residing outside the standard ADA ¾-mile boundary. Currently, Flex Routes operate on fixed schedules but can deviate up to ¾-mile to accommodate rider requests, with limitations on the number of deviations per trip. To improve accessibility, this scenario considers targeted modifications, such as increasing deviation limits or expanding the allowable deviation distance. These adjustments aim to enhance service flexibility and coverage for paratransit users without requiring entirely new service structures. While this approach leverages existing infrastructure and appears cost-effective with minimal adjustments, it may significantly impact the rider experience for non-paratransit users and affect the on-time performance of fixed routes. Flex Route deviations offer a more flexible service option for riders near the current boundary but may introduce delays and variability in the schedule. The fare structure would largely remain unchanged, though a surcharge could be applied for deviations to account for any additional operational costs.

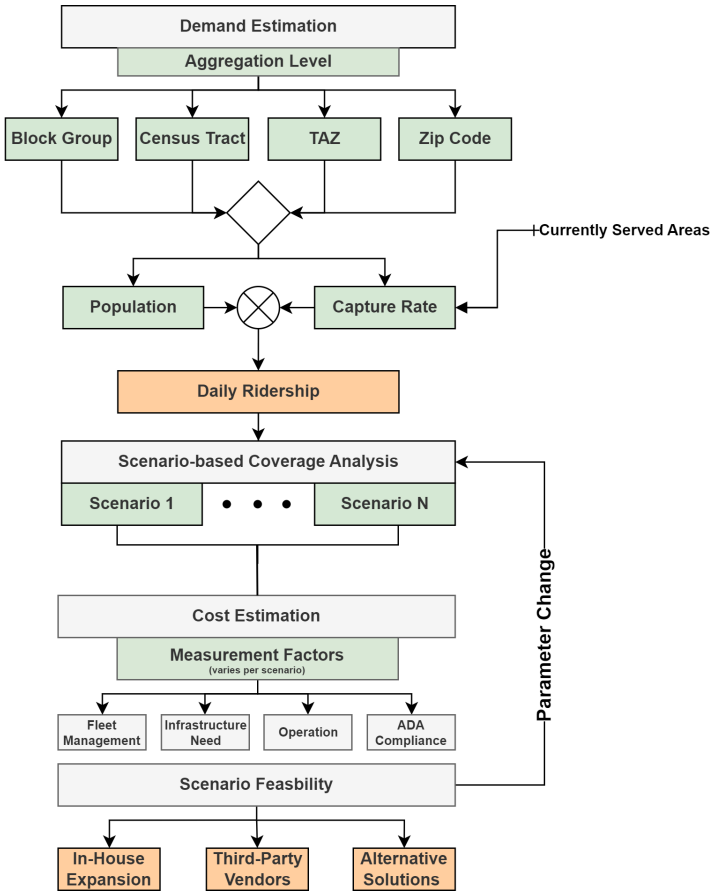


Figure 11 – Methodological Process for Coverage Expansion Analysis: The flowchart outlines the step-by-step methodological framework used in this analysis. The process begins with demand estimation, where population and disability data at the census tract level are used to project capture rates and ridership. This is followed by the definition of different expansion scenarios, each exploring various coverage distances and service models. For each scenario, the estimated number of additional trips is calculated, along with associated costs and potential fare structures. The analysis concludes with a comprehensive assessment of the financial and operational feasibility of each coverage option

Scenario 5: Partnerships With Complementary Services

This scenario involves partnering with TNCs, local shuttles, or other complementary services to extend paratransit coverage into areas that are challenging to serve with traditional paratransit models. This could include filling gaps during off-peak times or reaching low-density zones. The cost implications are moderate, as this approach leverages shared resources and reduces the need for direct investment in additional vehicles or staff. Fare structures can vary depending on agreements with partners, ranging from dynamic pricing to discounts for integrated services. Operational complexity is moderate, primarily requiring effective coordination and seamless integration of booking, dispatch, and payment systems. This approach focuses on expanding coverage rather than replacing current work performed by bargaining unit employees.

Scenario 6: Paratransit Premium Service Layer

This scenario introduces a premium fare layer that could be added to any of the proposed geographic expansions beyond the ADA ¾-mile boundary. Under this model, riders in these areas would pay higher fares for enhanced service options, such as extended service hours or faster response times. While this premium layer offers expanded coverage and improved service, it also brings operational complexity due to the implementation of tiered fare structures. Importantly, this scenario focuses on expanding service beyond the current requirements.

After multiple discussions with UTA, three alternatives were identified as most aligned with the agency's strategic goals and community needs as detailed in Table 6.

Scenario 1: Legacy Service Continuation is straightforward, offering a cost-effective solution with low operational complexity. It primarily restores service to areas with historical demand, maintaining continuity and ADA compliance. However, its impact is limited because it only benefits specific regions with past ridership, potentially overlooking areas with emerging needs.

In contrast, Scenario 2: 1-Mile (or More) Premium Expansion provides broader geographic coverage and enhanced service options through a tiered fare structure, making it more flexible and accessible for suburban and rural riders. Its strength lies in balancing accessibility with revenue generation, but it comes with higher operational costs and requires clear communication about fare tiers and service boundaries.

Lastly, as an extension of Scenario 2, Scenario 3: Paratransit Expansion Into IMZs allows paratransit vehicles to enter and operate within existing or planned IMZs. This approach provides additional coverage in areas beyond the standard ¾-mile boundary, in IMZs where service has already been expanded with on-demand to reach riders in regions where fixed-route services are less effective.

A critical consideration across all proposed paratransit coverage expansion scenarios is the issue of equity in transit access. While expanding paratransit service has the potential to improve mobility for individuals with disabilities, it is essential to ensure that these expansions do not inadvertently create or exacerbate inequities within the broader community. Specifically, UTA must consider whether proposed changes result in disparities in access between paratransit-eligible individuals and the general public, and between different socioeconomic groups. For example, expanding paratransit service without corresponding improvements in general public transit could lead to situations where paratransit users have greater access than other residents. Similarly, premium fare structures, while potentially improving cost recovery, could create barriers for low-income riders, limiting the accessibility benefits of expanded service.

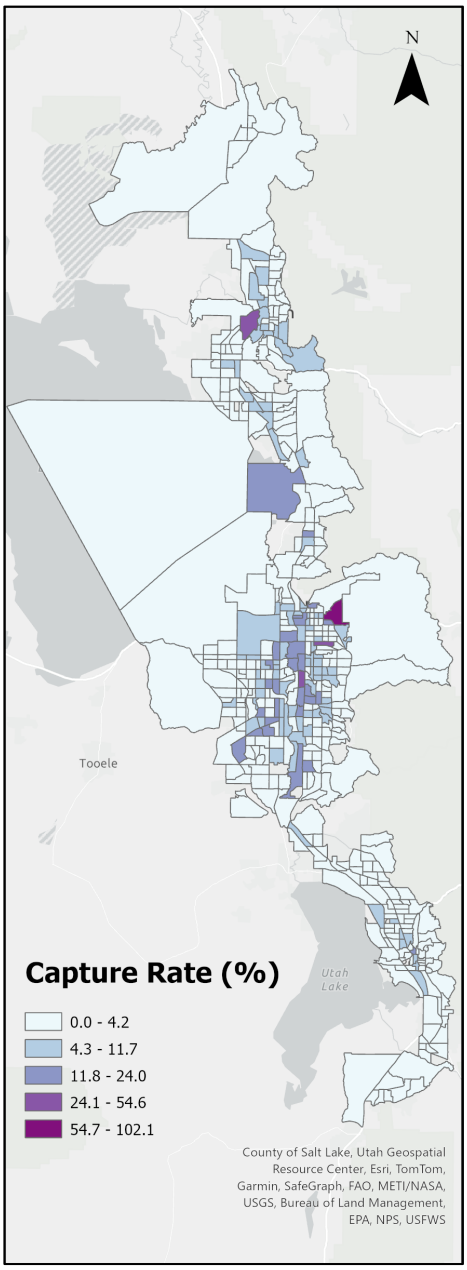


Figure 12 – Capture Rate Distribution Across UTA Service Region at the Census Tract Level: The figure presents the capture rate of paratransit usage within the UTA service area, broken down by census tracts. The map highlights significant variations in capture rates, with most tracts averaging a 3.95% capture rate. A focused analysis of morning pick-ups reveals lower capture rates, emphasizing routine home-based trip patterns.

Demand Estimation

The demand estimation process leverages population and disability data from the American Community Survey (ACS) 5-year estimates (2018-2022) at the census tract level to determine a capture rate — the percentage of the eligible population expected to use the service. The capture rate is calculated based on the current paratransit ridership within the areas already covered and the number of individuals with disabilities residing in these areas. By applying the

Table 6: Coverage Expansion Scenarios Comparison

Scenario	Coverage Expansion	Service Type	Target Areas	Cost Implications	Fare Structure	Operational Complexity	Rider Flexibility	Sustainability
Legacy Service Continuation	Reintroduces paratransit coverage in areas with discontinued fixed routes	Standard ADA-compliant service	Previously served areas with existing demand	Moderate cost due to existing infrastructure	Standard ADA fare structure	Enables fixed-route adjustments without reducing paratransit access	Service areas fixed	Maintains existing service with lower costs
1-Mile (or More) Premium Expansion	Extends service by 1 to 2 miles beyond the current boundary, with premium service options	Static or dynamic service with premium features	Suburban and rural areas with moderate demand	High due to expanded coverage and premium features	Tiered fare structure for extended coverage	Requires expanded zones and routing strategies	Riders can opt for additional distance and service enhancements	Requires ongoing investment to sustain service at scale
Paratransit Expansion into IMZs	Integrates paratransit within IMZs	Standard ADA-compliant service	Existing and planned IMZs	High initial cost, scalable long-term savings	Standard and tiered fare structure	Requires expanded zones and routing strategies	More coverage provided for riders inside IMZs	Adaptable model that scales with demand

calculated capture rate to the disability population in the proposed expansion areas, the team projects potential ridership across the new coverage zones. By applying the calculated capture rate to the disability population in the proposed expansion areas, the team provides a high-level estimate of potential ridership across the new coverage zones. While this method offers a granular estimation to guide planning, the exact demand will ultimately depend on several factors, including marketing efforts, the availability of other services, and fare structures.

Figure 12 illustrates the capture rate for the entire UTA service region at the census tract level. In the current service area, the average capture rate stands at 3.95%, reflecting the proportion of the disability population that uses paratransit services. However, when focusing specifically on morning pick-ups — typically trips originating from home — the capture rate drops to 1.6%. These trips are indicative of routine morning commutes. Notably, the University of Utah census tract exhibits an unusually high capture rate exceeding 100%, which has been excluded from the overall calculations. This anomaly arises due to the high volume of paratransit trips generated by the university's medical facilities and services catering to disabled students, combined with a very low residential population in that area.

The team also assumes the following assumption regarding the demand and ridership estimation:

- The projections assume an annual population growth rate of 2% for both current and expanded regions, reflecting expected demographic trends in the UTA service area.
- For the areas receiving new or maintaining paratransit coverage, a 1% increase in ridership per year is assumed, aligning with historical trends and anticipated demand growth.
- In cases where coverage overlaps between multiple census tracts, the overlapping area is proportionally considered to ensure accurate demand estimation, avoiding double-counting and ensuring that service expansion is properly aligned with actual demand.

Cost Estimation and Fare Structure Analysis

For each expansion scenario, the additional trips generated are estimated based on projected demand. The cost per trip is then calculated by considering the number of trips requested per rider. Using 2022 ridership data, it was observed that, on average, each rider requests approximately 160 trips annually. This is depicted in Figure 13, which highlights the distribution of annual trip requests per rider across the service region.

Additionally, the study assesses fare structure options, which may include:

- **Tiered fare models:** different fares based on the distance traveled beyond the standard coverage area
- **Premium pricing for extended service:** higher fares for premium zones that offer extended coverage or faster response times

4.2 The Five-Year Service Plan (FYSP) and Its Role in Paratransit Expansion

UTA is currently in the process of updating its Five-Year Service Plan (FYSP) for the period from 2025 to 2029. This plan serves as a strategic roadmap for UTA's near-term service changes, guiding decisions on new routes, alignment adjustments, and service discontinuations. The FYSP is a dynamic document that incorporates system-wide analysis, community feedback, operational considerations, and regional growth trends to ensure that UTA's transit network meets the evolving needs of its riders.

The 2025-2029 FYSP is designed to address several critical goals:

- **Restoring service:** providing transit coverage in areas where service will be reduced or discontinued as part of FYSP-related route changes
- **Expanding access to transit:** enhancing overall accessibility across the region to improve quality of life and support regional growth
- **Improving employee conditions:** optimizing shift patterns and operational efficiency, which ultimately benefits riders through more consistent and expanded service throughout the day
- **Aligning with the Long-Range Transit Plan:** preparing for future growth and ensuring that near-term service changes are in harmony with UTA's long-term strategic vision
- **Responding to community feedback:** engaging with communities to refine service plans based on public input and ongoing assessments

The service changes outlined in the FYSP include:

1. Adding coverage to growing or underserved areas
2. Modifying existing routes to improve efficiency, accessibility, and connectivity
3. Phasing out routes or segments that no longer meet demand or operational objectives

While these changes represent UTA's strategic direction for the coming years, at the time the analysis for this report was completed, the specific timing and phasing of service modifications had not yet been finalized. The phasing schedule has since been completed.

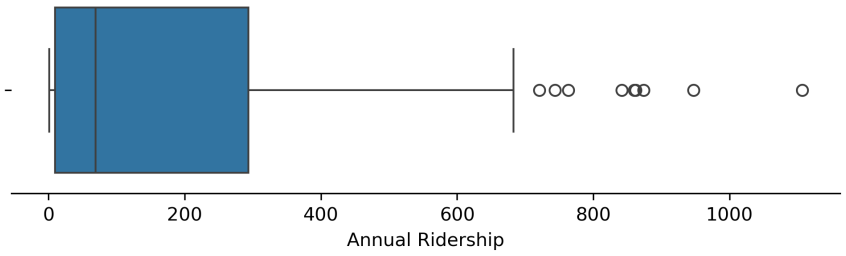


Figure 13 – Distribution of Annual Trip Requests per Rider: The boxplot illustrates the distribution of annual trip requests per rider based on 2022 data. The median value is around 160 trips per rider, with some riders requesting significantly more or fewer trips.

The success of the proposed paratransit coverage expansion scenarios is closely tied to the implementation of the FYSP. The FYSP serves as the foundation for identifying where and when paratransit services need to be adjusted or expanded. For instance:

- Scenario 1: Legacy Service Continuation would maintain paratransit service in areas where fixed routes are removed in the future, as part of the FYSP implementation. This aligns with FYSP goals of service continuity.
- Scenario 2: 1-Mile (or More) Premium Expansion builds on the new routes and realigned services introduced by the FYSP, extending coverage beyond the standard ADA-required radius.
- Scenario 3: Paratransit Expansion Into IMZs will be based on the creation of new service zones and adjustments under the FYSP.

Addressing Phasing Uncertainty

Given that the FYSP was in draft form at the time of analysis and the specific phasing of service changes has not yet been finalized, the team incorporates a Monte Carlo simulation approach. This method leverages random sampling to model various potential coverage scenarios over the five-year period (2025-2029). The simulation estimates when and where new coverage areas may be added, providing insights into the possible service expansions. Figure 14 illustrates the projected timelines and geographic locations for these coverage additions, along with the estimated demand generated from these newly served regions. This approach allows for a comprehensive assessment of how paratransit coverage could evolve in alignment with the FYSP's gradual implementation, even in the absence of a finalized phasing schedule.

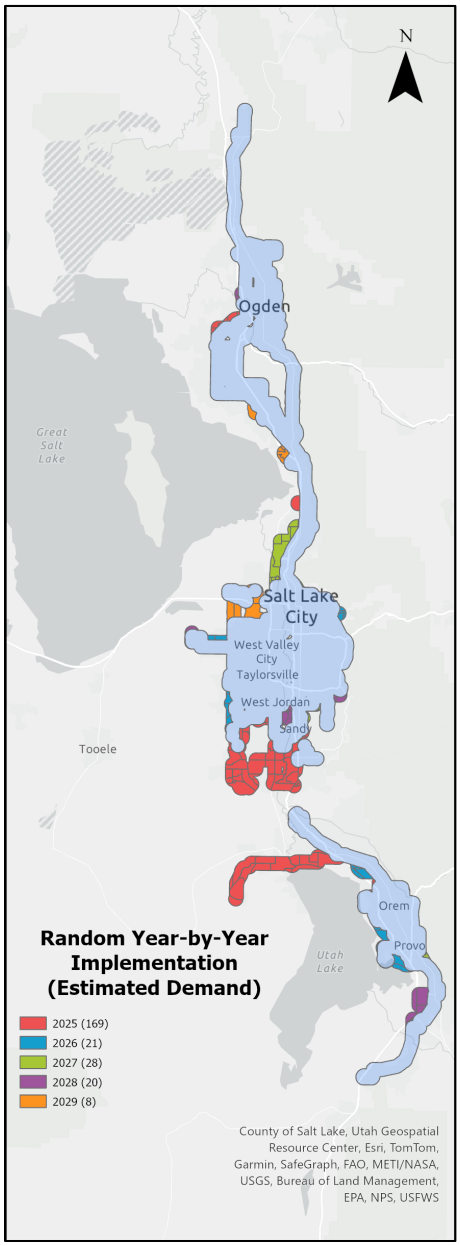


Figure 14 – Year-by-Year Implementation of Coverage Expansion under the FYSP: The figure illustrates a simulated projection of how new service areas might be incrementally added over the five-year period (2025-2029) based on a Monte Carlo simulation approach. The map highlights potential coverage expansions each year, showing both the geographical areas affected and the estimated demand generated from these regions.

4.3 Scenario 1: Legacy Service Continuation

This scenario focuses on maintaining paratransit coverage in areas that would lose access due to future changes in the fixed-route network as part of the FYSP implementation. It is not about retroactively restoring service that was removed in the past. Rather, it ensures that as fixed routes are potentially removed or realigned, paratransit service is preserved in those areas. The primary candidates for continued service are areas where:

1. The lost coverage does not overlap with newly planned coverage under the FYSP.
2. There are still customers in these areas actively using the service, evidenced by pick-up and drop-off activity.

Of the 25 areas that will lose coverage under the FYSP plan as illustrated in Figure 15, nine have been identified as strong candidates for legacy service continuation based on continued demand. These areas still have at least one active customer, making them viable for retaining service. In these nine areas, there were 1,946 pick-ups and 2,056 drop-offs recorded, accounting for 0.65% and 0.70% of total trips, respectively. Although these numbers are small relative to the overall service area, 40 riders in these zones represent approximately 2% of total customers, indicating a consistent but localized demand.

Table 7 outlines the projected costs associated with maintaining paratransit service in the areas identified for legacy service continuation. The cost estimates are based on the assumption that the fare structure will remain consistent with the current

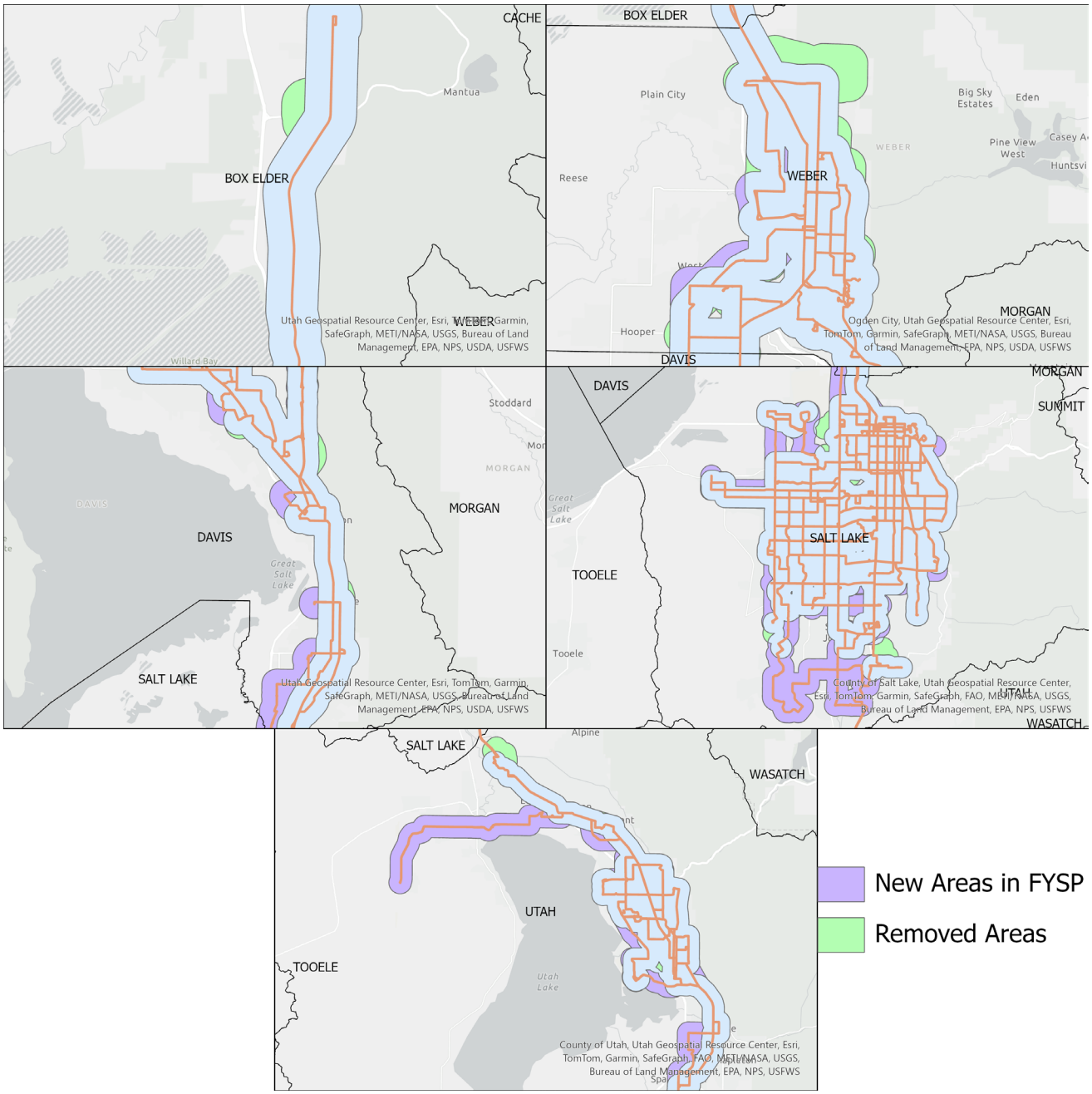


Figure 15 – New and Removed Service Areas in the FYSP: The figure presents a series of maps depicting the projected service changes under the FYSP, including both new and removed paratransit coverage areas over the next five years. The maps highlight regions where fixed routes will be added, adjusted, or discontinued, directly impacting paratransit service availability. The color-coded overlays show areas that are gaining coverage versus those that are losing it. It is important to note that, in accordance with ADA regulations, areas that fall outside the standard ¾-mile paratransit coverage, despite being fully enclosed by covered areas due to fixed-route service patterns, must still be included in paratransit service. These gaps, often referred to as "donut holes," are accounted for in coverage calculations to ensure they remain part of the total paratransit service area.

paratransit service ($4 per trip), and that the existing fleet is sufficient to accommodate the additional trips without requiring new vehicle purchases or operational changes. The cost per trip remains stable over the analysis period, with a slight annual increase reflecting incremental ridership growth. The projected total cost for this scenario over the five-year period is approximately $728,000. The farebox revenue generated at the current fare of $4 per trip is estimated to be around $8,100 annually, contributing a total of approximately $40,500 over five years.

Table 7: Cost Projections for Legacy Service Continuation

Year	Cost Based on $/Trip
2025	$143,000
2026	$144,000
2027	$146,000
2028	$147,000
2029	$149,000
Total	$728,000

4.4 Scenario 2: 1-Mile (or More) Premium Expansion

The 1-Mile (or More) Premium Expansion scenario builds upon the existing 2024 paratransit coverage and the upcoming expansions planned under the FYSP as explained earlier. The spatial expansion for this scenario is modeled across a range of incremental distances from the ADA-required ¾-mile buffer, extending from 0.25 miles (1 mile total) to as much as 1.25 miles (2 miles total).

UTA's paratransit currently serves five counties: Salt Lake, Davis, Weber, Utah, and parts of Box Elder. The population data for these counties, including the number of residents with disabilities, is sourced from the ACS. On average, 10% of the population across these counties has some form of disability as shown in Table 8, making them potential candidates for paratransit service.

Figure 16 below presents the percentage of the disabled population currently covered by UTA's paratransit service, as well as the expected coverage under the FYSP. Notably, Salt Lake, Davis, and Utah counties will experience an increase in coverage with the FYSP, while Box Elder and Weber counties are projected to see a decrease. The reduction in coverage for Box Elder and Weber counties can be observed in Figure 15, representing areas that will lose service under the new plan.

Building upon both the current and future FYSP coverage, this analysis examines the effects of incrementally expanding the service area beyond the minimum ADA ¾-mile boundary. By applying these expansions, the team assesses how many additional disabled individuals would be covered. However, it is important to note that these figures represent only the total population with disabilities covered, not the potential number of paratransit customers.

Table 8: Disability Population from the UTA Service Area

County	Population	Disability Population	Disability Rate
Salt Lake	1,173,416	116,735	10%
Utah	663,054	56,278	8%
Davis	358,634	33,087	9%
Weber	259,875	29,903	12%
Box Elder	57,914	6,549	11%
Total	2,512,893	242,552	10% (average)

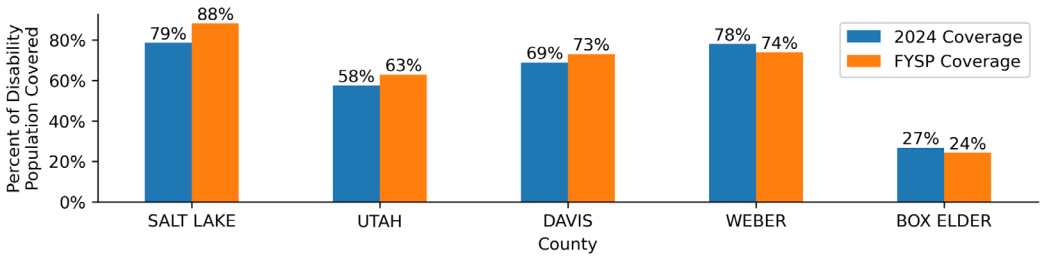
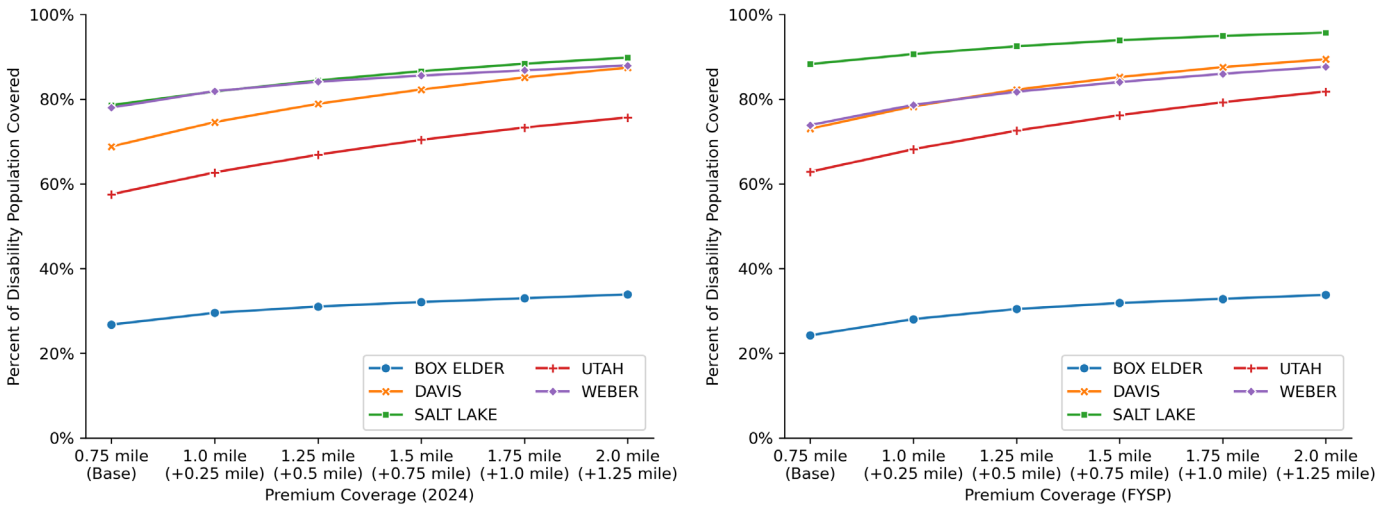


Figure 16 – Percentage of Disability Population Covered by Current and FYSP Paratransit Service: The figure shows the percentage of the disabled population covered under the current paratransit service and the projected coverage under the FYSP for five counties: Salt Lake, Davis, Weber, Box Elder, and Utah. The bars show that Salt Lake, Davis, and Utah counties will see a noticeable increase in coverage with the implementation of the FYSP, reflecting expanded service areas. In contrast, Weber and Box Elder counties are projected to experience a decrease in coverage,



(a) Current Coverage Expansion

(b) Current + FYSP Coverage Expansion

Figure 17 – Percentage of Disability Population Covered by Current and FYSP Paratransit Service: The figures compare the impact of incrementally expanding paratransit coverage under two cases: (a) current coverage only and (b) current coverage combined with FYSP expansions. Both cases show steady increases in the percentage of the disabled population covered as the boundary extends. However, the addition of FYSP coverage yields the highest population coverage, especially in Salt Lake and Davis counties. Box Elder County, due to its dispersed population, sees minimal gains in both cases.

The FYSP already includes planned fixed-route expansions, which will automatically extend paratransit coverage within the ADA-mandated ¾-mile radius of those new routes. These FYSP-driven expansions will significantly increase the percentage of the disabled population covered by paratransit, particularly in Salt Lake, Davis, and Utah counties.

Scenario 2, however, explores additional expansions beyond the areas covered by the FYSP. This scenario examines the impact of extending the paratransit service boundary by an additional 0.25 to 1.25 miles beyond the ¾-mile boundary that will exist after the FYSP is implemented. Figure 17 (a) and (b) illustrate this concept. Figure 17 (a) shows the percentage of the disabled population covered by incrementally expanding from the current (pre-FYSP) ¾-mile boundary. Figure 17 (b) shows the percentage covered by incrementally expanding from the future ¾-mile boundary that will exist after the FYSP expansions are in place. While both figures show increasing coverage with wider boundaries, the key takeaway is that the FYSP itself provides a substantial increase in coverage.

The dispersed and rural nature of Box Elder County results in lower population densities, making it difficult to achieve significant coverage gains even with expanded service boundaries, whether through the FYSP or through additional expansions. Therefore, the remainder of this analysis focuses on the post-FYSP coverage as the baseline. This allows us to isolate the impact of the additional expansions proposed in Scenario 2, beyond the improvements already planned under the FYSP.

Furthermore, the demand estimation in this scenario follows a similar approach as described in Scenario 1, using the capture rate to calculate the potential number of riders in the expanded areas. However, it is important to account for the fact that demand does not materialize immediately; there is typically a ramp-up period as customers gradually adopt the newly expanded service.

Therefore, the team adjusted the projections to include a phased increase in ridership over time, beginning with a lower initial demand and gradually building up to the estimated levels. The details can be found in the Appendix.

Estimated Additional Riders and Costs in Premium Coverage Areas

Figure 18 illustrates the projected number of additional riders in the premium coverage zones for each year. The base scenario reflects only the ridership within the ¾-mile coverage, including the newly covered areas under the FYSP. As 0.25-mile increments are added, there is a notable increase in potential customers — particularly in the first 0.25-mile extension, which results in a 270% increase in riders compared to the base coverage. However, as the premium coverage expands further, the incremental increase in additional customers becomes less significant, indicating diminishing returns in extended coverage areas.

Table 9 shows the total number of customers projected for the current coverage area, alongside the additional customers expected under each premium expansion distance. For example, extending coverage to 1.5 miles (double the current ADA requirement) by 2029 results in a total of 3,124 customers (2,043 from current coverage plus 1,081 from the premium zones). The data demonstrates that while customer numbers increase significantly as coverage expands, the rate of growth tapers off as the boundary extends beyond 1.5 miles.

As discussed earlier, assuming each customer makes approximately 160 trips per year at a cost of $73.59 per trip (based on 2022 estimates), Table 10 outlines the projected costs for each expansion scenario.

Moreover, Figure 19 shows the total costs incurred by UTA by the end of FYSP (2029) under each expansion scenario. Extending the coverage to 1.5 miles increases the total cost by approximately 43% compared to the base coverage. However, further expansions result in smaller gains in customer numbers while significantly driving up operational costs. This highlights the need to carefully balance coverage expansion with the financial implications, particularly in areas with lower demand.

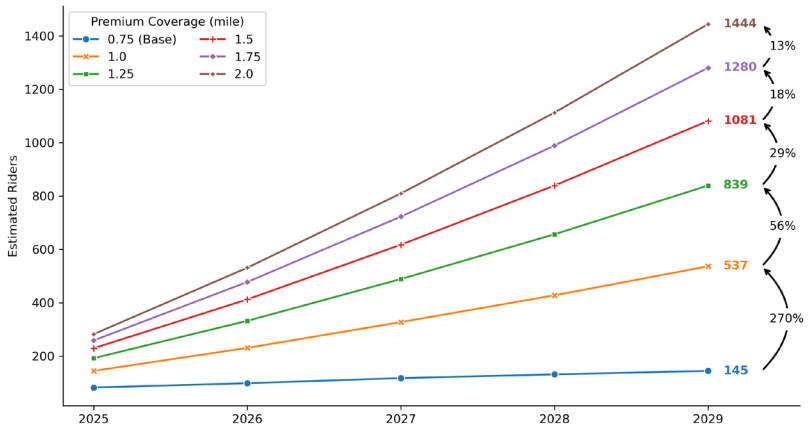


Figure 18 – Projected Additional Customers in Premium Coverage Expansion Scenarios (2025-2029): The figure illustrates the estimated number of additional customers for each year under different premium expansion scenarios. The baseline represents the current ¾-mile ADA coverage, while the subsequent lines show the incremental gains as coverage is extended by 0.25-mile increments up to a total of 2 miles. The largest increase in customer numbers occurs when the coverage is extended from ¾ mile to 1 mile, with a 270% rise in potential customers. However, as the premium coverage expands further, the rate of customer growth tapers off, indicating diminishing returns for extending coverage beyond 1.5 miles.

Table 9: Projected Number of Customers in Current and Premium Expansion Coverage Areas (2025-2029)

Year	Current Coverage Customers	Additional Customers - Premium Expansion (mile)					
		3/4 (base)	1	1.25	1.5	1.75	2
2025	1,964	82	145	193	230	259	283
2026	1,983	99	231	332	413	478	531
2027	2,003	118	328	489	618	723	810
2028	2,023	132	428	657	839	989	1,113
2029	2,043	145	537	839	1,081	1,280	1,444

Table 10: Estimated Costs for Current and Premium Expansion Coverage Areas (2025-2029, in Millions)

Year	Cost (Millions) - Premium Expansion (mile)					
	3/4 (base)	1	1.25	1.5	1.75	2
2022	22.4	-	-	-	-	-
2025	24.1	24.8	25.4	25.8	26.2	26.4
2026	24.5	26.1	27.3	28.2	29	29.6
2027	25	27.4	29.3	30.9	32.1	33.1
2028	25.4	28.9	31.6	33.7	35.5	36.9
2029	25.8	30.4	33.9	36.8	39.1	41.1

To evaluate the financial viability of the premium service expansion, the team first assumes the current $4 fare for various expansion distances. Table 11 shows the projected fare revenue, trip costs, and farebox recovery rates for each expansion scenario.

The farebox recovery at the current $4 fare is limited, covering only a small percentage of the additional costs, especially as the expansion distance increases. For example, with a 1-mile expansion, fare revenue covers just over 5% of the total costs. To improve cost recovery, the team explores alternative fare structures, including a fixed premium fare and a tiered premium fare.

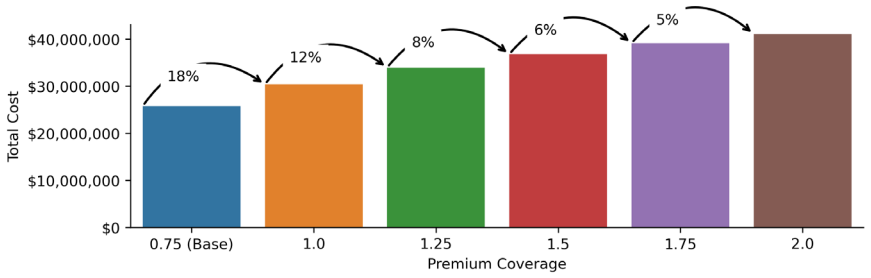


Figure 19 – Total Projected Costs for Premium Coverage Expansion by 2029: The figure presents the total projected costs for each premium coverage expansion scenario at the end of the FYSP period (2029). The base scenario, representing the current ¾-mile ADA coverage, serves as a benchmark, with costs estimated at approximately $25.8 million. As coverage expands incrementally from 1 mile to 2 miles, the total costs rise sharply.

Premium Fare Structure

The analysis of premium fare structures across various transit agencies is shown in Table 12, which provides insights into the diverse approaches taken to balance service expansion and cost recovery. The premium fares range significantly depending on the service area size, population density, and the extent of coverage beyond the ADA-required ¾-mile boundary. The key takeaways from the comparison are as follows:

Table 11: Projected Costs, Revenue, and Farebox Recovery for Expanded Coverage Areas at a Fixed $4 Fare (2025-2029)

Expansion (mile)	Total Customers	Trip Cost	Fare Revenue
0.25	537	$6,323,000	$344,000
0.5	839	$9,879,000	$537,000
0.75	1,081	$12,728,000	$692,000
1	1,280	$15,071,000	$819,000
1.25	1,444	$17,002,000	$924,000

- **Neighboring zones vs. distance-based tiers:** Many agencies, such as the Greater Richmond Transit Company and Massachusetts Bay Transportation Authority, utilize a "Neighbor" fare structure where a premium fare is charged for trips extending into adjacent zones or areas beyond the standard coverage. For example, these agencies typically double the base fare, charging $6 to $7 for premium services in neighboring zones.
- **Distance-based premium fares:** Other agencies, such as Santa Clara Valley Transportation Authority (VTA) and Central Oklahoma Transportation and Parking Authority, implement distance-based premium fares that increase as the distance from the core coverage area grows. VTA, for instance, charges a significant premium fare of $16 for trips extending more than 1 mile beyond the ADA boundary, reflecting the higher operational costs associated with servicing less dense areas.
- **Service area and fare flexibility:** Agencies serving larger, more densely populated areas tend to offer more varied premium fare structures. For example, Omnitrans in San Bernardino and Central Oklahoma Transportation and Parking Authority use a zoned fare system where the premium increases incrementally as trips cross into additional zones. This allows for a flexible pricing strategy that can better align with varying operational costs across different parts of the service area.
- **Impact of fare on cost recovery:** The varied premium fare structures demonstrate that higher fares are often necessary to recover costs in areas with lower population densities or greater service distances. Agencies like the Des Moines Area Regional Transit Authority, which charges up to $30 for trips in expanded zones.

In terms of the fixed fare structure, Table 13 shows farebox recovery ratio for different fixed premium fare. For example, introducing a $9 premium fare (an additional $5 above the current fare) would result in a farebox recovery rate of approximately 12%, which is substantially higher than the recovery at the current $4 fare.

Moreover, the heatmap in Figure 20 shows the total farebox recovery (including the existing ¾-mile coverage) for different premium fares and expansion distances. At $9 fare, the overall farebox recovery reaches around 7.8% for the 1.5-mile expansion, which is an improvement over the 5% recovery achieved at the current fare.

Table 12: Comparison of Premium Paratransit Fare Structures Across Peer Agencies

Agency	City/State	Service Area Population	Service Area (Sq. Miles)	Disability Rate	UPT	Coverage	Paratransit Fare	Premium Expansion	Premium Fare	Service Hour Limitation
Tahoe Transportation District	Zephyr Cove, NV	150,242	73	14%	8,959	1 Mile	$3.0 (Zero Fare Dec 2026)	Neighbor	$6.0 (Zero Fare Dec 2026)	No
Greater Richmond Transit Company	Richmond, VA	452,319	186	13%	254,892	3/4 Mile	3	Neighbor	6	Yes
Monterey-Salinas Transit	Monterey, CA	437,325	159	10%	144,867	3/4 Mile	2	Neighbor	2	No
Pioneer Valley Transit Authority	Springfield, MA	575,500	627	17%	150,074	3/4 Mile	3	Neighbor	5	No
Santa Clara Valley Transportation Authority	San Jose, CA	1,894,783	346	9%	274,955	3/4 Mile	4	+1 mile	16	No
Omnitrans	San Bernardino, CA	1,540,644	466	12%	126,865	3/4 Mile	3.75	Zones	$+1 (Per Additional Zone)	No
Massachusetts Bay Transportation Authority	Boston, MA	3,109,308	3244	13%	930,174	3/4 Mile	3.35	Neighbor	5.6	No
Des Moines Area Regional Transit Authority	Des Moines, IA	3,543,20	136	16%	85,150	City	3.5	Neighbor	30	No
Central Oklahoma Transportation and Parking Authority	Oklahoma City, OK	783,134	283	15%	45,665	3/4 Mile	3.5	0.75-3.75 miles 3.75+ miles	$7 $10.5	No
Central Florida Regional Transportation Authority	Orlando, FL	2,289,420	2540	11%	560,468	3/4 Mile	4	Neighbor	7	No
Indianapolis and Marion County Public Transportation	Indianapolis, IN	969,466	396	14%	149,143	3/4 Mile	3.5	Neighbor	7	No

The team also developed a tiered fare structure that adjusts pricing based on the distance of the expanded coverage. This approach allows for a fare system that aligns costs with the varying levels of service provided across different distances.

- For coverage extending from 0.75 miles to 1 mile, the fare would be set at $6.
- For coverage between 1 mile and 1.25 miles, the fare would increase to $8.
- For coverage between 1.25 miles and 1.5 miles, the fare would be $10.
- And so on for distances beyond 1.5 miles.

Using this structure, the team estimates that UTA could recoup between 8% and 12% of the total costs by 2029, depending on the expansion distances. Table 14 outlines the projected impact of this fare structure on revenue and cost recovery.

When considering both the current ADA coverage with a $4 fare and the 1.5-mile premium coverage, the overall farebox recovery is projected to be around 7% of the total cost. This is slightly lower than the 7.8% recovery rate estimated with a fixed fare of $9 across all expanded areas, highlighting the trade-offs between different fare strategies.

4.5 Scenario 3: Paratransit Expansion Into IMZs

In this scenario, the team explores the expansion of paratransit services into the IMZs proposed in the FYSP, in addition to the existing and future ADA coverage areas. Figure 21 illustrates the coverage at the end of the FYSP, highlighting areas currently covered by paratransit and

Table 13: Impact of Fixed Premium Fare Levels on Farebox Recovery Ratios for Expanded Paratransit Coverage (2025-2029)

Premium Fare	Premium Farebox Recovery Ratio
$5	7%
$7	10%
$9	12%
$11	15%
$13	18%
$15	20%

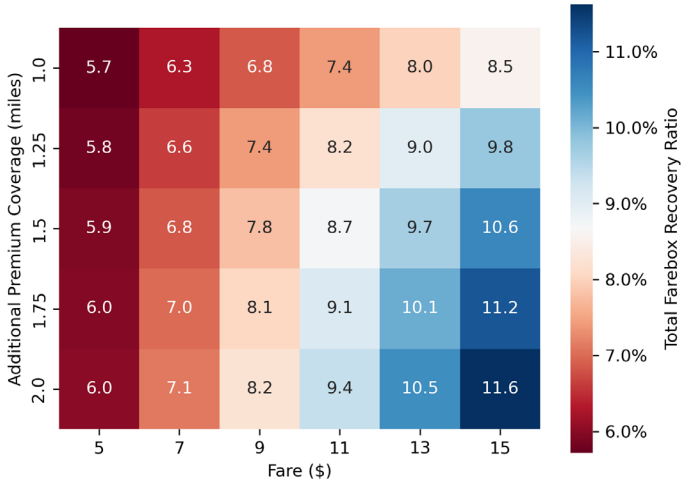


Figure 20 – Heatmap of Farebox Recovery Rates for Different Premium Fares and Coverage Expansions: The heatmap illustrates the farebox recovery rates across various premium fare levels and incremental coverage expansions. Each cell represents the percentage of total costs recovered based on different combinations of premium fares (ranging from $5 to $16) and additional coverage (from 1 mile to 2 miles).

Table 14: Projected Costs, Revenue, and Farebox Recovery for Tiered Fare Structure in Expanded Coverage Areas (2025-2029)

Premium Coverage (miles)	Fare	Added Customers	Cumulative Customers	Trip Cost (Millions)	Cumulative Trip Cost (Millions)	Fare Revenue	Cumulative Fare Revenue	Recoup
1	$6	537	537	$6.32	$6.3	$515,000	$515,000	8%
1.25	$8	303	839	$3.56	$9.88	$387,000	$903,000	9%
1.5	$10	242	1,081	$2.85	$12.73	$387,000	$1,290,000	10%
1.75	$12	199	1,280	$2.34	$15.07	$382,000	$1,672,000	11%
2	$14	164	1,444	$1.93	$17.00	$368,000	$2,039,000	12%
Current Coverage	$4	2,043	-	$24.06	-	$1,308,000	-	5%

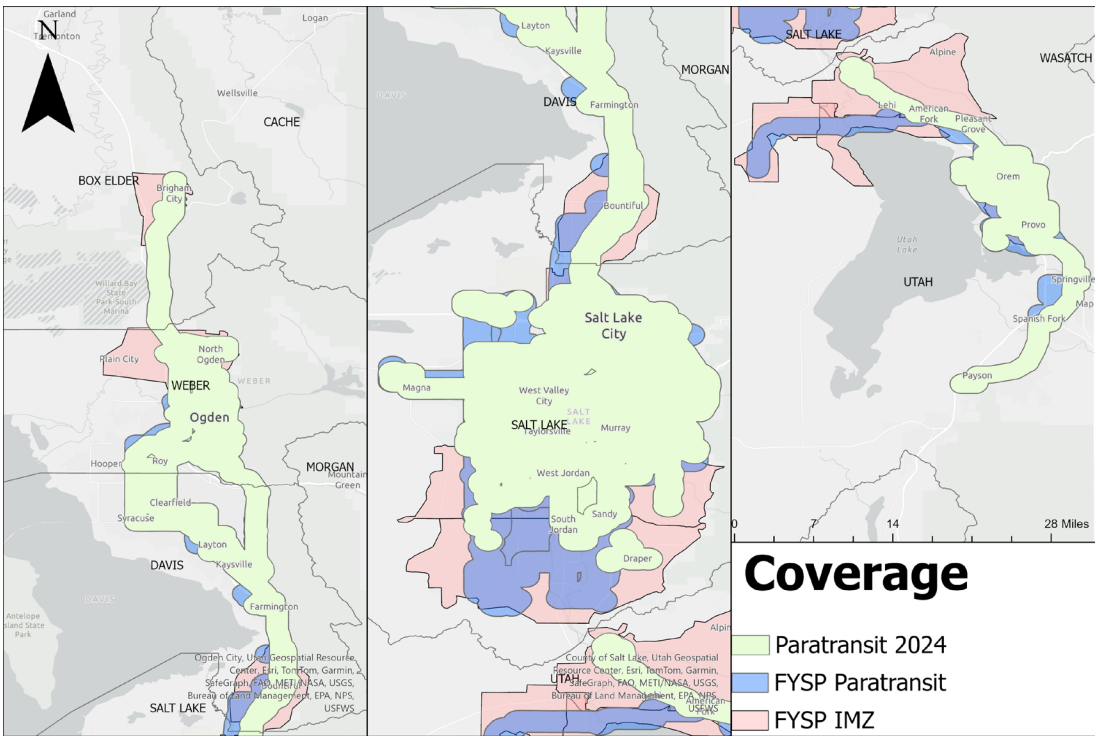


Figure 21 – Paratransit Coverage Expansion Including IMZs at the End of the FYSP: The figure illustrates the expanded paratransit coverage at the conclusion of the FYSP, incorporating both existing ADA-required coverage and proposed IMZs. The pink areas on the map represent the IMZs that lie outside the current and planned FYSP coverage, indicating new regions that could be served by paratransit vehicles. This visual highlights how the integration of IMZs with traditional paratransit services can significantly extend coverage into areas that were previously underserved.

those set to be covered by the FYSP. The pink areas, representing the IMZs that fall outside both the current and planned FYSP coverage, present an opportunity for extending paratransit services.

The team assumes that paratransit vehicles operating within the ADA coverage areas will also serve the IMZs, facilitating pick-ups and drop-offs for passengers within these zones.

As with previous scenarios, the FYSP did not, at the time of analysis. provide a specific phasing schedule for the implementation of IMZs. Therefore, the team used the same random sampling approach to determine the order in which different IMZs are added to the service area each year as shown in Figure 22 . The FYSP proposes a total of 12 IMZs, with the exception of Tooele County's IMZ, which is not included in this analysis due to its unique geographic characteristics. The figure on the right displays the proposed IMZs as outlined in the FYSP, along with the phasing of their inclusion into the paratransit service area based on the random sampling method.

The demand for paratransit services within the IMZs is estimated using a similar methodology as in previous scenarios, relying on a capture rate of 1.6% and applying the gradual adoption curve modeled earlier. This approach allows for a realistic projection of customer growth as paratransit coverage expands into the IMZs.

Table 15: Projected Customer Growth in IMZ Expansion Areas (2025-2029)

Year	Current Coverage Riders	FYSP Coverage Riders	IMZ Expansion	
			Added Riders	Total Riders
2025	1,964	82	105	105
2026	1,983	99	37	141
2027	2,003	118	128	269
2028	2,023	132	55	324
2029	2,043	145	34	358

Table 15 shows the projections for customer growth from 2025 to 2029, capturing both the expansion under the FYSP and the additional demand generated by the IMZs. By the end of the FYSP in 2029, a total of 2,546 customers across the current coverage, FYSP expansion, and IMZs is expected.

The extension of IMZs into the paratransit service is projected to add operational costs as shown in Table 17. By 2029, the total trip cost for operating paratransit services within the IMZs is estimated to reach approximately $4.2 million. This contributes to a total expected expenditure of $29.9 million for UTA in 2029, covering both current and expanded service areas.

To help offset the costs associated with expanding paratransit services into IMZs, the team has proposed various fare structures aimed at improving farebox recovery. Table 16 illustrates the impact of different fare levels on cost recovery by 2029. If UTA were to maintain the current $4 fare for the extended service, the farebox recovery would remain at a modest 5.4%. However, by implementing a higher fare, such as $10, the total farebox recovery for IMZs could increase to 13.6%, and the overall recovery for the entire coverage (current, FYSP, and IMZ) would rise to 6.6%. This analysis demonstrates that while fares can significantly improve cost recovery, they must be balanced with the need to keep the service accessible to the target population.

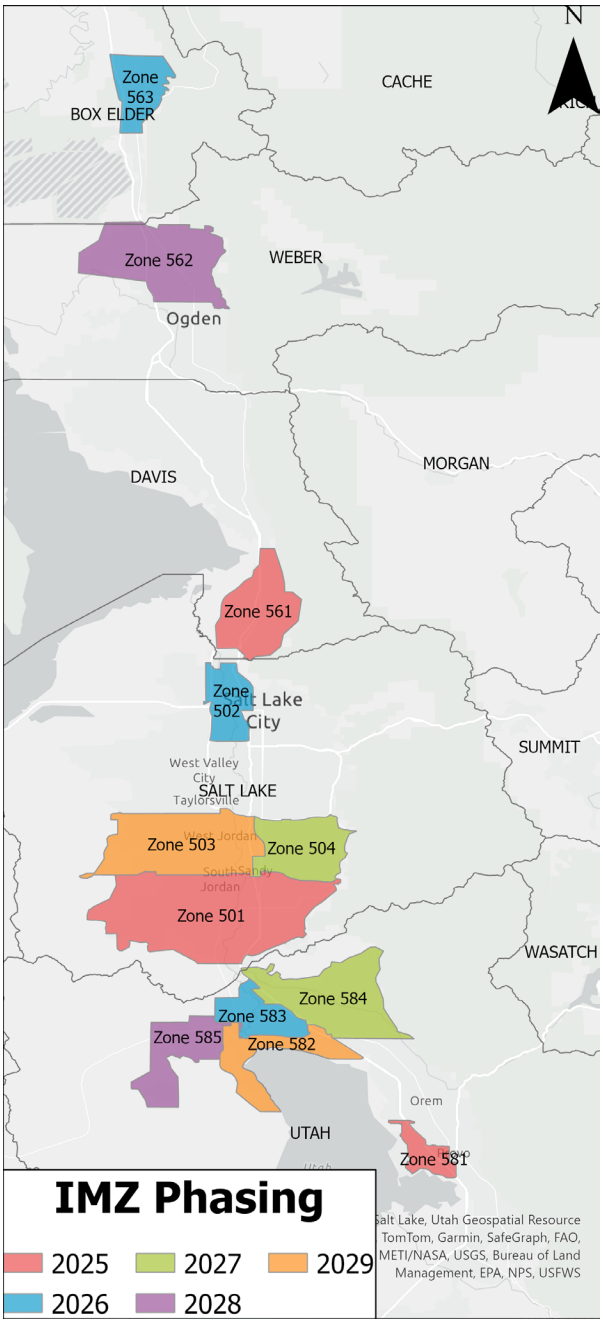


Figure 22 – Phasing Map of IMZ Integration into Paratransit Coverage: The figure displays the phased integration of IMZs into UTA's paratransit coverage, as proposed in the FYSP. The map highlights the specific IMZs to be added each year, illustrating the gradual expansion of service into these areas. The color-coded regions represent the timeline for IMZ implementation, showing how paratransit coverage will evolve to include these new zones by the end of the FYSP period in 2029.

4.6 Coverage Expansion Challenges and Comparative Analysis Across Different Scenarios

Expanding paratransit service coverage beyond the ADA-required ¾-mile radius presents several challenges that must be carefully addressed. Below is an analysis of the key challenges associated with coverage expansion.

Regulatory Requirements

- **ADA compliance:** Any expansion of service must continue to meet ADA requirements if it is considered part of the mandated complementary paratransit service. However, if the expansion is offered as a premium or separate service beyond this boundary,

it may not be subject to the same ADA regulations, provided that the core complementary paratransit service remains compliant and fully accessible, including offering door-to-door service for eligible riders.

- **Service equity:** Agencies must ensure that expanded coverage does not create disparities in service quality. The expansion should be planned with careful consideration of both urban and rural areas, ensuring that marginalized communities receive fair and consistent service.

Operational Challenges

- **Increased vehicle and staffing requirements:** Expanding service coverage requires additional vehicles, drivers, and support staff. The cost per trip typically increases as coverage expands into lower-density areas, where demand is spread out. Operating in these areas can lead to longer travel distances, more idle time, and less efficient resource utilization.
- **Service scheduling and routing complexity:** Extending the service area introduces more complexity into routing and scheduling. Expansion often requires significant capital investments in vehicles, technology, and infrastructure.
- **Service area definition:** Defining the exact boundaries of the expanded service area can be challenging. Static expansion scenarios (e.g., a fixed buffer around existing routes) are easier to manage. On the other hand, dynamic or demand-responsive models are more flexible but require sophisticated systems for real-time monitoring and management.

Table 16: Farebox Recovery Projections for Different IMZ Fare Structures (2029)

IMZ Fare	Farebox Recovery (2029)	
	IMZ	Full Coverage (Current + FYSP + IMZ)
$4	5.40%	5.40%
$6	8.20%	5.80%
$8	10.90%	6.20%
$10	13.60%	6.60%

Table 17: Projected Costs for IMZ Expansion and Total Paratransit Operations (2025-2029)

Year	Total Riders (Current and FYSP)	Total Paratransit Riders Inside IMZ	Total IMZ Cost (Millions)	Total Cost (Millions)
2022	1,906	-	-	$22.44
2025	2,046	105	$1.23	$25.32
2026	2,082	141	$1.66	$26.18
2027	2,121	269	$3.17	$28.14
2028	2,155	324	$3.81	$29.19
2029	2,188	358	$4.22	$29.98

- **Labor relations:** The study authors recognize that many of these alternatives explore the use of contracted services. It is recommended that UTA evaluate any service expansion alternatives or scenarios as either self-operated or contracted to 3rd party providers.

Financial and Cost Considerations

- **Fare structure adjustments:** To offset increased operational costs, agencies might consider tiered or premium fare structures. However, this introduces equity concerns, as higher fares might reduce accessibility for low-income riders. The agency must ensure a balance between generating revenue and maintaining affordable service options.
- **Price elasticity:** Price elasticity measures the responsiveness of demand when fares increase or decrease. In paratransit services, demand tends to be relatively inelastic, meaning that moderate fare increases may not lead to significant drops in ridership because many users rely heavily on the service due to their limited transportation alternatives. However, this inelasticity has limits, especially when fare increases become substantial, potentially leading to decreased usage among low-income riders who cannot afford higher fares.

Below is a summary that encapsulates the key findings for each scenario, allowing for a direct comparison of their potential impacts and cost-effectiveness.

Legacy Service Continuation

This scenario involves maintaining paratransit service in areas that would lose coverage due to planned removals or realignments of fixed routes under the FYSP. This approach also provides UTA with greater flexibility in managing the fixed-route network, as underperforming routes can be adjusted or removed without completely eliminating transportation access for paratransit users in the affected areas. It would add approximately 255 customers at an estimated cost of $3.0 million. With the current $4 fare, farebox

recovery is projected to be around 5%. While this option ensures continuity for existing users, it offers the lowest farebox recovery and adds relatively few new customers.

	Legacy Service Continuation	1-Mile or More Expansion + Premium Service	IMZ Expansion for Paratransit
	255	534-1444	358
	$3.0 Million	$6.3 - $17.0 Million	$4.2 Million
	5% ($4 Fare)	5%-12% ($4-$9 Fare)	5%-10% ($4-$10 Fare)

A comparative summary of the three scenarios — Legacy Service Continuation, 1-Mile or More Premium Expansion, and Paratransit Expansion Into IMZs — highlighting the additional riders, associated costs, and farebox recovery rates for each option.

1-Mile or More Expansion with Premium Service

This scenario explores extending paratransit coverage beyond the current ADA-required ¾-mile boundary, with the addition of a premium fare structure. Depending on the extent of the expansion, it could add between 537 and 1,444 customers, at a cost ranging from $6.3 million to $17.0 million. Assuming a fixed premium fare, UTA could achieve farebox recovery rates between 7% and 12% in the expanded regions. This scenario offers a balance between expanding service, capturing additional demand, and improving financial sustainability.

IMZ Expansion

Expanding into IMZs would add approximately 358 customers at a cost of $4.2 million. The farebox recovery for this scenario could range from 5% at the current $4 fare to as high as 14% with a $9 fare. While this option provides a flexible approach to extending coverage into underserved areas, actual demand estimation is challenging due to the innovative and variable nature of IMZs.

Upon evaluating the potential outcomes of each scenario, it becomes evident that each option presents unique advantages and challenges. Importantly, these scenarios are not mutually exclusive could be implemented individually, in combination, or not at all, to form a strategy for UTA's paratransit expansion.

The **Legacy Service Continuation** scenario aims to preserve paratransit service in areas that would otherwise lose coverage due to planned fixed-route removals or realignments under the FYSP. While this scenario primarily benefits existing riders by ensuring continuity of service, it provides minimal expansion beyond the current service area and has the lowest projected farebox recovery among the scenarios considered. However, maintaining the existing service allows UTA to avoid significant operational disruptions. This scenario also supports service planning by reducing the impact on paratransit riders when fixed-routes are modified or removed, offering greater flexibility in managing the fixed-route network.

The **Paratransit Expansion Into IMZs** explores extending paratransit service into existing or planned IMZs, potentially expanding access to areas well beyond UTA's current fixed-route network. This could include locations such as Alpine and Highland cities in Utah County, which currently lack both fixed-route and paratransit service. However, estimating demand in IMZs is challenging due to their flexible nature. The financial viability and operational complexity, including potential impacts on equity of access compared to the general public, must also be carefully considered. Commingling paratransit with other services within IMZs might offer an alternative approach. However, this strategy presents its own challenges and potential risks, as discussed in Section 5.

The **1-Mile or More Premium Expansion** scenario proposes extending the paratransit service boundary beyond the minimum ADA-required ¾-mile radius, with a premium fare structure for the expanded area. This option offers a broader expansion of coverage and the potential for improved farebox recovery and improved service quality. Key considerations include determining the optimal premium fare levels, accurately estimating demand in the expanded areas, and addressing potential operational complexities associated with a larger service area and tiered fare structure. This approach is similar to some strategies employed by peer agencies.

Each of these scenarios presents a different approach to addressing the challenges and opportunities related to paratransit service expansion. The ultimate decision on which option, or combination of options, to pursue will rest with UTA leadership, based on a comprehensive evaluation of the factors presented in this analysis, UTA's strategic priorities, and budgetary considerations.

5. Opportunity #3: Commingling

Commingling, the practice of integrating paratransit and general transit services, is an innovative approach that seeks to maximize operational efficiency, reduce costs, and enhance service quality for both paratransit and general public riders. This strategy allows transit agencies to better utilize their existing resources — such as vehicles, drivers, and support staff — by serving multiple rider types simultaneously. By combining services under a unified framework, agencies can reduce redundancies, optimize vehicle use, and ensure that both scheduled, and demand-responsive services meet their intended goals.

UTA can leverage its existing UTA On Demand service as a potential solution for commingling. UTA On Demand can be integrated with paratransit operations to create a flexible, responsive transit model. By allowing paratransit and general population riders to share vehicles when their routes align, UTA can enhance service flexibility, reduce empty vehicle miles, and lower overall costs. Generally, on-demand transit has a lower cost per trip than paratransit services for several reasons, including:

- More potential for sharing of trips, as on-demand transit services are open to the general public, resulting in a higher trip density and therefore making it easier to group several trips in a single vehicle
- Smaller, more cost-efficient vehicles to purchase and operate
- Different and more flexible vehicle operator employment agreements

For these reasons, several public transit operators with on-demand transit services choose to complete a small subset of their ADA paratransit trips using on-demand transit to reduce total operating costs. For example, in Wyoming, the Cheyenne Transit Program (CTP) partnered with Spare in 2020 to merge its paratransit and microtransit services under a single digital platform, reducing per-trip costs by 36% and improving vehicle utilization.

5.1 Commingling Requirements and Challenges

Implementing a commingling strategy involves meeting specific operational requirements and overcoming various challenges to ensure seamless integration of paratransit and general transit services.

- **Overlapping service areas:** If UTA pursues comingling, it is recommended that commingled paratransit trips occur in the same area where the on-demand service operates. It is possible for on-demand vehicles to travel outside their operating zone to complete paratransit trips, but only short trips outside the zone would be recommended, as on-demand vehicles are unable to complete non-paratransit pick-ups and drop-offs outside an on-demand zone.
- **Accessible vehicles:** The on-demand service must provide paratransit customers with accessible vehicles, including WAVs for those with wheelchairs or other mobility devices. While the entire on-demand fleet does not need to be accessible, the specific vehicle assigned to paratransit customers must meet the passengers' unique requirements. Note that UTA On Demand is an accessible service with WAVs that are assigned to serve on-demand riders with mobility devices.
- **Trained drivers:** To successfully provide service to paratransit customers, UTA On Demand drivers must also be trained for the specific needs of this rider group. This can include securing mobility devices, helping passengers board vehicles, and handling different behavioral needs, reasonable accommodations, and other ADA requirements.
- **Paratransit service parameters:** The ADA requires that paratransit customers are offered the ability to pre-book trips at least one day in advance, while many on-demand transit services, including UTA On Demand, only offer on-demand trips (real-time booking). Therefore, paratransit trips should be pre-booked and confirmed at least by the night before and on-demand trips are added in real-time. Ideally, this ensures that the booking experience does not change for paratransit riders, who will still call and book rides in advance as they currently do. In partnership with service operators, new processes can be created to ensure that paratransit overflow bookings are assigned to be served by the IMZ fleet the night before rides take place. This means that all changes to the booking process are managed by operators rather than impacting passengers' booking experiences.
- **Sufficient UTA On Demand capacity:** Generally, commingled paratransit trips make up a small percentage of on-demand trips. However, each paratransit trip requires additional UTA On Demand resources and, in aggregate, increases the total number of hours vehicles must operate each year. Therefore, where possible, UTA may seek out opportunities to distribute some of the cost savings from the paratransit service to UTA On Demand to ensure quality of service does not decline. If an IMZ is already undersupplied, meaning demand often exceeds capacity and additional vehicle hours are not added, commingling will exacerbate this issue. At the same time, if sufficient funding is allocated to increase the number of vehicle hours available for

UTA On Demand to account for the influx in paratransit rides, commingling should not reduce service quality for other passengers. This study does not address or discuss existing UTA On Demand capacity challenges.

As with many ADA paratransit services, UTA's paratransit service is expensive to operate, costing UTA around $74 per ride relative to UTA On Demand, which costs $19-$22 per ride on average across all IMZs. The FTA restricts paratransit fares to be no more than twice the fare that would be charged to an individual paying full fare on the non-ADA services ($2.50 one-way, in this case). Therefore, there is a maximum ceiling to how much fare recovery can be achieved, especially given the high cost of paratransit service operations. Furthermore, UTA is committed to serving passengers at an affordable fare to ensure the service is accessible for high-need, low-income passengers. Therefore, managing paratransit operating costs is an important reason for exploring commingling with the less expensive UTA On Demand service. Reapportioning a portion of paratransit ridership to services like UTA On Demand can help reduce the high operating costs associated with traditional paratransit. This approach allows UTA to leverage the cost-effective elements of its on-demand service while continuing to provide fully accessible and ADA-compliant transportation options for all riders.

A key factor contributing to the high cost per ride of paratransit service is its extensive service area, spanning over 100 miles in length and covering approximately 475 square miles. Because paratransit is required to serve all locations within a ¾-mile radius of fixed-route service during its hours of operation, the overall coverage area is significantly expanded. A large service area, combined with key destinations that are widely dispersed throughout the service zone, results in extremely long trips on paratransit service as was detailed in the Task 1 report. For example, it was found that average trip durations are around 44 minutes but can be more than 1.5 times the duration of an equivalent fixed-route trip in some extreme cases.[7] As passengers are required to pre-book trips at least 24 hours in advance, UTA's paratransit service is well-equipped to serve long-distance trips, which can be pre-scheduled and prioritized accordingly in advance. Shorter, more local trips, on the other hand, are often better-suited for on-demand, as these trips may be effectively aggregated with other short, local trips to increase overall service efficiency and enable paratransit service to focus on serving longer trips.

As discussed earlier and shown in Figure 23, UTA's paratransit service experiences large spikes in ridership in the morning and in the afternoon and early evening. Despite the requirement that riders prebook paratransit service, such sharp demand peaks can result in challenges in efficiently operating paratransit service at this time. Commingling paratransit trips with UTA On Demand trips during this time could reduce some of the extreme demand on paratransit service at those times, effectively lowering costs.

Paratransit trip durations are also higher on average during morning peak periods. For example, during morning peak periods, long distance travel times are up to 16% higher. This suggests that trips are more difficult to serve during periods of high demand. Introducing a commingled paratransit overflow service during peak periods could drive more efficient passenger pick-up and drop-off during the busiest service periods.

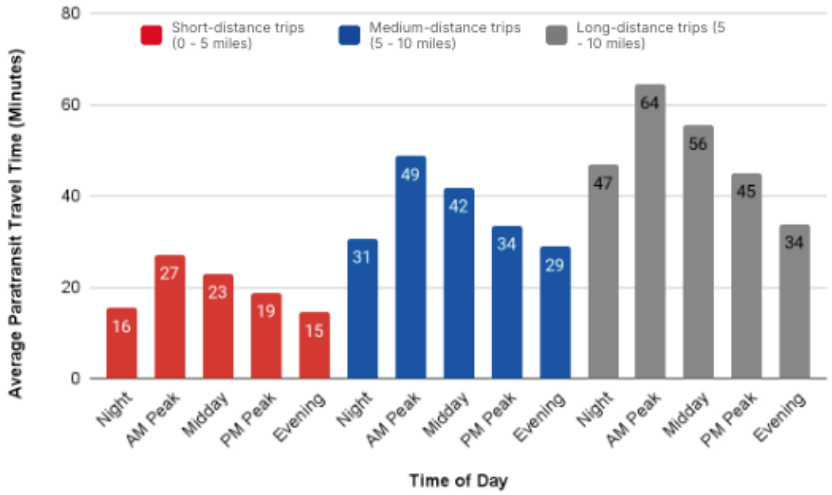


Figure 23 – Mean Travel Times for Paratransit Trips by Time of Day and Trip Distance: This bar graph illustrates average paratransit travel times across different times of day for three trip distance categories: short (0-5 miles), medium (5-10 miles), and long (5-10 miles). The graph reveals how travel times vary depending on both distance and time of day, with longer trips and peak hours generally showing increased travel durations.

5.2 Commingling Approach

Given the current challenges with service, several potential solutions, aimed at addressing cost issues in the current service and leveraging efficiencies in UTA On Demand service, were developed. The team used Via's proprietary simulation tool to simulate real

[7] Per the Paratransit Forward Study Summary Report: Existing Paratransit Service Analysis

service and determine whether commingling would be an effective and feasible solution to reduce the costs of UTA's paratransit service. The three predominant approaches to commingling on-demand services with ADA paratransit are as follows:

1. **Commingled fleets, in which paratransit and on-demand operate with a shared vehicle fleet:** Individual vehicles are assigned to only one mode for any given driver shift, so drivers are assigned either paratransit trips or on-demand trips for any given shift. This approach generally works best when both services are effectively operated together, and transit providers have a single, shared software platform to effectively balance the amount of paratransit vs. on-demand driver shifts according to observed levels of demand. The platform should indicate each ride as paratransit or on-demand and assign them accordingly. This approach entails sharing vehicles across both services without sharing riders, which limits the potential for trip aggregation and efficiency gains.
2. **Commingled shifts, in which both paratransit and on-demand riders are served by the same vehicle during a given driver shift but do not share rides at the same time:** Again, this approach is most effective when software is shared between services, as it requires the software platform to book on-demand trips into available gaps in between pre-scheduled paratransit trips such that the rider groups do not ride on the same vehicle simultaneously. The software must then alert drivers as to whether each ride request is for on-demand or paratransit, as well as whether riders need assistance boarding or alighting, to enable drivers to assist passengers accordingly. This approach also entails sharing vehicles across both services without sharing riders, which limits the potential for trip aggregation and efficiency gains.
3. **Commingled trips, in which paratransit and on-demand riders can be grouped into the same vehicle at the same time:** In this approach, transit providers should provide detailed customer communications and travel training materials to set expectations between both customer groups that rides will be shared with other passengers. This approach entails sharing riders across services, increasing opportunities for efficiency gains and trip aggregation.

Should UTA proceed with commingling, it is advised to implement with the **commingled trips** approach, in which UTA On Demand service drivers would be trained to also provide ADA paratransit trips. Riders of ADA paratransit services, for instance, may require additional assistance with boarding and alighting. ADA paratransit services also have specific requirements for typical pick-up/drop-off windows by which drivers must abide. Recommendations for driver training are further detailed in the Implementation section of this report.

5.3 Exploring Commingling Scenarios for UTA Paratransit and On-Demand Services

This study focuses on the third approach: commingled trips. Since UTA currently operates UTA On Demand using Via and ADA paratransit using Trapeze, this approach reduces the need for a single, unified software system. Instead, UTA dispatchers (or a software) could assign specific paratransit trips to be served by the UTA On Demand service. A variety of different criteria could be used to determine which paratransit trips can and should be transferred to the UTA On Demand Service. This study explores three such criteria (noted below), to provide UTA with an estimate of the varying levels of impact that this type of commingling could offer. The study focused on criteria based on trip duration, time of day of trip request, and the origin and destination points of the trips. However, UTA could also filter by a variety of different factors, for example subscription trips or requests with multiple wheelchairs, which might be better served by a paratransit vehicle that is larger. Another example that may not make sense to be served by UTA On Demand would be trips from the Division of Services for People with Disabilities (DSPD) with unique driver screening requirements. Furthermore, UTA could set caps on the number of trips it shifts between services, should the paratransit demand patterns shift unexpectedly. However, the stricter the criteria are, the more limited the potential opportunity there is for cost savings. The analysis in this study therefore represents the maximum potential cost savings within each criterion.

As such, this approach entails assessing whether UTA's dedicated UTA On Demand service would be able to take on additional paratransit trips along with existing UTA On Demand passengers, effectively operating as a commingled paratransit overflow service. This option would enable UTA to leverage existing UTA On Demand drivers and vehicles while operating with different software platforms, in turn serving rides more efficiently and cost-effectively.

The team investigated three scenarios to explore potential options for a commingled overflow service and determine the feasibility and effectiveness of implementing such a service:

1. Overflow rides in IMZs
2. Overflow rides in and near IMZs

3. Overflow rides anywhere in the paratransit service area by time of day (e.g., peak hours) and trip duration

In each scenario, overflow refers to shifting select paratransit trips to UTA On Demand to reduce demand on UTA's paratransit service and lower overall costs. Further detail around each of the scenarios is provided below.

Scenario 1. Commingle Within IMZs

The first scenario investigated whether cost savings could be achieved by using the UTA On Demand service to serve paratransit trips that start and end in IMZs. This alternative would not require any changes to the existing paratransit service area or IMZs. Only trips with origins and destinations occurring within the overlap between the current paratransit service area and IMZs would be commingled. Note that this analysis includes trips occurring in the overlap between the UTA's paratransit service and its current IMZs — South Davis County, Salt Lake City Westside, Tooele County, and southern Salt Lake County (SSLC) — in addition to five potential IMZs that have been proposed in the agency's five-year plan: 362, East SLCO, South SLCO, West Provo, and West SLCO.

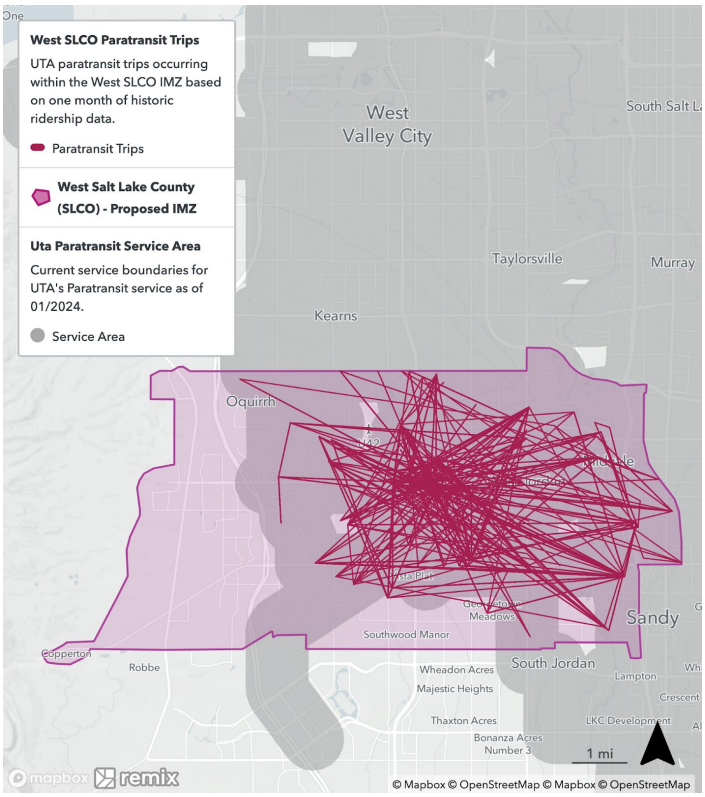
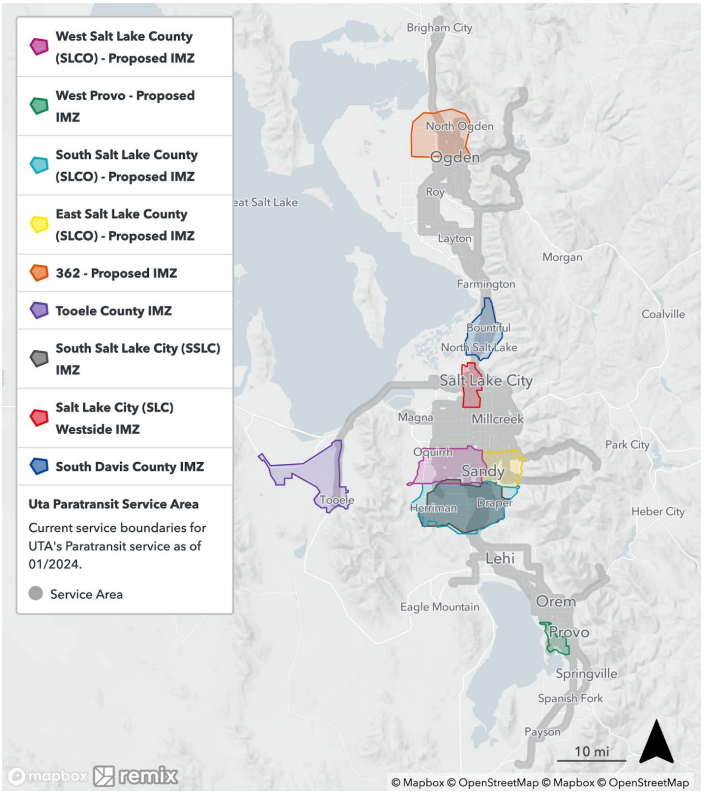


Figure 24 – Illustrative Example of Trips To Be Commingled in Scenario 1 - West SLCO IMZ: This figure illustrates the concentration of historical UTA paratransit trips within the proposed West Salt Lake County IMZ. The red lines represent individual paratransit trips over a one-month period. The overlap between the proposed IMZ (shaded purple) and the current UTA paratransit service area highlights the high volume of trips that would be subject to commingling under Scenario 1.



This map shows the Scenario 1 commingling service areas highlighting various Proposed and Current IMZs across Salt Lake County and surrounding regions. The map helps analyze potential cost savings by using UTA On Demand service for paratransit trips within these zones, without altering the existing paratransit service area. It visually represents the areas where paratransit and IMZ services could potentially be commingled to improve efficiency.

Figure 24 provides an illustrative example of historical UTA paratransit trips taking place over the course of a month that would be commingled if UTA were to proceed with commingling as outlined in Scenario 1. In this example, trips start and end in the overlap between the West SLCO IMZ and the UTA paratransit service area.

Scenario 2. Allow UTA On Demand Service to Serve Some Paratransit Trips Outside IMZ Boundaries

The second scenario aims to determine whether cost savings could be achieved by allowing UTA On Demand to serve nearby paratransit trips with origins and destinations just outside of the current IMZs, in addition to the trips within the IMZs as defined in Scenario 1. This alternative would not result in any changes to existing IMZs, nor would it extend the paratransit service area; rather, it would enable UTA On Demand vehicles to travel slightly outside of the current IMZ boundaries to serve nearby paratransit trips occurring within the paratransit service area. For this scenario, the current IMZs (South Davis County, Salt Lake City Westside, and SSLC) were investigated. The extent to which UTA

On Demand vehicles would be permitted to travel outside of their respective IMZs in this scenario was determined by limiting the additional distance that UTA On Demand vehicles would be permitted to travel to within 50% of the length of each zone's longest area. To determine this threshold, the team analyzed existing paratransit trip patterns and determined additional areas that UTA On Demand vehicles would be permitted to serve paratransit rides outside of current IMZs based on current paratransit ridership patterns; areas within 50% of each IMZ's longest section and with a high density of pick-ups and drop-offs relative to other nearby areas were considered part of the potential area to commingle paratransit and UTA On Demand trips in this scenario. Note that while the project team recommends that the area outside of the current zones in which

IMZs serve paratransit trips be limited in size to ensure efficiencies are maintained, UTA could determine a different threshold for determining how far from the IMZ zones the UTA On Demand vehicles can go to serve paratransit trips, should the agency elect to move forward with a similar service model.

Figure 25 provides an illustrative example of historical UTA

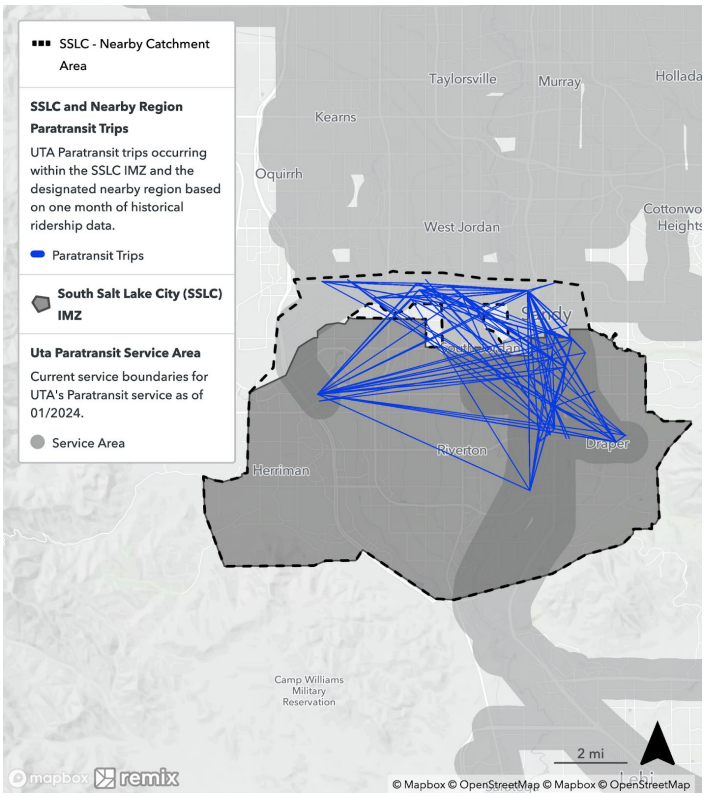
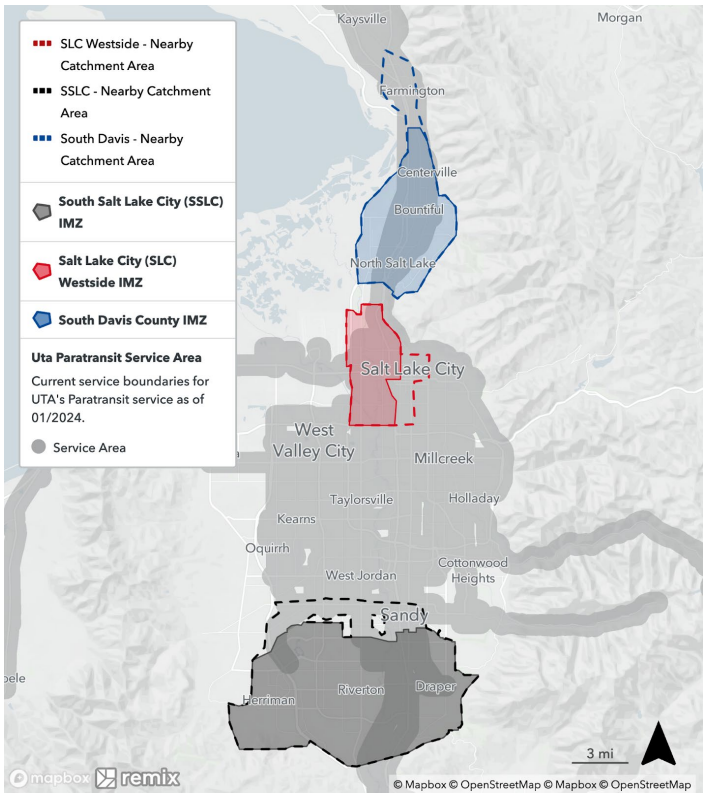


Figure 25 – Illustrative Example of Trips to be Commingled in Scenario 1 - West SLCO IMZ: The map shows SSLC IMZ and the surrounding UTA Paratransit Service Area. Blue lines represent paratransit trips within this region, based on one month of historical ridership data. The trips form a network of connections, primarily concentrated in the northern part of the service area, illustrating the potential routes that would be combined or "commingled" under the proposed Scenario 2.



This map illustrates Scenario 2 of commingling service area. It shows the current South Davis County, SLC Westside, and SSLC IMZs along with their extended Nearby Catchment Areas. These catchment areas represent regions just outside the IMZ boundaries where UTA On Demand vehicles could potentially serve paratransit trips. The extended areas are based on a threshold of 50% of each IMZ's longest section, focusing on high-density pick-up and drop-off locations. This approach seeks to increase service efficiency without altering existing IMZ boundaries or expanding the overall paratransit service area.

paratransit trips taking place over the course of a month that would be commingled if UTA were to proceed with commingling as outlined in Scenario 2. In this example, trips start and end in the overlap between the SSLC IMZ and the UTA paratransit service area or in the paratransit service area slightly outside of the IMZ boundaries.

Scenario 3. Allow UTA On Demand Service to Provide Paratransit Trips Starting or Ending in IMZs During Peak Hours

The third scenario, which evaluated the three existing IMZs, South Davis County, SLC Westside, and SSLC, was designed to determine whether efficiencies and cost savings could be achieved by allowing UTA On Demand to serve paratransit trips under a certain trip duration threshold that either start or end in an IMZ or occur entirely within each IMZ during peak paratransit service hours. Given that ridership on paratransit service peaks both in the morning, between the hours of 6 and 9 a.m., as well as in the evening between the hours of 3 and 6 p.m., this alternative was designed to target periods of high demand in the

paratransit service to ensure maximum relief of paratransit demand when ridership is highest. The team analyzed trips starting and/or ending within the current IMZs that had durations under 35 minutes (scenario 3a) as well as those with durations under 20 minutes for this scenario (scenario 3b). The average paratransit trip duration was 35 minutes, limiting trip duration to under 35 minutes, and subsequently, under 20 minutes enabled the team to focus on trips that UTA On Demand would likely serve more efficiently than paratransit service, as UTA On Demand is generally more effective at serving short, easily aggregated trips. Shorter trips would also minimize excessive travel outside of the existing IMZs for UTA On Demand vehicles. Similar to Scenario 2, the project team chose to limit the trip durations based on historical trip data, but UTA

may elect for different caps on trip durations to determine which trips would be relegated to a commingled paratransit overflow, service should the agency decide to move forward with this service model.

Figure 26 below provides an illustrative example of historical UTA paratransit trips taking place over the course of a month that would be commingled if UTA were to proceed with commingling

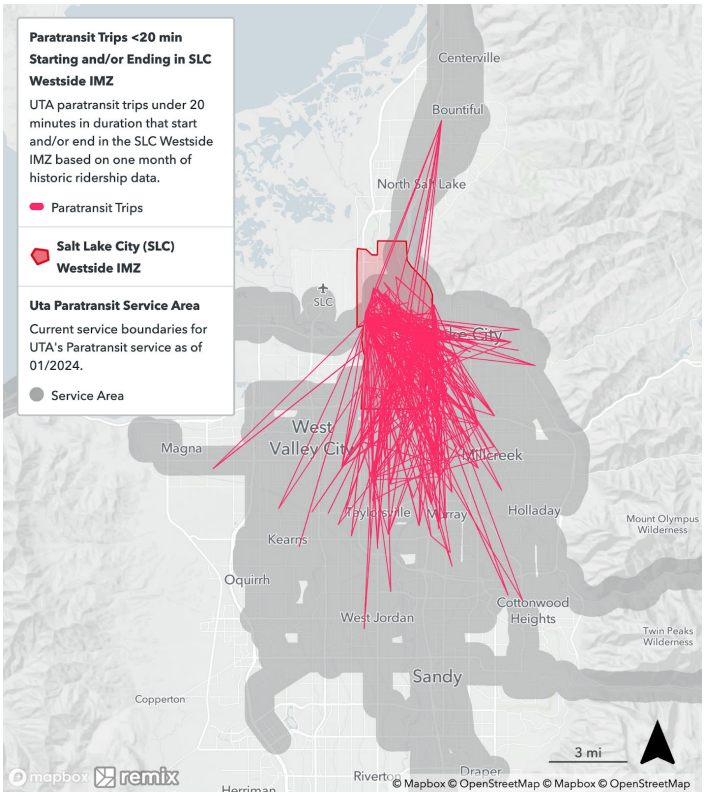
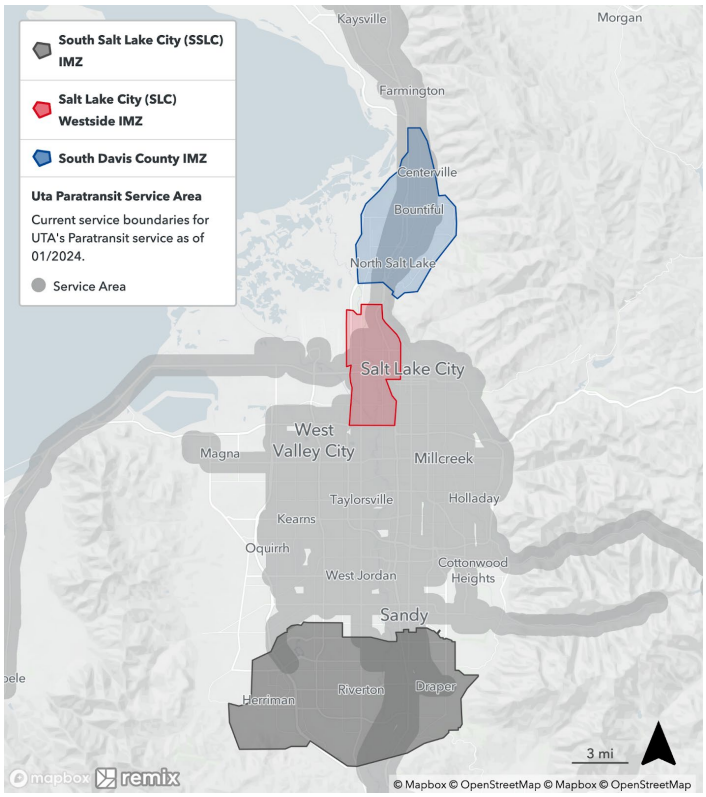


Figure 26 – Illustrative Example of Trips To Be Commingled in Scenario 3a - SLC Westside IMZ: This map illustrates historical UTA paratransit trips occurring over one month that would be potentially commingled under Scenario 3a. This map visualizes UTA paratransit trips under 20 minutes in duration that start and/or end in the SLC Westside IMZ. These trips form a dense network radiating from the IMZ, extending into surrounding areas.



This map illustrates Scenario 3 of commingling service area including the current SSLC, SLC Westside, and South Davis County IMZs. The map provides a geographical that explores potential efficiencies by allowing UTA On Demand to serve specific paratransit trips within or connected to these IMZs during peak hours.

as outlined in Scenario 3a. In this example, trips shown occur during peak service hours and are less than 20 minutes in duration. Trips either start or end (or start and end) in the overlap between the SSLC IMZ and the UTA paratransit service area.

Figure 27 below provides an illustrative example of historical UTA paratransit trips taking place over the course of a month that would be commingled if UTA were to proceed with commingling as outlined in Scenario 3b. In this example, trips shown occur during peak service hours and are less than 35 minutes in duration. Trips either start or end (or start and end) in the overlap between the SSLC IMZ and the UTA paratransit service area.

5.4 Ridership and Cost Estimation

Ridership directly impacts the required fleet size and, therefore, is critical to determining the cost and feasibility of using the UTA On Demand service to operate a commingled overflow paratransit service. As all scenarios involved ridership occurring within existing paratransit service areas, historical paratransit ridership was used as the ridership input for simulations. The team used UTA's paratransit service data from January 2022 to July 2023, and UTA On Demand service data from 2023. For the proposed new IMZs evaluated in Scenario 1, UTA On Demand ridership was pulled from the IMS Service Improvement 2030 Study (in alignment with the UTA FYSP). For each scenario, ridership estimates are broken out into annual paratransit ridership that is anticipated to be served with the UTA On Demand service and estimated total ridership to be served with the UTA On Demand service, including UTA On Demand ridership.

Cost estimates were developed using average cost per ride for UTA's paratransit service and UTA On Demand services to calculate the additional costs and/or savings of serving paratransit trips with UTA On Demand service. The average cost per trip for paratransit service is $74, while average cost per trip for UTA On Demand is $19 across all IMZs, or $22 per trip in the South Davis and SSLC IMZs, $19 per trip in the SLC Westside IMZ, and estimated to be around $22 per trip for the proposed IMZs. For the purposes of this study, cost estimates were calculated by adjusting the average cost per trip of $19 across all IMZs to ~$22 to account for estimated training costs (based on a 10% increase in cost per hour). Transferring trips from being served with UTA's paratransit service to being served with the UTA On Demand service is therefore anticipated to result in savings for UTA on the whole, as each trip that would be served using the UTA On Demand service instead of the paratransit service equates to approximately $52 in savings on average. An illustrative example of potential cost savings is demonstrated in the Appendix.[8]

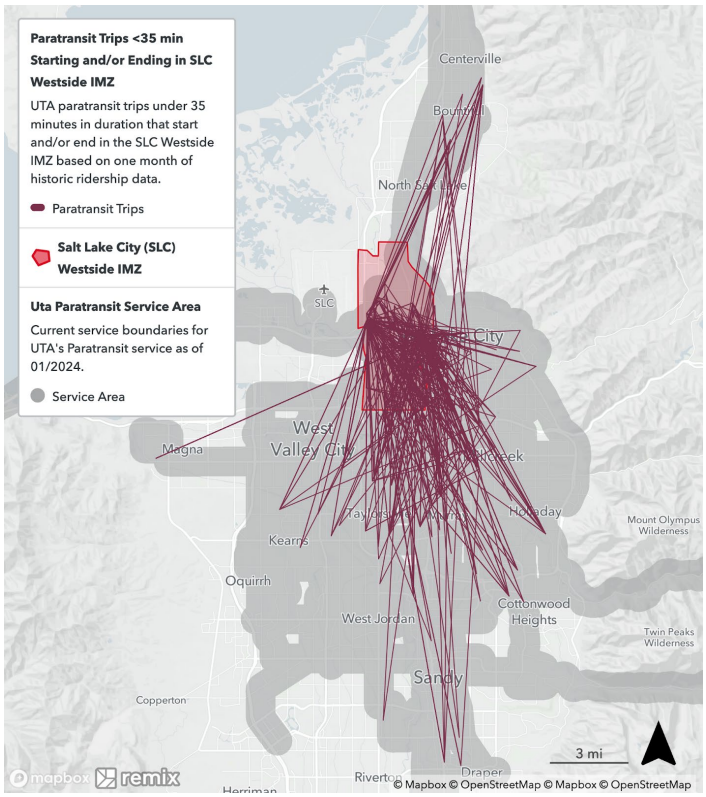


Figure 27 – Illustrative Example of Trips To Be Commingled in Scenario 3b - SLC Westside IMZ: This map illustrates historical UTA paratransit trips occurring over one month that would be potentially commingled under Scenario 3a. This map visualizes UTA paratransit trips under 35 minutes in duration that start and/or end in the SLC Westside IMZ. These trips form a dense network radiating from the IMZ, extending into surrounding areas.

Cost impacts were categorized into:

1. The annual cost impact on UTA On Demand, based on the average cost of the additional riders expected to be added to the service
2. The annual cost impact on paratransit, based on the expected savings to be realized from riders that would be served with UTA On Demand instead of paratransit services

The total impact on UTA's annual cost was calculated by taking UTA's estimated annual paratransit service savings from the estimated additional annual UTA On Demand costs.

Potential Impact of Commingling Within IMZs

The ridership estimates for Scenario 1 consist of existing UTA On Demand trips occurring within each IMZ, as well as existing paratransit trips that started and ended in each respective IMZ. Annual ridership estimates are included in the table below. East SLCO and West SLCO have the highest estimated annual paratransit riders that would be served by UTA On Demand, equating to the greatest estimated annual savings for UTA ($250,000 and $713,000, respectively), shaded in dark green in the Table 18 . The IMZs

[8] Cost savings provided are a simplified estimate based on cost per trip. Should UTA decide to move forward with any of the alternatives, cost estimates should use cost per hour for increased accuracy.

had a relatively high number of paratransit trips starting and ending within the zone boundaries, presenting strong opportunities for commingling existing ridership. Results show that SSLC, 362, and South SLCO also have estimated savings above $100,000 for UTA. In total, if UTA were to introduce a commingled paratransit overflow service to all IMZs, including the proposed IMZs, the agency could expect savings of around $1.3 million per year.

Table 18: Scenario 1 Annual Ridership and Cost Estimates

IMZ	South Davis County	SLC West-Side	Tooele	SSLC	362	East SLCO	South SLCO	West SLCO	West Provo	Total[9]
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	1.4k	400	0	2.1k	1.9k	4.8k	2k	13.7k	200	25k
Est. Weekday Paratransit Ridership to be served by UTA On Demand	~5	<5	0	5 – 10	5 – 10	15 – 20	5 – 10	50	<5	100
Est. Total Annual Ridership to be served by UTA On Demand service	40.6k	115k	48k	230k	54k	140k	157k	177k	38k	840k
Annual Cost Impact - UTA On Demand	+$31k	+$8k	$0	+$45k	+$33k	+$104k	+$43k	+$298k	+$4k	+$532k
Annual Cost Impact - Para	-$106k	-$29k	$0	-$152k	-$142k	-$354k	-$145k	-$1.01M	-$15k	-$1.8M
Total Impact on UTA Annual Cost difference between added cost to UTA On Demand and cost savings for UTA Paratransit	-$75k	-$21k	$0	-$107k	-$109k	-$250k	-$102k	-$713k	-$11k	-$1.3M

[9] Total does not include the South SLCO IMZ, which was removed due to its significant overlap with the SSLC IMZ.

Impact of Commingling Paratransit Trips Beyond IMZs

The ridership estimates for Scenario 2 are comprised of the same ridership estimates for Scenario 1 (existing UTA On Demand trips occurring within the existing IMZs, as well as existing paratransit trips that start and end in each IMZ) plus existing paratransit trips occurring outside of the IMZ boundaries in high-demand areas within 50% of each IMZ's longest section. Commingling in the SSLC IMZ would also have the largest impact on annual cost savings between the three IMZs ($333,000), but across the three IMZs, total estimated annual savings would be around $632,000, representing significant annual savings overall.

Table 19: Scenario 2 Annual Ridership and Cost Estimates

IMZ	South Davis County	SLC West-Side	SSLC	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	2.3k	3.3k	6.4k	12k
Est. Weekday Paratransit Ridership to be served by UTA On Demand	5 – 10	10 – 15	20 – 25	45 – 50
Est. Total Annual Ridership to be served by UTA On Demand service	41.5k	118k	276k	393k
Annual Cost Impact - UTA On Demand	+$50k	+$64k	+$139k	+$253k
Annual Cost Impact - Para	-$169k	-$244k	-$472k	-$885k
Total Impact on UTA Annual Cost difference between added cost to UTA On Demand and cost savings for UTA Paratransit	-$119k	-$180k	-$333k	-$632k

Targeted Commingling of Paratransit Trips During Peak Hours

The ridership estimates for Scenario 3 include existing UTA On Demand trips within the existing IMZs, plus existing paratransit trips that both start and end in the IMZ, as well as specific paratransit trips that start or end in the IMZ. Paratransit trips were then filtered by two criteria. The first limited trips to only those occurring during peak periods (between 6 and 9 a.m. and 3 and 6 p.m.) in the ridership scenarios. Since UTA paratransit trip distances can be quite long, the team also applied a separate trip duration cap for the ridership estimates to ensure that only shorter paratransit trips, which are more conducive to being served with UTA On Demand, were designated as being served with UTA On Demand service during peak periods. Based on the average paratransit trip duration of 35 minutes, the team chose two duration caps: paratransit trips under 20 minutes and paratransit trips under 35 minutes.

Scenario 3a. Allow UTA On Demand Service To Serve Paratransit Trips Under 20 Minutes in Duration Starting or Ending in IMZs During Peak Hours

The ridership estimates for the first iteration of this scenario include UTA On Demand trips plus paratransit trips occurring during peak hours with trip durations under 20 minutes in length. SSLC has the highest estimated annual ridership that can be served by the UTA On Demand service, as well as the largest total cost impact on UTA. In total, limiting commingling of paratransit overflow to trips during peak hours with durations of under 20 minutes would result in an estimated $204,000 in annual savings for UTA as a whole, significantly lower than some of the other alternatives but still impactful relative to the small number of trips that would be converted to a commingled paratransit overflow service. Peak periods are also when UTA's paratransit

Table 20: Scenario 3a - Rides Under 20 Minutes - Annual Ridership and Cost Estimates

IMZ	South Davis County	SLC West-Side	SSLC	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service	900	900	2.1k	3.9k
Est. Weekday Paratransit Ridership to be served by UTA On Demand	5 – 10	5 – 10	15 – 20	25 – 30
Est. Total Annual Ridership to be served by UTA On Demand service	40k	115k	230k	385k
Annual Cost Impact - UTA On Demand	$20k	$17k	$46k	$82k
Annual Cost Impact - Para	-$67k	-$63k	-$157k	-$287k
Total Impact on UTA Annual Cost difference between added cost to UTA On Demand and cost savings for UTA Paratransit	-$47k	-$47k	-$110k	-$204k

service is the most constrained due to high demand levels, so changes introduced in Scenario 3 may be some of the most impactful to provide direct relief for paratransit service. This scenario could also be introduced in tandem with the first two scenarios for a larger overall impact on UTA service as a whole.

Scenario 3b. Allow UTA On Demand Service to Provide Paratransit for Trips Under 35 Minutes in Duration Starting or Ending in IMZs During Peak Hours

Table 21: Scenario 3b- Rides Under 35 Minutes - Annual Ridership and Cost Estimates

IMZ	South Davis County	SLC West-Side	SSLC	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service	2.4k	1.9k	4.7k	9k
Est. Weekday Paratransit Ridership to be served by UTA On Demand	0 – 5	0 – 5	5 – 10	10 – 20
Est. Total Annual Ridership to be served by UTA On Demand service	42k	116k	233k	390k
Annual Cost Impact - UTA On Demand	$52k	$36k	$102k	$190k
Annual Cost Impact - Para	-$177k	-$138k	-$345k	-$661k
Total Impact on UTA Annual Cost difference between added cost to UTA On Demand and cost savings for UTA Paratransit	-$125k	-$102k	-$244k	-$471k

In addition to trips with durations of under 20 minutes, the project team also estimated ridership on commingled paratransit overflow service for trips occurring during peak hours with paratransit trip durations of under 35 minutes, or the average trip duration for current paratransit trips. As with the previous scenario, the SSLC IMZ has the highest estimated annual ridership to be served by UTA On Demand, as well as the largest total cost impact on UTA, with the highest savings. Results align with the fact that SSLC is the largest of the current UTA On Demand IMZs (71 square miles in total area relative to the 28-square-mile South Davis County IMZ and 15-square-mile SLC Westside IMZ) and therefore, changes to this IMZ are expected to have the largest cost impacts. Given that more trips could be served by the commingled paratransit overflow service in Scenario 3b relative to Scenario 3a, the savings realized by UTA would be greater than if UTA only permitted trips occurring during peak hours with trip durations under 20 minutes to be served by the commingled paratransit overflow service.

5.5 Commingled Paratransit Overflow Service Simulations

Using the established IMZ boundaries and ridership estimates, the project team conducted a series of commingled paratransit overflow simulations to determine the anticipated number of UTA On Demand vehicles needed to provide service for the most promising scenarios in terms of ridership and cost impact. The methodology section below details the key goals, considerations, and inputs for service simulations.

Simulation Methodology

Service simulations drive clearer understanding of how a service may perform given a series of provided constraints and inputs. Simulations model live service, enabling the team to understand the impact that certain changes to the service will have on service quality and ability to meet demand. In this case, the team applied existing UTA paratransit and UTA On Demand service settings (further detailed below) and the ridership scenarios outlined in the section above to solve for the UTA On Demand fleet needed to meet demand. Each simulation investigated how many additional UTA On Demand vehicles would be required to enable a commingled paratransit overflow service to operate in each scenario, assuming that ridership and quality of service parameters were held constant. The number of vehicles determined through modeling was then compared to current vehicle supply levels in each IMZ to assess whether the current fleet size was sufficient to serve additional paratransit ridership[10]. Simulations modeled a full day of service using historic trip data representative of an average day of service for both paratransit and UTA On Demand in the last year.

Successful transit services balance the supply provided by vehicle fleets, rider demand, and quality of service standards (including ADA requirements). Adjusting one element will directly impact the other variables — for example, shortening wait times will either require more vehicles to serve the same number of trips or reduce the total number of trips the system can serve. In this case, the

[10] Vehicle supply assessment only considered whether the service could meet additional paratransit demand; assessment did not account for any underlying unmet demand for UTA On Demand service.

current UTA On Demand service and paratransit service have existing quality of service parameters that were held steady throughout service simulations.

- Supply can be measured by vehicle hours, total budget, or size of fleet. Supply also directly correlates with a service's ongoing operating cost. With increased supply, a service can complete more passenger trips while keeping quality of service constant or, alternatively, offer greater quality of service.
- Demand is typically expressed in terms of a service's ridership. A significant increase in demand, or ridership, will necessitate either lowering the target quality of service to keep vehicle supply constant or adding extra vehicles to ensure that quality of service remains acceptable.
- Quality of service encompasses various metrics for how fast, frequent, comfortable, reliable, and efficient a service is. Quality of service parameters are typically set using a technology provider's algorithm for on-demand services but are largely dictated by ADA requirements for paratransit services. Significantly increasing quality of service will result in either higher operating costs from the additional vehicles required to serve the same level of demand or a lower passenger capacity if no vehicles are added.

Additional details for each of the three key variables and the specific settings used for each parameter are provided below.

Simulation Parameters

Simulations ensured that paratransit trip parameters heeded ADA paratransit requirements and UTA's current paratransit trip parameters, while UTA On Demand trips used current UTA On Demand trip parameters. In several cases, different parameters were applied to on-demand trips and paratransit trips. Examples of differences in parameter settings between on-demand and paratransit trips include, but are not limited to, the following:

- **Curb-to-curb vs. corner-to-corner:** UTA paratransit service applies a curb-to-curb stops model. In curb-to-curb service, vehicles can pick up riders directly outside their requested pick-up address and drop them off directly outside their requested drop-off address. UTA On Demand uses a corner-to-corner stops model, in which passengers walk a short distance (usually less than 400m) to a nearby corner or hub to meet their vehicle at a virtual pick-up point and are similarly, dropped off a short walk from their requested drop-off destination. Note that even on UTA On Demand service, riders with disabilities are always provided curb-to-curb service. The simulations mirrored these such that all paratransit trips were routed as curb-to-curb and all UTA On Demand trips were routed as corner-to-corner.
- **Pre-booked vs. on-demand:** UTA paratransit trips must be pre-booked at least one day in advance. Rides and routing are then finalized in advance of the day of service. UTA On Demand, on the other hand, uses an on-demand booking model, so passengers book rides when they want to ride for real-time service. Simulations ensured that paratransit trips were treated as pre-booked and were pre-scheduled the night before rides occurred, while UTA On Demand trips used an on-demand booking model and were slotted into the schedule in real time.
- **Maximum wait time:** Per ADA regulations, UTA paratransit uses a ready window for pick-up, which consists of a 30-minute window (15 minutes before requested pick-up time and 15 minutes after requested pick-up time) in which passengers may be picked up by the paratransit service. UTA On Demand applies a maximum wait time to pick up passengers who request rides on-demand, generally keeping wait times under 30 minutes. The simulations reflected wait time requirements as well, ensuring that on-demand trips had wait times under 30 minutes and that paratransit trips adhered to the 30-minute ready window.

Simulation Results

After gathering ridership estimates and quality of service parameters, iterative simulations were performed for each scenario. Simulations used existing quality of service parameters, and the ridership estimates established above. This allowed the project team to identify the necessary fleet supply to meet demand for each scenario. All simulations were completed using Via's proprietary, agent-based simulation tool, which predicts how different zones and fleet configurations will perform as real-world services.

The results of commingled paratransit overflow simulations performed for each scenario are presented below. Note that for Scenario 1, only those scenarios that would entail increased ridership of more than 10 trips per day and/or would require increases in fleet size were simulated.

Evaluating Fleet Impact for Commingling Within IMZs

Scenario 1 simulated a potential commingled paratransit overflow service for trips occurring within IMZs. The team only simulated East SLCO and West SLCO, given the significantly greater cost impact predicted for these scenarios relative to the other existing and potential IMZs. Compared to the predicted fleet size of 11 vehicles for the East SLCO IMZ and 15 vehicles for the West SLCO IMZ, simulations predicted relatively minor increases in fleet size of around 1-13% and 13-27%, respectively, to serve additional paratransit overflow trips.

Table 22: Simulation Results for Scenario 1 - Commingle within IMZs

IMZ	East SLCO	West SLCO	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	4.8k	13.7k	18.5k
Est. Total Annual Ridership to be served by UTA On Demand service	140k	177k	317k
Estimated Additional UTA On Demand Vehicles Required to serve weekday paratransit rides with UTA On Demand	1 - 2[11]	2 - 4[12]	3 - 6
Estimated Additional Weekday UTA On Demand Vehicle Hour to serve paratransit rides with UTA On Demand	12 - 24	25 - 50	37 - 74

Assessing Fleet Needs for Serving Paratransit Trips Beyond IMZ Boundaries

Scenario 2 explored the potential for UTA On Demand to serve some paratransit trips outside of the existing IMZ boundaries in addition to existing UTA On Demand trips. The current average UTA On Demand fleet size is around five vehicles for South Davis County, six vehicles for SLC Westside, and 17 vehicles for SSLC, all of which were used as baselines for their respective IMZ scenarios below. Given that this scenario would require the vehicles to travel outside of current IMZ boundaries to serve additional paratransit trips, additional vehicles were expected to be necessary to serve the additional ridership. In total, simulation results estimated around three to six vehicles required to be added if UTA were to move forward with this version of commingled paratransit overflow service. The SSLC IMZ, with its additional coverage of paratransit trips outside of the IMZ boundaries, would require the most additional vehicles to operate a commingled paratransit overflow service (two to three vehicles), which is unsurprising given the size of the IMZ and high demand in the area.

Table 23: Simulation Results for Scenario 2 - Allow UTA On Demand service to serve some paratransit trips outside IMZ boundaries

IMZ	South Davis County - Plus Additional Coverage Area	South Davis County - Plus Additional Coverage Area	South Davis County - Plus Additional Coverage Area	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	2.3k	3.3k	6.4k	12k
Est. Total Annual Ridership to be served by UTA On Demand service	41.5k	118k	276k	393k
Estimated Additional UTA On Demand Vehicles Required to serve weekday paratransit rides with UTA On Demand	0 - 1	1 - 2	2 - 3	3 - 6
Estimated Additional Weekday UTA On Demand Vehicle Hour to serve paratransit rides with UTA On Demand	7 - 15	16 - 32	32 - 48	48 - 92

Evaluating Fleet Requirements for Short Paratransit Trips During Peak Hours

Scenario 3a investigated the feasibility of using the UTA On Demand service to serve paratransit rides under 20 minutes in duration along with existing UTA On Demand riders during peak hours. UTA On Demand fleet sizes during peak service hours were used as baselines for simulated service, which equates to around five vehicles for the South Davis County IMZ, eight vehicles for SLC

[11] IMS Service Improvements 2030 Study in Alignment with UTA Five Year Service Plan, 2024 estimates fleet sizes of 11 vehicles for the East SLCO zone and 15 for the West SLCO zone to be operated without any paratransit trips.
[12] Additional IMZs were not simulated due to low projected ridership and low relative impact on cost.

Westside, and 23 vehicles for SSLC. In total, an additional five to eight vehicles would be required during peak periods to enable UTA On Demand to serve paratransit rides under 20 minutes during peak hours for all three IMZs. However, fleet size may fluctuate throughout the day. The SSLC IMZ would, again, require the most additional vehicles, but commingling trips in this IMZ would also result in the greatest savings for UTA relative to other IMZs.

Table 24: Simulation Results for Scenario 3a - UTA On Demand Serve Rides Under 20 Minutes During Peak Hours

IMZ	South Davis County	South Davis County	South Davis County	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	900	900	2.1k	3.9k
Est. Total Annual Ridership to be served by UTA On Demand service	40k	115k	230k	385k
Estimated Additional UTA On Demand Vehicles Required to serve weekday paratransit rides with UTA On Demand	0 - 1	2 - 3	3 - 4	5 - 8
Estimated Additional Weekday UTA On Demand Vehicle Hour to serve paratransit rides with UTA On Demand	3 - 6	12 - 18	18 - 24	35 - 50

Evaluating Fleet Requirements for Long Paratransit Trips During Peak Hours

Scenario 3b also investigated the feasibility of using the UTA On Demand service to serve paratransit rides under 35 minutes in duration along with existing UTA On Demand riders during peak hours. UTA On Demand fleet sizes during peak service hours were used as the baseline for supply for the simulation. In total, a commingled paratransit overflow service for trips under 35 minutes during peak hours would result in an estimated additional seven to ten vehicles required to operate service, with around 40 to 60 additional weekday UTA On Demand vehicle hours. The additional fleet required in this scenario relative to Scenario 3a is at least partially attributable to the longer trip distances in this scenario relative to trips less than 20 minutes in total duration.

Table 25: Simulation Results for Scenario 3b - UTA On Demand Serve Rides Under 35 Minutes During Peak Hours

IMZ	South Davis County	South Davis County	South Davis County	Total
Est. Annual Paratransit Ridership to be served by UTA On Demand service (trips start & end in IMZ)	2.4k	1.9k	4.7k	9k
Est. Total Annual Ridership to be served by UTA On Demand service	42k	116k	233k	390k
Estimated Additional UTA On Demand Vehicles Required to serve weekday paratransit rides with UTA On Demand	0 - 1	3 - 4	4 - 5	7 - 10
Estimated Additional Weekday UTA On Demand Vehicle Hour to serve paratransit rides with UTA On Demand	0 - 6	18 - 24	24 - 30	40 - 60

5.6 Summary and Evaluation of Commingling Strategies

The commingling of UTA's paratransit and on-demand services offers significant potential for cost savings and enhanced service delivery across the transit network. The study explored three scenarios to assess the impact of this integrated approach on UTA's operations, with each scenario presenting distinct opportunities and challenges for commingling paratransit trips with UTA On Demand services. The primary aim was to optimize resource utilization by reallocating certain paratransit trips to the more cost-effective UTA On Demand service while maintaining high service standards and ADA compliance.

1. Scenario 1: Commingling Within IMZs: This scenario focused on commingling paratransit trips occurring within the existing and planned IMZs. The results indicated that UTA could achieve substantial cost savings by reallocating paratransit trips that both start and end within IMZ boundaries to UTA On Demand. For East and West SLCO IMZs, estimated savings reached up to $963,000 annually, with a minimal increase in fleet size (1-13% for East SLCO and 13-27% for West SLCO). This scenario

demonstrates that commingling within IMZs could effectively reduce operational costs while utilizing the current infrastructure and service capabilities.

2. **Scenario 2: Extending Commingling Beyond IMZ Boundaries:** This scenario examined the possibility of UTA On Demand serving some paratransit trips originating or terminating just outside existing IMZ boundaries. The results showed that expanding the commingling area beyond IMZ limits could save UTA approximately $632,000 per year. However, additional vehicles (estimated at three to six across all IMZs) would be necessary to cover the increased service area. This scenario offers moderate cost savings with manageable adjustments in fleet size.
3. **Scenario 3: Commingling During Peak Hours:** This scenario considered using UTA On Demand to serve shorter paratransit trips (under 20 and 35 minutes) within or near IMZs. The simulations showed potential savings of up to $204,000 annually for trips under 20 minutes and higher savings for trips under 35 minutes. This approach would require five to ten additional vehicles, depending on the trip duration criteria. Scenario 3 is particularly effective in addressing peak-hour congestion and reducing operational stress on UTA's paratransit service during times of highest demand.

6. Opportunity #4: Off-Peak Fare Adjustments

The project team also investigated the potential impact of changing fares on UTA's paratransit service to mitigate high demand on the service during peak periods. Current paratransit fares are $4.00 one-way. The FTA stipulates that fares on ADA paratransit service must remain within twice the fare that would be charged to an individual paying full fare (in this case, a maximum of $5.00 per one-way trip) at a similar time of day, on the entity's fixed route system. UTA prioritizes serving passengers at an affordable fare to ensure the service is accessible for high-need, low-income passengers, who make up a significant portion of its paratransit service's ridership. Rather than increasing fares during peak hours (7-10 a.m. and 1-4 p.m.) to attempt to decrease demand during peak paratransit service hours, the project team sought to investigate whether decreases in paratransit fares outside of peak hours could encourage some paratransit riders using the service during peak periods to instead use the service during discounted periods throughout the rest of the day.

6.1 Expected Paratransit Demand Elasticity

Whether fare changes will impact ridership demand depends on the level of passenger sensitivity to price changes in transit service, which is generally measured using elasticities, or the change in transit usage resulting from a change in service price, all else held constant. A high elasticity indicates high price sensitivity, or a significant change in transit use patterns when prices change, while low elasticity, or inelasticity, reflects that prices have a relatively low impact on transit demand, as passengers continue to use transit at the same or very similar levels regardless of the price of using the service. Several factors tend to impact transit elasticity, including geography, trip type, and user type. Transit-dependent riders, or riders that heavily rely on public transit for their transportation needs, such as low-income riders and riders with disabilities, tend to be less price sensitive or less elastic than choice riders, or riders that have alternative transportation options such as a personal vehicle. Essential trips, particularly those that require more precise pick-up and drop-off times, such as medical trips and commutes, also tend to be less price elastic than non-essential trips like shopping or leisure trips.[13] ADA paratransit ridership is generally assumed to be less elastic than general public transit ridership, given that viable alternatives to paratransit may not exist for many paratransit riders, who often face physical and financial barriers to using private transportation modes or other forms of public transit. Moreover, ADA paratransit is often used for essential trips, such as medical appointments and rides to adult activity centers.

Due to paratransit's relatively inelastic demand overall, reducing or increasing fares on UTA's paratransit service is expected to have a low impact on total demand. However, fare decreases during off-peak hours could still encourage riders to switch the time of day of their rides, from peak demand periods to off-peak demand periods, effectively relieving some of the peak period demand (making it easier for operators to serve this time of day) and lowering the cost to riders.

Additional research into the price sensitivity of UTA's paratransit riders is needed to fully determine the potential impacts of this fare change on operations and fare revenue. However, the illustrative example below demonstrates the potential impact of introducing reduced fares during off-peak periods based on general elasticities for paratransit services (from the Transit Cooperative Research Program (TCRP) Report 119, "Improving ADA Complementary Paratransit Demand Estimation," 2007).

Table 26: Impact of Off-Peak Fare Reductions on Demand and Revenue

Off-Peak Fare	Assumed Rate of Increase in Demand[14]	Annual Estimated Off-Peak Demand	Annual Off-Peak Fare Revenue	Percent change in in off-peak fare revenue
$4 (Current)	n/a	82,000	$330,000	n/a
$3 (25% reduction)	1.2	98,400	$295,200	-10.50%
$2 (50% reduction)	1.7	140,000	$280,000	-15%

[13] Victoria Transport Policy Institute. 2024, July 31. "Transit Price Elasticities and Cross-Elasticities."

[14] Based on the "base fare factor" provided to calculate paratransit demand in the TCRP report 119, "Improving ADA Complementary Paratransit Demand Estimation," 2007. These multipliers assume all other elements of the service remain equal. Further analysis is recommended to finetune how price sensitive UTA paratransit riders are.

Table 26 shows what the shift in peak vs. off-peak demand could be and the impact on fare revenue should UTA reduce off-peak fares by $1 and $2 from the current paratransit fares of $4. For this example, weekdays from 7-10 a.m. and 1-4 p.m. are assumed to be peak hours (based on the three hours in the morning and three hours in the afternoon with the highest percentage of ridership). All other hours are assumed to be off-peak hours. Based on ridership data, 70% of total trips occurred during peak hours.

In the example above, using the TCRP's base assumptions for paratransit fare elasticity, a reduction in off-peak fares by one dollar would reduce peak trips by about 16,400 trips, reducing fare revenue by about $35,000. A reduction in off-peak fares by $2 would reduce peak trips by about 60,000, resulting in about $50,000 less in fare revenue.

6.2 Benefits to UTA of Introducing Reduced Fares During Off-Peak Periods

The fare changes that UTA elects to introduce may differ from the example provided above; however, the expected benefits to UTA of introducing reduced fares during off-peak periods are as follows:

- **Reduced demand during peak periods:** Since fares would only be reduced during off-peak periods, some riders would be expected to shift from taking paratransit trips during peak service periods (7-10 a.m. and 1-p.m.) to off-peak periods throughout the remainder of the day, relieving some of the high demand on the service during peak periods. This could also potentially reduce the peak fleet size, and thus, drivers required to serve the paratransit trips.
- **More on-time performance during peak periods:** The expected reduction in demand during peak periods could also drive increased on-time performance during peak periods, as fewer trips would occur during service peak periods and drivers would have additional buffer time in between trips to pick up passengers during peak hours. With fewer rides to fulfill during these periods, drivers would be able to maintain on time performance more easily.
- **Less trip negotiation:** Additional availability to serve rides during peak periods could also minimize the need for trip negotiation, or adjustments that UTA must make to pick-up times to serve riders when there is high demand at the same time. This could reduce manual reworking of pick-ups and drop-offs for UTA.

7. Opportunity #5: Expanding Eligibility Centers

The project team also investigated the impact of introducing an additional eligibility center to UTA's paratransit service for current and potential riders to complete their eligibility evaluation and mobility device certification. Throughout the Paratransit Forward Study's community engagement efforts, paratransit riders and potential riders listed the process of determining their eligibility to use UTA's paratransit service, particularly traveling to the eligibility center, as one of the primary struggles with the service. This section focuses on recommendations for challenges that can be addressed by the introduction of an additional eligibility center in the paratransit service area. While changes to the eligibility process itself were also investigated as part of the Paratransit Forward Study, no recommendations are being made at this time to change the eligibility process, nor was the process identified as an area of further development by UTA.

Any additional facilities would be introduced as a supplement to the existing eligibility center in Murray, so paratransit riders could elect to complete their eligibility assessment at the center most conveniently located for them. Adding additional facilities could reduce travel time to an eligibility center for some passengers, mitigating one of the barriers to completing eligibility assessments for individuals. Since UTA provides free rides to and from the current eligibility center for eligibility applications, the agency may also consider providing free rides to any additional eligibility centers to ensure equity. Furthermore, adding facilities that are closer for some riders could slightly reduce costs for UTA by shortening trips to and from the eligibility centers.

7.1 Current Mobility Center Assessment

Determining eligibility for riding UTA paratransit service currently requires riders to complete an in-person functional assessment at the Mobility Center in Murray. The assessment enables UTA to determine a potential rider's physical and cognitive ability to use general UTA transit services. The UTA Mobility Center is centrally located within UTA's paratransit service area, near several areas with moderately dense populations of people living with disabilities, as shown in the figure below. However, several areas with the highest densities of people living with disabilities are required to travel long distances to reach the eligibility center for eligibility assessments, especially from areas like Ogden and Provo.

The eligibility assessments include a functional physical assessment evaluating applicants' ability to board and ride accessible fixed-route buses and light rail services, as well as navigate various geographic

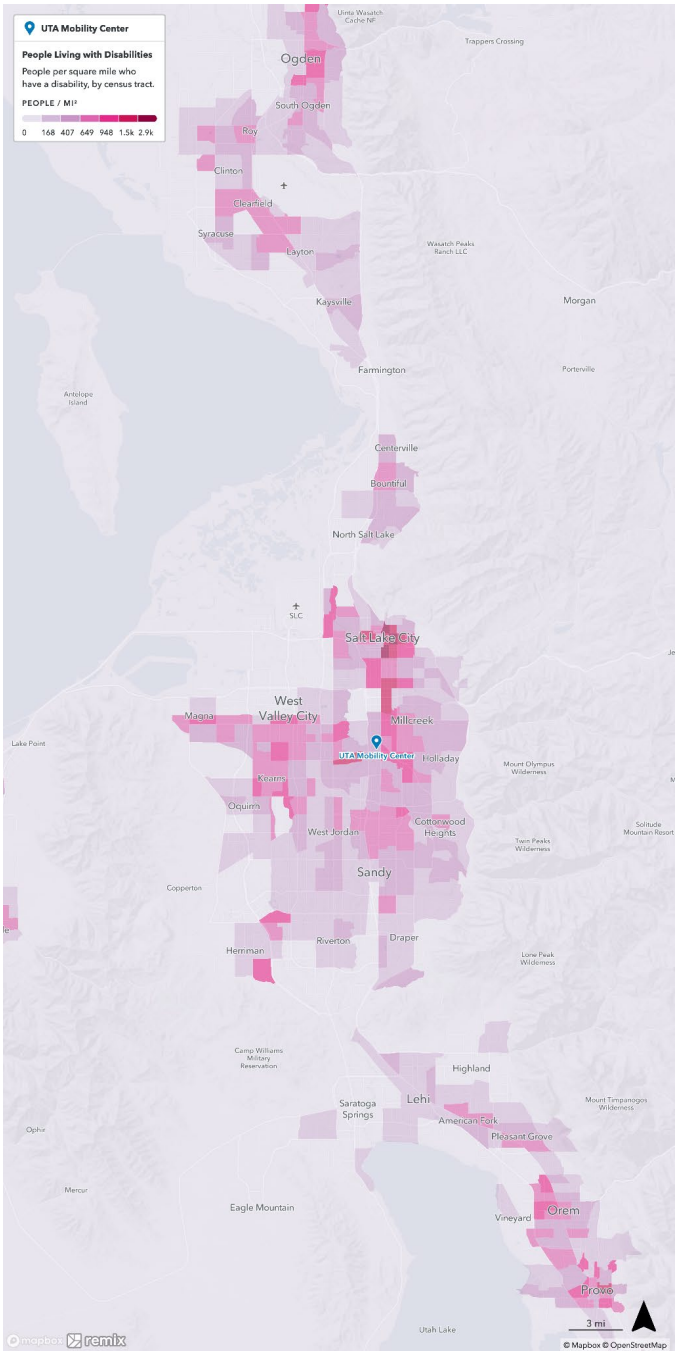


Figure 28 – Density of People Living With Disabilities in the Region Surrounding the UTA Mobility Center: This map shows the density of people with disabilities across the UTA service area, with the centrally located UTA Mobility Center in Murray. While the center is near some moderately dense areas, it is far from several high-density regions, such as Ogden and Provo, highlighting the challenges for paratransit users in distant areas who need to travel to Murray for eligibility assessments.

terrains.[15] The physical assessment also tests skills such as balance, strength, coordination, and range of motion. More specifically, the physical assessment observes endurance, distance, crossing busy streets, judgement, and community assessment. The community assessment takes the customer out of the previous contained environment and then introduces real life transit experience of busy pedestrian traffic at the Murray North TRAX Station and the Murray Central Intermodal Hub, which is a major connection point to other UTA services such as TRAX, FrontRunner, and many UTA buses. The customer will navigate the platform traffic and board and ride TRAX, and then undergo a physical assessment measuring endurance, distance, crossing busy streets, incline, curb cuts, sidewalks, auto and pedestrian traffic, and extreme noise from the busy bus hub.

Potential riders must complete a Functional Assessment of Cognitive Transit Skills (FACTS), which assesses passengers' cognitive abilities to use transit. FACTS is a validated tool that assesses transit skills through a simulated bus trip, evaluating bus travel skills, community safety skills, and general orientation. In addition to the FACTS, another cognitive assessment used by UTA is the Montreal Cognitive Assessment (MoCA). MoCA is a validated and widely used assessment used for detecting cognitive impairment.

Together, the physical and cognitive assessments are used to determine an individual's eligibility for paratransit services, ensuring that those in need of paratransit service receive the necessary support.

In addition to physical and cognitive assessments, applicants with mobility devices are required to have their mobility devices weighed and measured to ensure they can fit on paratransit service vehicles and are within the required weight limit for wheelchair lifts on paratransit vehicles. Following initial approval of mobility devices, passengers must travel to eligibility centers to weigh their mobility devices and determine if they are suitable to be transported on paratransit service vehicles each time passengers get a new mobility device[16]. Per ADA requirements, paratransit vehicles must be capable of accommodating, at a minimum, an occupied wheelchair weight of 600 pounds, measuring 30" x 48." UTA's paratransit service vehicles currently have capacity for occupied wheelchairs weighing 800 pounds with wheelchair and occupant together that are 54 inches long and 33 inches wide. Note that in recent years, electric wheelchairs have continued to increase in size, weight, and popularity amongst paratransit riders as they become more accessible.

The ADA also stipulates that the eligibility process developed by transit agencies may not impose unreasonable administrative burdens on applicants and may not involve user fees or application fees to the applicant. Applicants are also prohibited from being required to pay for transportation to and from an assessment, so UTA provides free transportation for applicants to and from the UTA Mobility Center. While this removes some of the burden of traveling to and from the eligibility center, travel time is often extensive for applicants to get to and from the eligibility center, making the process arduous and time consuming, especially if they must make the journey several times to weigh and reweigh their mobility devices.

7.2 Adding Additional Eligibility Centers

To mitigate the barriers to completing eligibility assessments for current and potential paratransit riders, the study team also investigated the potential to introduce additional eligibility centers, so applicants and riders are not required to travel as far to an eligibility center. Any additional facilities must be located adjacent to high frequency transit, as part of the assessment requires going to the field to test with real transit infrastructure. Moreover, to ensure that the process is equitable for all riders, the test inside the facility must be the same across all centers. This involves having sufficient space for a full-sized bus and ramps inside the facility, precluding the agency from introducing at-home eligibility assessments. The existing center is about 10,000 square feet and it is anticipated that any additional facilities will be required to be the same size or larger.

For a fair, consistent, and equitable eligibility process, the assessments between additional facilities would need to mirror the community portion of the assessment. The facility would need to be located in an area with quick access to multi-modes of transit

[15] Passengers that are legally blind in both eyes must provide the required Healthcare Provider Vision forms stating passenger's vison acuity and legally blind status in both eyes. Once, forms are provided a physical assessment will no longer be required. Eligibility of passenger's route familiarity will be based off their self-disclosure. Passengers with low vision or impaired vision are still required to complete the physical assessment.
Eligibility assessments are ability based and has a test out process. If at any time during the eligibility process the evaluator determines the passenger is incapable of independent travel on UTA transportation services, the evaluator will stop administering any further assessments because they are no longer necessary.

[16] Typically, insurance companies, Medicaid, and Medicare will only allow a replacement of a power wheelchair, and manual wheelchair every five (5) years.

and frequency. Currently, potential riders ride TRAX during the assessment to a busy Intermodal Hub where it is a major connection point to other UTA Services such as TRAX, FrontRunner, and many UTA buses. The customer will navigate the platform traffic, board and ride TRAX, and then a physical assessment measuring endurance, distance, crossing busy streets, incline, curb cuts, and sidewalks, auto and pedestrian traffic, and extreme noise from the busy bus hub. Additional facilities with this same type of access would be very expensive to obtain. Another consideration is that not all other service areas are the same and offer the same modes of transportation. For example, Ogden and Provo do not have TRAX service.

Potential neighborhoods that UTA could consider for additional eligibility centers include Ogden, Salt Lake City, Provo, and West Valley City. These areas have high densities of people with disabilities. Applicants and riders living in these regions are currently required to travel longer distances to reach the existing UTA Mobility Center for eligibility assessments.

It is expected that an additional eligibility center would cost approximately the same as the current center to operate. The operating costs of the existing eligibility center are about $400,000 per year (not including any lease fees, as UTA owns the property). This cost includes staff wages, services, supplies, and utilities. Some staff resources and overhead could potentially also be shared across multiple facilities for better cost efficiency. However, for capital expenses, UTA could look into grants from the Federal Transit Authority, such as the Bus and Bus Facilities Program.

Given the high cost of operating additional mobility centers, as well as the complexities of ensuring equitable assessments in varying locations, UTA could consider adding just additional centers for riders to reassess their mobility devices. Moreover, riders are typically eligible for paratransit service for five years after initial approval, at which point UTA determines whether an eligibility recertification is necessary. However, any new mobility devices must be reassessed, sometimes requiring riders to travel long distances to the center for a quick assessment more frequently than every three to five years. As a significant portion of trips to and from the eligibility center are for the shorter mobility device certification as opposed to an eligibility assessment, adding more mobility device certification centers could have a large impact on removing barriers for paratransit passengers at a modest cost to UTA. Mobility device certification would require a scale compatible with weighing mobility devices up to 800 pounds and sufficient space to measure the length and width of devices up to 54”. Currently, UTA uses a floor/ramp scale that is rated for 5,000 pounds. These scales can cost under $5,000 dollars to purchase and could potentially be located at existing UTA-owned buildings. Additionally, each scale is required to have a calibration certification done every six months to ensure accuracy. Currently, today this service is $250.00 per certification service. For further cost efficiency, staff could potentially be shared across facilities, especially if assessments at these supplementary locations were offered at more limited times.

7.3 Partnering With Community Organizations

Another more cost-effective solution than adding an entirely new eligibility center that UTA may consider, either in addition to or in lieu of adding new eligibility centers, is partnering with community organizations that have qualified scales, enabling passengers to complete their mobility device certification at several locations throughout the paratransit service area as opposed to just one location in the center of the service area. This would help decrease the travel required for passengers to certify or recertify their mobility devices, removing some barriers of completing the eligibility process while preventing UTA from incurring the additional costs associated with building additional eligibility centers. Note that this option would, however, incur some administrative costs required to operate the mobility device scales. Some non-profits and service providers in the region have large scales that could potentially be used to weigh mobility devices and ensure they are in compliance with UTA vehicle requirements. UTA could look into partnerships with these organizations to provide additional options for riders to complete their mobility device certifications.

Additional mobility device certification center locations should prioritize serving areas in the paratransit service area that are far from the current UTA Mobility Center and in which a large portion of current and potential paratransit riders live. As such, UTA may also consider introducing mobility device certification centers in its current subcontractor locations, namely the United Way office in Provo and the MV Transportation facility in Ogden. In the long-term, UTA could consider building this into their subcontractor agreements.

8. Opportunity #6: Enhancing Communication – Rider App and Web Portal

The project team also investigated the potential benefits of introducing a rider app and web portal for riders to book, view, edit, and cancel rides without calling UTA via phone. As of the time of writing this report, UTA is in the process of introducing a rider app and/or web portal. Throughout the project team's analysis of paratransit service, the team encountered several opportunities for service improvements that could be addressed via a rider app and/or web portal. This section focuses on recommendations for challenges that can be addressed by the introduction of a customer-facing booking platform.

The rider app and web portal would be introduced as a supplement to the existing call-in booking method, so paratransit riders would still be able to call UTA directly to book a ride with a dispatcher. Adding the option to use a rider app and/or web portal to book rides would allow for passenger self-service booking and likely entail additional features such as the ability to track vehicle arrival times and receive communications from UTA about paratransit service, increasing booking flexibility and visibility into upcoming rides for paratransit users and their caregivers.

8.1 Limitations of the Current Paratransit Booking Process and Rider Preferences

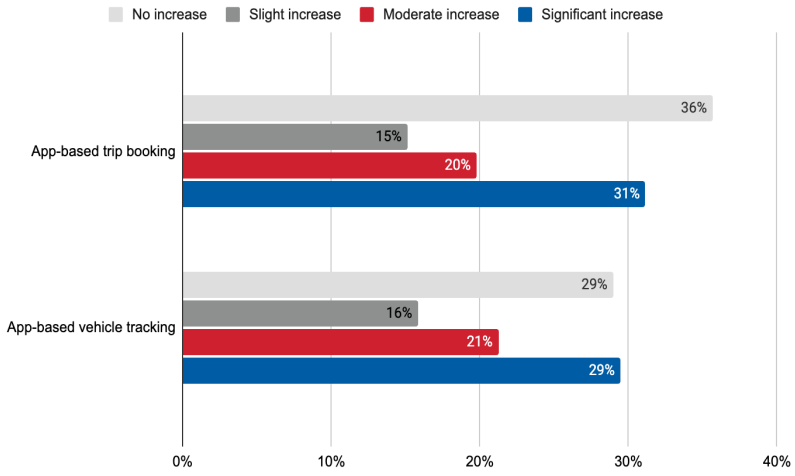
The current booking process for UTA paratransit passengers requires calling UTA at least one day in advance of a trip to book a ride. UTA's dispatchers then book passengers' rides on the service using their paratransit software (Trapeze). Once booked, dispatchers provide a pick-up window to passengers over the phone. The current booking process provides limited visibility into a rider's precise pick-up times and any changes that occur after booking, since there is no customer-facing application or web portal for riders to view. However, riders are able to receive an automated text message a few minutes before their scheduled pick-up time.

Results from the UTA Paratransit Forward survey indicate support from current and potential paratransit passengers for app-based vehicle tracking and trip booking; when asked to rate several different service changes based on how likely a change would encourage them to use the paratransit services more, over half of Paratransit Forward Study survey respondents (51%) indicated that app-based trip booking would moderately or significantly increase their likelihood of using the service, while half of respondents (50%) indicated that app-based vehicle tracking would moderately or significantly increase their likelihood of using paratransit service.

8.2 Rider App and/or Web Portal Features

Trip booking platforms and apps differ in the exact features provided but generally include some combination of self-service booking and ride tracking for passengers. Introducing a rider app and/or web portal for UTA paratransit passengers should entail the following features and rider-facing benefits:

- **Streamlined ride booking:** Introducing a web portal and/or rider app would enable riders to book, edit, or cancel rides independently rather than calling UTA directly. The self-service portal would also enable them to make these trip edits on their own schedule, regardless of the UTA call center hours.
- **Ride reminders:** Many ride booking portals and applications offer rider communication features, including ride reminders that notify passengers of an upcoming ride ahead of their trip. Reminders would also prompt passengers to cancel rides if they are no longer needed.



Results from the Paratransit Forward Study survey, which asked respondents to rate service changes based on how likely they were to impact respondents' likelihood of using paratransit service. For app-based trip booking, 51% of respondents indicated it would moderately (20%) or significantly (31%) increase their likelihood of using the service. Similarly, for app-based vehicle tracking, 50% reported it would moderately (21%) or significantly (29%) increase their service usage.

Opportunities for Additional Rider Communication

Based on feedback gathered throughout the study from survey respondents, current paratransit riders, and stakeholders, there is strong interest in improved and expanded rider communication outside of the recommended push notifications provided through a rider app and the automated text that is currently sent out before a scheduled pick-up.

Additional communication could include reminders of upcoming rides via text, call, or email. Though not provided directly through the application, ride reminders can be critical to provide visibility to riders as to when they will be picked up, reducing rates of no-shows for the service. As most respondents to the Paratransit Forward survey responded via text link, current and potential UTA paratransit riders would likely be responsive to text message communications about the service.

CAT members, stakeholder and rider interviewees, and respondents to the Paratransit Forward survey also requested rider communication in the form of drivers announcing that they have arrived at their respective pick-up locations to pick riders up. To maintain rider confidentiality and anonymity, drivers could alert riders of their arrival by announcing "UTA paratransit driver has arrived," as opposed to announcing a rider's name.

- **Real-time vehicle tracking:** UTA paratransit passengers are given a ready window or a 30-minute window of time (15 minutes before requested pick-up time and 15 minutes after requested pick-up time) in which they may be picked up by UTA's paratransit service. Real-time vehicle tracking provided by a rider app or web portal would enable passengers and/or their caregivers to see their vehicle traveling to them in real time, giving them a more precise idea of when they will be picked up. The feature is particularly helpful for passengers with mobility devices, who may require additional time to prepare to board a vehicle. In inclement weather conditions, vehicle tracking can also reduce unnecessary time spent waiting outside for a vehicle. Vehicle tracking during rides can give passengers useful insights into when they can expect to arrive at their destination and also serve as a useful safety feature for caregivers and family members to ensure that passengers are picked up and dropped off safely.
- **Communication:** Providing passenger communication via push notifications from a rider app, for instance, can enable UTA to quickly and easily provide key information to riders. This could include but is not limited to service changes, such as updated service hours or service outages in extreme weather conditions or changes to a rider's expected pick-up or drop-off time.
- **Virtual payment options:** Many rider apps and booking portals also provide opportunities for electronic fare payment. Enabling riders to pay for rides in the application as opposed to onboard the vehicle may be easier for some riders and also reduce the boarding times. Applications also often allow passengers to store their payment options and ride vouchers directly in the application, allowing enhanced tracking and payment records where applicable.
- **Accessibility:** Adding a rider-facing ride booking platform would also increase accessibility of the booking process, as not all riders may be able to book rides over the phone. Rider-facing booking platforms can be designed to be ADA compliant for riders to easily book paratransit rides from their mobile devices or computers. Rider apps and web portals also ensure that booking is available throughout the day, rather than limiting booking options to the hours at which dispatchers are available to book rides (weekdays from 7 a.m. to 5 p.m.).

8.3 Benefits to UTA of Introducing a Rider App and/or Web Portal

Introducing a rider app and/or web portal for paratransit riders could deliver the following benefits to UTA:

- **Fewer no-shows:** Ride reminders can reduce rates of no-shows, or instances of passengers not taking a scheduled trip or not boarding a vehicle within a specified time frame. With reminders, passengers are less likely to forget about a booking or will be reminded to cancel rides. This will result in fewer vehicles waiting for riders that are no longer intending to take trips and also driving unnecessarily to/from pick-up points
- **Faster boarding:** Depending on how far in advance riders are notified about upcoming rides, ride reminders could also reduce the dwell time of paratransit vehicles (the time a vehicle spends stopped to pick up or drop off passengers). Reminders also help riders be more prepared for an upcoming ride when a vehicle arrives to pick them up. Similarly, caregivers who are tracking passengers are more likely to be ready to meet vehicles for passenger drop-off.
- **Streamlined processes:** Enabling riders to self-book their rides can reduce manual processes for UTA staff, who are currently required to book rides on behalf of riders
- **Potential cost savings:** Freeing up dispatcher hours previously spent booking rides could result in cost-savings for UTA, as staffing resources could be reduced or reallocated. Fewer no-shows and faster pick-ups/drop-offs may also result in more efficient operations and cost-savings in terms of vehicle hours.
- **Fewer rider complaints:** Increased visibility into pick-ups and drop-offs could also reduce rider complaints, particularly around service timing and missed rides.

9. Implementation

Should UTA decide to proceed with the alternatives presented in this study — namely, the integration of TNCs and/or the expansion of paratransit coverage, it will involve not only deploying the new services but also providing the necessary training, technical support, and adjustments to policy and operations to create a seamless and sustainable operation. Below is a comprehensive discussion of the implementation strategies for different alternatives analyzed in this study, addressing key considerations such as accessibility, fleet requirements, service operations, and marketing.

9.1 Summary of Results

The alternatives analysis identified several key strategies for enhancing UTA's paratransit services: integrating TNCs, expanding the coverage area, commingling services with UTA On Demand, adjusting off-peak fares, expanding eligibility centers, and enhancing communication through digital platforms. The integration of TNCs could lower costs and increase service flexibility by partnering with third-party providers, but it requires robust contract management to ensure accessibility and maintain service quality. Coverage expansion options, such as extending service beyond current ADA-required boundaries with premium fare structures, offer a scalable approach to improving access while enhancing cost recovery, although they require careful consideration of demand and pricing dynamics.

The commingling strategy proposes merging paratransit and on-demand services to optimize resource use and reduce operational costs, necessitating careful planning to ensure ADA compliance and maintain service quality. Off-peak fare adjustments could encourage riders to shift to less congested times, improving overall efficiency, while expanding eligibility centers would enhance access by reducing travel burdens for applicants. Finally, enhancing communication through a rider app and web portal could streamline trip management and improve the customer experience by reducing manual processes.

Each of these alternatives provides a promising path forward but comes with specific challenges that must be addressed to achieve the best balance of cost efficiency, accessibility, and service quality.

9.2 TNC Integration: Implementation Considerations

Accessibility of TNC Fleets

One of the most critical aspects of integrating TNCs into UTA’s paratransit services is ensuring that the TNC fleets are accessible to all users, including those with disabilities. Currently, not all TNC vehicles are equipped to handle passengers with mobility challenges, such as those requiring wheelchairs. To address this, UTA would need to establish strict accessibility standards for any TNCs contracted to provide paratransit services. This could involve requiring a certain percentage of the TNC fleet to be equipped with ramps or lifts or providing incentives for TNCs to invest in accessible vehicles.

In addition to physical accessibility, it is important to consider service accessibility. TNCs would need to be integrated into UTA’s existing booking and scheduling systems to ensure seamless service delivery. This might involve developing or adapting existing platforms to handle both traditional paratransit vehicles and TNC-provided services, ensuring that all customers have equal access to booking and receiving the service they need.

Adoption and Operational Scope

The adoption of TNCs as a complement to UTA’s existing paratransit services could follow one of two primary models: full outsourcing or a hybrid model. In a full-outsourcing model, TNCs would operate independently, handling all aspects of the service from booking to dispatch. UTA’s role would be limited to oversight and quality assurance. This model could reduce operational costs and complexity for UTA, but it also introduces risks related to service quality and consistency, especially concerning accessibility and customer satisfaction.

Alternatively, a hybrid model would involve closer integration of TNC services within UTA’s existing paratransit framework. UTA could maintain control over key aspects of the service, such as booking, dispatch, and customer service, while subcontracting the actual transportation to TNCs. This model would allow UTA to retain more control over service quality and ensure that all paratransit policies, particularly those related to accessibility, are strictly enforced.

Regardless of the model chosen, clear contractual agreements will be essential to define the roles, responsibilities, and expectations for TNCs. These contracts should include provisions for performance monitoring, compliance with accessibility standards, and mechanisms for addressing service failures or customer complaints.

Driver Training and Service Operation

Whether TNCs operate independently or under a hybrid model, driver training will be a crucial component of the implementation. TNC drivers will need to be trained in the specific requirements of paratransit service, including how to assist passengers with disabilities, use accessible equipment, and handle medical emergencies. UTA may need to collaborate with TNCs to develop training programs that meet these requirements or provide training directly to TNC drivers. Additionally, UTA will need to establish protocols for communication between UTA, TNCs, and customers to manage bookings, service updates, and any issues that arise during service delivery. A formal contract between UTA and any TNC partners will be essential to define these training requirements, operational protocols, and other responsibilities.

Marketing and Rider Education

To ensure the successful adoption of TNC-integrated paratransit services, UTA will need to invest in marketing and rider education. Customers will need to be informed about the new service options, how they can book rides, and what to expect in terms of service quality and accessibility. Marketing campaigns should emphasize the benefits of the new services, such as increased flexibility and potentially shorter wait times, while also addressing any concerns related to accessibility and service consistency.

Education efforts should include clear, easy-to-understand guides on how to use the new services, available in multiple formats (e.g., print, online, video) to ensure accessibility for all customers. UTA could also hold community meetings or workshops to introduce the new services, answer questions, and gather feedback from customers.

A relevant example of effective rider education is the Massachusetts Bay Transportation Authority (MBTA) RIDE Flex pilot, which introduced TNC partnerships for paratransit riders. Specifically, MBTA implemented structured training sessions for initial pilot participants, developed step-by-step printed guides, and collaborated with Uber and Lyft to enhance app accessibility for riders with disabilities. This proactive approach helped ensure that riders were comfortable with the new system, facilitating a smoother transition and minimizing service disruptions.

9.3 Coverage Expansion: Implementation Considerations

Flexibility in Fare Structures and Assumptions

The coverage expansion scenario, particularly the 1-Mile or More Premium Expansion, offers UTA the opportunity to extend paratransit services while also exploring different fare structures to improve cost recovery. However, it is important to recognize that the assumptions used in the analysis — such as the specific fare levels and projected demand — are not fixed and may need to be adjusted as the service is implemented.

One key consideration is price elasticity, and, more importantly, ensuring affordable access for paratransit users. For example, a higher premium fare might reduce demand but increase farebox recovery, while a lower fare could increase demand but lead to lower cost recovery. UTA will need to monitor customer response to the new fare structure, prioritize affordability and equitable access, and be prepared to make adjustments to optimize both service usage and financial sustainability.

Another consideration is the flexibility in service coverage. While the analysis focused on specific expansion distances, UTA may need to adjust the coverage areas based on actual demand, operational challenges, and customer feedback. This could involve expanding or contracting service boundaries, introducing tiered service levels, or adjusting service hours to better match customer needs and operational capacity.

Fleet Requirements and Service Operation

Implementing the coverage expansion will likely require adjustments to UTA's existing fleet. While this study did not perform a detailed analysis of fleet requirements, it is anticipated that the expanded service areas will necessitate additional vehicles, particularly if demand grows as projected. UTA will need to assess its current fleet capacity and consider whether to acquire new vehicles or reallocate existing resources

UTA will also need to develop new routes, schedules, and dispatch protocols to ensure that the expanded service operates smoothly and efficiently. This may involve using advanced scheduling software to optimize routes and minimize wait times, as well as investing in real-time tracking and communication systems to manage service delivery effectively.

Marketing and Rider Education

As with the TNC integration, successful implementation of the coverage expansion will depend on effective marketing and rider education. UTA will need to communicate the changes to its customers, including details about the new service areas, fare structures, and how to book rides. Marketing efforts should focus on the benefits of the expanded coverage, such as increased accessibility and service options, while also addressing any concerns related to fare changes or service availability. Rider education should include clear instructions on how to use the expanded services, particularly for customers who are not familiar with the new areas or fare structures. UTA may also consider offering promotional fares or incentives to encourage early adoption and gather feedback on the new services.

9.4 Commingling: Implementation Considerations

Should UTA elect to move forward with commingled paratransit overflow service, implementing the service with the necessary training and technical support needed will be critical to ensuring the service can be seamlessly operated and will be sustainable for long-term success.

Driver Training

If UTA proceeds with a commingled paratransit overflow service using the UTA On Demand service, additional driver training will be required to ensure that UTA On Demand drivers are sufficiently prepared to drive passengers with disabilities and meet their transit needs. While UTA On Demand currently serves passengers with mobility devices, paratransit drivers are required to undergo additional training to meet the needs of passengers with disabilities. This may include training on the following:

- Ensuring compliance with paratransit service requirements, such as the ready window
- Operating and using accessibility equipment on vehicles
- Using UTA On Demand software to monitor passenger needs
- Responding to the needs of passengers with disabilities day-to-day and in emergency situations
- Providing beyond-the-curb service to assist passengers traveling to and from the vehicle to the first exterior door at a rider's pick-up and/or drop-off location
- Providing stop or route announcements as needed

The extent of driver training required may depend on which form of commingling overflow service UTA chooses to explore, and whether the agency decides that only select groups of passengers or select trips are eligible for commingled paratransit overflow service. If only select groups will be taking the service, less extensive driver training may be permissible. UTA may also be able to adapt existing protocols and training materials developed for its paratransit service capacity in UTA On Demand. Training costs are accounted for in the cost estimates provided for each scenario.

Fleet Requirements

To enable a commingled paratransit overflow service to operate efficiently and effectively, UTA should ensure that a sufficient portion of its UTA On Demand fleet is accessible and equipped with the necessary components to handle paratransit passengers. The extent to which vehicles should be made accessible depends on which passenger groups will be taking the service. However, paratransit groups that will be taking the service should be able to do so as they would any traditional paratransit service. As of the time of writing this report, UTA plans to upgrade their UTA On Demand fleet service to be entirely accessible, meaning the service would be able to handle paratransit passengers as needed. Commingling may also impact the eligibility process. While all zones have WAV, UTA may want to consider adding a step to the mobility process to identify barriers of a customer's ability to board a van.

Service Operation

To ensure that the paratransit overflow service operates smoothly, the project team recommends that UTA still enables paratransit passengers to book rides through the current booking method, which requires passengers to call UTA's paratransit office to book a ride. Paratransit trips can then be manually booked on UTA On Demand in the back end of the UTA On Demand platform by dispatchers. As paratransit trips are pre-booked a minimum of a day in advance, trip booking will occur ahead of UTA On Demand on-demand booking, enabling UTA to ensure that paratransit rides can be provided and minimizing the day-of-service impact on UTA On Demand wait times and rider experience. Importantly, this approach fosters continuity in paratransit passengers' current booking

experience, minimizing changes from the rider perspective. Maintaining current booking practices is particularly important given that not every trip that a given rider takes will necessarily be commingled, so riders should be able to book using the same method regardless of whether their trip is commingled.

Administrator Training

UTA should partner with the on-demand transit software provider (currently Via) to create a bespoke process to effectively transfer designated paratransit overflow rides to be served by UTA On Demand into the Via system. Process changes should be tailored to meet UTA administrative staff's (e.g., dispatchers, schedulers, and customer service representatives) unique needs and requirements. For example, UTA could download or create a list of paratransit rides and simply email it to someone at Via who will upload it into the UTA On Demand system. Administrative requirements for service generally include supervising live service, responding to issues when needed, booking trips for riders making reservations over the phone, and being familiar with service performance indicators (in order to assess system performance over time). It may also entail communicating passenger assistance requirements for passengers with disabilities to drivers as needed. It is expected that after the initial setup, most of the administrative requirements can be completed by a combination of existing paratransit support staff and UTA On Demand customer service. Additional costs for initial setup and ongoing administrative needs were not considered in the estimates above.

Marketing and Rider Education

Marketing and community engagement are important steps to inform the public about changes to service, particularly when new service models are being introduced to riders. Many paratransit riders are very familiar with the current service, including the booking process, drivers, and vehicles with which UTA's paratransit service operates. Minimizing changes to this process is critical to driving buy-in from paratransit customers, who may be averse to changes in the process. As such, assuring riders that the booking process will be the same and that drivers will be cross-trained will be an important aspect of outreach and rider education, should UTA decide to move forward with a commingled paratransit overflow service. Riders may be altogether unfamiliar with on-demand service and should be given advance notice on any differences in vehicle appearance as well as what they can expect when boarding, riding, and exiting. Some examples of such a joint marketing and rider education strategy could include creating a dedicated webpage for the service, developing informational videos, sharing information on social media channels, and hosting informational meetings with local community-based organizations.

A relevant example of rider education for microtransit adoption can be seen in Cheyenne Transit's transition to app-based microtransit booking, where initial rider resistance led to an overwhelming number of call-in bookings. To address this, dispatchers engaged in proactive outreach, educating riders on self-service options through step-by-step guides and direct assistance. This hands-on approach gradually increased app adoption, reducing call volume and improving operational efficiency.

9.5 Off-Peak Fare: Implementation Considerations

UTA has not committed to introducing fare changes at the time this study was written; however, if the agency decides to introduce fare changes in the future, additional measures should be taken to ensure successful implementation. Prior to permanently implementing changes in fares to its paratransit service, UTA should further investigate how price-sensitive its riders are by conducting a pilot or trial. While preliminary studies have shown that paratransit demand is relatively inelastic, further quantifying by how much fares would need to be decreased to incentivize riders to shift their rides from occurring during peak periods to instead take place outside of peak periods, for example, is essential to understanding the potential impact to demand for the service and the service's associated costs. To prevent a shift in the peak times, UTA could also look to only offer off-peak hours when ridership is at its lowest. Research to predict price elasticity could include surveys of current and potential riders to determine their willingness and ability to pay for paratransit service. UTA could also launch a pilot to test out fare changes and assess the impact on demand and costs to UTA based on the results of the pilot.

If UTA introduces fare changes to its paratransit service, the agency should also consider a marketing campaign to ensure that current and potential riders are aware of the proposed changes. Successful marketing and rider education would increase the likelihood that riders shift their trips from peak times to off-peak times to save money on rides.

In implementing potential fare changes, UTA should also consider whether fare changes are equitable for its riders. The impact of fare changes on riders differs depending on riders' socioeconomic status, so any fare changes should be assessed to ensure that riders are still receiving equitable paratransit service.

9.6 Expanding Eligibility Centers: Implementation Considerations

Prior to introducing additional eligibility centers to enhance the paratransit eligibility process, UTA should verify the addresses of existing riders to ensure that additional facilities are introduced in areas where they are most needed and where they will have the greatest impact on improving the eligibility and mobility device certification process for riders and applicants. The agency should also further assess the capital costs of adding an additional full-scale mobility center, especially if additional property needs to be purchased.

Any additional eligibility centers or mobility device certification centers should ensure that the process of determining rider eligibility remains consistent across riders and facilities, regardless of the location in which eligibility is determined. This is critical to ensure that the process of determining paratransit rider eligibility remains equitable for all riders.

9.7 Rider App and Portal: Implementation Considerations

As UTA is currently in the process of introducing a rider app and/or web portal for ride booking, the agency should ensure that all booking platforms align with ADA requirements, which are generally agnostic in terms of the actual booking method; ADA requirements state that ADA paratransit reservations can be taken by transit agency staff or via mechanical means, such as voicemail, email, or online booking platform.

Based on the Paratransit Forward Study's community engagement findings, current and potential UTA riders and stakeholders would support the introduction of a rider app and/or web portal for passengers to book rides on paratransit service. For successful implementation, UTA must ensure that riders are informed that a self-service virtual booking platform is being introduced and educated on how to use the system. Any training materials and onboarding on how to use the paratransit services should include information on the new platform. Outreach and education should also be provided to caregivers of riders. As riders are accustomed to booking rides exclusively on the phone, maintaining this option so riders can book rides either by calling a dispatcher or by booking through the rider app and/or web portal is critical both to ensure that the process of booking rides is accessible for all riders and to provide continuity in current processes for existing riders.

Transit agencies have successfully implemented community-driven training and incentive-based strategies to encourage self-service booking adoption while maintaining accessibility for riders who prefer traditional methods. The Southeast Area Transit District (SEAT) partnered with disability service agencies and senior centers to train clients on self-service booking, extending outreach without significant costs through peer-supported learning. Similarly, DART promoted booking through their app by offering extended reservation windows as an incentive for riders to switch from phone-based booking.

9.8 Final Considerations

In conclusion, implementing the TNC integration and coverage expansion alternatives will require careful planning, coordination, and ongoing monitoring to ensure success. Both alternatives offer significant opportunities to enhance UTA's paratransit services, but they also present challenges that must be addressed through thoughtful implementation strategies. For the TNC integration, ensuring accessibility, defining clear contracts, and providing comprehensive driver training will be key to maintaining service quality. For the coverage expansion, flexibility in fare structures and fleet management, along with effective marketing and rider education, will be critical to achieving long-term sustainability. Similarly, adopting a commingling strategy — integrating UTA's paratransit with its on-demand services — presents a compelling opportunity to reduce operational costs and improve resource utilization. However, this approach will also require careful management to maintain ADA compliance, optimize vehicle and driver deployment, and ensure seamless service delivery for all riders.

A critical component of any service transition is educating and supporting riders through the change. Successfully integrating any of the alternatives discussed will require structured rider education and outreach efforts. While exact costs for these programs can vary, key expenses typically include developing instructional materials, training dispatchers to assist with self-service adoption, hosting community workshops, and maintaining ongoing customer support. Investing in proactive rider education will help mitigate resistance, ensure equitable access, and improve adoption rates, ultimately leading to long-term cost savings and operational efficiency.

Appendix

Ramp-Up Period in Demand

To model gradual increase in demand, the team applies the Logistic Growth model, also known as the S-curve method. The Logistic Growth model is defined as:

$$N(t) = \frac{K}{1 + e^{-r(t-t_0)}}$$

Where:

- $N(t)$ is the number of users or demand at time t
- k is the carrying capacity, or the maximum number of users the system can support
- r is the growth rate
- t is the time (in months)
- t_0 is the inflection point, the time at which the growth rate is the highest

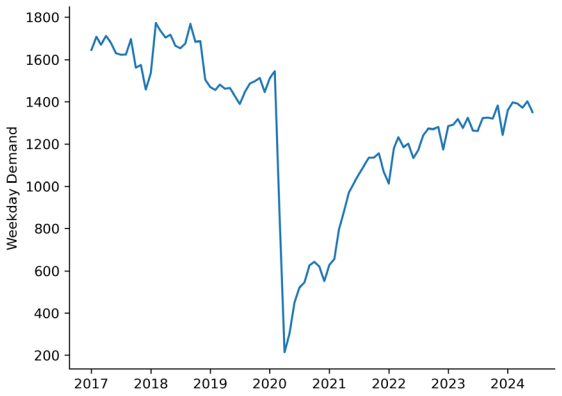


Figure 29 – Weekday Demand Data (2017-2024): The figure illustrates weekday paratransit demand from 2017 to 2024. A clear and significant decline in ridership is observed starting in early 2020 due to the onset of the COVID-19 pandemic. The data reflects the challenges faced during the pandemic, with demand sharply dropping and gradually recovering in the subsequent years.

To estimate these parameters, we use weekday ridership data from 2017-2022 as shown in Figure 29 available on the UTA Open Data Portal. Fitting a growth model to the data presents challenges due to the COVID-19 pandemic, which caused significant disruptions in ridership starting in early 2020. As a result, the team focused on weekday ridership data from 2021 onwards to obtain a more realistic estimate for both the growth rate (r) and the inflection point (t_0).

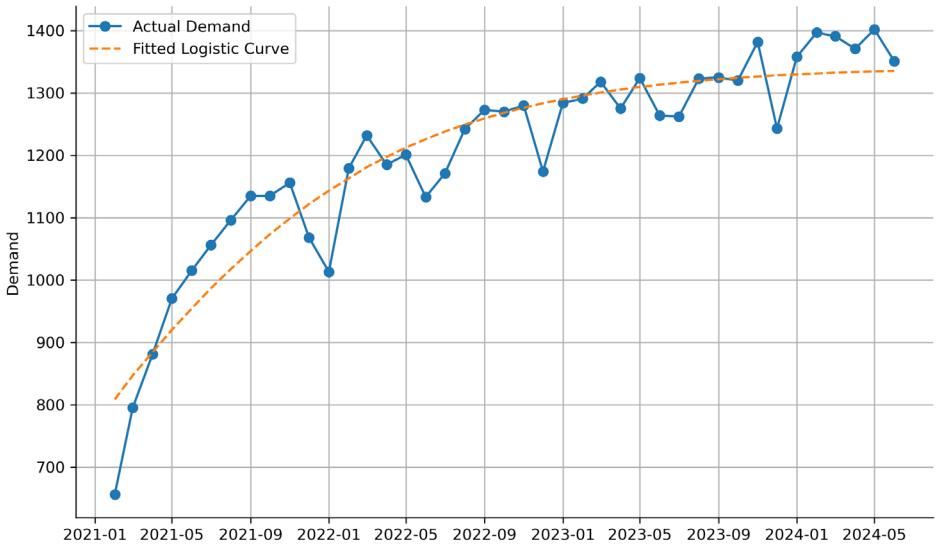


Figure 30 – Weekday Demand Data (Post-2021) With Fitted Logistic Growth Model and Inflection Point: The figure shows the weekday demand data from 2021 onward, alongside the fitted Logistic Growth model used to estimate future demand. The model captures the gradual increase in ridership as services recover, with the inflection point (approximately 3.8 years after January 2021) marking the period of fastest growth. The fitted curve provides a strong approximation for long-term demand trends, helping to project future customer adoption rates as coverage expands. The model's accuracy is validated by a low RMSE value, indicating a good fit.

While the growth rate r is derived from weekday ridership data (not individual customers), it reasonable to assume that, if each customer continues to make a similar number of trips, this growth rate can be directly translated to the overall demand without significant adjustments. By fitting the model to the weekday demand data (with a Root Mean Square Error, RMSE, of 58), the team obtains the following estimates: $K = 1342.5$, $r = 0.12$ $t_0 = 46$ months or roughly 3.8 years after January 2021, as shown in Figure 30. This indicates that the growth rate stabilizes at 0.12, with the inflection point occurring at 46 months — around the end of 2024 — when the growth is expected to be the fastest.

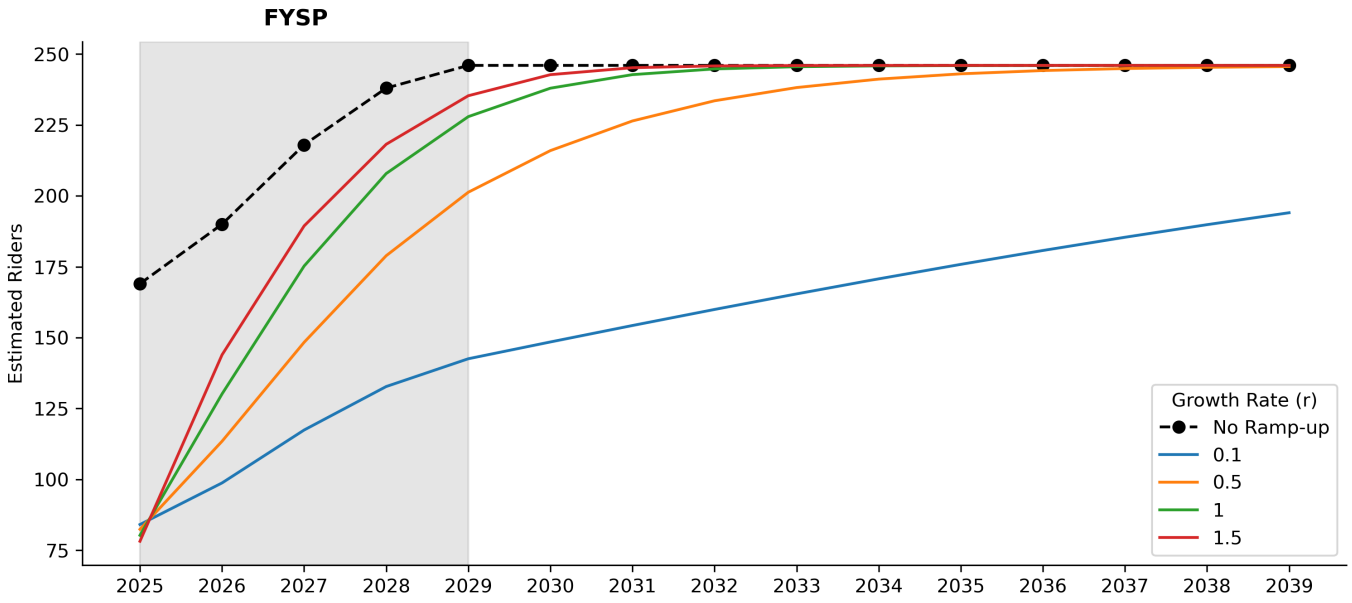


Figure 31 – Gradual Adoption of Paratransit Demand for Different Growth Rates With Fixed t_0: The figure illustrates the gradual adoption of paratransit services for different growth rates, while keeping the inflection point t_0 fixed at 3.8 years. The curves represent various growth scenarios, demonstrating how demand evolves over time. The orange curve (growth rate = 0.1) shows a slower adoption rate, with 60% of customers reached by 2029. In contrast, the green curve (growth rate = 1) represents faster adoption, with full customer capacity reached by 2032.

To provide an example of how the ramp-up process works, the team simulated the cumulative number of customers for the expanded FYSP region using the estimated $t_0 = 3.8$ years. The Figure 31 illustrates the gradual ramp-up for different growth rates. At a growth rate of 0.1 (orange curve), the total number of customers at the end of 2029 (end of FYSP) is around 142, representing about 60% of the expected maximum. As the growth rate increases, the initial ramp-up becomes faster and converges more quickly. For instance, with a growth rate of 1 (green curve), the total number of customers is reached only by 2032. In all scenarios, the highest growth rate occurs at the inflection point of approximately 3.8 years, around the end of 2028. This gradual adoption curve is crucial for understanding the phased impact of expanding service coverage, ensuring that the system is prepared to handle increasing demand without being overwhelmed during the initial years.

To demonstrate the ramp-up process, the visualizations above exclude the 1% annual growth rate assumption for customers in the expanded regions. However, in the actual analysis, this growth rate is applied to both the FYSP regions and the overall premium coverage, providing a more realistic projection of demand.

Cost Savings from Transferring Paratransit Trips to UTA On Demand

Cost estimates were calculated using the average cost per ride for UTA's paratransit service and UTA On Demand services to determine the potential savings of transferring paratransit trips to the UTA On Demand service. The average cost per trip for paratransit is $74, compared to $19 to $22 per trip for UTA On Demand, depending on the service zone. For this study, an adjusted average cost of $22 per trip for UTA On Demand was used to account for estimated training costs. Shifting trips from paratransit to UTA On Demand is expected to generate substantial savings, with an average of approximately $52 saved per trip. For example, transferring 10,000 paratransit rides — around 3% of annual trips — to IMZ service could lead to significant cost reductions, as shown in Figure 32.

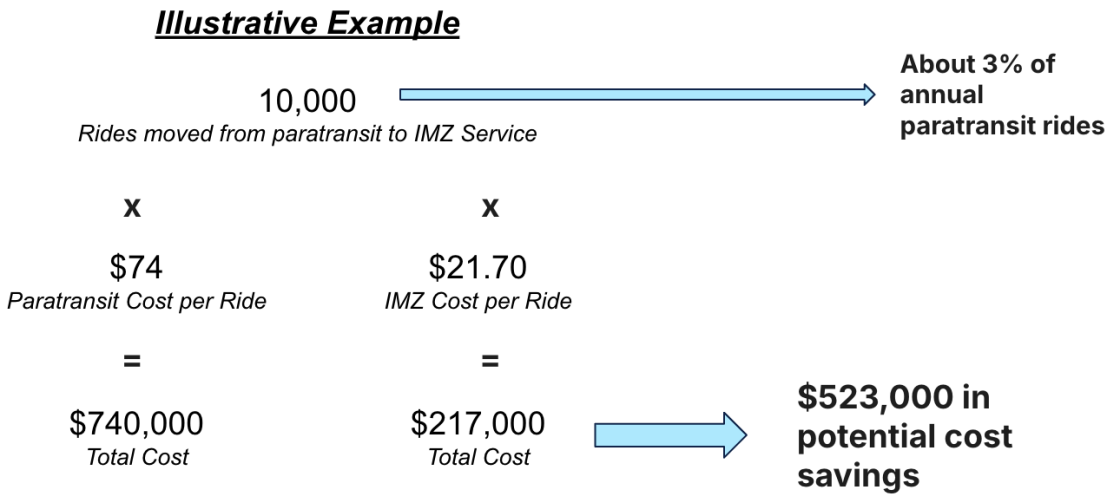


Figure 32 – Illustrative Example of UTA Cost Savings: This figure provides an example of potential cost savings by transferring paratransit rides to IMZ Service. It shows a comparison between the cost per ride for paratransit service and IMZ service for a hypothetical scenario of 10,000 rides – about 3% of annual paratransit rides. The results suggest that transferring these rides from paratransit to IMZ service results in significant cost savings.

Stakeholder and User Interview Summary

Paratransit Forward

Memorandum

To: Matt Gray, *Utah Transit Authority*

From: Cathal O'Gorman, Gal Kramer *&* Nicky Althoff, *Via Strategies*
Tim Sullivan & Zeke Peters, *Township + Range*

Date: February 12, 2024

Subject: Stakeholder and User Interview Summary

Executive Summary

The Paratransit Forward Study was commissioned by the Utah Transit Authority (UTA) to assess UTA's current paratransit service and gain a further understanding of the gaps in current service to improve overall customer experience. The study will ensure that UTA's paratransit services align with the Americans with Disabilities Act (ADA) standards, fostering a more inclusive and equitable transportation system, but will also aim to identify opportunities for improvement that can enhance accessibility, sustainability, and overall service quality. As part of the study's community engagement efforts, the project team undertook interviews of stakeholders, users, and potential users of the paratransit service.

The team interviewed 16 stakeholder organizations and agencies. These included activity centers, service providers, advocacy groups, and government agencies. The stakeholders are located throughout the Wasatch Front and serve urban, suburban, and rural areas. They serve a wide range of disabilities and demographics.

The key lessons from the stakeholder interviews were:

1) UTA Paratransit provides an essential service and fills service gaps that other organizations can't provide for. Interviewees highlighted the following:
    - Paratransit generally works well.
    - Drivers are good and well-liked.
    - Some organizations like to complement Paratransit with their own transportation services.
    - Some organizations can't supply all of the transportation its clients need and rely on Paratransit as a supplement.
    - Stakeholders believe that paratransit is an important part of their clients developing independence.
2) Stakeholders cite a wide range of potential areas of improvement for Paratransit service, depending on their roles and perspectives. Interviewees highlighted the following:
    - Stakeholders and users experience general challenges around the current strict geographic boundary of UTA paratransit.
    - The eligibility process is found to be onerous by some.
    - The Mobility Center in Murray is far and difficult to get to for those in the northern or southern Wasatch Front, and there is a desire for additional locations to apply/test for paratransit eligibility.
    - The cost of Paratransit is an obstacle, especially for those without Division of Services for People with Disabilities (DSPD) financial assistance.
    - Long waiting times, overly strict rules on timing for passengers arriving for rides, and long travel times are regular challenges for customers.
3) Specific characteristics of cohorts served by Paratransit present challenges and opportunities. In general, there was less commonality among the themes of these comments, but interviewees highlighted the following:
    - There is a desire for more compassionate communication with people with disabilities.
    - One bad experience can be indelible for some Paratransit clients.
    - Individuals with some conditions (such as fetal alcohol syndrome) are left with few options for public transit, as they struggle to comfortably use fixed-route transit, but do not qualify for Paratransit.
    - The deafblind community in particular faces challenges in knowing when Paratransit vehicles arrive.
    - Technology could help schedule rides.

4) Some stakeholders would like to work more closely with UTA and create partnerships to better serve their clients. Interviewees highlighted the following:
    - Most stakeholders have a good relationship with UTA and would like to continue their partnership with the authority.
    - Some stakeholders have tried to advocate for changes to fixed routes and UTA Paratransit Service in the past.
    - Many of the stakeholders have clients that do not know Paratransit or other UTA services exist.
    - Stakeholders would like to create more partnerships for training purposes.

The team interviewed 30 Paratransit users/potential users. These interviewees included both active users of the service as well as people who might qualify but do not use Paratransit. They spanned a wide range of ages and geographic areas within UTA's service area, and had a range of disabilities.

The key lessons from the user interviews were:

1) Users report positive staff and driver interactions. Interviewees highlighted the following:
    - The service has good drivers.
    - UTA staff are helpful and nice.
    - The eligibility process is smooth and understandable.
2) Paratransit is inflexible for many due to 24-hour scheduling requirements and limited geographic coverage area. More specifically, interviewees highlighted the following:
    - The service area is limited and riders would like to access areas not currently covered by the service.
    - Riders would like to schedule less than 24 hours in advance.
    - The current service hours are not long enough for the needs of riders.
3) Most users and caregivers would like more app-supported and other digital technologies as part of Paratransit services. Interviewees highlighted the following:
    - Riders and caregivers want to be able to track Paratransit vehicles, see schedules and book rides more easily.
    - Some are worried about the current set-up for people that are non-verbal or who have developmental disabilities.
4) The 30-minute pick-up window, the 5-minute pick-up call, and long travel times were frequently reported as challenges. Interviewees highlighted the following:

- Long routes make Paratransit unreliable, even for those with pre-scheduled ride subscriptions.
- The 5-minute pick-up call is unreliable and inconsistent, and the ready window is too long.

Introduction and Background

This report summarizes the Stakeholder and User Interviews conducted for the Paratransit Forward study. The report provides a brief background on the interviews and an overview of the discussions before providing key conclusions reached from the interviews.

UTA, in partnership with the University of Utah, Via Strategies, and Township + Range, is studying UTA Paratransit Service to assess and improve the customer experience. Funded by an Areas of Persistent Poverty Grant from the Federal Transit Administration (awarded to projects that assist areas that had poverty rates of 20 percent or higher during the last 30-year period), the study is focusing on low-income areas, although recommendations may result in improvements across the entirety of UTA's service. The study will determine how UTA can improve the scheduling process, transition to zero-emission vehicles, and make operations more efficient.

Community and stakeholder outreach is an important part of the study, and as a first step for this outreach, the team conducted a survey of Paratransit users. To obtain deeper and broader input and understanding, the team also undertook a series of interviews of organizations and community leaders as well as current and potential Paratransit customers.

These interviews are divided into two separate tasks – Stakeholder Interviews and User Interviews. Each is described and summarized below.

Stakeholder Interviews

Goals

With the Stakeholder Interviews, the project team sought to meet with a series of organizations with knowledge of the Paratransit system. These organizations have clients and constituents who do and do not use the system and speak from a variety of vantage points – as service providers, advocates, governmental organizations, and partners.

The primary goal of these interviews was to gain a nuanced understanding of the Paratransit system and use of it across different types of customers and stakeholders. In addition, stakeholders helped connect the study team to potential interviewees for User Interviews and assisted with dissemination of the project survey.

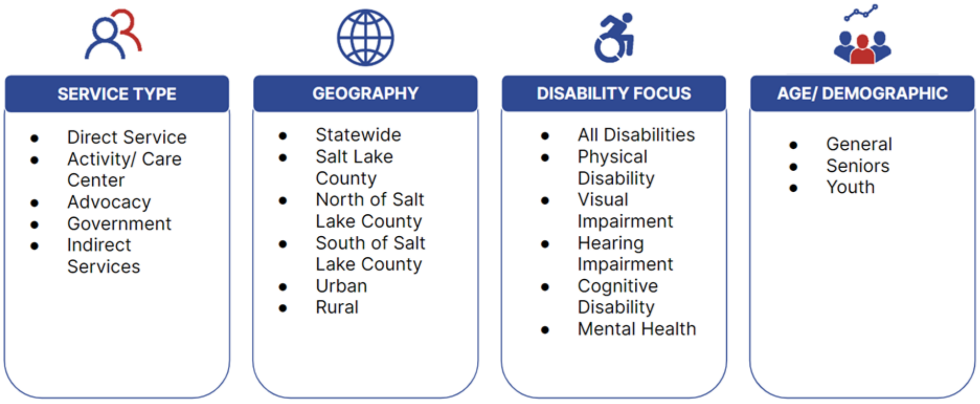
Overview

The team conducted 16 stakeholder interviews. These interviews were conducted between October and December 2023. The table below lists each organization interviewed and the organization type.

Agency	Service Type
Work Activity Center (WAC)	Private Non-Profit/Individuals with Disabilities
Utah Office Of Rehabilitation	State Government Office/ People with Disabilities/ Employment Training
Ability First	Independent Living Center/ Activity Center/ People with Disabilities
Roads to Independence	Independent Living Center/ Activity Center/ People with Disabilities
Suzy's Senior Companion Services	Private, non-profit organization/ Older Adults/ People with Disabilities
Chrysalis	Supported Living Services/ Intellectual Disabilities
Sanderson Center for the Deaf and Hard of Hearing	State Government Office/ Deaf and Hard-of-Hearing
TURN	Private, non-profit/ People with Intellectual Disabilities/ Residential Services/ Activity Center/ Employment Services
Utah Developmental Disability Council	State Government/Individuals with Disabilities
Columbus Community Center	Private Non-Profit/Individuals with Disabilities
Olympus Case Management	Private Non-Profit/ Case Management
Utah Council for the Blind	Private Non-Profit/ Visual Impairment

Assist Inc. Design Center	Private Non-Profit/Individuals with Disabilities
Utah Parent Center	Private, non-profit/ Children with Disabilities
Salt Lake County Aging and Adult	County Government Office/ Older Adults
Services for the Blind and Visually Impaired (DBVI)	State Government Office/ Visual Impairment
Utah Developmental Disability Council	State Government/Individuals with Disabilities

The chart below shows the aspects of organizational service type, geography, disability focus, and demographics that the interviewees included. This diversity provided a range of perspectives on Paratransit, and indeed, these differences played into stakeholders' opinions on Paratransit and priorities for improvements.



The team held the meetings both in-person and virtually, depending on what was convenient for the interviewees and for the overall scheduling. For several of the interviews, the stakeholders were able to provide the team with a tour of their facilities, which added additional insights.

The project team and the stakeholders discussed a range of topics, including:

- Transportation needs of the organization's clients/constituents
- Role of Paratransit in the organization's and clients'/constituents' needs
- Eligibility process
- Scheduling
- Ride experience
- Communication with UTA
- One change that would make Paratransit better

Results - Overall Takeaways

This section provides an overview of the conclusions of all the interviews taken together. These are organized into four broad takeaways:

1) UTA Paratransit provides an essential service and fills service gaps that other organizations can't provide for.
2) Stakeholders cite a wide range of potential areas of improvement for UTA Paratransit Service, depending on their role and perspective.
3) Specific characteristics of cohorts served by Paratransit present challenges and opportunities.
4) Some stakeholders would like to work more closely with UTA and create partnerships to better serve their clients.

Each of these takeaways is explored in terms of the specific insights that contribute to it, as well as the number of stakeholders whose interviews included these observations and opinions—telling us the most popular themes.

Graphically, this is shown in a way to convey the types and magnitude of themes:

- 1 Blue dots: themes that are primarily informational
- 1 Green dots: themes that praise UTA Paratransit
- 1 Red dots: themes that are critical of UTA Paratransit
- 1 Yellow dots: themes that express ideas for improvement

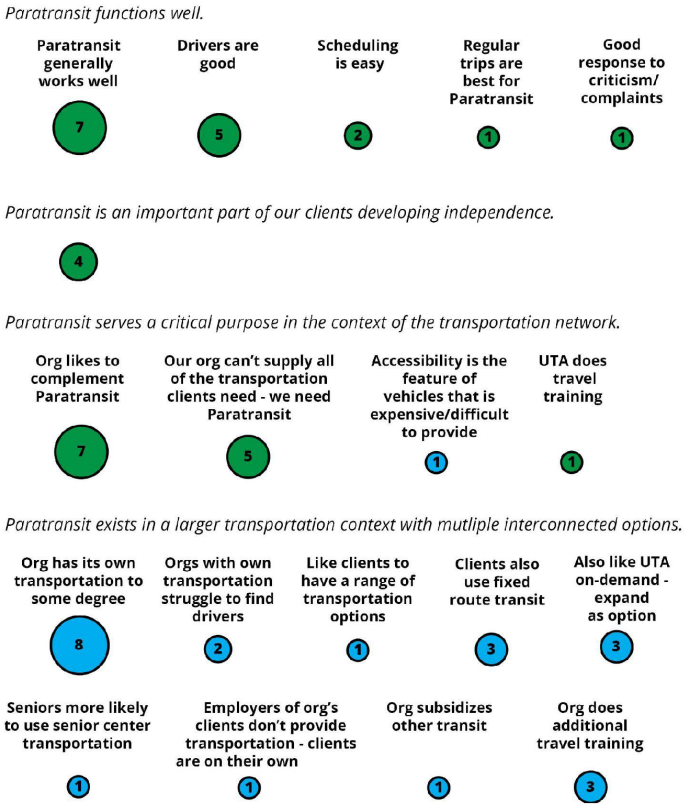
The numbers and sizes of dots correspond to how many of the 16 stakeholders made the comment, so a "4" means that four of the 16 stakeholders made that comment. The highest frequency theme was stated by 9 out of the 16 stakeholders. There were many themes that were unique to one stakeholder.

1. UTA Paratransit provides an essential service and fills service gaps that other organizations can't provide for

Many stakeholders had positive feedback for UTA Paratransit. The majority of interviewees noted that Paratransit works well in their view—the drivers are competent and valued, the service is dependable, and the staff is responsive.

Additionally, many organizations, especially those that provide their own transportation, say that they and their clients/constituents need the service that Paratransit provides, and that they actively try to complement Paratransit service with their own service.

It is also important to recognize the larger transportation context in which Paratransit functions, including stakeholder-provided transit, fixed-route transit, and on-demand transit. Many organizations serving Paratransit riders noted that their clients often used both fixed-route transit and Paratransit, especially when their eligibility is conditional. This context is critical for making changes to best serve the interest of Paratransit users.

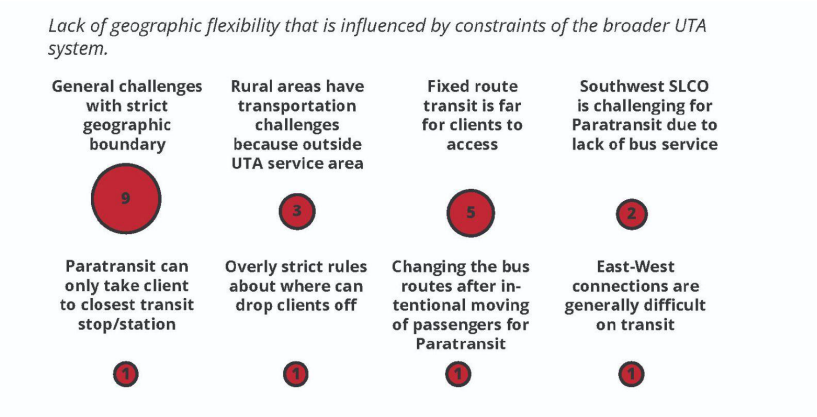


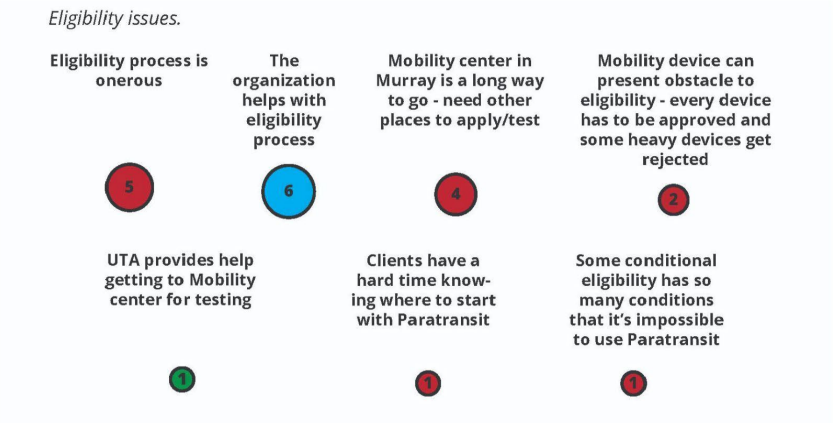
2. Stakeholders cite a wide range of potential areas of improvement for UTA Paratransit Service, depending on their role and perspective.

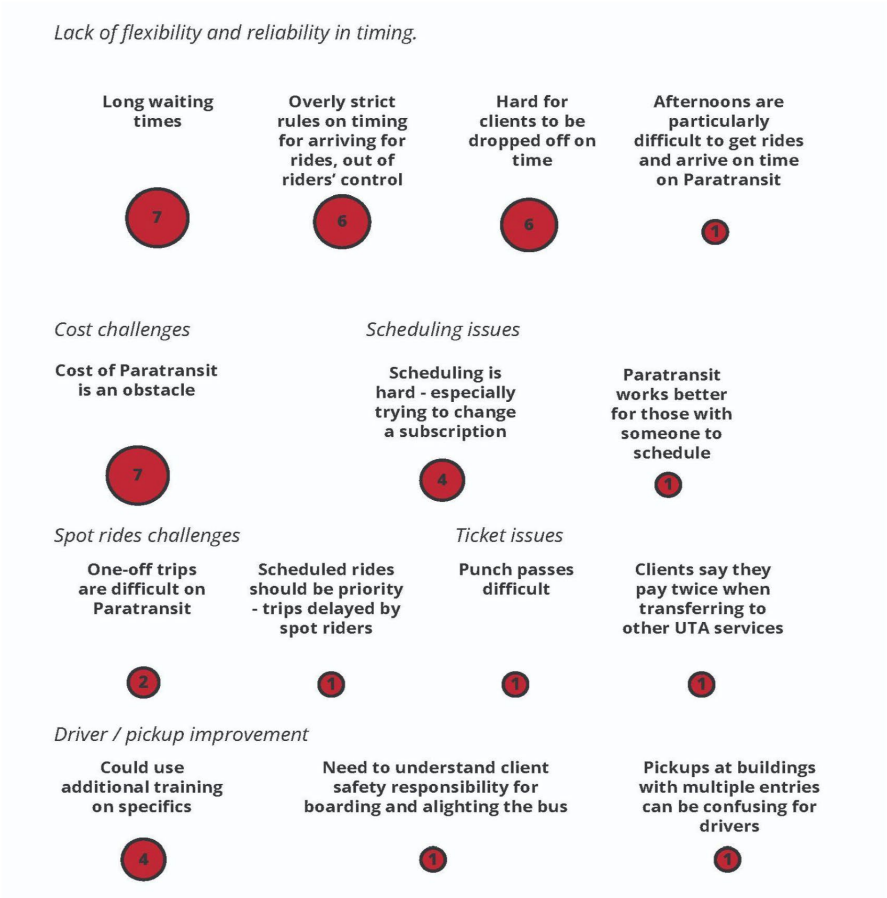
Stakeholders identified a wide range of what, in their view, were shortcomings of UTA Paratransit. One of the reasons that critiques varied so widely was that many of the critiques were specific to the stakeholder organization; for example, organizations in the northern and southern Wasatch Front are more critical of the eligibility process, while organizations representing clients without Division of Services for People with Disabilities (DSPD) financial assistance identified cost of service as a barrier. Organizations serving the deafblind community focused on challenges such as knowing when a vehicle arrives.

There were a handful of areas of improvement identified by many stakeholders, such as the strict geographic services area that is limited to within ¾ mile of UTA routes, long waiting and ride times, and the cost of the service.

There were also many unique insights given by stakeholders, such as the desire for a more individualized experience for people with different disabilities. Others noted that afternoons often have less efficient Paratransit trips. Stakeholders also revealed the differences between regular riders and "spot" riders, different experiences in where Paratransit can drop passengers off, and the details of how passengers board the vehicles.



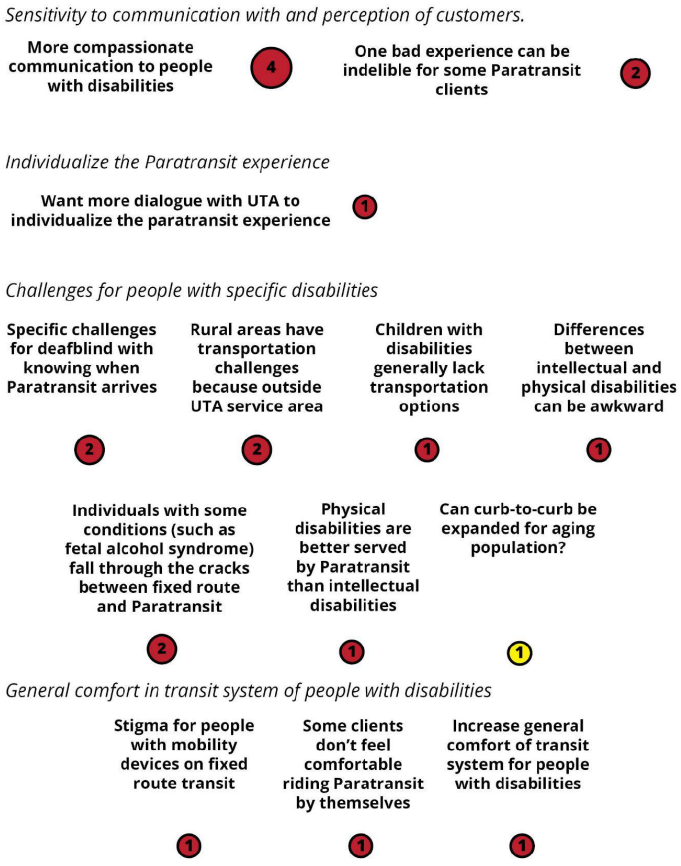

Eligibility issues.
Eligibility process is onerous
5
The organization helps with eligibility process
6
Mobility center in Murray is a long way to go - need other places to apply/test
4
Mobility device can present obstacle to eligibility - every device has to be approved and some heavy devices get rejected
2
UTA provides help getting to Mobility center for testing
1
Clients have a hard time know-ing where to start with Paratransit
1
Some conditional eligibility has so many conditions that it's impossible to use Paratransit
1


Lack of flexibility and reliability in timing.
Long waiting times
7
Overly strict rules on timing for arriving for rides, out of riders' control
6
Hard for clients to be dropped off on time
6
Afternoons are particularly difficult to get rides and arrive on time on Paratransit
1
Cost challenges
Cost of Paratransit is an obstacle
7
Scheduling issues
Scheduling is hard - especially trying to change a subscription
4
Paratransit works better for those with someone to schedule
1
Spot rides challenges
One-off trips are difficult on Paratransit
2
Scheduled rides should be priority - trips delayed by spot riders
1
Ticket issues
Punch passes difficult
1
Clients say they pay twice when transferring to other UTA services
1
Driver / pickup improvement
Could use additional training on specifics
4
Need to understand client safety responsibility for boarding and alighting the bus
1
Pickups at buildings with multiple entries can be confusing for drivers
1

3. Specific characteristics of cohorts served by Paratransit present challenges and opportunities.

Stakeholders made observations about specific characteristics of their clients and constituents that are relevant to Paratransit—both for specific disabilities and for people with disabilities in general, including people in rural areas, children with disabilities, and people with disabilities who are not eligible for paratransit but struggle to use fixed-route.

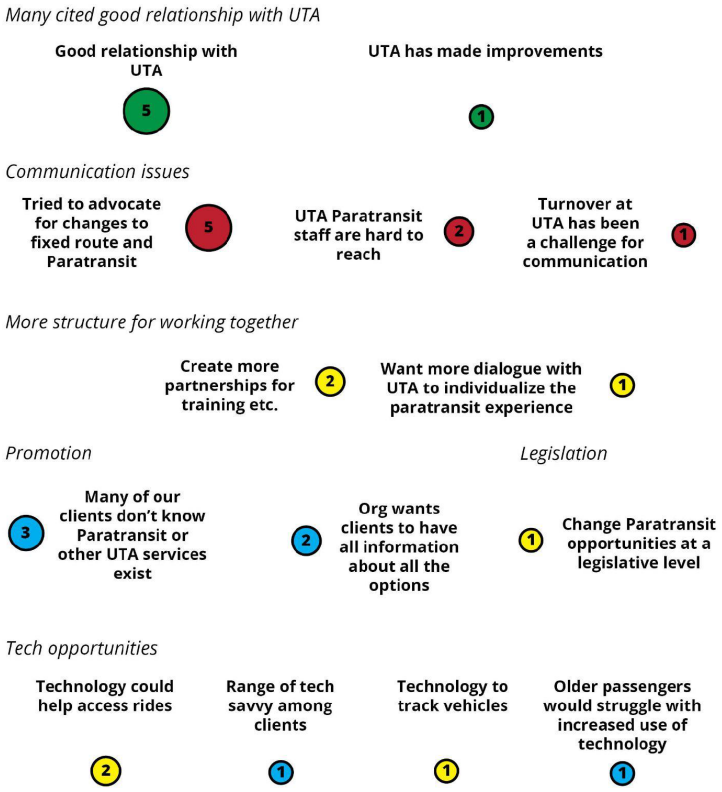
Two salient overall points made by multiple stakeholders were a request for compassionate communication with people with disabilities and the observation that one bad experience on Paratransit can take a very long time for a rider to recover from—for example, altercations with other riders, injuries, or disciplinary actions may all serve to disincline riders from using Paratransit.



4. Some stakeholders would like to work more closely with UTA and create partnerships to better serve their clients.

Many stakeholders described close relationships with UTA, the Committee on Accessible Transportation (CAT), and the Paratransit staff in general. They differed in how effective these relationships have been in allowing the stakeholder organization to fix issues or advocate for change. Some stakeholders described day-to-day communication challenges with UTA Paratransit staff.

The opportunities for improvement in partnership with UTA identified by stakeholders included more education/promotion, more technology, and more dialogue.



Results - Summaries of Each Interview

The following is a description of each stakeholder and a summary of the key points from the team's interview with that stakeholder.

Columbus Community Center

Columbus Community Center is a non-profit based in South Salt Lake City that provides a range of services for people with disabilities. These include job coaching, residential support, work programs, and day programs. The organization serves around 100 to 200 people. The Center has its own transportation but also needs Paratransit for its clients and describes a longtime good relationship with UTA. The Center's clients' transportation needs include getting them to/from the Center itself and to/from events and activities.

Key themes:

- Challenges with limited geographical service area
- Long waiting times
- Hard for clients to be dropped off on time
- Generally, no issues with drivers
- Drivers could use additional training on specifics—such as clarifying shared responsibility with Columbus for getting clients on-board the vehicle
- More compassionate communication with people with disabilities is often needed
- Scheduling is hard—especially when trying to change a subscription schedule
- UTA Paratransit staff can be difficult to reach
- One bad experience can be indelible for some Paratransit clients
- One-off trips are difficult for Paratransit
- Clients have a hard time knowing where to start with the Paratransit system
- Technology to track vehicles would be useful

Work Activity Center

Work Activity Center is a non-profit based in West Valley City that provides a range of services for people with disabilities, including four residential sites and day programs. The Center has its own transportation. The Center's clients' transportation needs include getting them to the Center itself and to events/activities.

Key themes:

- Work Activity Center can't supply all of the transportation for their clients; they rely on UTA Paratransit. They like to complement Paratransit with their own services.
- Paratransit generally works well
- Generally, no issues with drivers
- The organization helps clients with eligibility
- The eligibility process is onerous
- UTA Paratransit staff can be difficult to reach
- The Work Activity Center struggles to find drivers for their own transportation services
- Making schedule changes on subscription rides is time-consuming

Ability First

Ability First is a Center for Independent Living in Provo. It is one of six Centers for Independent Living in Utah that each covers a specific area. Ability First covers Utah, Wasatch, Juab, and Sanpete Counties (with a satellite office in Sanpete). It is an activity center and provides a range of services. The organization provides transportation for doctor appointments, activities, and other trips. They serve clients with any type of disability of any age.

Key themes:

- Paratransit generally works well
- Ability First can't supply all of the transportation; they rely on UTA Paratransit, as it is an important part of clients gaining independence. Ability First prefers for their service to complement Paratransit
- The cost of Paratransit is an obstacle for Ability First clients. For example, if a client has several doctor appointments per week, it can become very costly to use Paratransit
- Strict rules on arriving for rides are a challenge, and it's difficult that this is often out of their control
- The organization helps clients with eligibility
- Ability First reported having a good working relationship with UTA
- Fixed route transit is far for clients to access, the closest stop to Ability First is a mile away
- Have tried to advocate for changes
- The Mobility Center in Murray is far and difficult to get to, and there is a desire for other places to apply/test for paratransit eligibility

- They acknowledged UTA's travel training, but they do additional travel training in-house
- Mobility devices can present obstacles to eligibility—every device has to be approved and some heavy devices get rejected
- UTA provides help getting to the Mobility Center for the eligibility process
- Scheduling is easy
- Technology such as an app could help some clients schedule rides, but not all clients would necessarily have access to this type of technology
- Ability First prioritizes offering a range of transportation options to its clients
- Accessibility is the feature of vehicles that is expensive/difficult to provide

Roads to Independence

Roads to Independence is a Center for Independent Living in Ogden. Like Ability First, it is one of six Centers for Independent Living in Utah that each covers a specific area. Roads to Independence covers Weber, Morgan, and Davis Counties. It is an activity center and provides a range of services such as nursing home transitions, traumatic brain injury program, youth programs, a community integration program, and an employment center. The organization provides transportation for a variety of trips. They serve clients with any type of disability at any age.

Key themes:

- Challenges with the strict geographical boundary of Paratransit
- Long waiting times
- The cost of Paratransit is an obstacle
- Hard for clients to be dropped off on time
- The organization helps clients with eligibility
- They like their service to complement Paratransit services
- Tried to advocate for changes, for example, helped get FrontRunner designated as a route for Paratransit area designation so now Paratransit has to service the area within ¾ mile of FrontRunner
- The organization reported having a good working relationship with UTA
- They can't supply all of the transportation clients need and rely on UTA Paratransit to fill in the gaps.
- The Mobility Center in Murray is far and difficult to get to, and there is a desire for other places to apply/test for paratransit eligibility
- Mobility devices can present obstacles to eligibility—every device has to be approved and some heavy devices get rejected
- Scheduling is challenging—especially when trying to change a subscription schedule
- Paratransit can only take clients to the closest transit stop/station

- Overly strict rules about where they can drop clients off
- Stigma for people with mobility devices on fixed-route transit
- Some conditional eligibility has so many conditions that it seems impossible to use Paratransit
- Paratransit works better for those with someone to assist with scheduling
- Afternoons are particularly difficult to get rides and arrive on-time with Paratransit
- Seniors are more likely to use senior center transportation

TURN

TURN is a Salt Lake City-based nonprofit that provides services for people with developmental disabilities in many different environments such as residential, day centers, and employment. Its approximately 300 clients live all over Utah. TURN's main job is to support the person in what they want to do. TURN has its own transportation services for a variety of trips.

Key themes:

- Paratransit generally works well
- Challenges with the strict geographical boundary—A lot of people don't live in the areas where Paratransit is available, i.e., Herriman, Bluffdale, south end of Salt Lake Valley
- Long waiting times
- The rides take a long time and need to be scheduled long in advance of when clients need to arrive.
- Drivers do great work—one example is when a client fell into a manhole and the driver pulled him out
- TURN can't supply all of the transportation, they rely on UTA Paratransit, it is an important part of clients gaining independence; they like to complement Paratransit
- Fixed route transit is far for clients to access
- Drivers could use additional training on specifics
- Mobility Center in Murray is a long way to go - need other places to apply/test
- More compassionate communication to people with disabilities is often needed
- Clients also use fixed route transit
- Southwest Salt Lake County is challenging for Paratransit due to the lack of bus service
- Scheduling is easy
- UTA has made improvements and respond well to criticism/complaints

Suzy's Senior Companion Services

Suzy's Senior Companion Services is a non-profit organization that provides a range of services for seniors, veterans, and people with disabilities 18 and older. The organization helps address the need for affordable transportation, especially wheelchair-accessible transportation. It serves the northern part of Utah; Preston, Idaho; and a part of Nevada. The service area includes many rural areas. The organization has 120 employees and 39 vehicles in its fleet.

Key themes:

- Paratransit generally works well
- Challenges with limited geographical service area
- Long waiting times
- Hard for clients to be dropped off on time
- Good relationship with UTA
- Eligibility process is onerous
- The Mobility Center in Murray is far and difficult to get to, and there is a desire for other places to apply/test for paratransit eligibility
- Rural areas have transportation challenges because they are outside UTA service area
- The organization aims for clients to have all necessary information about all the options
- Some clients don't feel comfortable riding Paratransit by themselves
- Older passengers would struggle with increased use of technology

Chrysalis

Chrysalis is a statewide organization that provides support to individuals with intellectual disabilities. It provides two main services: family-based services, which includes foster care for people with intellectual disabilities and supported living; and group homes. Chrysalis provides staffing and support in either service settings, behavioral consultation, job coaching, day services, and mental health services. It provides transportation with eight vehicles to and from activities.

Key themes:

- Chrysalis can't supply all of the transportation, they rely on UTA Paratransit; they like to complement Paratransit with their services.
- Paratransit generally works well

- The strict rules on when a passenger needs to be ready for a ride are a challenge, especially if the rider has had a rough day; for example, an individual who was dealing with a mental episode and barely made it to the pickup location within the arrival time window
- They help clients with going through the eligibility process, e.g., initiating the process, filling out forms, and other aspects
- Drivers are good
- Eligibility process is onerous
- Paratransit is an important part of clients gaining independence

Sanderson Center for the Deaf and Hard of Hearing

The Sanderson Center is a community center under the Utah State Division of Deaf and Hard of Hearing. The main center is located in Taylorsville, with a gym, kitchen, lecture hall, and classrooms. There is a smaller center in St. George. The center provides case management and employment service for 100 - 150 people per month, as well as vocational rehab, education and activity classes, interpreting services and other services. The center does provide some transportation.

Key themes:

- The cost of Paratransit is an obstacle for clients
- Strict rules on ride pickup are a challenge for deafblind - at the Taylorsville center, a deafblind person will wait in the lobby, ask receptionist to notify them once the vehicle arrives but the receptionist can't see the bus arriving and can't let client know; the Sanderson Center asked bus drivers to park closer to entrance so receptionist can see the bus arrive. Many drivers will leave after 5 minutes of the client not arriving at bus stop
- The Sanderson Center helps clients with the eligibility process
- Drivers could use additional training on specifics
- Specific challenges for deafblind with knowing when Paratransit arrives
- General communication of drivers with deafblind is a challenge
- Turnover at UTA has been a challenge for communication

Utah Council of the Blind

The Utah Council of the Blind is a non-profit that covers all of Utah and provides services to people who are blind. The Council provides programs and services for people to be independent in their lives - such as a skills development program, a Braille literacy program, and activities. The Council serves close to 500 people.

Key themes:

- Paratransit generally works well
- Waiting times are lengthy
- The cost of Paratransit is an obstacle
- The eligibility process is onerous
- Paratransit is an important part of clients gaining independence
- They subsidize other transit options
- Pickups at buildings with multiple entries can be confusing for drivers
- People have moved to be within Paratransit service area and then the bus routes changed, putting them outside the boundaries of Paratransit

Utah Division for Blind and Visually Impaired - Blind Center

This interview focused on the deafblind community. The Blind Center serves many deafblind people. Services the center administers include sighted guides, an equipment program, and a training program. For someone to get the services, deafness has to be moderate to severe and vision has to be low vision or fully blind. The interview emphasized that deafblind people have specific needs and challenges with transportation and Paratransit and a desire for UTA, in general, to improve its individualization of service to deafblind people.

Key themes:

- Challenges with limited geographical service area
- The cost of Paratransit is an obstacle
- Strict rules on arriving for rides are a challenge, and it's difficult that this is often out of their control
- The organization helps clients with eligibility
- Tried to advocate for changes
- Want more dialogue with UTA to individualize the Paratransit experience
- Drivers could use additional training on specifics
- There are specific challenges for deafblind with knowing when Paratransit arrives
- General communication of drivers with deafblind is a challenge - one positive example was when one driver came into the building to pick up client, and client "told" them their name with touch and how many stops until their drop off location
- Want more compassionate communication with people with disabilities
- Rural areas have transportation challenges because they are outside UTA service area
- They do additional travel training beyond what is offered by UTA
- Many of their clients don't know Paratransit or other UTA services exist
- They want UTA to create more partnerships for training

Salt Lake County Aging and Adult

Salt Lake County Aging and Adult is a government agency that offers a range of services, including operating 15 senior centers, providing in-home services, and Meals on Wheels. It operates Rides for Wellness, a transportation service that often serves destinations and provides levels of service that Paratransit can't, although Paratransit is also an important source of transportation for the agency's clients. It states that 60 to 70 percent of people needing transport are going to dialysis.

Key themes:

- Challenges with strict geographical boundary
- Cost of Paratransit is obstacle
- Good relationship with UTA
- Fixed route transit is far for clients to access
- The organization appreciates UTA on-demand and wants it to be expanded as an option

Olympus Case Management

Olympus Case Management is a private organization that coordinates the support of people with Utah State Division of Services for People with Disabilities (DSPD) funding—which applies to many Paratransit riders and many of the clients of the stakeholders interviewed by the team. They are one of many such organizations throughout the state. Once a person gets off the DSPD waitlist, they contact a support coordination organization like Olympus to serve as a "middle person" to connect their clients to services and be an advocate for them. This provides support coordinators like Olympus with a close view of their clients' transportation needs and functionality of Paratransit.

Key themes:

- Paratransit works best when passengers have the same drivers and have a consistent schedule and route for their trips
- Long waiting times
- Hard for clients to be dropped off on time
- Rare incidents of inappropriate driver behavior
- If client has behavior or medical issues, challenge when there is no support staff present to help on-off Paratransit vehicle

- School district offers rides if student has severe disability
- Some parents refuse to let their kids use Paratransit because of vulnerabilities

Assist Inc. Design Center

Assist, Inc. is a non-profit architecture firm that often focuses on people with disabilities. The firm seeks to provide people with opportunities for aging in place, accessibility retrofits to homes/businesses, in order to stay in their homes and communities. Most of their clients tend to be lower-income adults and older adults. This stakeholder was able to provide a perspective of an organization not directly using or involved with Paratransit but that serves people with disabilities and aware of a specific perspective on their accessibility needs.

Key themes:

- Fixed route transit is far for clients to access
- Paratransit is an important part of clients gaining independence
- Many of our clients don't know Paratransit or other UTA services exist
- Create more partnerships for training
- Technology could help access rides
- Increase general comfort of transit system for people with disabilities

Utah Parent Center

The Utah Parent Center (UPC) is a non-profit with the mission to help parents help their children, youth and young adults with all disabilities to live productive lives as members of the community. The Center accomplishes its mission by providing accurate information, empathetic peer support, valuable training, and effective advocacy based on the concept of parents helping parents. This stakeholder interview was a focus group of nine parents and UPC staff discussing their experiences with UTA Paratransit. The interview format made the interview a stakeholder/user hybrid interview, given that much of the interview focused on the personal experiences of many of the parents.

Key themes:

- Paratransit generally works well
- Challenges with strict geographical boundary
- Long waiting times
- Drivers are good
- Cost of Paratransit is an obstacle
- Hard for clients to be dropped off on time

- More compassionate communication to people with disabilities is often needed
- Rural areas have transportation challenges because outside UTA service area
- The organization appreciates UTA on-demand and wants it to be expanded as an option
- Scheduling is challenging, including trying to change a subscription schedule
- One bad experience can be indelible for some Paratransit clients
- Individuals with some conditions (such as fetal alcohol syndrome) are left with few options for public transit, as they struggle to comfortably use fixed-route transit, but do not qualify for Paratransit.
- Regularly scheduled rides should be priority - trips delayed by riders on one-off trips
- Can curb-to-curb be expanded for the aging population?
- Families with children with disabilities generally lack options to transport their kids where they need to go
- Differences between intellectual and physical disabilities can be awkward. For example, one focus group member wondered how do riders without intellectual disabilities feel when adults are teasing each other and getting out of line?

Utah Office Of Rehabilitation

The Utah Office of Rehabilitation is a state agency that works with people with all types of disabilities that prevent them from obtaining or maintaining work. The agency offers restorative services to help individuals to overcome functional limitations. Its clients use UTA services; the agency does not provide its own transportation.

Key themes:

- Challenges with the strict geographical boundary
- Long waiting times
- Strict rules on arriving for rides are a challenge, and it's difficult that this is often out of their control
- Hard for clients to be dropped off on time
- Regular trips are best for Paratransit—one-off trips are difficult
- Punch passes are difficult to use
- Clients say they pay twice when transferring to other UTA services
- Employers of their clients don't provide transportation—their clients have to figure out how to get to work on their own
- Southwest Salt Lake County is challenging for Paratransit due to lack of bus service

Utah Developmental Disability Council

The Utah Developmental Disability Council (UDDC) is one of Utah's Americans with Disabilities Act (ADA) organizations. The UDDC seeks to create and use a collective voice and serves as a State government watchdog. Transportation is a big part of the UDDC's work; they work closely with UTA, it is putting together a transportation coalition, transportation is part of its five-year plan, and it is trying to advocate at a legislative level for improvements for people with disabilities.

Key themes:

- Challenges with limited geographical service area
- Strict rules on arriving for rides are a challenge, and it's difficult that this is often out of their control
- Good relationship with UTA—tried to advocate for changes
- Eligibility process is onerous
- Fixed-route transit is far for clients to access
- Many of the UDDC's clients don't know Paratransit or other UTA services exist
- The UDDC wants clients to have all the information about all the options
- Individuals with some conditions (such as fetal alcohol syndrome) are left with few options for public transit, as they struggle to comfortably use fixed-route transit, but do not qualify for Paratransit.
- East-West connections are generally difficult on fixed-route transit
- Physical disabilities are better served by Paratransit than intellectual disabilities
- They want to change Paratransit opportunities at a legislative level

User Interviews

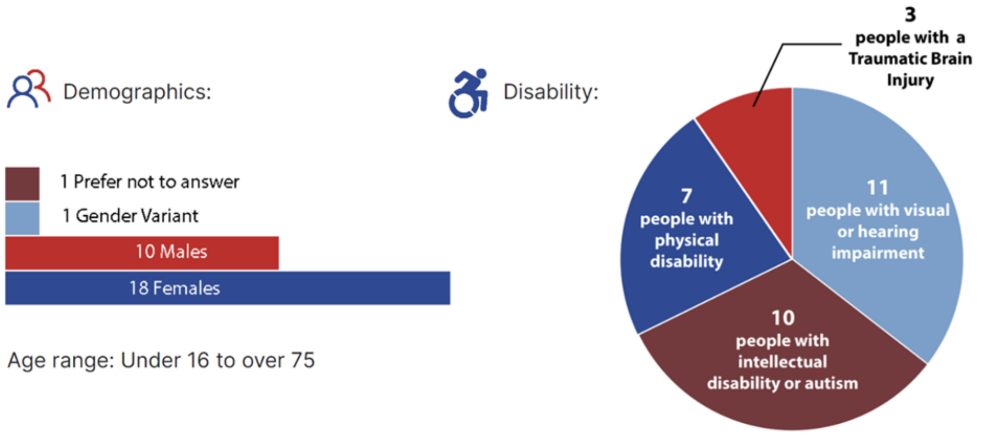
Goals

The user interviews sought to understand the full Paratransit experience from the direct passenger perspective, providing depth to the survey. The team primarily asked questions about the decision to ride Paratransit, the process of obtaining eligibility, scheduling rides, pick-ups, ride experience, and drop-offs. The team met with a diverse group of individuals who either use, are trying to use, or cannot use the Paratransit system.

Overview

Pulling largely from contacts generated through the Paratransit Forward Survey, the project team reached out to 80 users and successfully facilitated 30 interviews. These interviews were either held via video conferencing tools or over the phone. They were conducted in December of 2023.

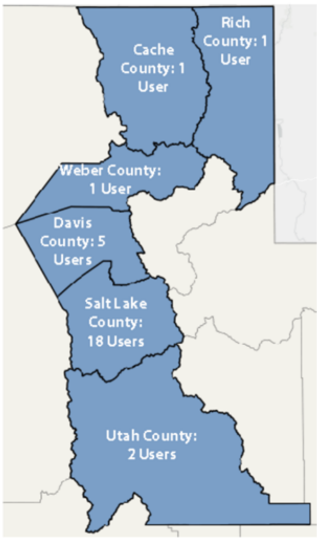
As with the stakeholder interviews, the team sought to speak with a wide variety of users. The interviewees ranged from ages under 16 to over 75. They hailed from a wide range of geographic areas within UTA's service area and had a range of disabilities. Some demographic breakdowns can be found below:



Use of UTA Services:

- 19 Paratransit Users
  - 6 use it regularly
- 11 Non-Paratransit Users

Geography:



The following describes the breakdown of the interviewees' use of Paratransit:

- 12 surveys were taken on behalf of a Paratransit user by a parent/guardian or caregiver.
- 4 people had never used Paratransit due to ineligibility or other service restrictions, while 5 said they no longer use it due to restrictions and reliability issues.
- 4 people interviewed explained they were ineligible for Paratransit, 4 stated they have conditional eligibility, and 9 stated they have unconditional eligibility.
- 11 users reported using or planning to use Paratransit daily, 10 weekly, and 1 rarely.
- 15 users used it for employment, 15 for healthcare, 3 for school/education, and 18 for other social needs.

Interview Topics

The interviews covered a wide range of topics, including:

Travel Behavior and Demographics: Questions on travel behavior pertained to the frequency and types of trips; assistance from mobility aids, service animals, and/or caregivers; ability of Paratransit to reach desired destinations; other transportation apart from Paratransit; and a rider's eligibility category.

Booking: Booking questions focused on the booking process; aspects of booking that work well or don't work well; perspective on the "ready window"; ideas for improvements to the booking process; perspectives on booking using technologies such as apps.

Rides: Questions on rides themselves aimed to learn more about the reliability of vehicle arrival; driver communication; ability to get ready for vehicle; beyond-the-curb service if applicable; boarding process; comfort of vehicles; safety; securing mobility devices; experiences with drivers; impact of weather; ticketing.

Eligibility Process: Questions about the eligibility process focused on the experience of going through the eligibility application and evaluation, the process of getting to the Mobility Center, overall satisfaction with an assigned eligibility category, and the process of renewing eligibility.

Topics specifically for non-Paratransit users: Non-paratransit users were asked specific questions about their current eligibility for UTA Paratransit. If an interviewee was denied eligibility, follow-up questions were asked about the eligibility process. If an interviewee had never applied for UTA Paratransit eligibility, follow-up questions focused on their reasons for not applying.

Summary questions: What are your favorite aspects of UTA's paratransit service? What are the most challenging aspects of UTA's paratransit service? If you could make any change to UTA's paratransit service, what would that change be? Is there anything else you would like us to know about UTA Paratransit Service?

Takeaways

This section provides an overview of the conclusions of all the interviews taken together. These are organized into four broad takeaways:

1) Users report positive staff and driver interactions.
2) Paratransit is inflexible for many due to 24-hour scheduling requirements and the limited coverage area.
3) Most users and caregivers would like more app-supported and other digital technologies as part of UTA Paratransit Service.
4) The 30-minute pick-up window, the 5-minute limit to the driver waiting for the rider, and long travel times have been frequently reported as challenges.

Each of these takeaways is explored in terms of the specific insights that contribute to it, as well as the number of stakeholders whose interviews included these observations and opinions, thus telling us the most popular themes.

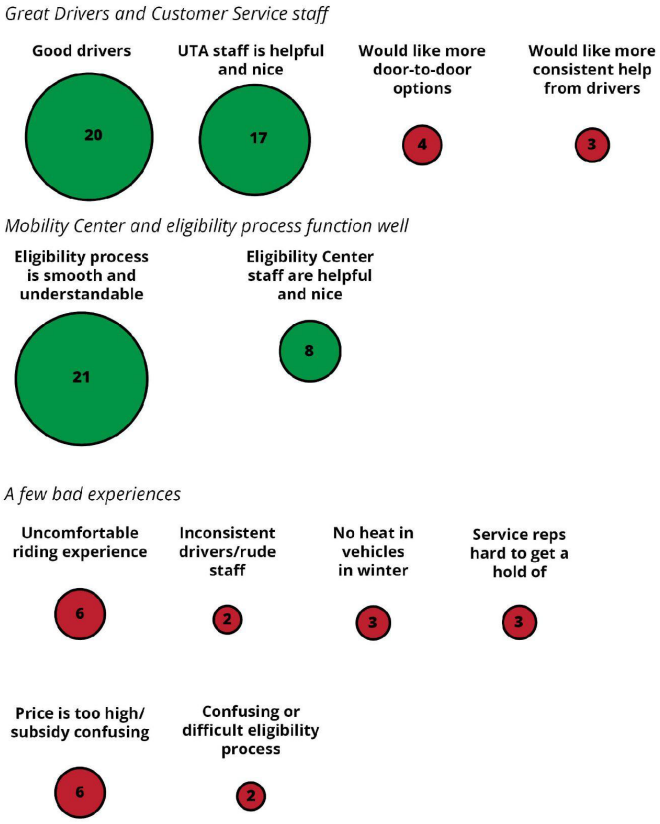
Graphically, this is shown in a way to convey the types and magnitude of themes:

- Blue dots: themes that are primarily informational
- Green dots: themes that complement UTA Paratransit
- Red dots: themes that are critical of UTA Paratransit
- Yellow dots: themes that express ideas for improvement

The numbers and sizes of dots correspond to how many of the 30 interviewees made the comment - so a “4” means that four of the 30 stakeholders made that comment. The highest frequency theme was stated by 21 out of the 30 stakeholders. There were many themes that were unique to one stakeholder.

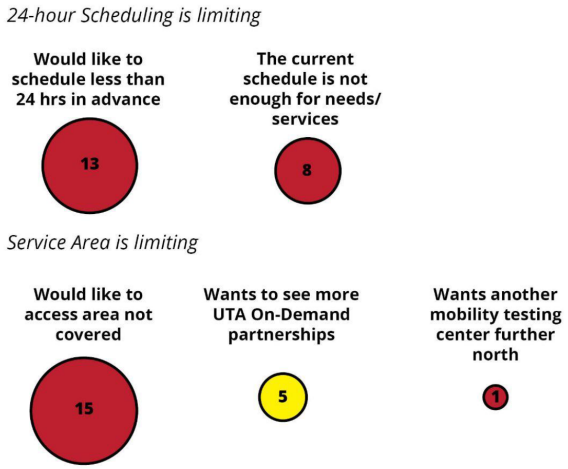
1. Users report positive staff and driver interactions.

Most of the users were able to identify aspects of UTA and Paratransit that they liked and had good experiences with. These positive interactions included staff at all stages of the Paratransit trip, from customer service over the phone to the drivers on different routes. However, many users identified one-off recent experiences where drivers were less helpful or flexible or service representatives over the phone were difficult to reach.



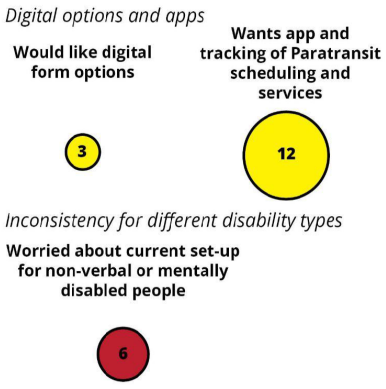
2. Paratransit is inflexible for many due to 24-hour scheduling requirements and coverage area.

Users depicted an overall inflexibility in UTA Paratransit Service, whether it be through scheduling requirements or coverage areas. Throughout the interviews, many pointed out specific coverage gaps outside of Paratransit coverage that contained either their residence or other needed services that prevented them from using Paratransit to access these destinations. This often led to discussions about expanding UTA On-Demand services to enhance and connect these areas not currently served by Paratransit.



3. Most users and caregivers would like more app-supported and other digital technologies as part of Paratransit Services.

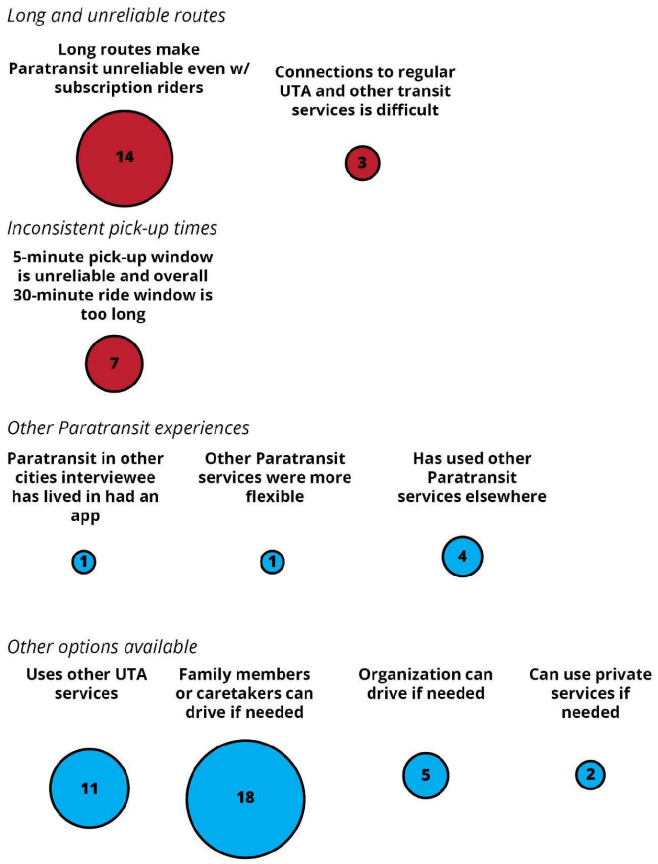
Technological barriers were a sticking point for many users, both current and potential. These challenges included blind or hard-of-seeing individuals having difficulty with signing up for the services on paper; and non-verbal or people with intellectual disabilities having to make phone calls for schedules and arrival. Multiple interviewees raised the idea of expanding technology options to make scheduling, tracking of Paratransit vehicles, and signing up for



Paratransit more accessible and user-friendly overall.

4. The 30-minute pick-up window, the 5-minute call, and long travel times have been frequently reported as challenges.

Another challenge frequently reported by users was the lack of consistency in arrivals



during the 30-minute pick-up window and the 5-minute call. This, coupled with longer routes that interviewees reported sometimes quadrupling normal travel time, dissuades many users from using Paratransit for all their needs. Because of this, many rely on family members and caretakers who may not have the resources available to take them often or comfortably. In related comments, users also advocated better connecting Paratransit to other UTA services, like TRAX or FrontRunner, with timing and payment.

Conclusion

While having different and diverse points of focus, both the Stakeholder and User Interviews point to some common implications and questions for this study's recommendations:

- **Weigh tradeoffs in requirements and service.** Many of the more critical comments in these interviews were requests for increased, higher-level service, which is common for public transit in general. It is clear that all of the desires for more geographic and time flexibility, shorter travel times, and lower costs are all in tension with one another and with UTA's budget and federal requirements for Paratransit. However, in general, it is worth considering the tradeoffs among these to make tweaks in the service for an overall better service.
- **Consider individualizing Paratransit, especially for different disabilities:** Many of the comments, especially with the stakeholders, highlighted the differences in needs among people with different disabilities—physical vs. cognitive; unique needs of communities such as the deafblind; disabilities that may fall through the cracks. Interviewees considered whether there are changes in the system or enhancements that can cater to these differences.
- **Technology is a major area of opportunity, but improvements should stress multiple options.** The low-tech user interface of Paratransit scheduling clearly has its advantages for many users and stakeholders, but there is a clear demand for exploration of higher-tech options to streamline the user experience and address issues such as not knowing how far away a ride is or challenges in changing ride subscriptions. However, if changes are made, it will be important to continue to consider user groups, such as seniors, in creating the widest access to the system.
- **There may be some small changes that could be made to address many of these comments.** Some of the critical comments by stakeholders and users may be able to be addressed by relatively small changes such as increased or individualized communication, managing rider expectations, or coordination among agencies and stakeholders and among UTA services.
- **Consider another layer of regular communication and review of Paratransit with key stakeholders.** The Committee on Accessible Transportation (CAT) provides a forum for addressing the broader transit needs of people with disabilities. However, the CAT appeared to be the only formal link among UTA and Paratransit stakeholders, many of whom were appreciative of the opportunity to speak with the project team about Paratransit, leading to the conclusion that regular

conversations like these could be a good way to monitor the system on an ongoing basis.

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	David Hancock, Chief Capital Services Officer
PRESENTER(S):	Paul Drake, Director of Real Estate & TOC

TITLE:

Transit-Oriented Communities (TOC) Planning and Design Principles

AGENDA ITEM TYPE:
Discussion

RECOMMENDATION:
Provide feedback and consideration for future approval

BACKGROUND:
UTA is involved in Transit-Oriented Communities (TOC) from initial planning efforts through implementation. To guide staff in its efforts to support communities, development partners, and other stakeholders, UTA has developed TOC Planning and Design Principles. This document contains guidelines and standards intended to direct the visioning, planning, design, and development of station areas as well as provide a means to evaluate Station Area Plans and UTA-involved developments.

Board Policy 5.1 requires that the Transit-Oriented Communities ("TOC") Planning and Design Principles be approved by a resolution of the Board. After incorporating feedback from the Board, staff will present a final draft of the TOC Planning and Design Principles at a future Board meeting for formal approval.

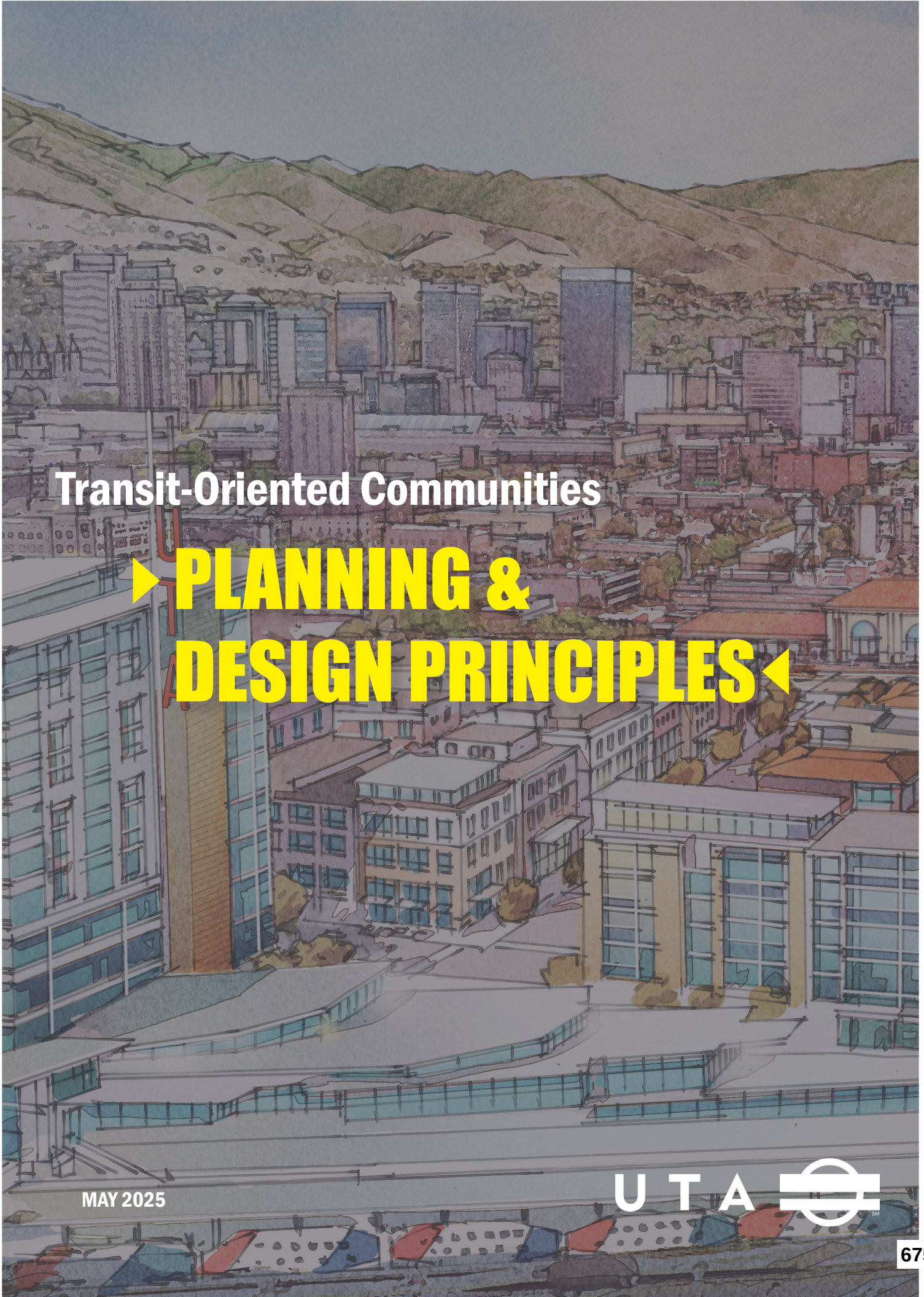
DISCUSSION:
The TOC Planning and Design Principles document includes an explanation of the significance of TOCs as a growth strategy, TOC's relationship to Utah's regional growth vision, how TOCs relate to UTA, and guidelines and standards. Guidelines and standards cover principles related to connectivity, land use, site and architectural design, safety, and management. This document is intended for multiple audiences including

cities, consultants, development partners, and UTA staff. They will be used to inform Station Area Planning efforts as well as a reference for Design Review Committee evaluations of Master and Site Plans for UTA-involved development projects.

ALTERNATIVES:
This item is for discussion purposes. The Board may offer feedback to consider for the final approved document.

FISCAL IMPACT:
TOC projects have generally provided a significant return to the agency. They also contribute to the economic development efforts within the affected communities and demonstrate the value created by transit investment.

ATTACHMENTS:
Transit-Oriented Communities ("TOC") Planning and Design Principles



Transit-Oriented Communities

PLANNING & DESIGN PRINCIPLES

MAY 2025

UTA

Table of Contents

1. Introduction: Purpose of This Document

The Utah Transit Authority (UTA) has developed and adopted the following Guidelines to guide and inspire stakeholders in the visioning, planning, design, and development of station areas. These concepts and principles provide a framework for Station Area Planning, master planning, and site and architectural design—ultimately supporting the creation of Transit Oriented Communities (TOC)—grounded in the core principles and best planning practices centered on integrating land use and transportation to create walkable, sustainable and connected communities around high-capacity transit stations.

These Guidelines also serve as a framework for UTA to evaluate Station Area Plans and proposed and UTA-involved developments, providing informed recommendations to be considered by the Agency's Board of Trustees. These Guidelines are not intended to be prescriptive or exhaustive; rather, they are intended to be adapted and meaningfully interpreted in response to the specific physical and market conditions of each station area and development site.

2. Transit-Oriented Communities: A Strategy for Growth in Utah

Utah's population growth has consistently outpaced that of most other states, and over the next 30 years, the population is projected to nearly double. Yet, the developable area in Utah's key metropolitan areas is constrained by mountains, lakes, and availability of resources. Thoughtful planning centered around Transit Oriented Communities ensures that this growth can be accommodated while preserving open space and maintaining the high quality of life that makes Utah an attractive place to live, work, and raise a family. TOC principles provide a framework for managing both population and economic growth, guiding commercial development in ways that support employment opportunities, protect air quality, expand transportation options, and provide affordable housing opportunities.

Utah's rapid growth necessitates a strategic focus on identifying and cultivating key development centers. TOCs offer a proactive response to the challenges of growth by creating high-density, mixed-use hubs that improve land use efficiency, reduce dependence on automobiles, and preserve open space. By aligning these centers with existing and planned transit infrastructure, TOCs support sustainable urban expansion while enhancing the overall quality of life for residents.

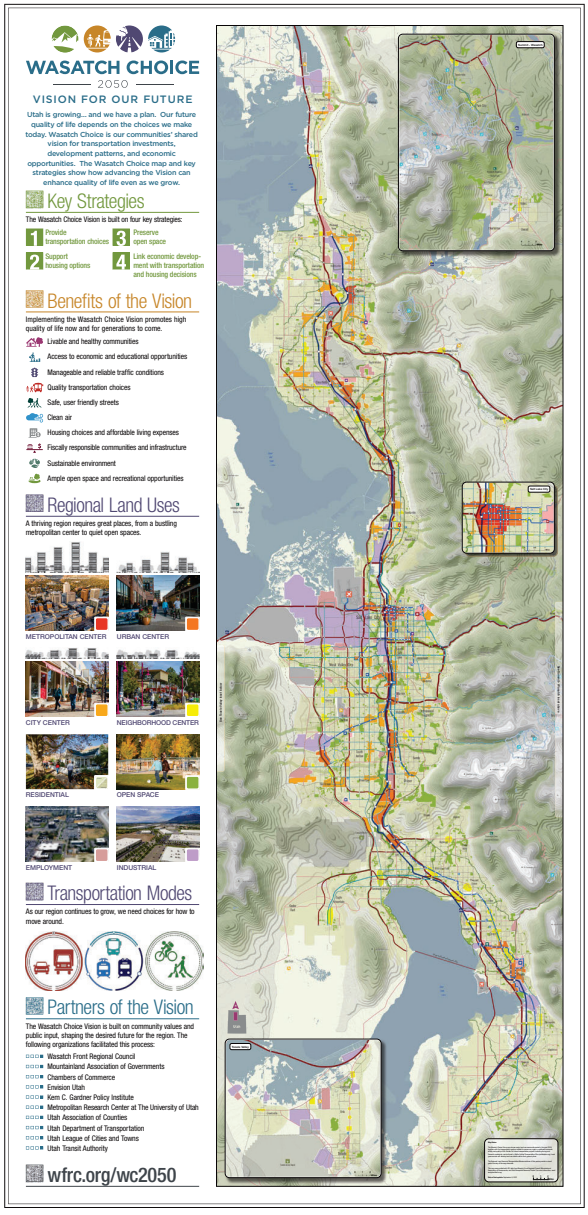
TOCs promote seamless integration between land use and transportation, fostering walkable, vibrant neighborhoods with accessible amenities. This approach not only enhances daily convenience for residents but also attracts businesses, increases foot traffic, and stimulates local economic growth.

TOCs represent a critical strategy to address growth in Utah by encouraging efficient land use around existing and planned transit infrastructure, which reduces reliance on automobiles and preserves open space. TOCs will assist Utah in managing growth while maintaining the State's high quality of life.

3. Supporting the Regional Growth Vision

The Wasatch Choice Vision (Vision), the Regional Transportation Plan (RTP), and the UTA's Transit Oriented Communities initiatives work together to promote sustainable and effective planning consistent with the regional goals and state mandates. These guidelines uphold the core principles of the Wasatch Choice Vision, which provides a comprehensive framework integrating transportation investments, land use, and economic development to achieve key regional goals such as sustainability, accessibility, and quality of life.

As the transportation component of this vision, the RTP outlines strategies and investments across all transportation modes to advance its objectives. By ensuring transportation planning is integrated with land use and economic strategies, these initiatives foster coordinated regional development. At the local level, UTA's TOC initiatives translate these plans into action, focusing on station area development that supports both Vision and RTP. Legislative efforts by state leaders complement these efforts by encouraging housing affordability and land use planning that supports transit oriented growth. UTA prioritizes the creation of vibrant, walkable communities around transit hubs to enhance connectivity, increase ridership, and drive economic growth. By integrating these elements, TOCs address both regional and local needs, ensuring sustainable and inclusive growth for all stakeholders.



4. Why Transit-Oriented Communities Matter to UTA

UTA's approach to property development is unique due to its role as a public transit provider. Beyond the goal of generating non fare box revenue, UTA's development activities are driven by these primary objectives:

Increase Ridership: Prioritize development projects that encourage public transit use and integrate seamlessly with the transit system. For UTA, TOCs are pivotal in boosting ridership through improved transit accessibility.

Optimize Developable Land and Support Regional Growth Vision: Focus on efficient land use that aligns with the broader regional growth strategy, fostering sustainable and community-friendly developments.

Capture Value: Ensure that developments contribute to UTA's financial stability and operational sustainability.

These objectives reflect UTA's commitment to supporting state, regional, and community efforts to optimize the benefits of growth and transportation investment.

5. Guidelines and Standards

Connectivity

Multi-modal connectivity is a critical element of successful TOCs. Auto-centric development practices have produced numerous adverse outcomes that are evident at both regional and local level, including reduced on-street activity, urban spaces lacking a sense of place, and communities where automobile use is nearly unavoidable. Such patterns can disproportionately affect vulnerable populations, including youth, the elderly, and individuals with disabilities. Moreover, auto-centric designs have been strongly associated with public health challenges including deteriorating air quality.

Addressing these issues necessitates a comprehensive, multi-modal approach. With these guidelines, UTA seeks to accommodate access to its network by various transportation modes including pedestrian, cycling, and vehicular modes to effectively serve the increasingly diverse needs of residents of the Wasatch Front.

Pedestrian Focused Connectivity

A well-designed pedestrian experience enables and encourages people to walk to nearby amenities and transit stations. Destinations within half a mile are generally regarded within a walkable distance. Within this radius of a major transit hub, the pedestrian experience should prioritize safety, comfort, and provide an inviting and natural flow throughout the station area.

Guidelines:

- Streets should be designed to calm traffic and create a safe buffer between pedestrians and vehicles. This can be achieved through landscaping elements, including the strategic placement of street trees between sidewalks and drive aisles.
- Minimize conflict points between pedestrians, vehicles, and transit by incorporating safety measures such as curb extensions (bulb-outs) at intersections and clearly marked mid-block crossings.
- Incorporate design features that shield pedestrians from sun, wind, and precipitation. These may include vegetation, canopies, awnings, or other architectural elements that provide shelter and act as wind barriers.
- Pedestrian pathways should be direct, clearly defined, and designed for ease of use. Consistent, pedestrian-scaled wayfinding signage should be integrated throughout the site.
- Major street crossings should be signalized to ensure safe and orderly movement for all users.
- Crosswalks should be enhanced with features such as raised surfaces, contrasting materials (e.g., paving stones or stamped concrete), and high-visibility markings to improve safety, durability, and visual appeal.
- Seating should be provided along primary pedestrian walkways.
- Sidewalks should be wide enough for unimpeded movement with furniture, facilities and business street activation located outside the pedestrian zone.

Bicycle, Micromobility, and Other Active Transportation Networks

Active Transportation (AT) networks, which involve human-powered modes of travel like walking and biking, play a vital role in enhancing Transit Oriented Communities. By reducing infrastructure costs, improving accessibility and safety, and minimizing greenhouse gas emissions, AT networks offer sustainable, inclusive, and affordable transportation options. They connect homes, workplaces, and transit stations, fostering regional connectivity and significantly bolstering the viability and appeal of public transit systems. Newly constructed multi-family and office building within a TOC should program facilities that encourage active transportation.

Guidelines:

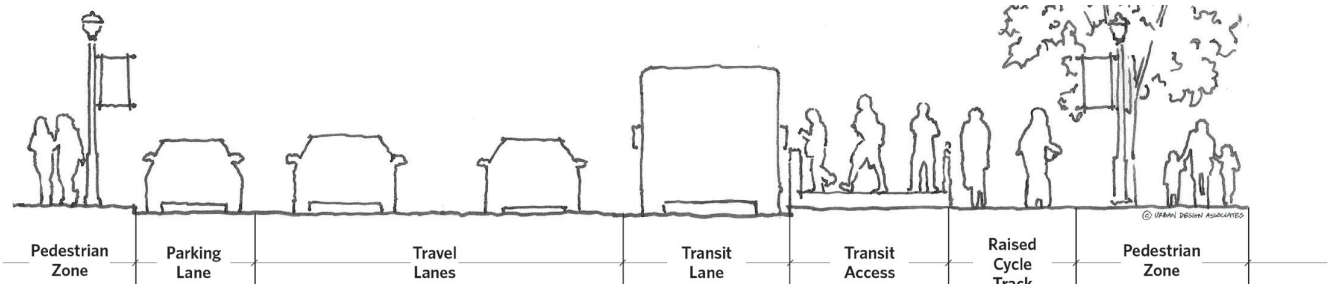
- Bicycle facilities should provide both short-term (less than 2 hours) and long-term (4+ hours) storage.
- Short-term bicycle parking must be located within 50 feet of any entrance frequented by riders.
- Bicycle facility locations should be in highly visible, adequately lit, and secure.
- Bicycle racks must support the frame and at least one wheel, enabling secure locking with a U-shaped lock.
- Designate bicycle-priority corridors that connect directly to transit stations and regional trail networks.
- Bicycle and scooter share services should be considered if offered within the community.
- Docking stations and scooter corrals must be positioned to avoid obstructing pedestrian pathways, enhancing safety and accessibility.
- Walking and biking networks must be context-driven and connected to regional pathways, ensuring seamless mobility and accessibility.
- Adherence to best practices outlined in NACTO's All Ages and Abilities Bicycle Facilities Chart and Urban Bikeway Design Guide is recommended.

Integrated Bus/Transit Infrastructure

TOCs prioritize access to public transportation, enabling seamless connectivity for residents, employees, and visitors. The accessibility of transit within a TOC is central to achieving UTA's goal of increasing ridership. By integrating bus and transit services, TOCs reduce reliance on private vehicles and facilitate efficient, multi-modal travel options. High-quality transit connectivity enhances the attractiveness to businesses and investors, decreases the need for excessive parking, and fosters economic growth through increased foot traffic and accessibility.

Guidelines:

- Any action affecting bus services must be coordinated and approved by UTA.
- Ensure direct, convenient, conflict-free pedestrian access between bus stops and rail stations.
- Design proposals should anticipate future transit network expansion and align with UTA's regional growth strategies.
- New transit facilities must anticipate both current and future system needs as defined in:
  - UTA's 5-Year Service Plan
  - UTA Long-Range Transit Plan
  - UTA Bus Stop Master Plan
- Proposed busways must safely accommodate vehicle maneuvers and meet the UTA Design Criteria Manual.
- All transit facilities must meet the specifications outlined in the UTA Design Criteria Manual, including traffic control, access, and wayfinding.

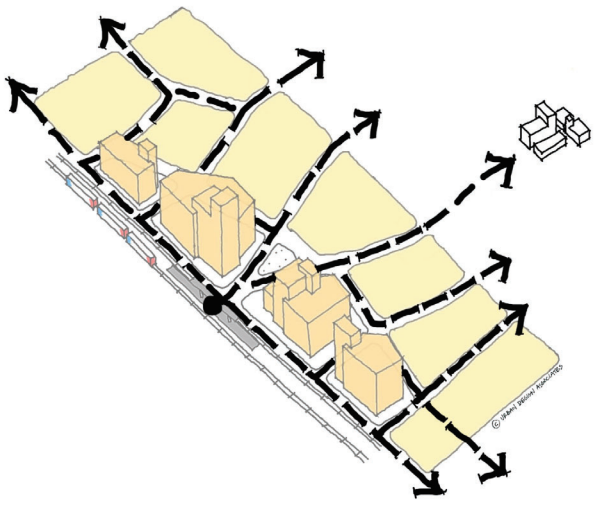


Automobile

While TOCs prioritize pedestrians, active transportation, and transit users, they also consider automobile connectivity. Facilities such as Park and Ride (P&R) and drop-off areas accommodate the many riders who need to access transit by driving. Striking a balance between TOC priorities and automobile needs ensures functional, inclusive communities that support businesses, facilitate deliveries, and maintain access for emergency services, all within the framework of vibrant and well-connected urban spaces.

Guidelines:

- Streets should be configured in a grid-like system to promote multiple direct paths to destinations within the site.
- Blocks should be no longer than 250'–350' to maintain walkability and connectivity.
- Streets should intrinsically support low operating speeds to enhance pedestrian and cyclist safety.
- Consider implementing traffic calming measures such as:
    - On-street parking.
    - Crosswalk bulb-outs to shorten crossing distances.
    - Raised crosswalks for increased visibility and safety.
    - Narrow driving lanes (10'–11' wide for non-busways).
- Shared parking options should be implemented to maximize land use efficiency and accommodate multiple users within TOCs.
- Parking decisions will be evaluated based on the impacts to ridership and the financial, operational, and capital benefits to UTA.
- Integrate Park and Ride facilities into the development.
    - The farthest P&R stall should be no more than 700' from the center of the station platform. Exceptions may be made for well-designed TOCs, requiring UTA staff endorsement.
    - The number of parking stalls shall be determined by UTA, with consideration for shared parking opportunities.
    - All P&R facilities must be coordinated and approved by UTA and must meet the UTA Design Criteria Manual.
- Integrate Drop-off facilities into the development.
    - Walking access from drop-off points to the station platform must not exceed 400'.
    - All drop-off facilities must be coordinated and approved by UTA and must meet the UTA Design Criteria Manual.

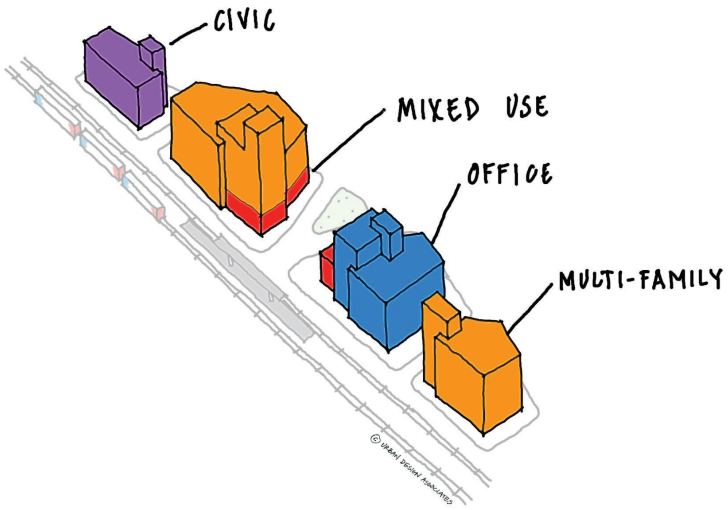


Land Use

TOCs promote higher-intensity development around transit hubs, optimizing land use to reduce urban sprawl while preserving open spaces. This compact development model enhances access to public transportation, increasing ridership and bolstering transit viability. By integrating land use with transportation planning, TOCs align with regional strategies that emphasize sustainable growth and efficient resource management. Furthermore, TOCs foster walkable neighborhoods with accessible amenities, improving the quality of life for residents, employees, and visitors.

Mix of Uses

"Mix of Uses" refers to the integration of different types of land uses, such as residential, commercial, recreational, and institutional, within an area or development. Mixed-use developments often promote walkability and connectivity by ensuring that homes, workplaces, shops, and amenities are conveniently located and well-integrated.

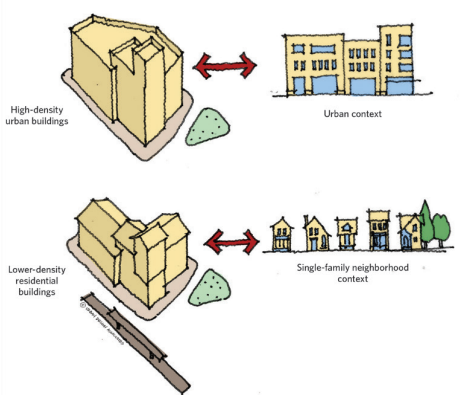


Guidelines:

- The primary street should serve as the central hub of activity.
- Ground floor uses along the primary street must include active public-serving functions (e.g., retail, hospitality).
- As developments transition away from the primary street, ground floor uses can shift to less-intensive private purposes (e.g., stoops, patios).
- Depending on the station's existing context and future growth, the following are appropriate Land Uses:
  - High-Density Residential (50+ dwelling units per acre on UTA controlled property is required unless otherwise identified on SAP)*
  - Office
  - Hospitality
  - Retail
  - Civic - school, library, hospital
  - Neighborhood scale open space
- Land uses that encourage automobile dependency or compromise pedestrian safety and comfort must be excluded. Land Uses to be avoided include:
  - Big Box Retail
  - Drive-Thru
  - Industrial
  - Storage

Mix of Incomes

Successful TOCs should include a mix of housing types targeting various income levels to promote equity, reduce displacement, and ensure that all residents can benefit from access to high-quality transit. By offering affordable, workforce, and market-rate housing near transit hubs, TOCs can support diverse communities, reduce reliance on cars, and improve access to jobs, education, and essential services. This inclusive approach not only fosters social and economic integration but also helps create vibrant, sustainable neighborhoods where people of all income levels can thrive.



Site and Architectural Design

Site and Architectural design play a pivotal role in the success of Transit Oriented Communities. Thoughtful site planning ensures seamless integration between land use and transportation, creating environments that prioritize accessibility, safety, sustainability, and community engagement. Well-designed sites enhance connectivity by accommodating multiple modes of transportation while fostering walkable neighborhoods that encourage active lifestyles. Effective site and architectural design also contributes to creating a sense of place, blending functionality with aesthetic appeal to support vibrant, inclusive communities. By considering factors such as building placement, open spaces, parking, and pedestrian pathways, TOC site and architectural design can maximize transit access, increase ridership, and support the long-term viability of urban growth strategies.

Building Orientation/Layout

Striking the right balance in building setbacks is crucial, as setbacks that are too small may negatively impact some land uses, while excessive ones disrupt the sense of enclosure and reduce walkability. Minimally set-back buildings oriented towards the street help define the public realm by creating spaces for sidewalks, landscaping, and street furniture that enhance the pedestrian experience. Thoughtfully designed layouts foster a sense of enclosure, guiding pedestrians safely and comfortably while creating visually appealing and memorable urban spaces.

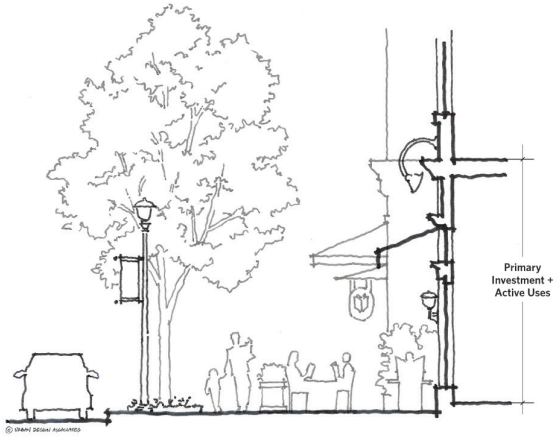
Guidelines:

- Building massings should reinforce a positive pedestrian experience and create a sense of enclosure.
- Buildings should meet the front and corner build-to lines to establish a consistent streetwall.
- Buildings along primary streets should address the street with a primary façade and entrance.
- Gaps in streetwalls should be minimized. Buildings exceeding a maximum streetwall length of 150 feet must provide variation in the physical design and articulation of the streetwall.
- All street corners should be occupied by a building unless the corner is designated as open space.
- Building setbacks shall be between 0’ and 5’ feet from the sidewalk on primary streets and 0’ to 10’ on secondary streets. A larger setback may be allowed if fronting a major corridor with more than four lanes of traffic.
- Side yard setbacks should be minimal to avoid significant gaps in the streetwall.
- Vehicular access (e.g., curb cuts) should be minimized or avoided on primary streets.
- Ground-floor residential units should have direct access to public rights of way.
- Loading and unloading areas, open storage, refuse areas, and utility appurtenances should be screened from view from all streets.

Visual Interest

Visual interest refers to design elements that make buildings and spaces engaging and appealing, such as facades, public art, landscaping, and active ground floors. These features enhance the pedestrian experience, attract investment, foster economic vitality, and support safety by increasing foot traffic and visibility in a Transit Oriented Community.

A core objective of Transit Oriented Communities is to create a pedestrian-friendly environment near transit options. For pedestrians at the street level, large, unbroken facades can feel monotonous, uninviting and even at times unsafe. Introducing visual variation through a consistent rhythm of architectural elements breaks up building mass and adds interest to a corridor. This can be achieved using features such as bay windows, corner elements, balconies, and active ground floor uses for retail.



Guidelines:

- Building massings should incorporate both horizontal and vertical facade articulation.
- The first vertical 20 feet of a building façade is the most critical to the public, pedestrian experience and should be articulated to add interest, create a sense of rhythm, and break up the scale of the building.
- Emphasis, including enhanced materials, should be incorporated into the ground floor design, which interacts most directly with pedestrians. Additionally, architectural details should account for pedestrians' walking speed.
- The ground floor should address the street and have a high percentage of transparency and encourage movement in and out of the building.

Parking

Over-allocating parking wastes land, while right-sizing reduces costs and improves efficiency. Shared parking maximizes usage by accommodating users with complementary schedules, and adequate parking ensures convenient, safe access for transit riders while generating potential revenue for transit improvements. Structured parking minimizes impervious surfaces, mitigates urban heat effects, and enhances pedestrian comfort. Excessive parking encourages car dependency and congestion, while insufficient parking near retail can deter visitors and limit accessibility. Efficient parking strategies create space for better urban design, support walkability, and foster attractive, functional spaces.

Guidelines:

- Parking facilities and lots should be thoughtfully designed to balance functionality with aesthetic appeal, community integration, and safety.
- Structured parking lots are ideal; however, site context and market conditions ultimately determine their feasibility.
- Parking structures should incorporate active uses on the ground floor along street frontage. Including wrapping the structure with retail, residential, or office uses to limit the visibility of the structure from the street.
- Auto-centric aspects of parking structures should be screened to reduce visual impact.
- Safety and security concerns must be considered during the design process.
- Surface parking lots should be located at the rear of buildings.
- On-street parking is permissible to accommodate parking demand, especially for local retail land uses.
- Parking area entrances must include adequate signage for pedestrians and automobiles.
- Limited side yard surface parking lots may be allowed on non-primary streets if the lot is screened with walls, hedges, or berms.
- Landscape buffers must have a minimum depth of 7 feet.
- Landscaping should provide shade for parking areas and screen view from upper floors.
- Internal pedestrian pathways within parking areas must be provided in surface parking lots with two or more double-loaded aisles.
- Pathways should be separated from parking drive aisles.
- Visible parking structures must be designed to conceal the view of parked vehicles and ramps.

Open Space

Open spaces such as parks, plazas, and greenways provide essential areas for relaxation, recreation, and social interaction, enhancing the quality of life for residents and visitors while increasing the appeal of the site. These green spaces contribute to environmental sustainability by managing stormwater runoff, mitigating urban heat islands, and improving air quality. Additionally, accessible open spaces support active transportation, offering enjoyable and functional pathways to transit stations.

Guidelines:

- Integrate open spaces with development by ensuring open spaces are well-connected to transit stations, pedestrian pathways, and surrounding buildings.
- Design open spaces to complement mixed-use developments and foster dynamic, multi-functional areas.
- Open spaces should be located within a 5-minute walk of transit stations and major residential or commercial areas within the TOC. See Land Use section for more Open Space Guidelines.
- Incorporate spaces for both active uses (e.g., playgrounds, exercise areas, plazas) and passive uses (e.g., seating areas, green spaces, gardens).
- Include amenities such as public art, fountains, or shaded seating to enhance visual interest and comfort.
- Prioritize safety by ensuring open spaces are well-lit, maintain open sightlines, and feel secure for users. See Safe and Thriving Communities section for more Guidelines.
- Prioritize accessibility by designing spaces to be ADA-compliant, ensuring accessibility for individuals of all abilities.
- Foster community interaction by creating spaces that encourage social interaction, such as plazas, outdoor dining areas, or event spaces, to build a sense of community and vibrancy.
- Incorporate sustainability features such as rain gardens, permeable pavement, and native vegetation, to manage stormwater and enhance ecological value where feasible.
- Integrate renewable energy features, such as solar-powered lighting or charging stations, where feasible.

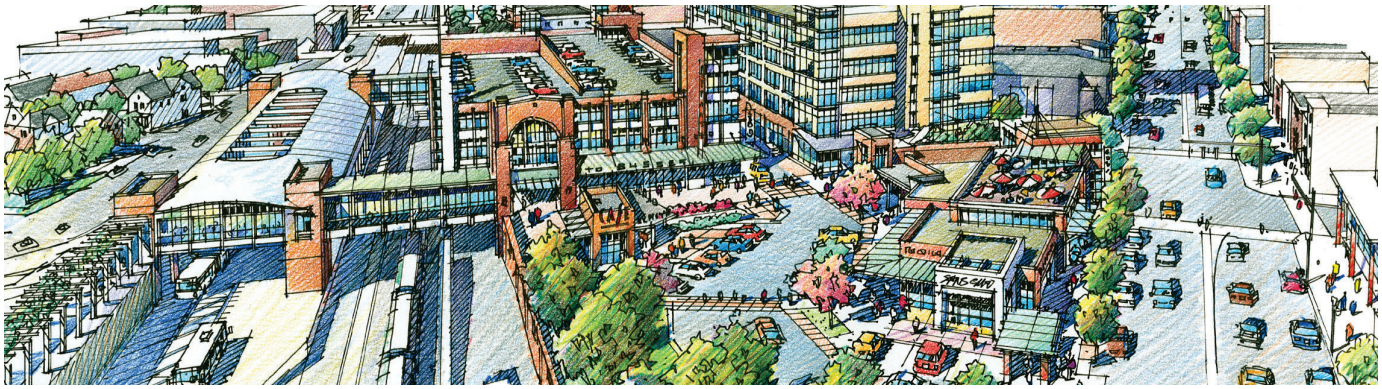
Safe and Thriving Communities

Transit Oriented Communities are designed to create safe, thriving environments that serve all users. Pedestrian safety is a critical priority for the UTA, as it directly impacts both the perception and reality of transit riders, economic vitality, and overall community well-being. A safe, well-designed public space encourages transit use, supports local businesses, and fosters vibrant, walkable neighborhoods.

The UTA recognizes that thoughtful environmental design is essential for creating accessible, safe, and welcoming public spaces. Effective design not only encourages transit ridership but also contributes to the long-term success of TOCs. These guidelines aim to establish station areas that prioritize safety, promote public transit use, attract investment, and cultivate active, viable communities. By integrating strategic environmental design principles, this approach enhances public acceptance of TOCs as a key component of urban development.

When applied to Transit Oriented Communities, environmental design should support the creation of secure, dynamic spaces around transit stations. The following strategies outline key design principles that contribute to the success of TOCs:

1. Watchful Presence - TOCs that incorporate proper environmental design to activate ground-floor uses with transparent storefronts that serve as “eyes on the street,” which deter unwanted behavior near transit hubs.
2. Territorial Reinforcement - Clear boundaries between public spaces (like plazas or walkways), semi-public areas, and private developments within TOCs help residents and businesses take ownership of their surroundings, which fosters stewardship and deters crime.
3. Natural Access Control - In station areas, pathways, entry points, and access to buildings and transit uses should be designed to channel movement efficiently and predictably. This discourages loitering and unauthorized access while supporting safe pedestrian flows.
4. Maintenance and Image - To attract users, TOC buildings, facilities, and public spaces must be clean, well-lit, and actively managed. A maintained environment signals care and oversight and discourages vandalism.
5. Activity Support - TOCs thrive on active environments. Proper environmental design supports this by encouraging development of place making that includes day and evening retail, cafés, public spaces, and residential uses that produce both day and nighttime activity and eyes on the street.

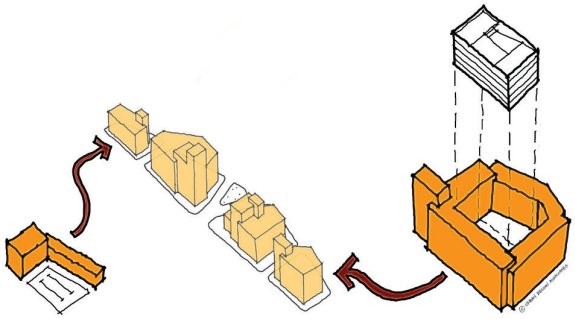


Management

The UTA's commitment to developing Transit Oriented Communities requires a proactive approach to managing development around transit stations. By guiding land use, infrastructure investment, and urban design, UTA and our partners can ensure that development supports the goals of economic growth, accessibility, efficient land use, sustainability, and housing affordability. Proactive management is aimed at aligning private development interests with public transit objectives, ensuring that density, mix of uses, and pedestrian connectivity are optimized to support transit ridership and reduce automobile dependency. Proper management and promotion of TOC goals will ensure opportunities to capture value and address regional growth challenges.

Maintenance

Developers of a project within a TOC need to integrate long-term maintenance costs into development budgets, upkeep of public spaces to insure they remain safe, functional, and inviting, ensuring they continue to serve their communities effectively while protecting the investment made in urban infrastructure.



Proper maintenance of transit facilities and public spaces is essential to fostering a safe, welcoming, and well-functioning environment for all users. Well-kept infrastructure not only enhances public confidence in transit systems but also reinforces a sense of security and reliability. Clean, well-lit, and structurally sound spaces encourage transit ridership, support local businesses, and contribute to vibrant, accessible communities. Additionally, routine upkeep ensures the longevity of these assets, reducing costly repairs and preserving their value over time. To achieve this, it is crucial that developers allocate dedicated funding for ongoing maintenance as part of their project planning.

Parking

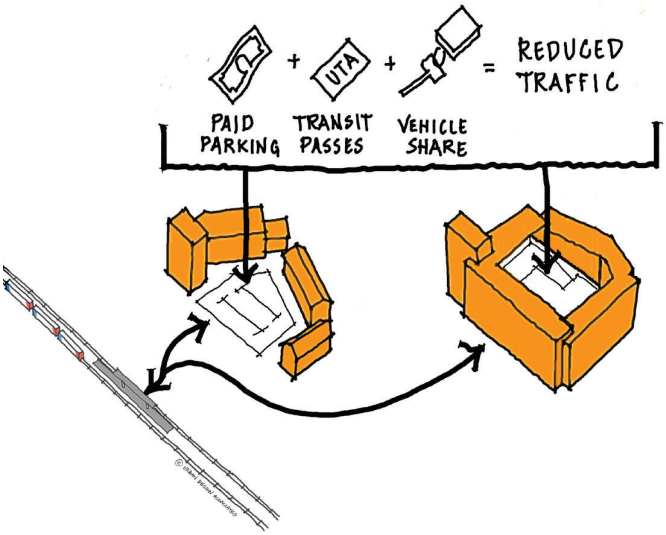
Managing parking demand for TOCs requires approaches to optimize existing parking resources while providing means to reduce dependence on automobiles promoting transit friendly alternatives. Successful implementation hinges on balancing adequate parking and alternative access to for station, retail, and commercial activities.

Guidelines:

- Optimize parking supply. When new parking facilities are necessary, the UTA desires strategies that include shared parking and thoughtful design to ensure parking developments do not permanently obstruct future growth on prime sites near the station.

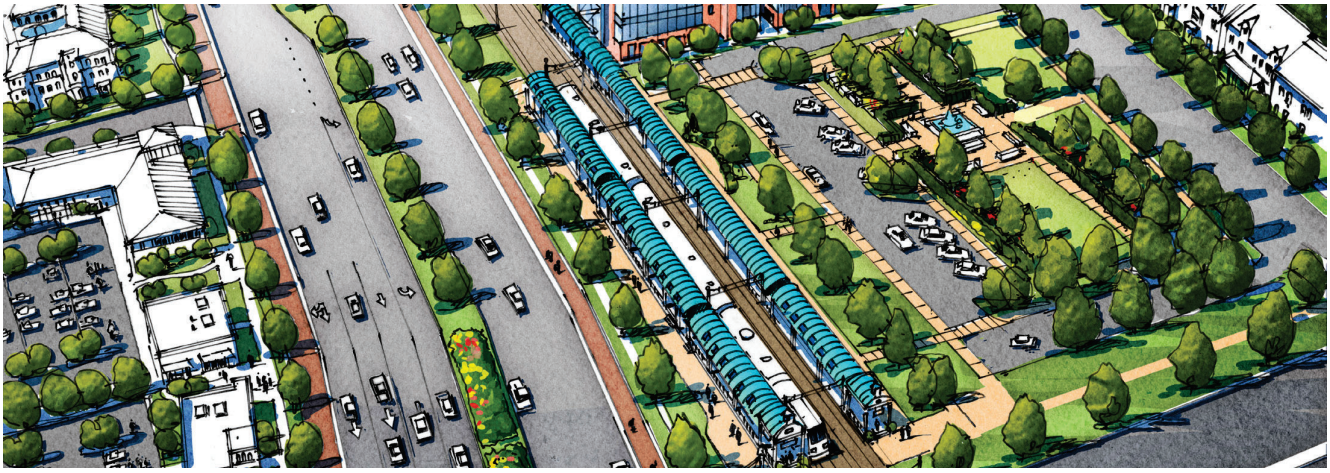
Transportation Demand Management

To be successful, TOCs require managing transportation demand to prioritize access to multimodal transit systems, prevent the over dedication of land to excessive parking, and promote alternatives to vehicle use. Transportation Demand Management (TDM) tools may include transit use incentives, creation of bike infrastructure, and shared parking policies to reduce peak-hour strain on a TOC's infrastructure. The management of demand aims to make it easier for residents, workers, and visitors to choose a transit, walking, or biking option as a mode of travel.



Guidelines:

- Transit Use Incentives: Strategies should be enacted to provide transit passes for residents and employees within TOCs and partner with UTA to install real-time transit arrival signage in residential, commercial, and employment centers.
- Bicycle and Active Transportation support should be targeted to directly reduce parking demand.
- Designate bicycle-priority corridors that connect directly to transit stations and regional trail networks.
- Provide shared mobility options within each development (e.g. car or bike share, scooters, etc.) available to residents and employees.



6. Conclusion

The Utah Transit Authority's Transit Oriented Communities Guidelines represent an important tool in managing the state's growth while preserving its quality of life. By promoting walkability, multimodal connectivity, and compact, mixed-use neighborhoods, TOCs reduce auto-dependency, increase transit ridership, and create vibrant places that serve residents, businesses, and future generations.

These guidelines provide a foundation for comprehensive station area planning, promoting dynamic mixed-use hubs that reduce automobile dependency, enhance economic activity, and improve accessibility. By aligning TOCs with the Wasatch Choice Vision, the Regional Transportation Plan (RTP), and state priorities, UTA reinforces its commitment to sustainable regional development, enhanced transit accessibility, and housing affordability.

These guidelines are not rigid mandates, but flexible frameworks—designed to be tailored to each station area while upholding UTA's commitment to accessibility, sustainability, and economic opportunity. Where available, stakeholders should reference adopted Station Area Plans for contextual guidance. As Utah continues to grow, these TOC principles provide a clear and coordinated path toward a more connected, livable, and resilient region. Through strategic planning and collaboration, TOCs represent a forward-thinking approach to sustainable growth in Utah, ensuring that future development remains efficient, equitable, and environmentally responsible.

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 5/14/2025

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Nichol Bourdeaux, Chief Planning & Engagement Officer
PRESENTER(S):	Heather Barnum, Chief Communications Officer Megan Waters, Community Engagement Director

TITLE:

State of Good Repair (SGR) Public Information Update

AGENDA ITEM TYPE:
Discussion

RECOMMENDATION:
Informational item for discussion

BACKGROUND:
UTA is committed to maintaining a safe, high-quality transit system for both our riders and operators. Our team does their best to plan construction and rail rehabilitation projects to minimize service disruptions, but they are necessary to ensure safe and reliable service. These efforts are known as “State of Good Repair” (SGR) projects and involve extensive, multi-disciplinary coordination to run smoothly. In addition, other disruptions and detours to service occur throughout the year both due to UTA work and circumstances outside of UTA control. Clear, timely public information is a critical aspect of managing these impacts.

DISCUSSION:
UTA team members will provide an overview of 2025 planned service disruptions, including State of Good Repair projects. The focus of the update will be to share how UTA is communicating and coordinating with our riders and community for overall messaging and awareness, as well as share examples of public information strategies during these disruptions.

Information about the 2025 disruption schedule can be found at rideuta.com/disruptions.

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:** 5/14/2025

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

TITLE:

Strategy Session to Discuss:

- **The Purchase, exchange, or lease of Real Property (Utah Code 52-4-205 (1) (d))**
- **The Sale of Real Property (Utah Code 52-4-205 (1) (e))**

AGENDA ITEM TYPE:
Closed Session

RECOMMENDATION:
Approve moving to closed session in accordance with Utah Code 52-4-205 (1).

BACKGROUND:
Utah Open and Public Meetings Act allows for the Board of Trustees to meet in a session closed to the public for various specific purposes.

DISCUSSION:
The purpose of this closed session is to discuss:

- The purchase, exchange, or lease of real property, including any form of a water right or water shares, or to discuss a proposed development agreement, project proposal, or financing proposal related to the development of land owned by the state, if public discussion would:
    I. Disclose the appraisal or estimated value of the property under consideration; or
    II. Prevent the public body from completing the transaction on the best possible terms.

    See Utah Code 52-4-205 (1) (d).

- The sale of real property, including any form of a water right or water shares, if:
    I. Public discussion of the transaction would:
    A. Disclose the appraisal or estimated value of the property under consideration; or
    B. Prevent the public body from completing the transaction on the best possible terms;
    II. The public body previously gave public notice that the property would be offered for sale; and
    III. The terms of the sale are publicly disclosed before the public body approves the sale.

    See Utah Code 52-4-205 (1) (e).