



**PARK CITY COUNCIL MEETING
SUMMIT COUNTY, UTAH
January 13, 2022**

PUBLIC NOTICE IS HEREBY GIVEN that the City Council of Park City, Utah will hold its regular City Council meeting at the Marsac Municipal Building, City Council Chambers, 445 Marsac Avenue, Park City, Utah 84060 for the purposes and at the times as described below on Thursday, January 13, 2022. To participate virtually, follow the public meeting information at www.parkcity.org.

NOTICE OF ELECTRONIC MEETING AND HOW TO COMMENT VIRTUALLY:

This meeting will be an electronic meeting based on the Mayor's Determination: As Mayor, I hereby determine that conducting the Park City Council meeting at an anchor location presents a substantial risk to the health and safety of those who may be present. This is a precautionary change in the meeting format for the safety of the public and City employees. It is based on evolving circumstances and the latest reports from the Center for Disease Control and Prevention. Public comments can be accepted virtually. To comment virtually, use eComment or raise your hand on Zoom. Written comments submitted before or during the meeting will be entered into the public record, but will not be read aloud. For more information on participating virtually and to listen live, please go to www.parkcity.org

CLOSED SESSION - 5:30 p.m.

To Discuss Property, Personnel, Litigation, and Advice of Counsel

PARK CITY HOUSING AUTHORITY MEETING - 6:00 p.m.

I. ROLL CALL

II. PUBLIC INPUT (ANY MATTER OF CITY BUSINESS NOT SCHEDULED ON THE AGENDA)

III. NEW BUSINESS

1. Consideration to Approve the Plan to Fulfill the Affordable Housing Obligation Generated by the Proposed Founder's Place Development Project
(A) Public Hearing (B) Action
[Founders Place Staff Report](#)
[Exhibit A: Action Letter](#)
[Exhibit B: Founders Place HMP](#)

IV. ADJOURNMENT

CITY COUNCIL REGULAR MEETING

I. ROLL CALL

II. COMMUNICATIONS AND DISCLOSURES FROM COUNCIL AND STAFF

Council Questions and Comments

Staff Communications Report

1. November 2021 Budget Monitoring Report and October 2021 Sales Tax Report
[Budget Monitoring and Sales Tax Staff Report](#)
[Exhibit A: Expense Summary November 2021](#)
[Exhibit B: Revenue Summary November 2021](#)
[Exhibit C: FY22 October Sales Tax Report](#)
2. Southeast Quinn's Junction Annexation Update
[Annexation Staff Report](#)

III. PUBLIC INPUT (ANY MATTER OF CITY BUSINESS NOT SCHEDULED ON THE AGENDA)

IV. NEW BUSINESS

1. Consideration to Authorize the City Manager to Add a 15th Bus to the Overall 14 Bus Acquisition with Utah Transit Authority, Previously Approved by Council May 21, 2020, in an Amount Not to Exceed \$312,511
(A) Public Input (B) Action
[Additional Bus Purchase Staff Report](#)
[Exhibit A: UTA Interlocal Cooperative Agreement](#)
[Exhibit B: UTA Base Contract with Gillig](#)
[Exhibit C: High Valley Transit Interlocal Agreement](#)
2. Consideration to Authorize the City Manager to Execute a Construction Agreement with Dimensional Innovations, Inc., in a Form Approved by the City Attorney, Not to Exceed \$162,303.00, for the Park Avenue Bus Shelter Project
(A) Public Input (B) Action
[Bus Shelter Procurement Contract Staff Report](#)
[Exhibit A: Bid Summary](#)
[Exhibit B: Dimensional Innovations Inc. Bid](#)
[Exhibit C: Draft Construction Agreement](#)
[Exhibit D: Proposed Bus Shelters](#)
[Exhibit E: Park City Bus Shelter Design Goals](#)

V. APPOINTMENT

1. Appointment of New City Council Member to Fill the Seat Vacated by Nann Worel
(A) Public Input (B) Approve

VI. ADJOURNMENT

A majority of City Council members may meet socially after the meeting. If so, the location will be announced by the Mayor. City business will not be conducted. Pursuant to the Americans with Disabilities Act, individuals

needing special accommodations during the meeting should notify the City Recorder at 435-615-5007 at least 24 hours prior to the meeting. Public comments can be accepted virtually. To comment virtually, use eComment or raise your hand on Zoom. Written comments submitted before or during the meeting will be entered into the public record, but will not be read aloud. For more information on participating virtually and to listen live, please go to www.parkcity.org.

***Parking is available at no charge for Council meeting attendees who park in the China Bridge parking structure.**

Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: Elyse Kats

Submitting Department: Community Development

Item Type: Staff Report

Agenda Section:

Subject:

Consideration to Approve the Plan to Fulfill the Affordable Housing Obligation Generated by the Proposed Founder's Place Development Project
(A) Public Hearing (B) Action

Suggested Action:

Attachments:

[Founders Place Staff Report](#)

[Exhibit A: Action Letter](#)

[Exhibit B: Founders Place HMP](#)



Housing Authority Staff Report

Subject: Founder's Place (formerly Deer Hollow) - Housing Mitigation Plan
Author: Elyse Kats, Housing Specialist
Department: Housing
Date: January 13, 2021
Type of Item: Administrative

Recommendation

Hold a public hearing and consider approving the proposed Affordable Housing Mitigation Plan associated with the Founder's Place Conditional Use Permit Amendment Application.

Background

Founder's Place (formerly known as Deer Hollow and Slalom Village) is in the Deer Crest area originally within unincorporated Wasatch County, east of the Deer Valley Resort, and west of HWY 40. For a skier, this development is down the ski run going from the backside of the St. Regis Hotel towards the Jordanelle Gondola and next to the Mountaineer Express. The developer of the project, East West Partners, is proposing 199,200 square feet of residential development, which is 99.6 Unit Equivalents. For full maps and development background, see the Planning Commission [staff report](#) regarding the Master Planned Development Modification and Multi-Unit Dwelling Conditional Use Permit.

On December 29, 1995, Park City Consolidated Mines Company and Trans-Wasatch Company, LLC entered into a Settlement Agreement with Park City Municipal Corporation related to the annexation and development of the Deer Crest project.

[The 1995 Settlement Agreement](#) outlined the process and conditions for annexing in Park City, as well as what affordable/ employee housing obligations would result from any annexation and development of certain portions of the Deer Crest area. The Slalom Village (now Founder's Place) area was annexed into Park City in December of 1998 through Ordinance No. 98-53 into the Recreation Commercial within a Master Planned Development Zoning District.

In Section 5.2.3.1 of the [1995 Settlement Agreement](#), the affordable housing obligation for the Slalom Village property was set at 4% of the total number of units developed. The original density, or total number of units, for the property was 83 units, putting the affordable housing obligation at 3.32 units. The City's current Housing Resolution 25-2020 states:

SECTION 12. APPLICABILITY OF RESOLUTION TO PRIOR APPROVALS OR PENDING APPLICATIONS.

B. Prior Annexation. Unless otherwise provided in Conditions of Approval or a Development Agreement, Developments subject to affordable housing requirements imposed by annexation agreements entered into prior to the effective date of this Resolution may develop in conformity with the Resolution in place at the time the Annexation Agreement was approved.

The Applicant originally argued that since the 1995 Settlement and 1998 Annexation approvals very clearly “otherwise provided” 4%, that should remain the obligation. However, staff countered that other sections of the Settlement Agreement indicated the City reserved the ability to apply current code and resolutions at the time of future application. Additionally, consistent with Resolution 7-95, which was in effect at the time of annexation, another Deer Crest property, the St. Regis, was later required to provide 10%.

Section 12 of the current Housing Resolution also provides that changes to existing MPDs, may be re-evaluated:

- A. Prior Development Agreements. Developments, which received development plan approvals prior to the adoption of this housing resolution, shall conform to the provisions of the resolution in place at the time of applicable complete application. Any modifications to an existing Development Agreement that results in an increase in housing units or employee generation shall be subject to the provisions of this Resolution.

Staff argued the substantive site plan modification now pending before Planning Commission further triggered a re-evaluation ([staff report](#)). The Applicant countered that the site plans do not change use or density, and merely result in a consolidated site plan more in line with current MPD planning since the Council approved removal of the Keetley Road [Deer Hollow Road] disconnect in 2017.

After researching the history of the Settlement Agreement, the imposition of a 10% requirement on St. Regis (partially fulfilled by fee in lieu), and the degree of change/impact resulting from the site plan modifications, staff determined that increasing the obligation to 10% better meets the mitigation intent of the current Affordable Housing Resolution, balanced with the original Settlement terms which took prior approvals in Wasatch County into consideration.

After several meetings with staff, East West Partners now proposes and Housing staff recommends to increase their affordable housing obligation to 10%. Although no additional density or change in use is proposed, the increased mitigation is warranted as staff determined what level of on-site housing worked in similarly approved developments in Flagstaff, Deer Crest (St. Regis at 10% fee in lieu) and the fact that the

employees do not have direct vehicular access to Park City via the Telemark Road restrictions. The development's 199,200 SF of platted residential square feet, which will yield an 8,964 SF of Affordable Unit Equivalents (AUEs) of housing obligation. The obligation will be fulfilled through the following methods:

1. The creation of 6 on-site Deed Restricted AUEs totaling 5,400 SF; and
2. A Community Benefit Fee Covenant delivering approximately \$1,875,000 back to the City through \$1,500,00 during the initial sales of the property to PCMC's Housing Fund; and an estimated \$37,500 annually through 2035.

Analysis

The table provided in the Founders Place Housing Mitigation Plan below demonstrates the 10% obligation rate for the 199,200 square feet of residential development proposed in the CUP amendment application.

Platted Square Feet	Unit Equivalents	Housing Obligation (% of UEs)	Affordable Unit Equivalents (AUEs)	Estimated Total AUE Square Feet
199,200	99.6 UEs	10%	9.96 AUEs	8,964 SF

The Founders Place proposal satisfies the remaining housing obligation along with the AUEs required for the 1995 Settlement Agreement, as described below.

East West Partners is proposing six (6) AUEs on-site within the Founders Place project, equal to 5,400 square feet of affordable housing on-site. Four units will be built in Phase 1, one in Phase 2, and one in Phase 3. The units will be built as 1-bedroom, 1-bathroom units. The units will be spread throughout different floors of the project. The units will be filled based on priority, with employees engaged full-time or seasonally serving the Founders Place HOA given the first opportunity to fill the units. If the units are not filled by this category, they will be open to persons employed fulltime within Summit or Wasatch County.

Eligibility for the units will be dependent upon Summit County AMI, and consistent with Housing Resolution 25-2020, as shown below.

2021 Summit County AMI %*		1 Person	2 Persons	3 Persons	4 Persons
80%		\$66,960	\$76,480	\$86,080	\$95,600

Bedrooms	Occupants	AMI (80%)*	Percent of Income	Yearly Rent	Monthly Expense Including Utilities	Monthly Utility Estimate	Monthly Rent (net)
1	2	\$76,480	30%	\$22,944	\$1,912	\$50	\$1862

Beyond the on-site building, the developer is proposing a Community Benefit Fee. East West Partners will create a Community Benefit Fee Covenant that will apply to all residential transactions within the Founders Place Condominium Association. The fee is

equal to half of one percent (.5%) of the net purchase price, and one hundred percent (100%) of the fees collected from the initial sales will be transferred to PCMC to provide funding towards affordable housing solutions throughout the Park City area.

For 10 years after the initial sales, half of the fees will go towards affordable housing. This Community Benefit Fee is estimated to generate 1.5M during the initial sales, and around 37K annually (based on current market values), depending on sales, over the remaining years until 2035, when the fee is set to expire.

Using the current fee in-lieu amount, which is \$389,700 per unit, the remaining obligation after the 6 units are built on-site, is 3.96 AUEs. This is equivalent to a fee in-lieu of \$1,543,212. The initial sales of the property are estimated to generate \$1.5M, or about 90% of the fee in-lieu value, meaning it would only take about three years to pay off the remainder of what a fee in-lieu would have cost, based on current estimates.

Seeing as the Community Benefit Fee will continue until 2035, the amount paid to the City for affordable housing will far surpass what would be owed by a simple fee in lieu in year 1. Staff estimates an additional \$250,000 in value beyond the fee in lieu owed would be paid to the City over ten years. These estimates are based on current project value and does not account for any inflation to the property's value over time.

The compromise to allow a portion of the increased obligation to be met via fee in lieu which should exceed the 10% achieves more housing than the original obligation and provides the City and its partners the opportunity to better leverage the funds.

For these reasons, staff supports the proposed Founders Place Housing Mitigation Plan and requests that the Housing Authority approve the plan.

Attachments

- Exhibit A Founder's Place Housing Mitigation Plan Proposal
- Exhibit B Draft Approval of the Founder's Place Housing Mitigation Plan



January 13, 2022

Bill Fivash
East West Partners
Address

Dear Bill,

Please find below an Action Letter confirming the decision made by the Park City Housing Authority on January 13, 2022, to accept an on-site development of 6 AUEs and a Community Benefit Fee as fulfillment for the housing obligation generated by the Founders Place development, as follows:

NOTICE OF HOUSING AUTHORITY ACTION

<u>Description:</u>	Affordable Housing Mitigation Plan
<u>Project Title:</u>	Founders Place Development
<u>Date of Action:</u>	January 13, 2022

Summary of Housing Authority Action

On January 13, 2022, the Park City Housing Authority approved the Housing Mitigation Plan (Attachment 1) in fulfillment of the housing obligations for the Founders Place development pursuant to the Deer Crest Master Planned Development. In fulfillment of the housing obligation, the Housing Authority approved an on-site development of six on-site affordable units and a Community Benefit Fee to satisfy 9.96 total Affordable Unit Equivalents (AUEs).¹

1. On December 8, 2021, the Planning Commission approved a modification to the Deer Crest Master Planned Development for the Founders Place development, a 78 market-rate-unit ski-in ski-out village in the Deer Crest area. The 78 market-rate units total 199,200 square feet.
2. On December 9, 2021, the Housing Authority determined the Developer is obligated to provide AUEs for 10% of the residential units within the project, totaling 9.96 AUEs.
3. Founders Place fulfills 6 AUEs by building 6 on-site units, totaling 5,400 square feet.
4. Founders Place fulfills the remaining 3.96 AUEs by the creation of a Community Benefit Fee of 0.50% of the net purchase price for each market-rate unit sale .
5. All funds generated from the Community Benefit Fee from the, initially sale will be be transferred to Park City Municipal for the City's affordable housing budget.

¹ One AUE is equal to 900 square feet.

6. Half of the funds generated from the Community Benefit Fee will be transferred to Park City Municipal for ten years after the initial sale of the units.
7. The project is proposed to be developed in three phases. Four on-site affordable employee units are required in Phase I. One on-site affordable employee unit is required in Phase II. One on-site affordable employee unit is required in Phase III.

Conditions of Approval:

1. Payment must be received prior to any building permits being issued.
2. The Applicant shall submit draft deed restrictions in compliance with the approved Housing Mitigation Plan for review and approval by the Planning, Housing, and Legal Departments prior to submitting a subdivision or condominium mylar. The deed restrictions shall be approved, executed, and recorded simultaneously with the condominium plat.
3. The Applicant shall submit a draft Founders Place Homeowner Association Declaration that includes the affordable housing obligations outlined in the approved Housing Mitigation Plan for review and approval by the Planning, Housing, and Legal Departments prior to submitting a subdivision or condominium mylar. The Declaration shall be approved, executed, and recorded simultaneously with the condominium plat.
4. The 6 AUEs built on site shall be occupied before or at the same time as any market rate unit in each corresponding phase.
5. The Community Benefit Fee will be collected by the developer and transferred to Park City Municipal Corporation after all initial sales are complete. Fees shall be transferred to Park City through December 31, 2035.

If you have any questions about this action letter, please contact Elyse Kats at 435-400-0106 or via email at elyse.kats@parkcity.org.

Attachments:

1. Founder's Place Housing Mitigation Plan dated November 2021.

CONFIRMED AND ADOPTED this 13th DAY OF January, 2022.

PARK CITY HOUSING AUTHORITY

Nann Worel, CHAIR

Attest:

Michelle Kellogg, City Recorder



Approved as to Form:

Margaret Plane, City Attorney

An architectural rendering of a modern, multi-story housing complex named 'Founders Place'. The building features dark wood siding, large glass windows, and balconies. In the foreground, there is a large outdoor patio area with lounge furniture, umbrellas, and a swimming pool. Several people are depicted in various activities: some are skiing on a snowy slope in the foreground, others are sitting on the patio, and a few are near the pool. In the background, a steep, snow-covered hill rises, topped with a small building. The entire scene is overlaid with a semi-transparent blue filter.

Founders Place

Housing Mitigation Plan

Submitted by East West Partners

east west partners

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4	Housing Obligation
5-9	Mitigation Plan – On-site Units
10	Mitigation Plan – Community Benefit Fee

Housing Mitigation Plan

Background

East West Partners, acting as the Manager for the development company Deer Hollow Development, LLC, is pleased to be able to incorporate the following housing mitigation plan as part of the Conditional Use Permit application for Founders Place to provide the appropriate on-site employee housing and concurrently creating a revenue stream to provide additional financial support towards increasing the available stock of employee housing in the Park City area.

The Affordable Housing Mitigation Plan is in response to discussions with the Park City Housing Staff Department team and is predicated upon the 1995 Settlement Agreement as described below.

On December 29, 1995, Park City Consolidated Mines Company and Trans-Wasatch Company, LLC a Utah (collectively the “Land Owners”) entered into a Settlement Agreement with Park City Municipal Corporation (“PCMC”) to provide a framework for the resolution of all outstanding issues and disputes related to the development the Deer Crest project of approximately 678 acres within Wasatch and Summit Counties (“Development Area”) – approximately 524 acres within unincorporated Wasatch County and approximately 84 acres within unincorporated Summit County. The Settlement Agreement established various criteria relative to future development rights, such as density, use and configuration, that when combined with the 1996 First Amended Findings and Order on Density Determination, created the Master Plan Development Agreement for the development parcels within the Development Area. Within the Development Area, specific language related to the Slalom Village Area – now known as Founders Place – further clarifies the development rights and requirements for the multi-family units.

Section 5.2.3.1 of the Settlement Agreement states:

“The petition for annexation of the Slalom Village Area shall provide for affordable employee housing, subject to Park City qualified renters guidelines and shall otherwise comply with Park City Resolution No. 7-95. The total affordable employee housing shall be four percent (4%) of the total number of units within the Slalom Village Area.”

While the Settlement Agreement language specific to the Slalom Village Area contemplates the 4% housing mitigation rate, the following Housing Mitigation Plan proposes a ten percent (10%) mitigation rate for the development. This mitigation rate is consistent with the St. Regis Hotel Conditional Use Permit approvals that were predicated upon the Settlement Agreement, and will more adequately provide the appropriate amount of affordable housing – both on-site and through a continued funding mechanism.

Housing Mitigation Plan

Housing Obligation

While the Settlement Agreement requires the total employee housing shall be four percent (4%) of the total number of units, the Founders Place applicant has had a series of meetings with the City Housing Staff, and agreed to modify these requirements and provide affordable employee housing equal to ten percent (10%) of the Residential Unit Equivalents (“UEs”). The Park City Municipal Corporation UE calculation is:

$$UEs = \text{Gross Platted Square Feet} \div 2,000 \text{ SF}$$

Per the above formula, Founders Place is comprised of 99.6 UEs or 9.96 Affordable Unit Equivalents (“AUEs”)

Platted Square Feet	Unit Equivalents	Housing Obligation (% of UEs)	Affordable Unit Equivalents (AUEs)	Estimated Total AUE Square Feet
199,200	99.6 UEs	10%	9.96 AUEs	8,964 SF

The intent of this mitigation plan is to show how the applicant will fulfill on the obligation of 8,964 total square feet of affordable housing. The following pages describe in detail the fulfillment of this obligation including:

1. 6 on-site AUE Deed Restricted Units totaling 5,400 SF.
2. A Fee In-Lieu funded through a 0.5% Community Benefit Fee Covenant delivering approximately \$1,500,000 during the initial sales process of the property, and an additional amount of approximately \$37,500 annually through 2035. These payments will be deemed to satisfy any remaining affordable housing obligation.

All on-site housing obligations will be satisfied prior to all market rate units receiving certificate of occupancy within each phase of the project.

This affordable housing mitigation plan will meet the needs of the property by allowing flexibility in the units for various employee types (managers, full-time and seasonal employees) as well as providing a significant financial contribution to Park City’s affordable housing efforts.

Housing Mitigation Plan

Proposed Mitigation Plan: On-Site Housing

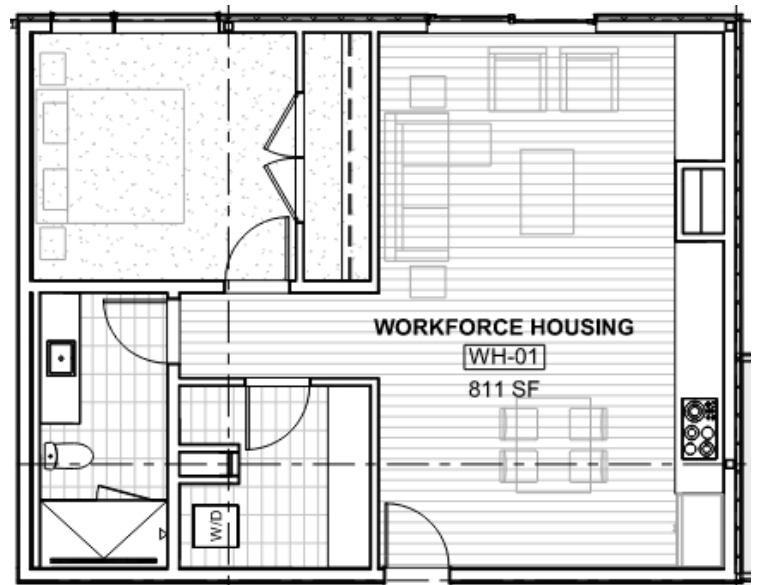
Founders Place proposes that six (6) Affordable Unit Equivalents will be constructed within the Founders Place project. These AUEs will total approximately 5,400 square feet of affordable housing on-site. The six total units will be built; four (4) in Phase 1, one (1) in Phase 2, and one (1) in Phase 3.

The phasing plan with respective unit counts and estimated total square feet is shown in the table below.

Phase	Market Rate Units	Platted Residential SF	Affordable Housing Units	Estimated Total AUE Square Feet*
Phase 1	32	84,449	4	3,244 SF
Phase 2	19	48,088	1	TBD SF
Phase 3	27	66,663	1	TBD SF
Total	78	199,200	6	5,400 SF

The primary intent for the six on-site affordable housing units is to provide housing for employees whose scope of work is focused to the service and management of the Founders Place HOA and associated amenities.

The proposed units will be designed and built as one or two bedroom units. The figure to the right is representative of a typical proposed affordable housing one bedroom unit; however the final design may adjust slightly with final preparations of plans and to address City input. Each phase design will be completed and approved by Park City Housing Authority staff prior to recordation the condominium plat for each phase.



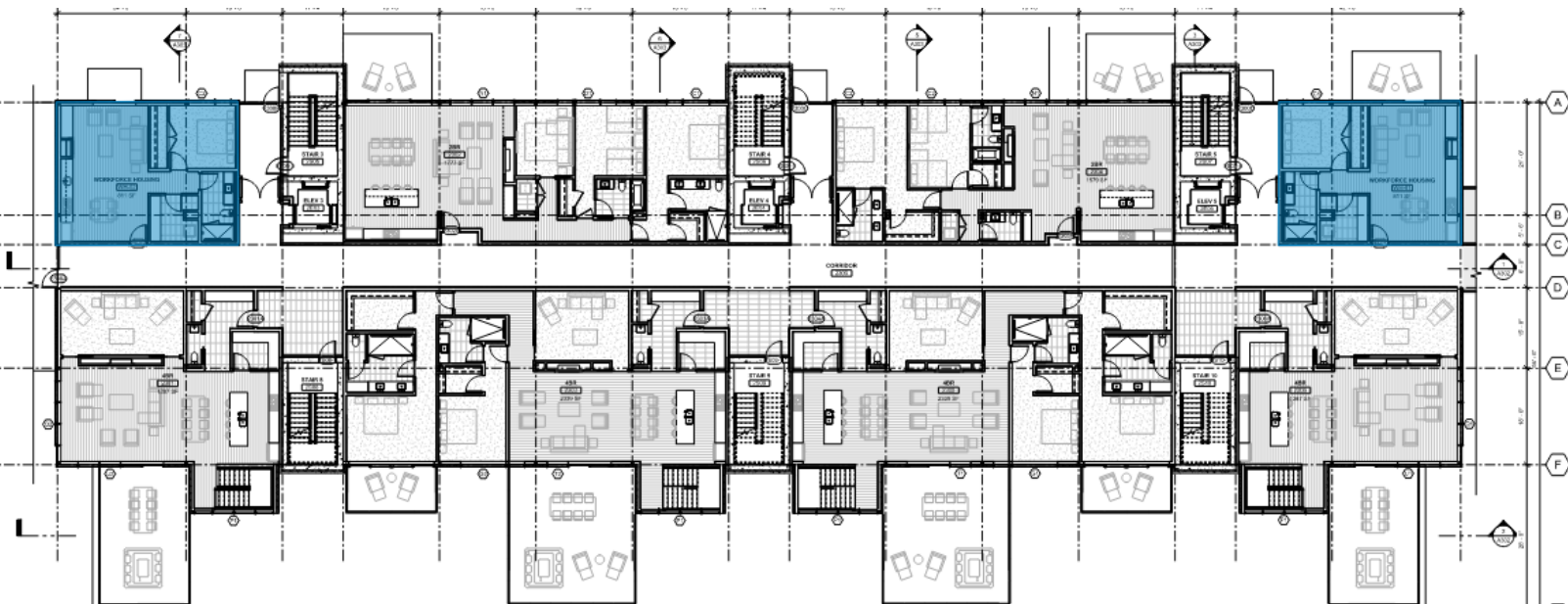
Representative Affordable Housing Unit

**The AUD Square Feet totals are estimated per Park City Affordable Housing guidelines. The actual unit square feet will be finalized upon final project design and will total 5,400 SF.*

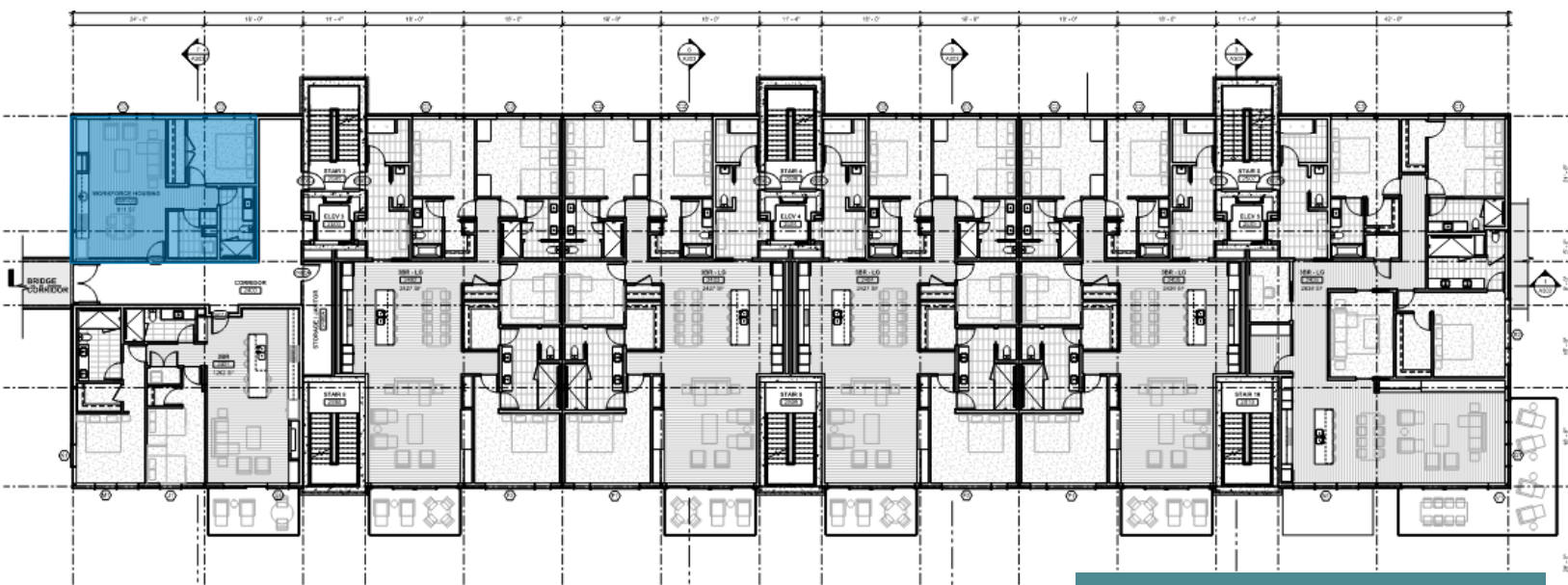
Housing Mitigation Plan

Phase 1 Proposed Floor Plan

The following figures illustrate the proposed locations of the affordable housing units on each respective floorplate.



Floor Plan – Building 2, Level 3



Floor Plan – Building 2, Level 4

Phase 1 Proposed Floor Plan, cont.

Floor Plan – Building 1, Level 4

Housing Mitigation Plan

Rental Eligibility and Rate - On-Site Units

RENTAL PRIORITY: Priority for use of the on-site units will be focused on housing staff dedicated to the operations of the Founders Place project. If not occupied by operational staff, the general rules of the current Park City Affordable Housing Resolution will prevail in selection of renters qualified to rent the units.

Priority for Occupancy	
1	Employees engaged full-time or seasonally, focused on serving the Founders Place HOA, Founders Place property manager working primarily on the Founders Place operation, Deer Crest Master Association, or Deer Valley Resort.
2	Persons employed fulltime year-round within Summit or Wasatch County.

For persons qualified to live within the property under Priority 1 above, no income limits shall be required. For persons qualified to live within the property under Priority 2 above, income qualification will be required under the guidelines of the current Park City Municipal Resolution for Affordable Housing currently 80% of AMI.

2021 Summit County AMI %*	1 Person	2 Persons	3 Persons	4 Persons
80%	\$66,960	\$76,480	\$86,080	\$95,600

The overall goal of the on-site units is to aid in the operations of the resort, but also to aid in the availability of local affordable housing needs. Reasonable efforts shall be made by owner of said units to keep the property fully occupied at all times, with reasonable vacancy allowed for transitions between occupants and seasonality. At no time should the units remain vacant for more than 3 months without attempting to fill the unit with an occupant qualified by priority 2 above.

RENTAL RATES: Persons qualified to live within the property, through priority 1 or 2, shall not be charged rent and utility costs in excess of an amount equal to 30% of the amount of income earned by an individual earning 80% of AMI for Summit County.

For 2021, the rent would be calculated pursuant to the table below for a 1-bedroom unit with 2 occupants. In this scenario, the Rent portion covers all utilities and costs other than electricity and the monthly electrical bill is estimated at \$50. See attached

Bedrooms	Occupants	AMI (80%)*	Percent of Income	Yearly Rent	Monthly Expense Including Utilities	Monthly Utility Estimate	Monthly Rent (net)
1	2	\$76,480	30%	\$22,944	\$1,912	\$50	\$1862

*Income limits provided by Mountainlands Community Housing Trust: <https://housinghelp.org/income-limits/>

Housing Mitigation Plan

Transfer or Sale of On-Site Units

The overall goal of the proposed Affordable Housing Mitigation Plan is to provide the units for rent to operational employees or other individuals qualified to live in the unit by alternative employment and income qualification pursuant to the Park City Affordable Housing Resolution. The units will be owned at completion of construction by Deer Hollow Development, LLC (“Declarant”). Sale of the units by the Declarant shall be subject to the deed restriction but also limited to a group or entity intending to follow this Mitigation Plan.

The sale of the units shall be deemed pre-approved, but shall require notification to the Park City Housing Authority, if sold or transferred to:

1. An entity related to Deer Hollow Development, LLC through common ownership.
2. The Founders Place HOA
3. Founders Place Property Manager

Other than a to an entity above, the properties shall not be sold without amending this Affordable Housing Mitigation Plan with the Park City Affordable Housing Authority.

Housing Mitigation Plan

Proposed Mitigation Plan – Community Benefit Fee

In addition to the on-site affordable housing units, Founders Place will create a Community Benefit Fee Covenant that will apply to all residential transactions within the Founders Place Condominium Association. To clarify, the Fee will apply to all 78 initial developer transactions and all subsequent resale transactions.

The fee will be equal to half of one percent (0.50%) of the net purchase price. The fee will be payable to a non-profit entity proposed to be called Founders Place Community Benefit Foundation. The Foundation will agree to transfer one hundred percent (100%) of the fees collected from initial sales by the developer to Park City Municipal Corporation to provide funding towards affordable housing solutions throughout the Park City area. Additionally, through December 31, 2035, fifty percent (50%) of the fees collected from resales will be paid to Park City Municipal Corporation to provide funding towards affordable housing solutions throughout the Park City area.

Initial net sales volume for all three phases of Founders Place is anticipated to be approximately \$300,000,000. Below outlines the \$1,500,000 of potential transfer fees generated from the initial developer sales.

Estimated Initial Sales Volume	Community Benefit Fee %	Community Benefit Fee \$
\$300,000,000	0.50%	\$1,500,000

The estimated annual volume of resale transactions and subsequent transfer fees is dependent on market volume and activity. At an estimated five percent (5.0%) of total units transferring per year, the potential annual transfer fee generated for Park City Municipal through 2035 is estimated at \$37,500 per year. This assumes a 5% per year turnover rate within the project and an average sale price of \$3,750,000. This is 2021 pricing and does not factor in real estate changes in value over the period.

Total Units	5.0% of Units	2022 Average Sale Price	Estimated Annual Sales Volume	Community Benefit Fee %	Community Benefit Fee	Transfer Fee to PCMC
78	4	\$3,750,000	\$15,000,000	0.50%	\$75,000	\$37,500



east west partners

Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: Penny Frates

Submitting Department: Budget, Debt & Grants

Item Type: Staff Report

Agenda Section:

Subject:

November 2021 Budget Monitoring Report and October 2021 Sales Tax Report

Suggested Action:

Attachments:

[Budget Monitoring and Sales Tax Staff Report](#)

[Exhibit A: Expense Summary November 2021](#)

[Exhibit B: Revenue Summary November 2021](#)

[Exhibit C: FY22 October Sales Tax Report](#)



Staff Communication

Subject: Monthly Sales Tax and Budget Report
Author: Budget Team
Department: Budget, Debt, & Grants
Date: January 13, 2022
Type of Item: Informational

October Sales Tax

Park City continued to benefit from a strong shoulder season with October FY22 sales revenues up 28% vs. October of FY21. Visitor nights also remained robust as the City's Transient Room Tax posted a 71% increase relative to October of FY21.

November State Compliance Monthly Budget Reporting

The attachments within this report consist of monthly revenue and expenditure reports detailed by fund and major object type.

Notable Observations:

Expenditures

- The Adjusted Budget reflects [adjustments presented to Council and approved in December 2021](#)
- General Fund Special Services/Misc. Charges reflect CARES expenses in FY21
- Water reflects a \$1.2M variance to FY21 due to FY22 bond issuance expenses and increased capital expenditures
- New Golf Cart fleet - \$212k
- As [previously mentioned](#), a \$1.5M variance in the Transportation Fund is due to a credit in FY21. This is an accounting entry to properly account for previous year operating assistance where payment was received in the next fiscal year.
- Fleet tracking \$237k over vs FY21 due to increased cost of fuel and increased Transit services compared to Covid-19 service levels in FY21.

Revenues

- Property Tax variance due to timing - payments are primarily received in Dec/Jan
- Planning, Building, and Engineering fees are up \$686k over FY21
- FY21 Special Revenue includes CARES act funding
- Capital Improvement Fund Misc. Revenues tracking \$1.1M under FY21 due to sale of property in FY21
- Revenue is down in the Water Fund due to a reduction in water use in FY22. This reduction is due in large part to community conservation specifically a reduction in outdoor irrigation during the exceptional drought in 2021

- Transportation Fund - UDOT Section 5311 Ops/Admin contract - \$5.6M (half of this is sent to Summit County)
- Parking revenue increase vs. FY21 due to the suspension of parking fees & fines at this time last year

Exhibit A: Expenditure Summary by Object and Type

Exhibit B: Revenue Summary by Object and Type

Exhibit C: October Sales Tax

Expenses by Object Type - 5th Month of FY22 (Nov 2021)

Expenses by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Adj Budget FY 2022	Variance Orig vs Adj FY 2022	Variance FY22 vs FY21
011 GENERAL FUND							
PERSONNEL SERVICES	9,449,236	8,852,032	9,818,299	26,421,544	27,195,238	773,694	\$ 966,267
MATERIALS, SUPPLIES AND SERVICES	440,289	276,695	408,669	1,090,909	1,175,401	84,492	\$ 131,973
UTILITIES	251,613	210,799	198,216	1,531,040	1,531,040		\$ (12,583)
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	1,358,483	1,124,891	1,522,297	4,132,177	4,272,677	140,500	\$ 397,406
PARTS/MAINTENANCE SUPPLIES	403,715	276,019	415,087	1,550,964	1,570,803	19,839	\$ 139,068
SPECIAL SERV CONTRACT/MISC CHARGES	387,798	2,497,817	278,899	1,035,100	1,035,100		\$ (2,218,918)
CAPITAL OUTLAY	99,169	55,430	59,963	346,443	371,443	25,000	\$ 4,533
INTERFUND TRANSFER	1,238,820	1,180,855	1,285,325	3,084,785	3,084,785		\$ 104,470
Total 011 GENERAL FUND	13,629,123	14,474,539	13,986,755	39,192,962	40,236,487	1,043,525	\$ (487,784)
012 QUINNS RECREATION COMPLEX							\$ -
PERSONNEL SERVICES	301,955	317,914	375,431	944,214	983,372	39,158	\$ 57,518
MATERIALS, SUPPLIES AND SERVICES	15,526	14,765	15,697	63,820	63,820		\$ 933
UTILITIES	38,926	38,322	39,589	143,900	143,900		\$ 1,268
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	23,802	19,176	27,556	104,410	104,410		\$ 8,380
PARTS/MAINTENANCE SUPPLIES	18,918	15,566	17,245	46,670	46,670		\$ 1,678
SPECIAL SERV CONTRACT/MISC CHARGES	9,224	9,637	6,831	21,000	21,000		\$ (2,806)
CAPITAL OUTLAY				1,000	1,000		\$ -
Total 012 QUINNS RECREATION COMPLEX	408,352	415,379	482,349	1,325,014	1,364,172	39,158	\$ 66,970
023 LOWER PARK AVE RDA SPECIAL REVENUE FUND							
MATERIALS, SUPPLIES AND SERVICES	5,600	6,186	8,036	20,000	10,000	-10,000	\$ 1,850
UTILITIES	1,732	1,107	607	34,300	34,300		\$ (500)
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	100	-2,005	180	70,000	70,000		\$ 2,185
SPECIAL SERV CONTRACT/MISC CHARGES				568,000	568,000		\$ -
INTERFUND TRANSFER	871,890	1,288,555	1,288,555	3,092,532	3,092,532		\$ -
Total 023 LOWER PARK AVE RDA SPECIAL REVENUE FUND	879,322	1,293,843	1,297,378	3,784,832	3,774,832	-10,000	\$ 3,535
024 MAIN STREET RDA SPECIAL REVENUE FUND							
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	722			50,000	50,000		\$ -
SPECIAL SERV CONTRACT/MISC CHARGES				405,000	405,000		\$ -
INTERFUND TRANSFER	287,500	291,665	291,665	700,000	700,000		\$ -
Total 024 MAIN STREET RDA SPECIAL REVENUE FUND	288,222	291,665	291,665	1,155,000	1,155,000		\$ -
031 CAPITAL IMPROVEMENT FUND							\$ -
CAPITAL OUTLAY	8,985,257	2,840,352	2,145,863	16,556,629	16,848,947	292,318	\$ (694,489)
INTERFUND TRANSFER	2,393,800	1,491,800	1,739,430	4,174,626	4,174,626		\$ 247,630
Total 031 CAPITAL IMPROVEMENT FUND	11,379,057	4,332,152	3,885,293	20,731,255	21,023,573	292,318	\$ (446,859)
033 REDEVELOPMENT AGENCY-LOWER PRK							\$ -
CAPITAL OUTLAY	12,235	196,579	18,000	255,000	255,000		\$ (178,579)
INTERFUND TRANSFER	294,465	1,159,515	1,161,495	2,787,590	2,787,590		\$ 1,980
Total 033 REDEVELOPMENT AGENCY-LOWER PRK	306,700	1,356,094	1,179,495	3,042,590	3,042,590		\$ (176,599)
034 REDEVELOPMENT AGENCY-MAIN ST							
CAPITAL OUTLAY				30,000	30,000		\$ -

Expenses by Object Type - 5th Month of FY22 (Nov 2021)

Expenses by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Adj Budget FY 2022	Variance Orig vs Adj FY 2022	Variance FY22 vs FY21
Total 034 REDEVELOPMENT AGENCY-MAIN ST				30,000	30,000		\$ -
038 EQUIPMENT REPLACEMENT CIP							\$ -
CAPITAL OUTLAY	340,373	142,793	182,127	1,585,600	1,585,600		\$ 39,334
Total 038 EQUIPMENT REPLACEMENT CIP	340,373	142,793	182,127	1,585,600	1,585,600		\$ 39,334
051 WATER FUND							
PERSONNEL SERVICES	1,329,706	1,232,964	1,421,262	3,709,472	3,760,132	50,660	\$ 188,298
MATERIALS, SUPPLIES AND SERVICES	108,343	187,242	145,258	343,896	343,896		\$ (41,984)
UTILITIES	351,290	327,330	186,571	1,208,900	1,208,900		\$ (140,759)
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	492,562	544,119	1,104,179	1,383,542	1,383,542		\$ 560,060
PARTS/MAINTENANCE SUPPLIES	402,861	366,406	460,884	1,060,905	1,060,905		\$ 94,478
SPECIAL SERV CONTRACT/MISC CHARGES	42,327	52,893	71,834	112,000	112,000		\$ 18,941
CAPITAL OUTLAY	7,020,289	13,428,540	13,979,679	37,422,575	37,422,575		\$ 551,139
DEBT SERVICE	80,795	-23,643	2,897	5,577,420	5,577,420		\$ 26,539
INTERFUND TRANSFER	438,125	440,865	455,180	1,807,429	1,807,429		\$ 14,315
Total 051 WATER FUND	10,266,299	16,556,717	17,827,743	52,626,139	52,676,799	50,660	\$ 1,271,027
052 STORM WATER FUND							
PERSONNEL SERVICES	368,840	259,564	289,828	668,062	668,062		\$ 30,265
MATERIALS, SUPPLIES AND SERVICES	8,816	6,965	8,083	63,000	63,000		\$ 1,118
UTILITIES	14,437	12,463	10,988	37,413	37,413		\$ (1,475)
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	51,519	33,612	24,719	149,625	149,625		\$ (8,893)
PARTS/MAINTENANCE SUPPLIES	25,380	1,953	9,912	41,406	41,406		\$ 7,959
CAPITAL OUTLAY	2,492	40,669	30,440	1,121,500	1,121,500		\$ (10,228)
INTERFUND TRANSFER	47,085	53,095	56,440	135,448	135,448		\$ 3,345
Total 052 STORM WATER FUND	518,569	408,320	430,410	2,216,454	2,216,454		\$ 22,091
055 GOLF COURSE FUND							
PERSONNEL SERVICES	399,542	394,019	420,201	915,363	915,363		\$ 26,182
MATERIALS, SUPPLIES AND SERVICES	19,086	36,052	27,263	67,700	67,700		\$ (8,789)
UTILITIES	15,570	16,009	36,479	66,300	66,300		\$ 20,469
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	27,770	28,467	42,168	90,575	90,575		\$ 13,700
PARTS/MAINTENANCE SUPPLIES	101,390	109,224	314,992	255,800	467,000	211,200	\$ 205,768
SPECIAL SERV CONTRACT/MISC CHARGES	25,311	30,632	32,589	37,500	37,500		\$ 1,956
CAPITAL OUTLAY	16,811	45,757	13,985	114,565	114,565		\$ (31,772)
INTERFUND TRANSFER	58,790	56,210	59,325	142,377	142,377		\$ 3,115
Total 055 GOLF COURSE FUND	664,270	716,371	947,000	1,690,180	1,901,380	211,200	\$ 230,629
057 TRANSPORTATION & PARKING FUND							
PERSONNEL SERVICES	3,713,478	2,886,514	2,681,869	7,241,515	7,387,382	145,867	\$ (204,645)
MATERIALS, SUPPLIES AND SERVICES	83,967	84,705	60,444	273,922	273,922		\$ (24,261)
UTILITIES	137,851	107,260	78,657	369,700	369,700		\$ (28,602)
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	268,584	246,013	127,440	1,232,150	1,232,150		\$ (118,574)
PARTS/MAINTENANCE SUPPLIES	3,064	11,826	5,201	20,000	20,000		\$ (6,624)
SPECIAL SERV CONTRACT/MISC CHARGES	15,114	13,865	17,533	16,500	16,500		\$ 3,668

Expenses by Object Type - 5th Month of FY22 (Nov 2021)

Expenses by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Adj Budget FY 2022	Variance Orig vs Adj FY 2022	Variance FY22 vs FY21
CAPITAL OUTLAY	716,456	-1,504,339	473,686	19,186,993	19,306,993	120,000	\$ 1,978,025
INTERFUND TRANSFER	1,427,505	1,389,380	1,377,710	3,306,502	3,306,502		\$ (11,670)
Total 057 TRANSPORTATION & PARKING FUND	6,366,019	3,235,222	4,822,539	31,647,282	31,913,149	265,867	\$ 1,587,317
058 PARKING FUND							
PERSONNEL SERVICES	357,016	301,213	306,868	886,149	926,073	39,924	\$ 5,655
MATERIALS, SUPPLIES AND SERVICES	122,691	11,241	103,384	430,500	430,500		\$ 92,143
UTILITIES	1,969	1,653	2,911	9,000	9,000		\$ 1,258
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	4,719	39,665	41,866	148,000	148,000		\$ 2,201
PARTS/MAINTENANCE SUPPLIES	12,435	6,751	1,943	54,000	54,000		\$ (4,808)
SPECIAL SERV CONTRACT/MISC CHARGES	54,088	1,391	57,052	65,000	65,000		\$ 55,661
CAPITAL OUTLAY				125,000	125,000		\$ -
INTERFUND TRANSFER	2,500	3,335	6,875	16,500	16,500		\$ 3,540
Total 058 PARKING FUND	555,418	365,249	520,899	1,734,149	1,774,073	39,924	\$ 155,650
062 FLEET SERVICES FUND							
PERSONNEL SERVICES	408,942	376,491	394,299	1,018,016	1,073,522	55,506	\$ 17,808
MATERIALS, SUPPLIES AND SERVICES	31,620	18,998	18,611	77,355	77,355		\$ (386)
UTILITIES	343,365	102,031	309,961	1,001,800	1,001,800		\$ 207,930
CONTRACT SVCS/CONSULTING/SOFTWARE LIC		809	1,361	3,800	3,800		\$ 552
PARTS/MAINTENANCE SUPPLIES	272,183	233,304	244,507	770,200	770,200		\$ 11,203
Total 062 FLEET SERVICES FUND	1,056,111	731,633	968,740	2,871,171	2,926,677	55,506	\$ 237,107
064 SELF INSURANCE FUND							
MATERIALS, SUPPLIES AND SERVICES	22,914	16,006	17,209	50,500	50,500		\$ 1,202
CONTRACT SVCS/CONSULTING/SOFTWARE LIC	230,480	233,828	216,136	536,000	536,000		\$ (17,692)
SPECIAL SERV CONTRACT/MISC CHARGES	56,463	51,581	68,198	860,000	968,628	108,628	\$ 16,618
Total 064 SELF INSURANCE FUND	309,857	301,415	301,543	1,446,500	1,555,128	108,628	\$ 128
070 SALES TAX REV BOND - DEBT SVS FUND							
DEBT SERVICE	2,100	2,100	2,100	6,972,216	6,972,216		\$ -
Total 070 SALES TAX REV BOND - DEBT SVS FUND	2,100	2,100	2,100	6,972,216	6,972,216		\$ -
071 DEBT SERVICE FUND							
DEBT SERVICE	1,575,127	1,737,581	1,598,844	9,509,688	9,509,688		\$ (138,737)
Total 071 DEBT SERVICE FUND	1,575,127	1,737,581	1,598,844	9,509,688	9,509,688		\$ (138,737)
TOTAL	48,544,918	46,361,071	48,724,881	181,561,033	183,657,819	2,096,786	\$ 2,363,809

Revenue by Object Type - 5th Month of FY22 (Nov 2021)

Revenue by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Variance FY22 vs FY21
011 GENERAL FUND					
Property Taxes	2,853,907	1,558,484	1,196,430	12,392,328	\$ (362,055)
Sales Tax	3,057,846	2,925,171	3,880,014	13,333,686	\$ 954,844
Franchise Tax	698,712	692,586	713,366	3,261,596	\$ 20,780
Licenses	279,640	239,989	250,271	484,692	\$ 10,282
Planning Building & Engineering Fees	2,173,415	1,583,140	2,269,770	3,565,757	\$ 686,630
Special Event Fees	78,333	8,081	60,265	115,681	\$ 52,184
Federal Revenue	4,476		5,875	54,318	\$ 5,875
State Revenue		-1,205	4,500	76,471	\$ 5,705
County/SP District Revenue				24,515	\$ -
Cemetery Charges for Services	11,644	8,034	11,830	80,182	\$ 3,796
Recreation	808,109	791,636	989,530	1,936,634	\$ 197,894
Other Service Revenue	18,650	15,220	16,627	56,768	\$ 1,407
Misc. Revenues	397,349	180,593	130,140	235,330	\$ (50,452)
Interfund Transactions (Admin)	837,435	837,435	931,375	2,950,291	\$ 93,940
Special Revenues & Resources	26,409	3,201,555	512,498	6,000	\$ (2,689,057)
Total 011 GENERAL FUND	11,245,926	12,040,719	10,972,493	38,574,249	\$ (1,068,226)
012 QUINNS RECREATION COMPLEX					
Recreation	1,405	285	731	4,957	\$ 445
Ice	297,380	221,082	208,631	907,421	\$ (12,451)
Misc. Revenues	456	-39	370	1,250	\$ 409
Total 012 QUINNS RECREATION COMPLEX	299,241	221,329	209,732	913,628	\$ (11,597)
023 LOWER PARK AVE RDA SPECIAL REVENUE FUND					
Property Taxes	1,895	16,030	873	4,252,000	\$ (15,156)
Total 023 LOWER PARK AVE RDA SPECIAL REVENUE FUND	1,895	16,030	873	4,252,000	\$ (15,156)
024 MAIN STREET RDA SPECIAL REVENUE FUND					
Property Taxes	5,539	9,887	6,490	1,276,319	\$ (3,397)
Total 024 MAIN STREET RDA SPECIAL REVENUE FUND	5,539	9,887	6,490	1,276,319	\$ (3,397)
031 CAPITAL IMPROVEMENT FUND					
Sales Tax	1,573,304	1,329,401	1,936,231	10,966,320	\$ 606,830
Planning Building & Engineering Fees	242,043	162,629	211,241	407,471	\$ 48,612
Federal Revenue				28,620	\$ -
State Revenue	245,275	152,629	256,452	364,106	\$ 103,823
County/SP District Revenue	1,991,263	380,713	202,388	449,628	\$ (178,325)
Transit Charges for Services				3,500,000	\$ -
Misc. Revenues	2,779,027	1,150,071	15,396	14,867,587	\$ (1,134,675)
Special Revenues & Resources	3,605	2,611	193,422	396,901	\$ 190,812

43%

Revenue by Object Type - 5th Month of FY22 (Nov 2021)

Revenue by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Variance FY22 vs FY21
Bond Proceeds				9,000,000	\$ -
Total 031 CAPITAL IMPROVEMENT FUND	6,834,517	3,178,054	2,815,131	39,980,633	\$ (362,923)
033 REDEVELOPMENT AGENCY-LOWER PRK					
Interfund Transactions (CIP/Debt)	871,890	1,288,555	1,288,555	3,092,532	\$ -
Total 033 REDEVELOPMENT AGENCY-LOWER PRK	871,890	1,288,555	1,288,555	3,092,532	\$ -
034 REDEVELOPMENT AGENCY-MAIN ST					
Interfund Transactions (CIP/Debt)	287,500	291,665	291,665	700,000	\$ -
Total 034 REDEVELOPMENT AGENCY-MAIN ST	287,500	291,665	291,665	700,000	\$ -
038 EQUIPMENT REPLACEMENT CIP					
Interfund Transactions (CIP/Debt)	535,665	548,165	660,665	1,585,600	\$ 112,500
Total 038 EQUIPMENT REPLACEMENT CIP	535,665	548,165	660,665	1,585,600	\$ 112,500
051 WATER FUND					
Planning Building & Engineering Fees	1,121,331	627,081	817,434	1,183,938	\$ 190,353
Federal Revenue				456,274	\$ -
Water Charges for Services	8,561,034	10,016,440	9,025,163	19,819,145	\$ (991,277)
Misc. Revenues	163,144	126,988	24,618	203,002	\$ (102,370)
Bond Proceeds				31,190,000	\$ -
Total 051 WATER FUND	9,845,509	10,770,508	9,867,215	52,852,359	\$ (903,293)
052 STORM WATER FUND					
Water Charges for Services	543,541	346,173	582,879	2,000,000	\$ 236,706
Total 052 STORM WATER FUND	543,541	346,173	582,879	2,000,000	\$ 236,706
055 GOLF COURSE FUND					
Recreation	1,031,505	1,293,038	1,285,902	1,325,426	\$ (7,136)
Misc. Revenues	443	5,346	5,014	37,824	\$ (332)
Interfund Transactions (CIP/Debt)	10,415	10,415	10,415	25,000	\$ -
Total 055 GOLF COURSE FUND	1,042,363	1,308,799	1,301,331	1,388,250	
057 TRANSPORTATION & PARKING FUND					\$ -
Sales Tax	1,502,597	1,442,949	1,951,949	8,026,719	\$ 509,000
Licenses	888,118	868,991	839,840	953,297	\$ (29,152)
Federal Revenue	66,726	2,144,590	5,599,260	20,099,700	\$ 3,454,670
Transit Charges for Services	10,279	1,387,635	1,100	2,580,819	\$ (1,386,535)
Misc. Revenues	41,655	70,611	31,450	287,265	\$ (39,161)
Special Revenues & Resources		76,374	190,273	289,087	\$ 113,899
Total 057 TRANSPORTATION & PARKING FUND	2,509,376	5,991,151	8,613,871	32,236,887	\$ 2,622,720
058 PARKING FUND					
Fines & Forfeitures	911,544	25,923	985,797	2,603,364	\$ 959,874
Total 058 PARKING FUND	911,544	25,923	985,797	2,603,364	\$ 959,874

Revenue by Object Type - 5th Month of FY22 (Nov 2021)

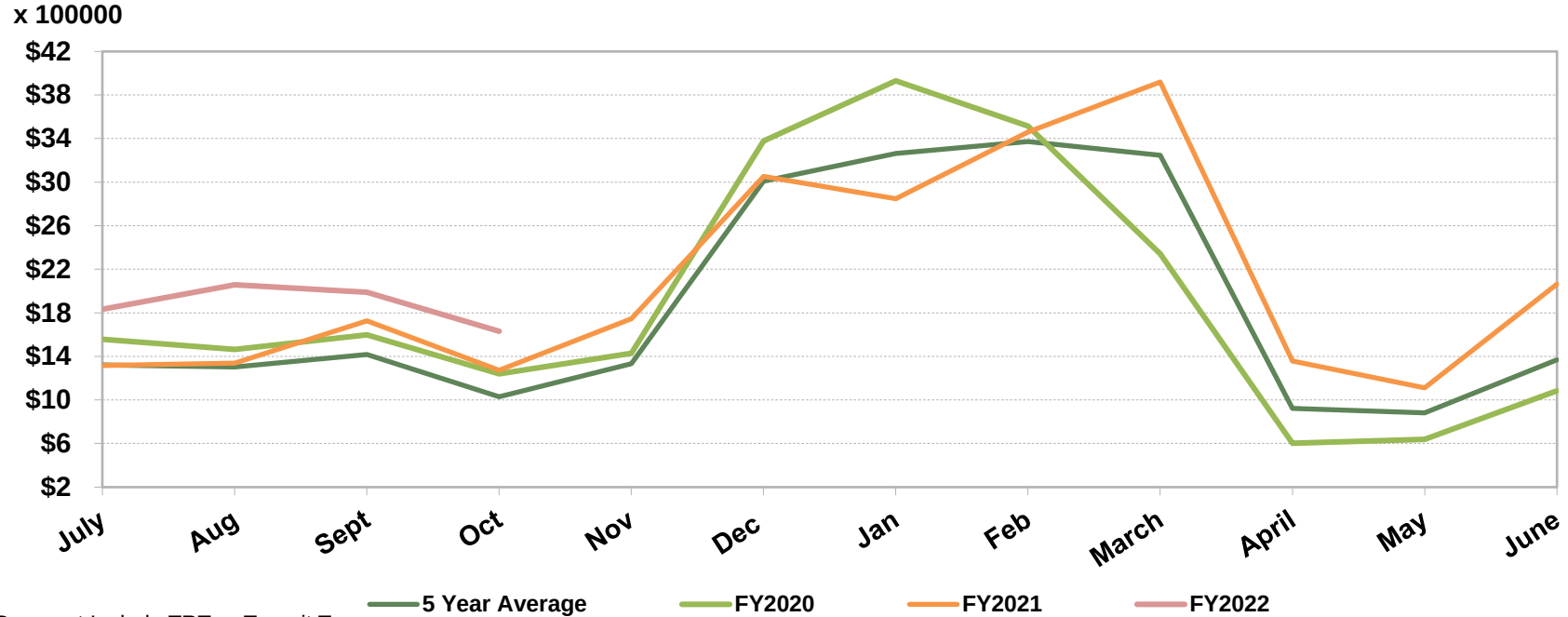
Revenue by Object Type - November 2021	YTD Actuals FY 2020	YTD Actuals FY 2021	YTD Actuals FY 2022	Ori Budget FY 2022	Variance FY22 vs FY21
062 FLEET SERVICES FUND					
Interfund Transactions (Admin)	1,228,750	1,135,415	983,975	2,348,700	\$ (151,440)
Total 062 FLEET SERVICES FUND	1,228,750	1,135,415	983,975	2,348,700	\$ (151,440)
064 SELF INSURANCE FUND					
Misc. Revenues	114,585	114,585	114,585	275,000	\$ -
Interfund Transactions (Admin)	532,860	582,935	659,775	1,583,450	\$ 76,840
Total 064 SELF INSURANCE FUND	647,445	697,520	774,360	1,858,450	\$ 76,840
070 SALES TAX REV BOND - DEBT SVS FUND					
Interfund Transactions (CIP/Debt)	3,023,685	3,087,470	2,900,925	6,962,216	\$ (186,545)
Total 070 SALES TAX REV BOND - DEBT SVS FUND	3,023,685	3,087,470	2,900,925	6,962,216	\$ (186,545)
071 DEBT SERVICE FUND					
Property Taxes				9,509,688	\$ -
Misc. Revenues	22,430	258	109	39,366	\$ (149)
Total 071 DEBT SERVICE FUND	22,430	258	109	9,549,054	\$ (149)
TOTAL	39,856,817	40,957,621	42,256,065	202,174,241	\$ 1,298,444

October Sales Tax Update



Citywide

Sales Tax Revenues through October



*Does not Include TRT or Transit Tax

- October FY22 up 28% vs. October FY21
- TRT October FY22 up 71% vs. October FY21



General Fund

Sales Tax Summary – General Fund

General Fund - Sales Tax Summary - Monthly					
Month	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Original Budget	FY22 Actual
July	\$812,668	\$890,546	\$767,523	\$664,517	\$1,047,907
August	\$730,497	\$839,320	\$777,490	\$893,477	\$1,171,593
September	\$754,343	\$912,173	\$991,597	\$896,914	\$1,132,767
October	\$533,991	\$715,887	\$735,086	\$740,255	\$934,102
November	\$805,462	\$820,365	\$995,487	\$685,164	
December	\$1,644,270	\$1,877,541	\$1,709,314	\$1,593,658	
January	\$1,915,943	\$2,167,578	\$1,587,251	\$1,593,658	
February	\$1,795,614	\$1,936,051	\$1,915,684	\$1,761,076	
March	\$2,160,171	\$1,318,256	\$2,175,133	\$2,124,877	
April	\$509,306	\$374,250	\$792,166	\$810,883	
May	\$591,398	\$439,622	\$742,106	\$688,812	
June	\$771,332	\$603,136	\$1,186,465	\$880,395	
Total	\$13,024,993	\$12,894,725	\$14,375,301	\$13,333,686	

Sales Tax Summary – General Fund

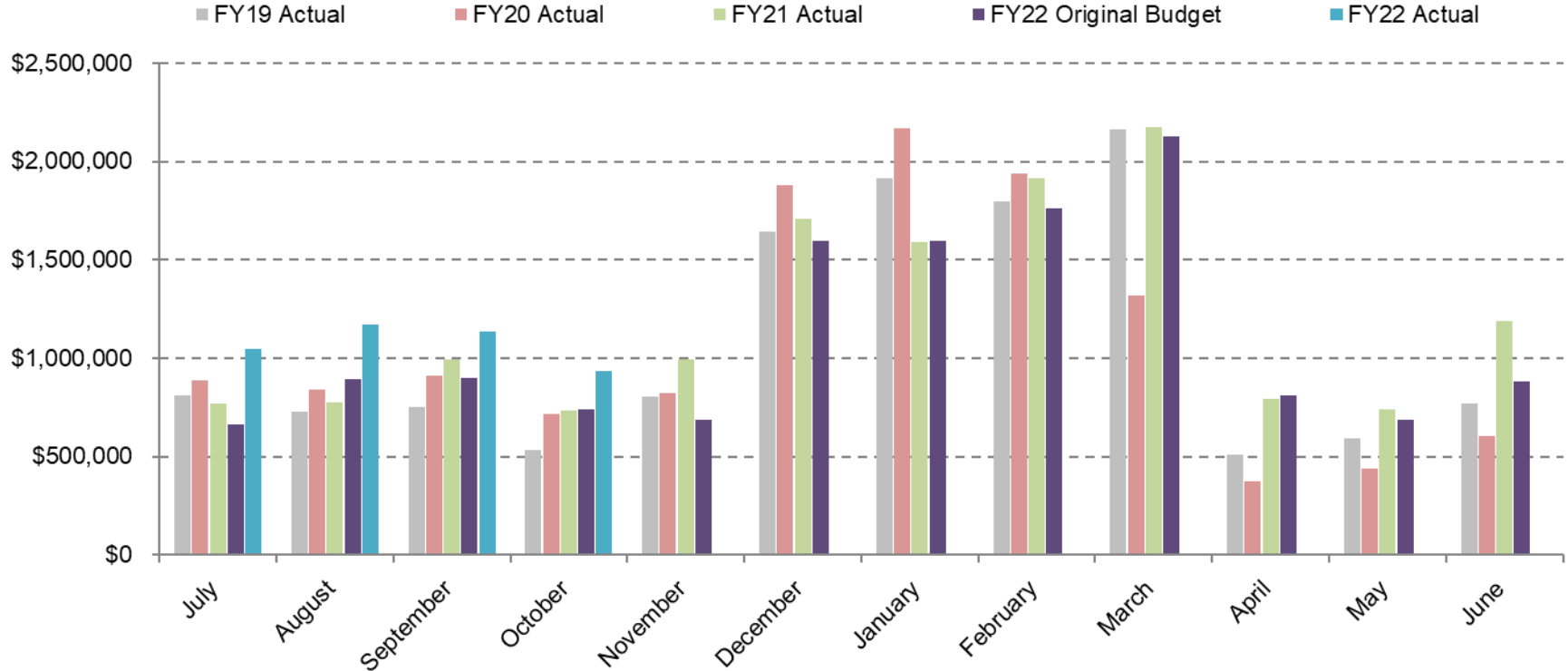
General Fund - Sales Tax Summary - \$ Change					
Month	FY20 Actual vs. FY19 Actual	FY21 Actual vs. FY20 Actual	FY22 Actual vs. FY20 Actual	FY22 Actual vs. FY21 Actual	FY22 Actual vs. FY22 Budget
July	\$77,879	(\$123,023)	\$157,361	\$280,384	\$383,390
August	\$108,823	(\$61,829)	\$332,273	\$394,102	\$278,116
September	\$157,830	\$79,424	\$220,594	\$141,170	\$235,853
October	\$181,897	\$19,198	\$218,214	\$199,016	\$193,846
November	\$14,903	\$175,122			
December	\$233,271	(\$168,227)			
January	\$251,635	(\$580,327)			
February	\$140,438	(\$20,367)			
March	(\$841,914)	\$856,876			
April	(\$135,056)	\$417,916			
May	(\$151,776)	\$302,484			
June	(\$168,196)	\$583,329			
Total	(\$130,267)	\$1,480,576	\$928,443	\$1,014,672	\$1,091,206

General Fund - Sales Tax Summary - % Change					
Month	FY20 Actual vs. FY19 Actual	FY21 Actual vs. FY20 Actual	FY22 Actual vs. FY20 Actual	FY22 Actual vs. FY21 Actual	FY22 Actual vs. FY22 Budget
July	10%	-14%	18%	37%	58%
August	15%	-7%	40%	51%	31%
September	21%	9%	24%	14%	26%
October	34%	3%	30%	27%	26%
November	2%	21%			
December	14%	-9%			
January	13%	-27%			
February	8%	-1%			
March	-39%	65%			
April	-27%	112%			
May	-26%	69%			
June	-22%	97%			
Total	-1%	11%			

Sales Tax Summary – General Fund

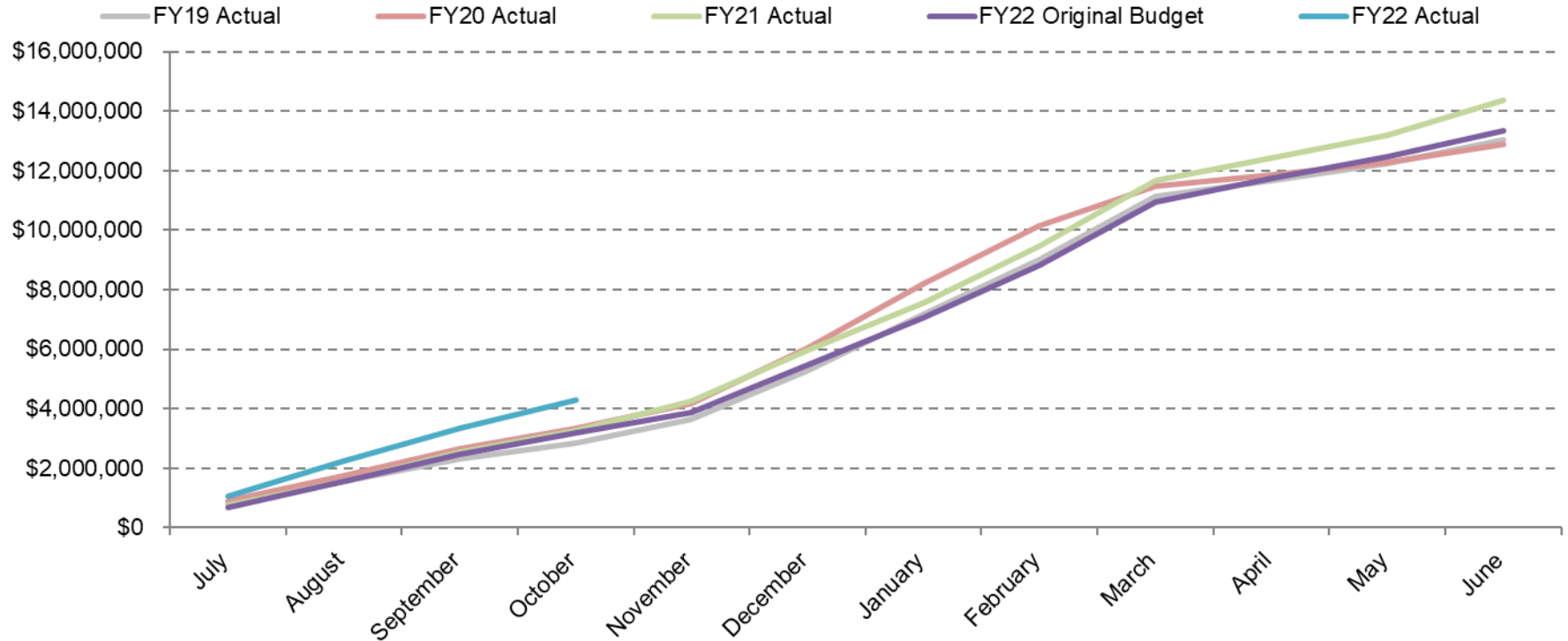
General Fund

Historical Sales Tax Revenues & Budgets Over Time by Month



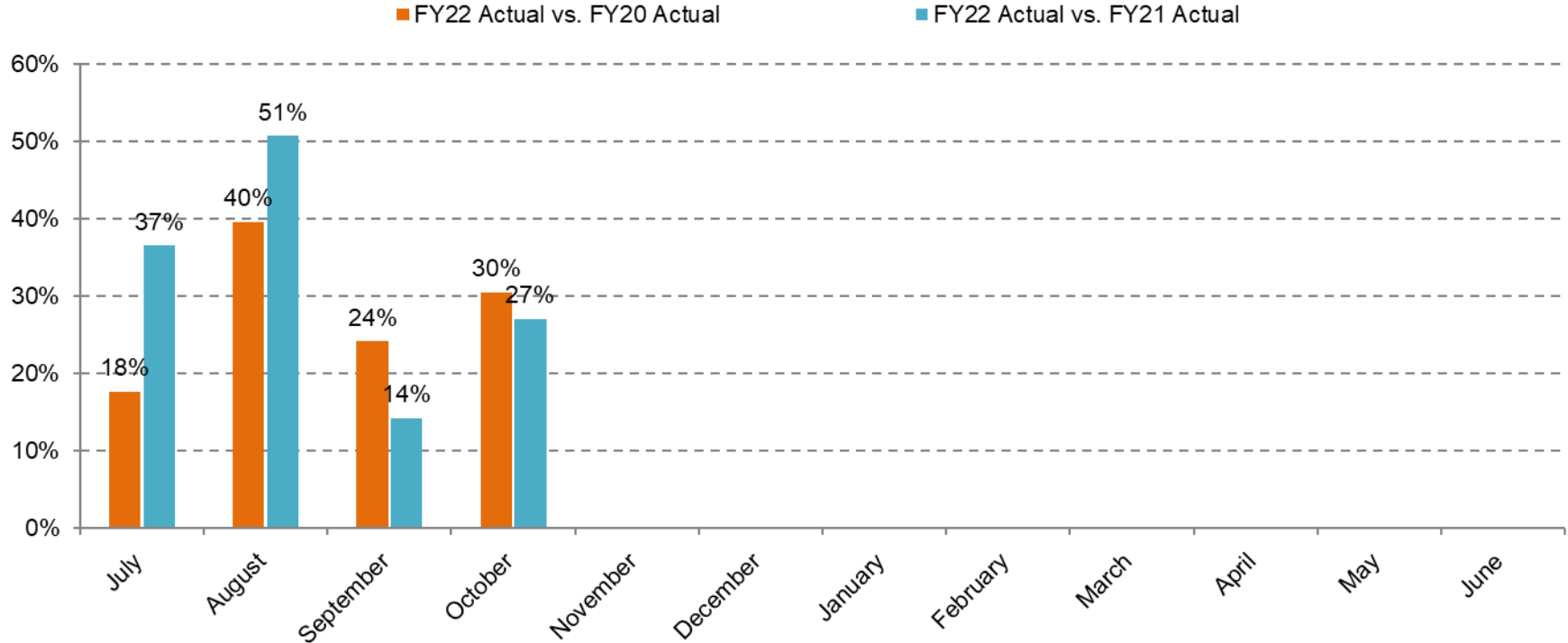
Sales Tax Summary – General Fund

General Fund - FY22 Cumulative Annual Sales Tax Revenues Through Different Lenses



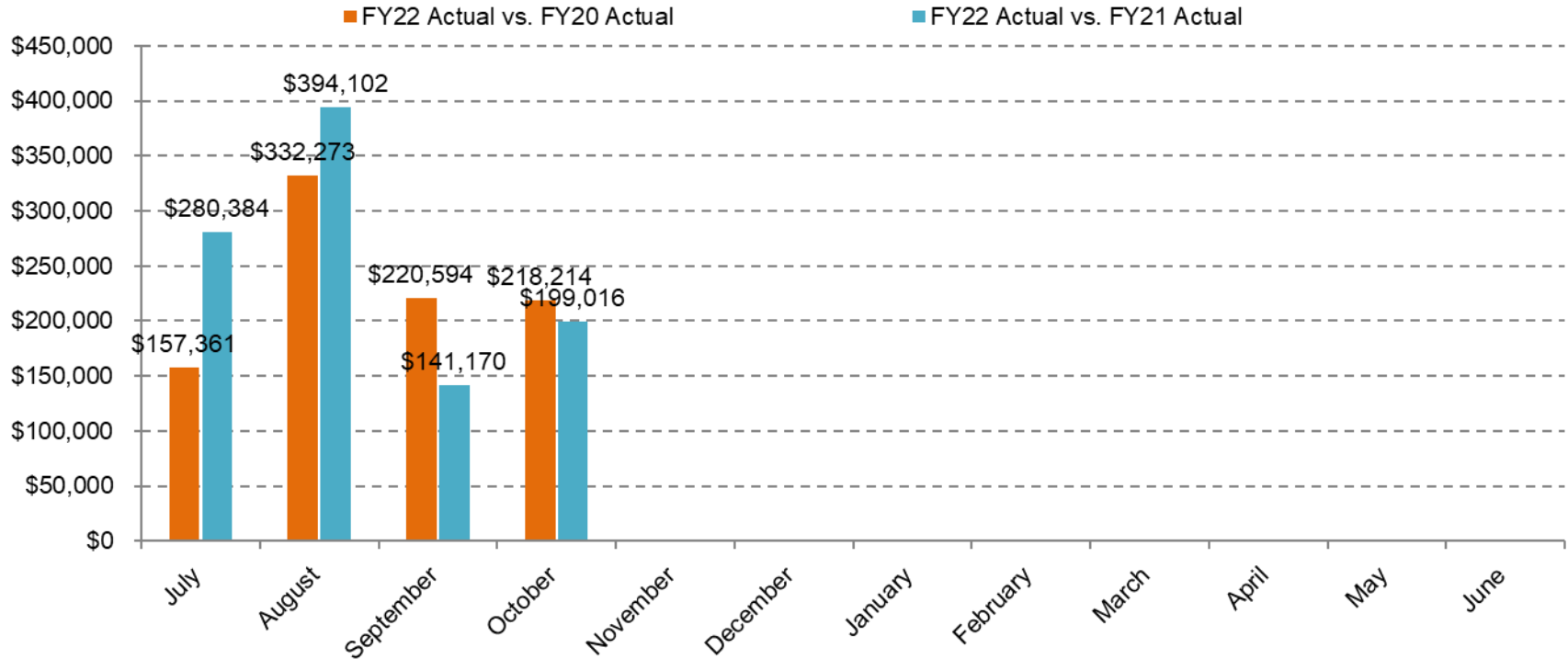
Sales Tax Summary – General Fund

General Fund FY22 Sales Tax % Change from Previous Fiscal Years



Sales Tax Summary – General Fund

General Fund FY22 \$ Change from Previous Fiscal Years





Capital Fund

PARK CITY

1884

42

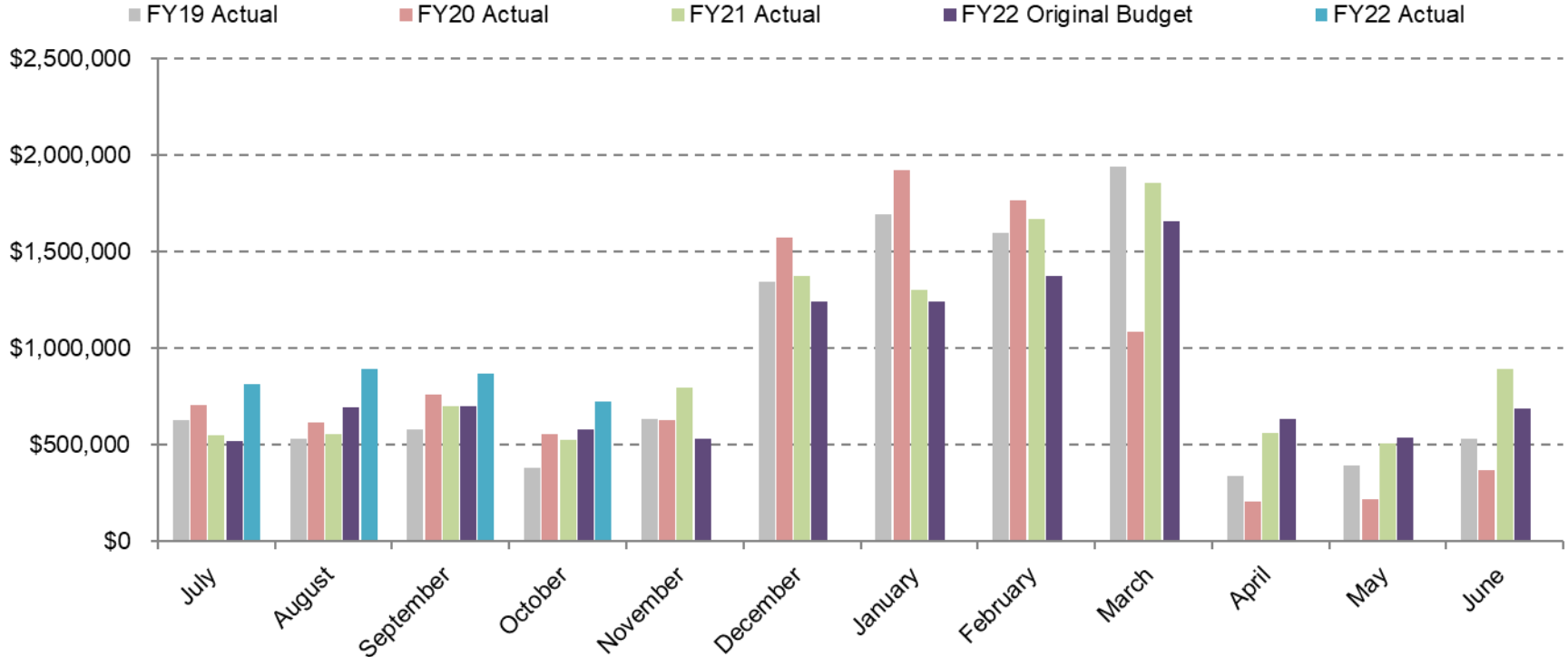
Sales Tax Summary – Capital Fund

Capital Fund - Sales Tax Summary - Monthly					
Month	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Original Budget	FY22 Actual
July	\$627,203	\$704,479	\$548,052	\$518,076	\$816,105
August	\$529,229	\$616,238	\$555,028	\$696,578	\$895,269
September	\$577,009	\$759,286	\$699,815	\$699,259	\$867,890
October	\$378,251	\$555,393	\$527,415	\$577,123	\$725,811
November	\$635,932	\$629,796	\$794,579	\$534,173	
December	\$1,344,356	\$1,570,492	\$1,374,419	\$1,242,459	
January	\$1,693,495	\$1,923,089	\$1,303,836	\$1,242,459	
February	\$1,596,315	\$1,765,073	\$1,670,788	\$1,372,983	
March	\$1,938,349	\$1,087,888	\$1,853,829	\$1,656,611	
April	\$340,118	\$206,191	\$561,565	\$632,187	
May	\$390,732	\$218,762	\$509,536	\$537,017	
June	\$528,340	\$369,764	\$892,170	\$686,380	
Total	\$10,579,328	\$10,406,450	\$11,291,032	\$10,395,302	

Sales Tax Summary – Capital Fund

Capital Fund

Historical Sales Tax Revenues & Budgets Over Time by Month

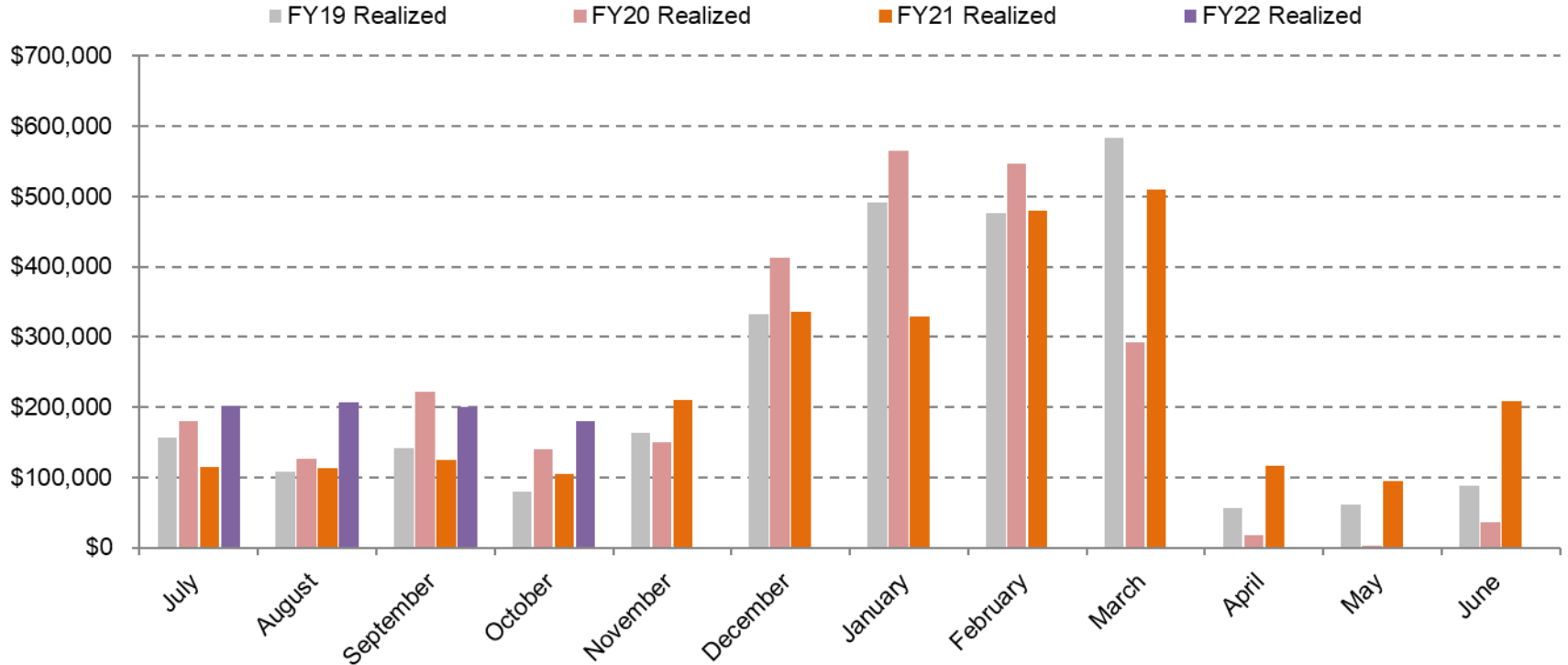


Sales Tax Summary – Transient Room Tax

Transient Room Tax						
Monthly	FY19 Realized	FY20 Realized	FY21 Realized	FY22 Realized	FY22 vs. FY21, \$ Variance	FY22 vs. FY21, % Variance
July	\$155,919	\$180,669	\$114,918	\$201,780	\$86,862	76%
August	\$108,460	\$125,677	\$112,872	\$206,192	\$93,320	83%
September	\$140,971	\$221,639	\$125,348	\$200,321	\$74,973	60%
October	\$78,769	\$139,424	\$104,921	\$179,897	\$74,976	71%
November	\$163,248	\$150,563	\$210,795			
December	\$332,107	\$412,832	\$336,374			
January	\$490,668	\$565,442	\$328,467			
February	\$475,570	\$546,738	\$479,315			
March	\$582,847	\$292,669	\$509,063			
April	\$55,730	\$17,479	\$116,391			
May	\$60,892	\$3,114	\$94,854			
June	\$87,903	\$36,423	\$208,432			
Total	\$2,733,084	\$2,692,669	\$2,741,751			

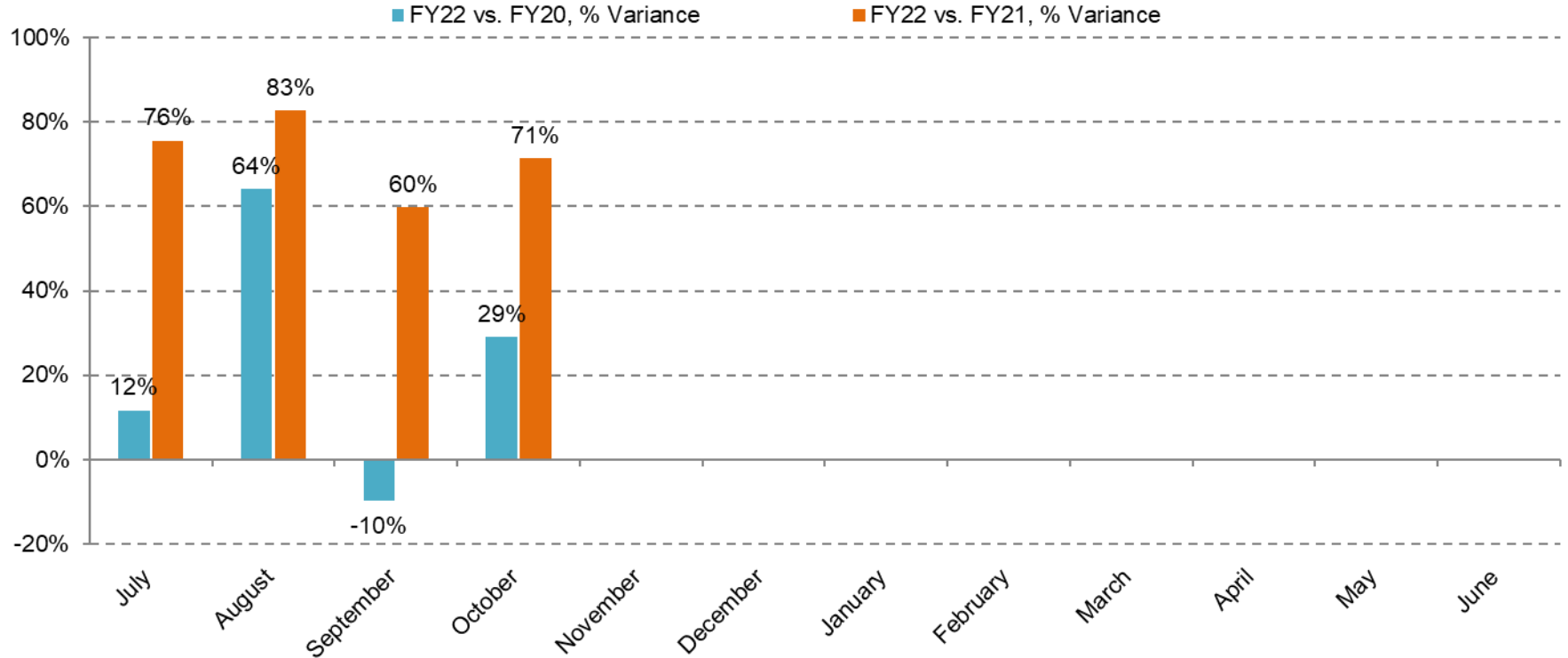
Sales Tax Summary – Transient Room Tax

Transient Room Tax Historical Revenues Over Time by Month



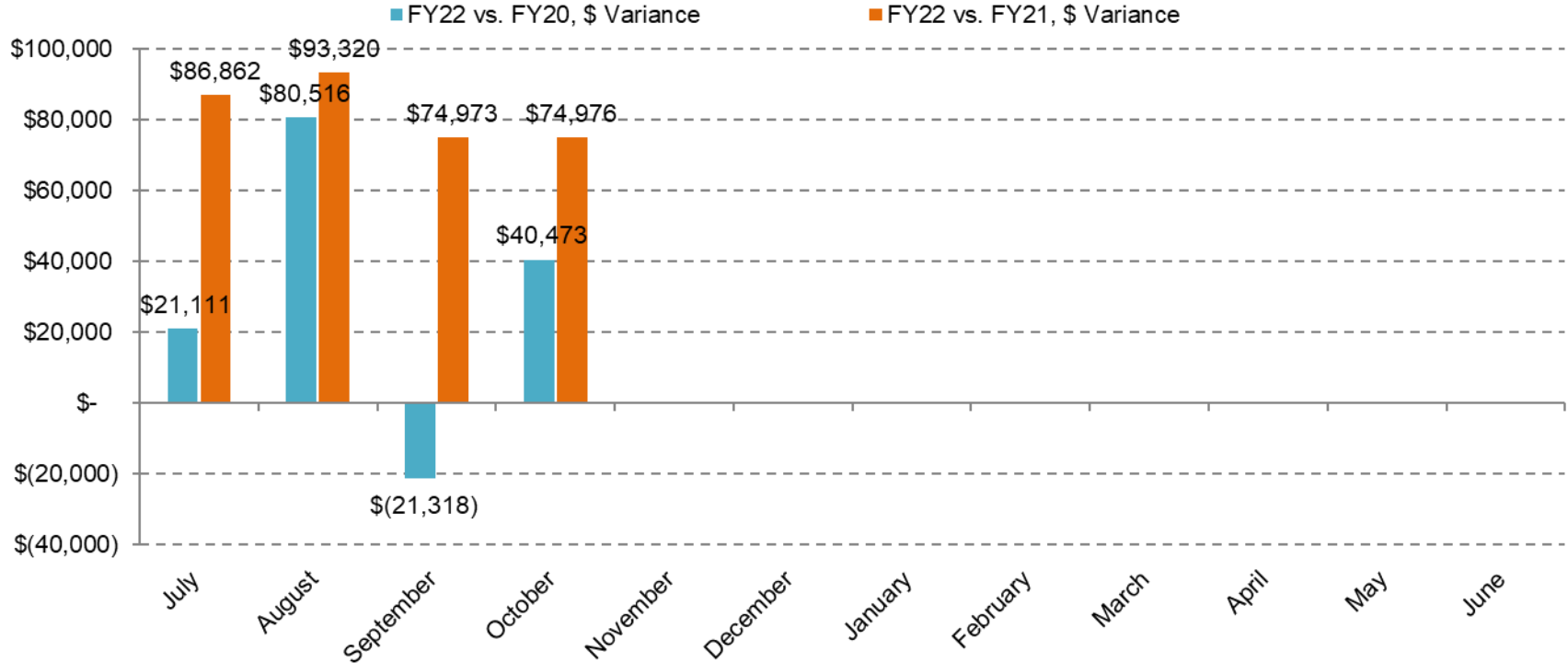
Sales Tax Summary – Transient Room Tax

Transient Room Tax % Change from Previous Fiscal Years



Sales Tax Summary – Transient Room Tax

Transient Room Tax \$ Change from Previous Fiscal Years





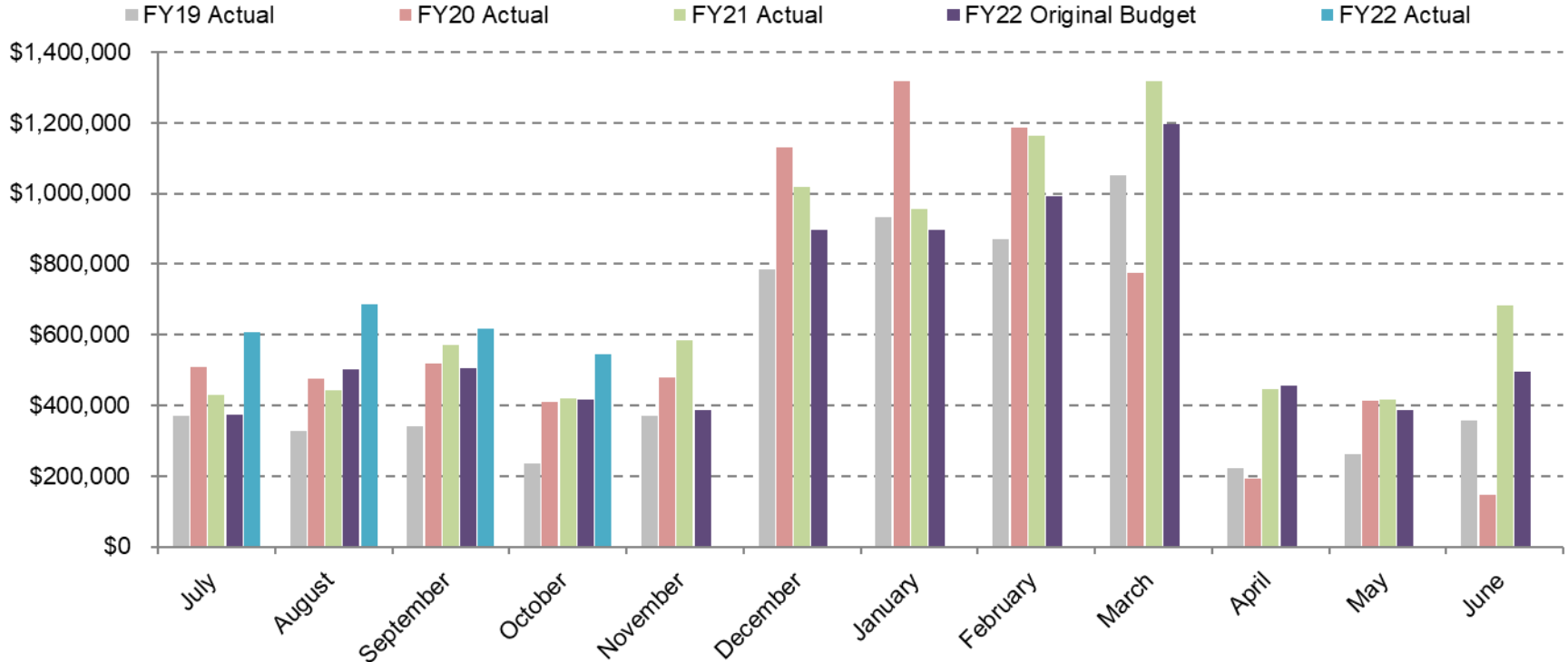
Transportation Fund

Sales Tax Summary – Transportation Fund

Transportation Fund - Sales Tax Summary - Monthly					
Month	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Original Budget	FY22 Actual
July	\$370,330	\$507,735	\$431,048	\$374,274	\$608,068
August	\$328,650	\$476,867	\$441,580	\$503,230	\$686,058
September	\$340,448	\$517,995	\$570,321	\$505,166	\$618,912
October	\$234,717	\$409,895	\$419,670	\$416,932	\$544,337
November	\$372,095	\$480,163	\$583,067	\$385,903	
December	\$785,302	\$1,129,662	\$1,019,746	\$897,591	
January	\$933,912	\$1,319,546	\$955,215	\$897,591	
February	\$869,901	\$1,187,380	\$1,164,026	\$991,886	
March	\$1,052,427	\$775,863	\$1,316,569	\$1,196,788	
April	\$222,826	\$194,288	\$446,180	\$456,711	
May	\$260,629	\$412,635	\$416,661	\$387,958	
June	\$357,095	\$148,275	\$684,361	\$495,862	
Total	\$6,128,331	\$7,560,305	\$8,448,444	\$7,509,890	

Sales Tax Summary – Transportation Fund

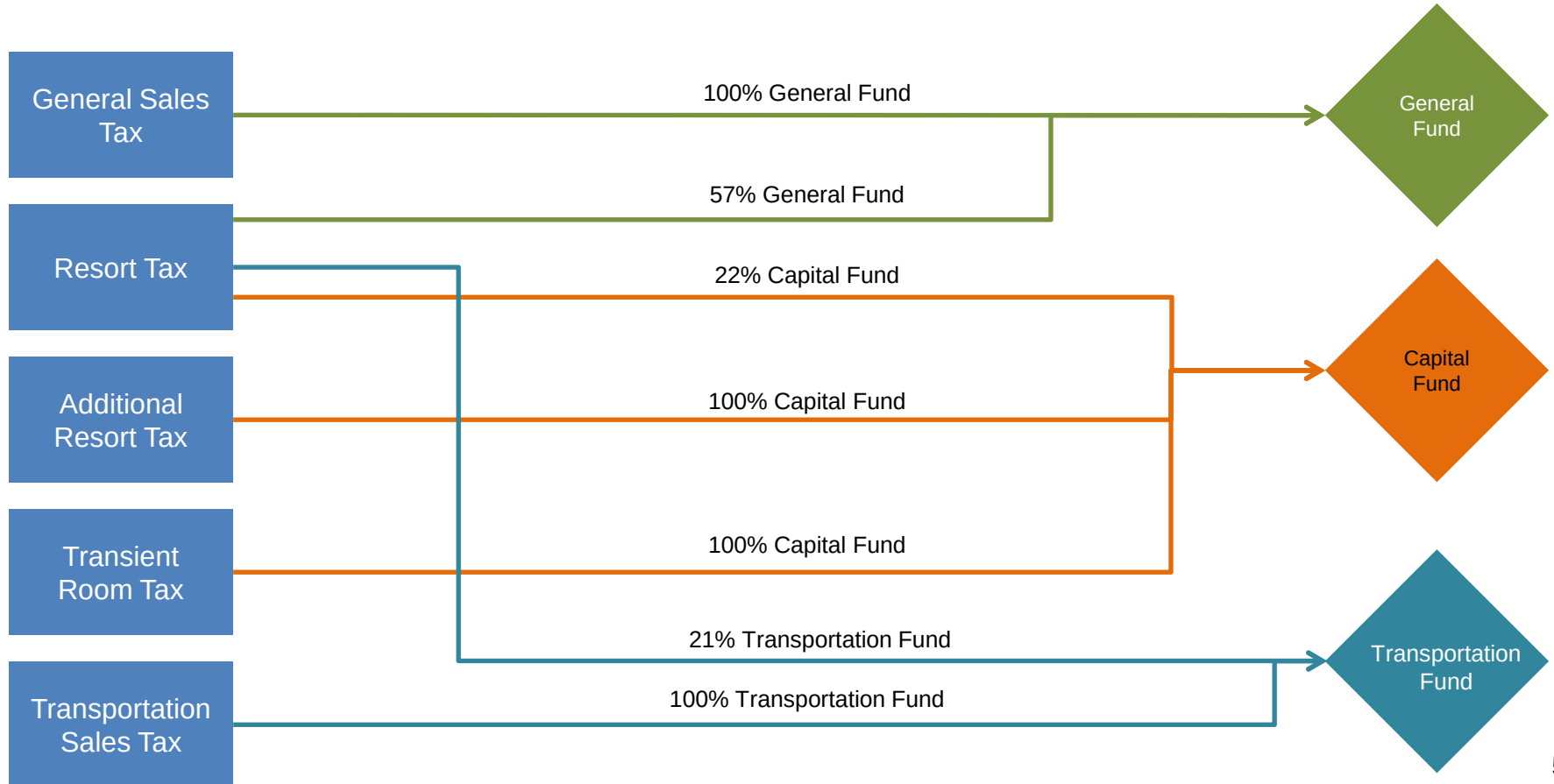
Transportation Fund Historical Sales Tax Revenues & Budgets Over Time by Month





Appendix

Where Do Our Sales Taxes Go?



Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: David Everitt

Submitting Department: Executive

Item Type: Staff Report

Agenda Section:

Subject:

Southeast Quinn's Junction Annexation Update

Suggested Action:

Attachments:

[Annexation Staff Report](#)

City Council Staff Report

Subject: Southeast Quinn's Junction Annexation
Author: David Everitt, Deputy City Manager
Department: Executive
Date: January 13, 2022
Type of Item: Informational

Introduction

This staff communication provides background information and an update on the Southeast Quinn's Junction annexation petition that will be coming before the City Council for review and public hearing pending recommendation by the Planning Commission and a Boundary Commission determination.

The annexation petition includes approximately 1,200 acres located east of Park City and adjacent to SR 248 shown in green below:

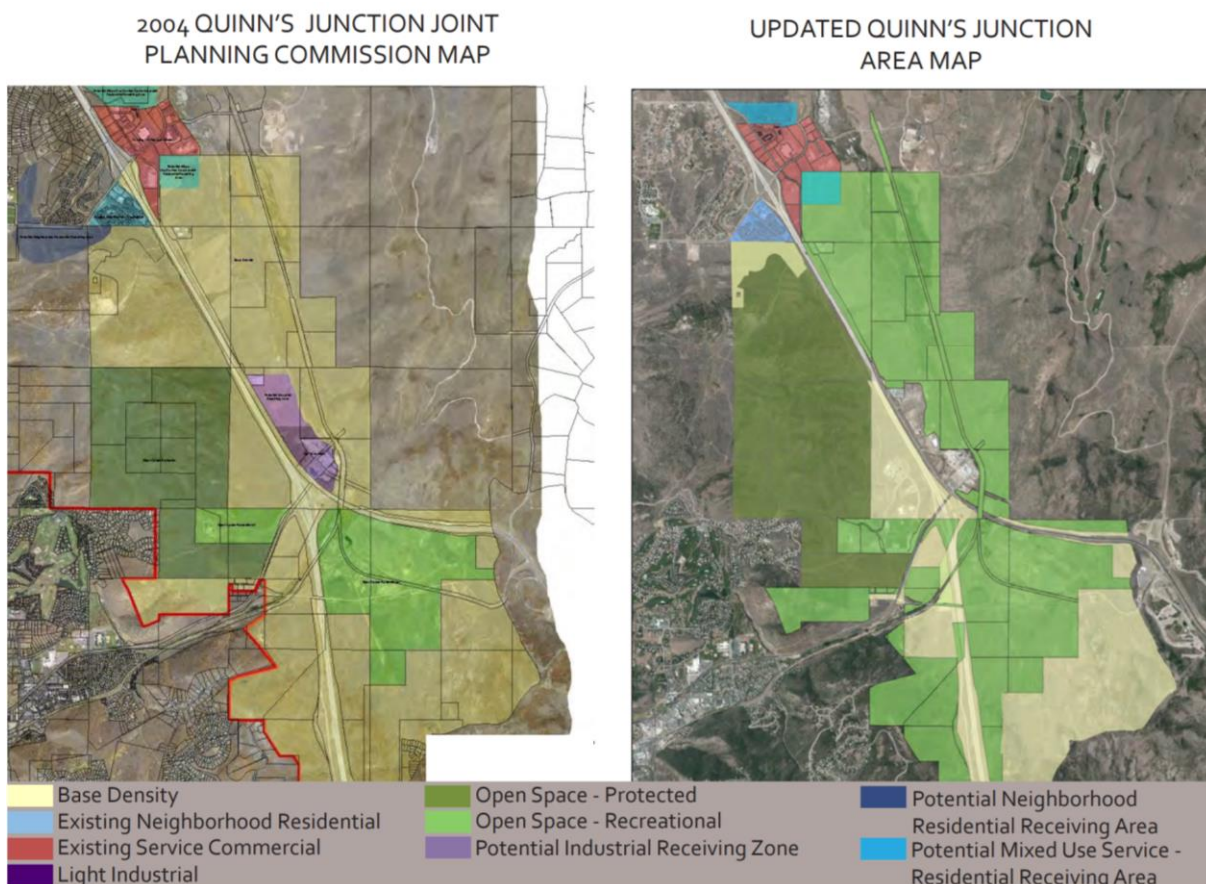


The area is proposed to be zoned Recreation Open Space. The primary property owners are Park City and United Park City Mines (UPCM). The annexation petition is the result of a long planning process and was negotiated with the primary property owner, UPCM, as part of the Flagstaff Development Agreement in 1999. This Agreement was the result of an unprecedented negotiation between the City and UPCM that established clear and predictable land use entitlements and restrictions for hundreds of acres in Park City as well as within Summit and Wasatch Counties. The ability to annex the Southeast Quinn's Junction area was negotiated as part of that approval process.

Community members can find more information at engageparkcity.org.

Quinn's Junction

Quinn's Junction is the east entry corridor to Park City and encompasses the area surrounding the intersection of SR 248 and HWY 40. The map below is from the Park City [General Plan](#) (p. 11):



The proposed annexation follows what the [General Plan](#) envisions for the future of this area. Goal 1 of the [General Plan](#) (p. 6) is to protect undeveloped lands, discourage sprawl, and direct growth inward. [City Implementation Strategy 1.13 for Goal 1](#) (p. 11) is

to annex additional land to shape growth reflective of the City's goals for land use surrounding Park City. The [General Plan](#) (p. 11) identifies the Quinn's Junction area primarily as recreational open space. The General Plan also references [the Quinn's Junction Joint Planning Commission Principles](#) (p. 33 – 34) developed between Park City and Summit County to create a shared land use plan for future development of the Quinn's Junction area based on commonalities in the Snyderville Basin and Park City General Plans. The [General Plan](#) (p. 26 - 40) prioritizes preserving open space and recreation uses, and protecting wildlife corridors, view corridors, and sensitive lands with low-impact recreational activities for this area. Similarly, the future land use map for the Quinn's Junction area in Summit County's [Snyderville Basin General Plan](#) (p. 73 – 74) identifies this area as recreation open space with a possible transportation hub.

The annexation petition includes Clark Ranch, a 344-acre property in the Quinn's Junction area south of SR 248, bisected by HWY 40. On October 9, 2014, the City Council approved a Real Estate Purchase Contract for the City's purchase of Clark Ranch with Resort Communities Tax open space funds with plans for a conservation easement and a potential for limited non-open space uses on reserved acreage not to exceed 40 acres ([Staff Report](#), p. 181; [Minutes](#), p. 7). The Clark Ranch property is highlighted in dark green below:

Richardson Flat Property

The agreed upon and long-planned annexation of the UPCM properties in the Richardson Flat area into Park City was first negotiated as part of the Development Agreement. In Section 3.1 of the [Development Agreement](#), UPCM agreed to annex its property in the Richardson Flat area into Park City. Additionally, UPCM agreed to development restrictions that limit future uses of the Richardson Flat property to golf, equestrian, or other public recreational facilities, or to perpetually deed restrict Richardson Flat to prevent further development. Also, in accordance with the Flagstaff Development Agreement, UPCM leases to Park City Municipal 30 acres in the Richardson Flat area for parking and potential recreational spaces.

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Annexation Petition Process

1. On October 15, 2021, Park City Municipal filed a petition to annex approximately 1,200 acres in the Southeast Quinn's Junction area.
2. On October 18, 2021, the City Council accepted the annexation petition for further review ([Staff Report and Exhibits](#); [Minutes](#)).
3. The City Recorder [certified the annexation petition](#) on October 28, 2021.
4. On November 16, 2021, the annexation staff review team met pursuant to Land Management Code [§ 15-8-5\(A\)](#) to provide input on the proposed annexation. The team included the Park City School District, the Snyderville Basin Water Reclamation District, the Park City Fire District, Park City Police, Public Utilities, Public Works, Sustainability, Engineering, Transportation, Transit, Parking, Building, Affordable Housing, Special Events, and Planning. Staff continues to evaluate the proposed annexation and will present a report for the Planning Commission and City Council's review.
5. Certification of the annexation petition opened a protest period through November 27, 2021. Four protests were filed on November 24, 2021:
 - [Hideout Community Advancement and Development, LLC](#)
 - [The Town of Hideout](#)
 - [NB 248, LLC](#)
 - [Redus Park City, LLC](#)
6. On December 9, 2021, the City Council reviewed the protests and declined to take any action, allowing the petition to proceed ([Staff Report](#); [Audio](#)).
7. Summit County [convened a Boundary Commission](#) to hear the Hideout Community Advancement and Development, LLC protest. Summit County rejected the other three protests. (Summit County responses to [Hideout](#), [NB 248, LLC](#), and [Redus Park City, LLC](#)).
8. The Municipal Selection Committee appointed Park City Councilmember Max Doilney and Francis Mayor Byron Ames to serve on the Boundary Commission. The Summit County Council appointed Councilmembers Chris Robinson and Malena Stevens. The four elected appointees appointed Tal Adair of Francis, Christina Pignatelli of Park City, and David Kottler of Park City. Francis Mayor Ames resigned, and the Municipal Selection Committee will convene to appoint a replacement.
9. On December 23, 2021, the Boundary Commission met and designated Tal Adair to serve as Chair.

10. The Boundary Commission will meet and conduct a public hearing that is tentatively scheduled for February 1, 2022, at 6:00 PM at 1885 West Ute Boulevard. The Commission has 30 days after the conclusion of the hearing to issue a decision.
11. Staff will update the Planning Commission and City Council after the Boundary Commission issues a determination.

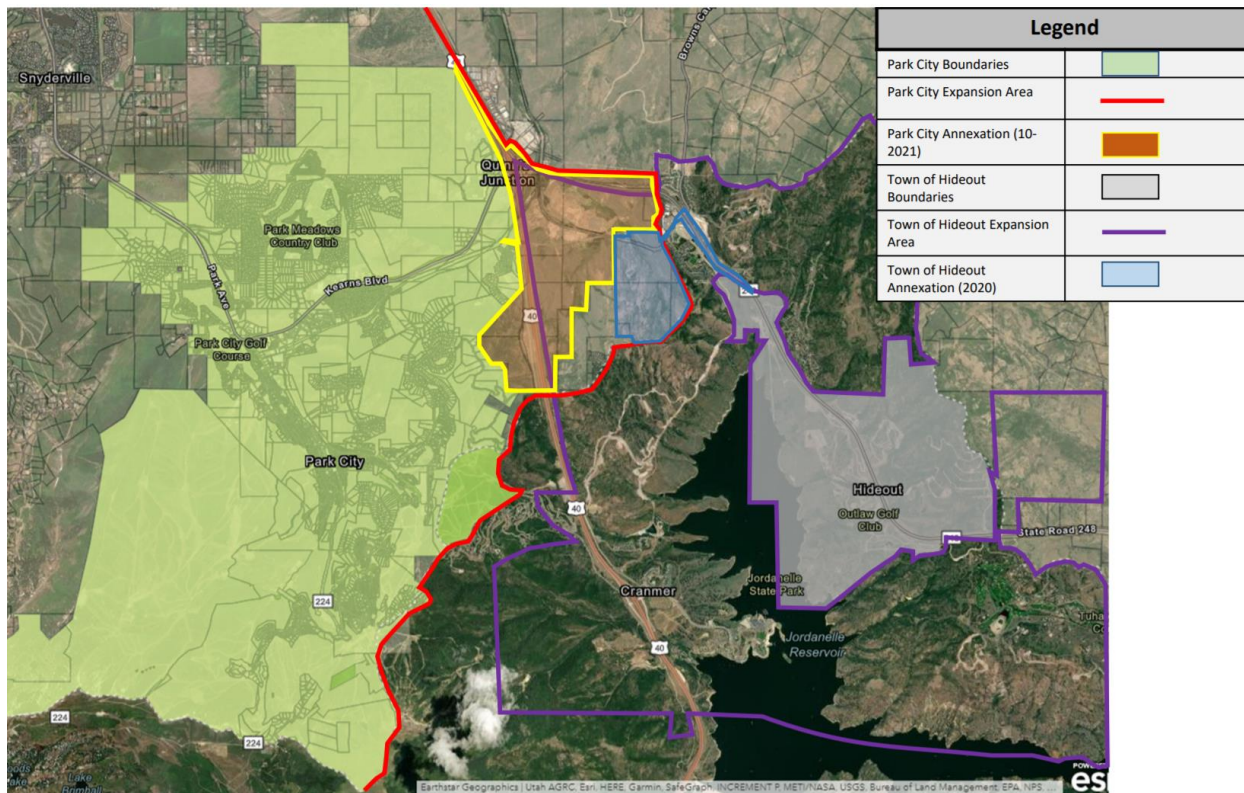
Town of Hideout's Attempted Annexation

The City's proposed annexation does not include any property included in Hideout's failed annexation. Hideout's 2020 annexation was determined by the Fourth District Court to be *void ab initio* (Ruling and Order at 5, *Summit County v. Town of Hideout*, No. 200500107 (Dec. 29, 2021)) (see Summit County's response to Hideout).

The City's annexation petition does include some property covered by Hideout's initially proposed annexation. The image below is taken from Hideout's July 14, 2020 pre-annexation agreement with Nate Brockbank and includes some of UPCM's Richardson Flat property:



However, Hideout's annexation petition was eventually scaled back and the map below, taken from Hideout's protest to Park City's annexation, shows Hideout's attempted 2020 annexation. That failed annexation excluded the UPCM property and covered 350 acres (shown in blue). The configuration was unprecedented because it was not contiguous to the town and was just connected to Hideout by a narrow corridor along S.R. 248:



Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: Kim Fjeldsted

Submitting Department: Transit

Item Type: Staff Report

Agenda Section:

Subject:

Consideration to Authorize the City Manager to Add a 15th Bus to the Overall 14 Bus Acquisition with Utah Transit Authority, Previously Approved by Council May 21, 2020, in an Amount Not to Exceed \$312,511
(A) Public Input (B) Action

Suggested Action:

Attachments:

[Additional Bus Purchase Staff Report](#)

[Exhibit A: UTA Interlocal Cooperative Agreement](#)

[Exhibit B: UTA Base Contract with Gillig](#)

[Exhibit C: High Valley Transit Interlocal Agreement](#)

City Council Staff Report



Subject: Addition of 15th Bus to Original 14-Bus Purchase.

Author: Kim Fjeldsted

Department: Transportation Department

Date: January 13, 2022

Type of Item: Consent Agenda

Summary Recommendation

Authorize the City Manager to add a 15th bus to the 14-bus procurement package previously approved by the Council on May 21, 2020.

Background

On [May 21, 2020](#), Council authorized the City Manager to execute the Agreement that, in final form, was denoted “Interlocal Cooperative Agreement Between Utah Transit Authority (UTA) and Park City Municipal Corporation Regarding Electric Bus and Charging Equipment Program” (the 2020 Agreement). This Agreement was finalized with UTA on October 2, 2020, and is attached as Exhibit A.

The purpose of the 2020 Agreement was to obtain 14 new vehicles, four of which would operate the Park City/Salt Lake City Connect Service (PC/SLC Connect) and to delineate the legal rights and duties of both parties in the acquisition and management of the vehicles.

The useful life of a full-size bus, as determined by the Federal Transportation Administration (FTA) is 12 years. Once the bus reaches 12 years, the federal interest is terminated, and Park City Transit (PCT) owns the vehicle. Our fleet currently consists of 25 diesel buses and 13 electric buses. Ten of the 25 diesels are over 13 years old. Electric busses are less efficient than diesel busses, in part due to the time needed to charge the buses, as well as the mechanical and technological performance of our first generation Proterra buses and chargers. We remain optimistic that our next batch of electric buses will provide a more reliable experience as the technology has improved.

Therefore, our recommended fleet replacement schedule assumes about 1.5 electric buses for every diesel we replace. This purchase will allow us to ensure the reliability of our fleet, ensure thresholds of customer service and route timing, and take an important step forward in PCT’s electrification by 2030.

UTA has completed contract negotiations with Gillig, the bus manufacturer. This has provided the City with additional details regarding the pricing of the vehicles and related equipment as well as establishing the number of purchase options available for future vehicle acquisitions. PCT has the opportunity to obtain an additional bus within our current grant funding. A copy of the Base Contract with all exhibits is included as

Exhibit B.

In addition, the recent formation of High Valley Transit District (HVT) to serve areas of Summit County outside of Park City's municipal limits has necessitated the negotiation and execution of an Interlocal Cooperation Agreement for overlapping Transit System Services (Separation Agreement). The Separation Agreement was executed on July 10, 2021 which details the division of existing transit assets.

Specifically, HVT assumed responsibility for the PC/SLC Connect line and thus will take over ownership and operation of the four (4) new 40' vehicles to be dedicated to that route. Additionally, Park City agreed to transfer title to four (4) additional 35' electric buses once the new vehicles are delivered from Gillig – this was done to reflect Summit County's annual contribution towards vehicle acquisition over a number of years. In light of the vehicle transfer requirements, PCT views obtaining an additional vehicle at an early date to be advantageous to our underlying continuity of operations. For example, the new bus may be used to provide new express services from the Quinns Junction Park and Ride into Old Town. The Separation Agreement is attached as Exhibit C.

Park City, in partnership with UTA, remains responsible for completion of the full procurement (including the engineering, inspection and delivery of the vehicles). Title and possession of the above-referenced eight (8) vehicles will then be transferred to HVT pursuant to the Separation Agreement. Park City has already made application with the Utah Department of Transportation (UDOT) who administers the federal funding for rural agencies in Utah, and the FTA for authorization to transfer the vehicle titles and our discussions with their staff members leads us to conclude that there is unlikely to be any regulatory difficulties in timely obtaining such authorization.

After our last request for \$1.6 million for the local match, which between the various grants require anywhere from a 15-20% local match, combined with the VW Settlement, PCT pays less than 13% of the total purchase cost. PCT has conducted additional financial analyses in cooperation with UDOT and determined that an additional bus can be made within the current purchase. This action would bring the PCT vehicle purchase from 14 to 15.

See the following page for the financial summary:

Financial Analysis Supporting 15-Bus Purchase

Bus and Equipment Purchases:

4	40' Gillig Electric Commuter Buses:	\$ 729,269 ¹	(per unit, delivered)
11	35' Gillig Electric Transit Buses:	\$ 922,374	(per unit, delivered)
2	Depot Vehicle Chargers:	\$ 226,000	(per unit, installed)
2	Overhead Vehicle Chargers:	\$ 944,200	(per unit, installed)
TOTAL COST:		\$15,403,590	

Federal Funding Resources:

FY 2016 5339 Capital Grant:	\$1,080,264
FY 2017 5339 Capital Grant:	\$1,750,000
FY 2017-18 5339(c) Low-No Grant:	\$2,790,000
FY 2018 5339 Capital Grant:	\$3,147,730
FY 2019 5339 Capital Grant:	\$1,392,174
TOTAL FEDERAL FUNDING:	\$10,160,168

Other Local Match Resources:

VW Settlement Grant	\$ 2,630,911
Fleet Replacement Fund ²	\$ 700,000
TOTAL RESOURCES:	\$13,491,079

Total City Resources Required: \$ 1,912,511

Less: Previous Council Approval: \$ 1,600,000

Total Additional? Request from Council: \$ 312,511

Department Review

The City Manager's Office, the City Attorney's Office, Budget, Transit and Transportation have reviewed this Staff Report.

Funding Source

\$312,511 additional local match will be covered by local transit sales tax & resort tax.

Attachments

- Exhibit A: "Interlocal Cooperative Agreement Between Utah Transit Authority (UTA) and Park City Municipal Corporation Regarding Electric Bus and Charging Equipment Program"
- Exhibit B: UTA Base Contract with Gillig
- Exhibit C: Interlocal Cooperation Agreement for Transit System Services

¹ The lower price of the 40' commuter buses is due to vehicles being procured under a battery lease agreement. HVT is responsible for making payments on the lease subsequent to transfer of bus titles.

² Fleet Replacement Fund is an account held by UTA to which PCT is required to make monthly capital replacement contributions per the PC/SLC Connect operating agreement.

**Interlocal Cooperative Agreement
Between
Utah Transit Authority
and
Park City Transit Municipal Corporation
Regarding
Electric Bus and Charging Equipment Program**

THIS INTERLOCAL COOPERATIVE AGREEMENT (the "Agreement") is made and entered into as of the 2 day of October, 2020, by and between the Park City Transit Municipal Corporation, a Utah municipal corporation, (hereinafter referred to as "Park City"), and UTAH TRANSIT AUTHORITY, a public transit district organized under Title 17B, Chapter 2a, Part 8, Utah Code 1953, as amended (hereinafter referred to as "UTA," collectively, UTA and Park City are referred to as the "Parties" or individually, "Party").

WITNESSETH:

WHEREAS, Park City owns and operates a public transit system to assist in providing transportation in Summit County; and

WHEREAS, UTA's function is to provide public transportation to the residents within its district boundaries and is authorized by Title 17B Section 2a, Utah Code, 1953, as amended; and

WHEREAS, Park City and UTA, did apply through the Utah Department of Transportation ("UDOT") for Statewide 5339(b) funding and were selected to receive a grant from the Federal Transit Administration to purchase buses with low or no emissions, to use to serve the current PC-SLC Connect Route (See existing service agreement attached hereto as Exhibit "I" and incorporated herein, Park City – Salt Lake City Connect Service Interlocal Agreement) and UTA's traveling public; and

WHEREAS, on August 24, 2018, the Federal Transit Administration ("FTA") did award a grant, in the amount of Two million Two hundred Ninety Thousand Dollars (\$2,290,000.00), for the acquisition of two (2) electric buses (collectively, the "Vehicles" or individually, a "Vehicle"), together with charging stations ("Charger(s)") and ancillary facilities; the buses will be funded at a eighty five percent (85%) federal share and infrastructure at ninety percent (90%) federal share; Rocky Mountain Power (RMP) has also committed Five Hundred Thousand Dollars (\$500,000.00) to the project for infrastructure; and the existing service agreement (Exhibit I, Park City – Salt Lake City Connect Service Interlocal Agreement) identifies operational deficit costs paid by Park City will be used for bus replacements and operating costs and funds designated for bus replacement received to date from Park City will be used for the local match on the project; and

WHEREAS, Park City was awarded six (6) electric buses to replace diesel buses in the Volkswagen ("VW") settlement, two (2) of which will replace two (2) existing diesel coach buses on the PC-SLC Connect route (Exhibit J); and

WHEREAS, Park City and UTA intend that UTA shall procure fourteen (14) total Vehicles in a solicitation as follows: two (2) buses with the Lo/No grant funding, six (6) Vehicles with a combination of Park City VW settlement funds and federal section 5311 transit grant funds, and six (6) Vehicles with federal section 5311 grant funds. Ten (10) of the vehicles shall be for Park City's use only and not part of the PC-SLC Connect route; and

WHEREAS, UTA shall use and operate four (4) Vehicles to provide transit service in UTA's district and Summit County.

NOW, THEREFORE, in consideration of the covenants and agreements hereinafter set forth, the parties enter into the following described Collaboration Agreement:

1. COLLABORATION ACTIVITIES:

The Parties agree to work together in accomplishing the procurement of fourteen (14) Vehicles and operation, maintenance and disposition of four (4) electric buses and associated charging equipment and stations as further described below:

A. ACQUISITION OF VEHICLES:

UTA will administer and manage the procurement of the vehicles in accordance with all federal grant and VW settlement requirements and in collaboration with Park City to identify the Vehicle specifications. Park City and UTA shall attend the manufacturing site to inspect Vehicles for compliance to agreed specification. Park City and UTA acknowledge a separate agreement for acquisition of the Vehicles will be entered into and that the term of this Agreement will be dependent upon the delivery of the Vehicles. Park City will lease the Vehicle batteries and UTA will reimburse Park City for those battery lease costs.

B. ACQUISITION OF CHARGERS:

Park City and UTA acknowledge that UTA will administer and manage the procurement of the Overhead and Overnight chargers.

C. USE AND MAINTENANCE OF VEHICLES:

The buses procured by Park City will be bailed to UTA under a bailment agreement (attached as Exhibit "F" and incorporated herein), whereby UTA agrees to use the Park City PC-SLC Connect Electric Vehicles to provide accessible transportation services for the PC-SLC Connect Route and to serve the interest and welfare of the public. UTA covenants that it will not use the PC-SLC Connect Electric Vehicles to provide trips which compete with other revenue service routes. UTA may, however, utilize the Vehicles for non-revenue service during Vehicle down time. UTA agrees to provide all funds needed, and all services, whether by employees or contracted, to maintain, repair, and operate the PC-SLC Connect Vehicles; and to maintain the PC-SLC Connect Electric Vehicles at a high level of cleanliness and mechanical soundness and in a manner consistent with industry safety standards and according to the terms and conditions of any warranties provided by the manufacturer.

- D. USE AND MAINTENANCE OF CHARGERS:** The Parties agree that the Chargers will be installed and maintained by UTA at UTA facilities in order to facilitate the effective use of the electric buses procured according to the terms and conditions of any warranties.

2. DURATION OF AGREEMENT; TERM FOR EACH VEHICLE AND CHARGERS; CONTINUING CONTROL:

Subject to this Paragraph 2, the terms and conditions of this Agreement shall remain in effect so long as UTA shall retain possession of the PC-SLC Connect Electric Vehicles, but in no event less than twelve (12) years, unless it is found that the buses do not meet UTA requirements for the PC-SLC Connect route, in which case the buses will revert to Park City possession. UTA acknowledges that the federal interest remains in the Vehicles and that disposition of the Vehicles for any reason is subject to approval of Park City and FTA, pursuant to the terms and parameters set forth in any then-applicable FTA circulars or guidance. The term of the Agreement, for each separate Vehicle, shall continue for a minimum of twelve (12) years or until the Vehicle shall have travelled a minimum of five hundred thousand (500,000) miles (the "Minimum Term"), whichever is first in time; and shall end no later than the date which is twelve (12) years from the date the Vehicles go into revenue service (the "Maximum Term"). The term of the Agreement, for each Charger, shall continue for a minimum of twelve (12) years. Park City and UTA acknowledge that upon reaching the end of the useful life of the Vehicles Park City shall have the option of obtaining possession of the vehicles or of surrendering them to UTA for final disposition. Upon reaching the end of the useful life, Park City shall surrender any further interest in the chargers and related equipment. They will become the property of UTA.

3. OPERATIONS AND MAINTENANCE:

With respect to the PC-SLC Connect Electric Vehicles, overhead, and overnight chargers, UTA agrees to:

A. Pay for all operating expenses of the Vehicles and Chargers, including fuel, oil and tires. These expenses shall be subject to the arrangement for sharing of operational expenses outlined in the Operational Plan contained in Exhibit A to the Interlocal Agreement between the Parties dated August 24, 2011 and amended on June 27, 2017. The Parties agree to update said Operational Plan to provide for the sharing of these operating expenses on a mutually agreeable basis consistent with current practice under the existing ILA. Pay for all operating expenses of the Vehicles and Chargers, fuel, oil, and tires.

B. Perform preventive maintenance on said Vehicles and Chargers according to manufacturer and UTA's maintenance department specifications and be responsible for all maintenance and repairs necessary to keep said Vehicles in proper operating condition, including major component failure and accident repairs in accordance with the terms and conditions of manufacturer warranties.

4. MAINTENANCE RECORDS:

UTA agrees to keep a maintenance record on each Vehicle and Charger showing the maintenance performed according to the standards established between the parties. The format of the maintenance records shall be specified by UTA's maintenance department and the manufacturer requirements. The Vehicles and the maintenance records will be made available to Park City's representatives for inspection at any time with reasonable notice. The maintenance files shall contain the following items: Preventive maintenance inspection sheets, repair orders, maintenance repairs, driver defect cards or any other documentation or paperwork relating to the maintenance of the PC-SLC Connect Electric Vehicles and Chargers. All maintenance related transactions, including repair orders, must have current mileage and dates attached.

5. REPORTING, AUDIT AND INSPECTION OF RECORDS:

A. The UTA shall submit, on or about the first day of each month a monthly report as well as annual reports to Park City providing information on the most recent month and year-to-date operating statistics or other information or schedule as shall be reasonably required by FTA or Park City regulations. Attached to this Agreement and incorporated herein as Exhibit "C" is the form that is to be used by UTA for the monthly report. The monthly report and the annual reports shall include the following information:

1.	Daily vehicle mileage start/end odometer (to be reported Monthly)
2.	Number of one-way passenger trips (Monthly)
3.	Number of revenue miles (Monthly)
4.	Farebox revenue
5.	Vehicle service hours
6.	Vehicle service miles
7.	Preventive Maintenance Performed (Monthly) Exhibit E
8.	Vehicle Surveillance (April and October) Exhibit D

B. UTA shall report to Park City on a monthly basis.

C. In accordance with FTA National Transit Database (NTD) reporting requirements, UTA shall submit a year-end report using the forms and instruction provided by NTD. UTA agrees to complete any reporting mandated by current FTA regulations or any reporting mandated by changes to FTA regulations.

D. The UTA shall also submit to Park City each month an accounting of maintenance performed on each Vehicle used in the performance of this Agreement during the month according to the procedures outlined in Section 19 of this Agreement. Attached to this Agreement as Exhibit "E" and incorporated herein is the form which is to be used by UTA for this purpose.

E. If Park City requests, UTA shall provide to Park City a copy of audit information as may be conducted by UTA as required by law or as otherwise obtained by UTA.

F. The UTA shall permit the authorized representatives of Park City to inspect and audit all data and records of the UTA relating to the performance of the Vehicles and the terms of this Agreement, at the offices of the UTA or elsewhere during normal business hours upon reasonable notice. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified.

6. NOTIFICATION OF ACCIDENTS:

UTA agrees to notify Park City within five (5) calendar days of any accident involving any one of the PC-SLC Connect Electric Vehicles which results in physical damage to said Vehicle of greater than Five Hundred Dollars (\$500.00). Any accident resulting in bodily injury shall be reported to Park City immediately.

7. INSURANCE:

UTA, at its option, shall elect to self-insure, procure insurance, or utilize a combination of both in order to cover the Electric PC-SLC Connect Vehicles acquired and operated under this Agreement. Furthermore, where damage or injury is caused by a third party, UTA shall have the right to take all actions necessary in order to obtain reimbursement from the responsible 3rd party and/or its insurers and PC agrees to take all necessary measures to facilitate such recovery. In the event the damage or injury is caused by PC, PC agrees to indemnify UTA for its costs and expenses in repair, replacement, and/or other directly associated damages as described under Paragraph 8 below.

8. INDEMNIFICATION:

A. Nothing in this Agreement shall be construed as a waiver of any rights or defenses applicable to UTA under the Utah Governmental Immunity Act (the "Act"), including without limitation the provision of Section 63G-7-604 regarding limitation of judgments. Subject to the Act and up to the amounts established in Section 63G-7-6a04 of the Act, UTA shall defend, indemnify and save harmless Park City from and against all liabilities, claims, actions, damages, losses, and expenses, including without limitation, reasonable attorneys' fees and costs, for bodily injury or personal injury, including death, or loss or damage to tangible or intangible property, to the extent caused by UTA's negligence, in connection with or during or arising from use of the Park City PC-SLC Connect Electric Vehicles provided by UTA, its agents, employees, contractors or subcontractors. Likewise, Park City shall defend, indemnify and save harmless UTA from and against all liabilities, claims, actions, damages, losses, and expenses, including without limitation, reasonable attorneys' fees and costs, for bodily injury or personal injury, including death, or loss or damage to tangible or intangible property, to the extent caused by Park City's negligence, in connection with activities conducted under this Agreement.

B. UTA shall indemnify and hold Park City and its agents, employees, and officers, harmless from and shall process and defend at its own expense any and all claims, demands, suits, at law or equity, actions, penalties, losses, damages, or costs, of whatsoever kind or nature, brought against Park City arising out of, UTA's negligent performance or failure to perform any aspect of this Agreement; provided, however, that if such claims are caused by or result from the concurrent negligence of Park City, its agents, employees, and officers, this indemnity provision shall be valid and enforceable only to the extent of the negligence of UTA; and

provided further, that nothing herein shall require UTA to hold harmless or defend the City, its agents, employees and/or officers from any claims arising from the sole negligence of Park City, its agents, employees, and/or officers. Utah Code Section 34A-2-105 The provisions of this section shall survive the expiration or termination of this Agreement.

C. No liability shall attach to Park City by reason of entering into this Agreement except as expressly provided herein.

9. FORCE MAJEURE:

Any delay in or failure by either party in performance of this Agreement shall be excused if and to the extent such delay or failure is caused by occurrences beyond the control of the affected party including, but not limited to, decrees or restraints of Government, acts of God, strikes, work stoppage or other labor disturbances, war or sabotage (each being a "**Force Majeure Event**"). The affected party will promptly notify the other party upon becoming aware that any Force Majeure has occurred or is likely to occur and will use its best efforts to minimize any resulting delay in or interference with the performance of its obligations under this Agreement.

10. TERMINATION:

A. If either party fails to perform its obligations under this Agreement or shall fail to comply with any of the terms, conditions, or provisions thereof, the non-breaching Party, who is not in breach of the Agreement, may, at its sole discretion, terminate this Agreement by giving written notice to the other party by registered mail, return receipt requested, at least thirty (30) calendar days in advance of such termination, specifying the reason or reasons therefor. The breaching Party shall have a period of thirty (30) days after receipt of notice to cure its breach or default (the "Cure Period").

B. It is further understood and agreed that the liability of the parties hereunder for the further performance of the terms of this Agreement shall cease upon termination, but they shall not be relieved of the duty to perform their obligations up to the date of termination and any audit and/or reporting obligations required after date of termination.

C. In the event of termination, the PC-SLC Connect Electric vehicles shall be returned to Park City. An accounting shall be made of remaining federal funds or property under FTA C 5010.1E.

D. The breaching Party shall be liable for all direct damages suffered by non-breaching Party due to the breach of this Agreement. Neither Party shall be liable to the other for indirect or consequential damages.

11. NONDISCRIMINATION:

A. In connection with the carrying out of this Agreement, UTA shall not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The UTA shall take affirmative action to ensure that applicants are selected for employment and are treated during employment without regard to their race, color, religion,

sex or national origin. Such action shall include but not be limited to the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The UTA agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provision of this nondiscrimination clause.

B. The UTA covenants that no person or group will be denied the benefits of, participation in, or access to any service or facility provided in conjunction with this Agreement due to race, color, religion, sex, or national origin.

C. The UTA will keep records and documents during performance of this Agreement to indicate compliance with the nondiscrimination clause set forth herein. These records and documents, or copies thereof, will be made available at reasonable times and places to an authorized representative of Park City and will be submitted to Park City upon request, together with any other compliance information which such representative may require.

D. In the event of UTA's noncompliance with the nondiscrimination clauses of this Agreement, this Agreement may be canceled, terminated or suspended in whole or in part.

12. DRUG-FREE WORKPLACE:

The UTA covenants and agrees to implement a drug-free workplace that is consistent with the terms and provisions of 49 CFR Part 653 as shown on Exhibit "A" attached hereto and incorporated herein.

13. EQUAL OPPORTUNITY AND DBE STATEMENT:

The UTA covenants and agrees to ensure equal employment opportunity to the maximum extent possible and to make every reasonable effort to utilize disadvantaged and women-owned business enterprises as described in Exhibit "B" attached hereto and incorporated herein.

14. PROGRAM MANAGER:

The Authority Program Manager for this Agreement shall be Hal Johnson, or his designee. All correspondence regarding the program work of this Agreement should be addressed to hjohnson@rideuta.com or Phone: 801-237-1905.

15. CONTRACT ADMINISTRATOR:

The Park City Contract Administrator shall be Kim Fjeldsted, or her designee. All correspondence regarding the terms, conditions, or administration functions should be addressed to Kim Fjeldsted at KFjeldsted@parkcity.org or Phone: (435) 615-5351.

16. NOTICES OR DEMANDS:

A. Any notice or demand to be given by one party to the other shall be given in writing

by personal service, FedEx, or any other similar form of courier or delivery service, or mailing in the United States Mail, postage prepaid, certified, return receipt requested, or via dated e-mail with a follow-up copy sent by regular United States Mail, and addressed to such party as follows:

If to Park City:
Park City Municipal Corporation
ATTN: Kim Fjeldsted
1053 Iron horse Drive, Park City, Utah 84060
KFjeldsted@parkcity.org

With a copy to:
Thomas Daley, Deputy City Attorney
Park City Municipal Corporation
P.O. Box 1480
Park City, UT 84060
tdaley@parkcity.org

If to UTA:
Utah Transit Authority
ATTN: Pat Postell, Procurement & Contracts
669 West 200 South
Salt Lake City, Utah 84101
ppostell@rideuta.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.

17. LAWS AND REGULATIONS:

This Agreement shall be governed by and construed in accordance with the laws of the state of Utah without regard to its conflict of laws provisions.

Park City and UTA each agree to comply with all applicable Federal, state and local laws, ordinances and regulations in providing transportation service with the Vehicles. All subcontracts must be solicited, awarded and administered in accordance with FTA Circular 4220.1F. All terms and conditions contained the FTA Master Grant Agreement FTA MA(25), dated October 1, 2018 shall be applicable to all subcontracts awarded under this Agreement.

Park City and UTA acknowledge that purchase of the Vehicles will be funded by FTA FY18 Grant Section 5339(c)(the "Grant"), under which UDOT is the Recipient, Park City is the Sub recipient, and that UTA will collaborate by providing the total local match as indicated in the project budget and as required by the Grant (See Project Budget Exhibit "G" and Rocky Mountain Power Agreement Exhibit "H"). UTA agrees to cooperate in good faith with Park City

in connection with Park City's compliance obligations under the Grant.

18. ENTIRE AGREEMENT:

This Agreement and the exhibits attached hereto contain the full and complete understanding and agreement between the parties relating to the subject matter hereof and supersede all prior and contemporary understandings and agreements, whether oral or written, relating to such subject matter hereof. This Agreement may be executed in one or more counterparts and by exchange of signed counterparts transmitted by facsimile, each of which shall be deemed an original and all of which, when taken together, shall constitute one and the same original instrument.

19. ADDITIONAL INTERLOCAL COOPERATION ACT PROVISIONS:

In satisfaction of the requirements of the Interlocal Cooperation Act, Utah Code Ann. §§ 11-13-101 et seq., the Parties agree as follows:

- a. This agreement shall be authorized and adopted by resolution of the legislative body of each Party, pursuant to Section 11-13-202.5.
- b. This agreement shall be reviewed as to proper form and compliance with applicable law by a duly authorized attorney on behalf of each Party, pursuant to Section 11-13-202.5.
- c. A duly executed original counterpart of this agreement shall be filed immediately with the keeper of records of each Party, pursuant to Section 11-13-219.
- d. This agreement shall become effective upon (a) its approval and execution by each Party and (b) the filing of an executed copy of this agreement with the keeper of records of each of the Parties.
- e. Immediately after the execution of this agreement by all Parties, each Party shall cause to be published notice regarding this agreement, pursuant to Section 11-13-219.
- f. The Parties agree that they do not, by this agreement, create an Interlocal entity or any separate entity.
- g. CITY appoints Kim Fjeldsted, its Transit Manager, as its administrator for all matters relating to CITY's participation in this agreement. UTA appoints Tracy Young, its Grant Development Administrator, as its administrator for all matters relating to UTA's participation in this agreement. If an administrator ceases to be employed by the represented Party, then the person who replaces the prior administrator shall become the new administrator of that Party for purposes of this agreement, unless that Party otherwise notifies the other Parties in writing. Any Party may, at any time, change the designation of its administrator by providing written notice to the other Parties. To the extent that any administration of this agreement becomes necessary, then the Parties' administrators named above, or their designees or successors, shall constitute a joint board for such purpose, and each party shall have an equal vote in any decision that needs to be made.

- h. There shall be no joint acquisition or ownership of property.
- i. There is no joint budget; each Party will be responsible for maintaining its own financial budget for both income and expenditures arising under this agreement.

Utah Transit Authority
669 West 200 South
Salt Lake City, Utah 84101

DocuSigned by:
Carolyn M. Gonot 9/11/2020
0C1EDCBAD5D7410...

By: Carolyn Gonot, Executive Director

DocuSigned by:
Mary DeLoretto 9/3/2020
9893AE62284418

By: Mary DeLoretto - Chief Service Development Officer

Approved as to Form and Consent:

DocuSigned by:
Tim Merrill 9/3/2020
82323E2963D5460...

UTA Legal Counsel

PARK CITY MUNICIPAL CORPORATION, a
Utah municipal corporation
445 Marsac Avenue
Post Office Box 1480
Park City, UT 84060-1480

DocuSigned by:
Matt Dias
84DE3A2F68E444E
Matt Dias, City Manager

Attest:
DocuSigned by:
Heather V. Long
066F71345A916109
City Recorder's Office

Approved as to form:
DocuSigned by:
Tom Daley
1D3D7782806F538418
City Attorney's Office

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EXHIBIT "A"

**DRUG-FREE WORKPLACE ACT CERTIFICATION
FOR A PUBLIC OR PRIVATE ENTITY**

1. The Utah Transit Authority (UTA) certified that it will provide a drug-free workplace by:
 - (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the UTA's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
 - (b) Establishing an ongoing drug-free awareness program to inform employees about:
 - (1) The dangers of drug abuse in the workplace;
 - (2) The UTA's policy of maintaining a drug-free workplace;
 - (3) Any drug counseling, rehabilitation, and employee assistance programs that are available; and
 - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.
 - (c) Making it a requirement that each employee to be engaged in the performance of the cooperative agreement be given a copy of the statement required by paragraph (a).
 - (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the cooperative agreement, the employee will--
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
 - (e) Notifying the Federal agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every project officer or other designee on whose project activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected cooperative agreement.
 - (f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted--
 - (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the UTA's employment policies and

the requirements of the Rehabilitation Act of 1973, as amended; or (2)

Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, state or local health, law enforcement, or other appropriate agency;

- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e), and (f).

2. The UTA's headquarters is located at the following address:

Name of Recipient:	Utah Transit Authority
Street Address:	669 W 200 S
City:	Salt Lake City
County:	Salt Lake
State:	Utah
Zip Code:	84101

EXHIBIT "B"

EQUAL EMPLOYMENT OPPORTUNITY AND DISADVANTAGED BUSINESS ENTERPRISE STATEMENT

The undersigned states on behalf of the UTA:

A. The UTA has given or will give, prior to the commencement of an approved Park City project, notice to all pertinent personnel, i.e., managers, supervisors, employees, unions, subcontractors, etc. of the UTA EEO and DBE policies and procedures and its intent and effort to realize such procedures in connection with the EEO and DBE requirements that Park City is required to follow as a Federal Transit Administration Grantee.

B. UTA designates --

Name: Kenya Fail Title: Manager of Civil Rights Compliance

As the person assigned the responsibility for securing compliance with and reporting progress to the UTA and Park City's Civil Rights Office on all EEO efforts initiated and taken.

C. UTA will cooperate fully with Park City and ensure equal employment opportunity to the maximum extent possible during the term of this contract. If the UTA employs fifty (50) or more persons and, or will be entering into a contract hereunder in an amount of Fifty Thousand Dollars (\$50,000.00) or more, then an EEO Plan for employment of minorities and women must be submitted. UTA will further be kept fully informed of any refusals by unions or others to cooperate with Park City's and the UTA's EEO and DBE requirements.

D. UTA agrees to make every reasonable good faith effort to utilize disadvantaged and women business enterprises in the performance of this contract. UTA will take affirmative steps to meet any DBE contract goal set for this contract.

UTA Name: Andrew Grey

Address: 669 W 200 S SLC UT 84101

Signed:  DocuSigned by:
Andrew J. Gray
4E9A31EC07CF4D4...

Title: Civil Rights Compliance Officer

EXHIBIT "C"
MONTHLY REPORTING FORM

Agency: Utah Transit Authority **Month/Year:** _____

Date of Preparation: _____

- 1. Daily vehicle mileage start/end odometer _____
(attach detail)
- 2. Number of one-way passenger trips _____
- 3. Number of revenue miles _____
- 4. Farebox Revenue**
- 5. Vehicle Service Hours**
- 6. Vehicle service miles**
- 7. Vehicle Surveillance completed
(April and October- attach completed form) _____
- 8. Preventive Maintenance Certification _____
(attach completed form)

The undersigned represents that the information shown on this reporting form is true and accurate.

UTA Representative

EXHIBIT "D"

MONTHLY PREVENTIVE MAINTENANCE CERTIFICATION

FOR MONTH ENDING _____, 20____

I, _____

Representing _____, do hereby certify that the following inspections, as outlined in "Preventive Maintenance Schedule", were performed:

DATE	VEHICLE #	INSPECTION PERFORMED	ODOMETER READING

Signature
Utah Transit Authority

Exhibit "E" - Sample



5310 / 5311 VEHICLE SURVEILLANCE INSPECTION

DATE: _____

TRANSPORTATION PROVIDER NAME: _____

Make	Vehicle Year	V.I.N. (last 4 digits)	Plate Number	Odometer
Documents kept in vehicle (please check if present) *Registration ☐ *Insurance Card ☐ *DMV Inspection Sticker ☐				

All items must be inspected. If an item is not applicable to this vehicle, place "N/A" in the adjacent box.

Check "1" appropriate box. P = Pass F = Fail # = number of days to correct failure

EXTERIOR	P	F	#	SAFETY EQUIPMENT	P	F	#	INTERIOR	P	F	#
Body damage			-	Triangles (3)			1	Mirrors			2
Windows			2	First Aid Kit			2	Lights			3
*2 Outside Mirrors			0	Bloodborne Pathogen Kit			3	Horn			2
Reflector/marker/clearance			2	Seat belt cutter			5	Seats			2
*Turn Signals			0	Extra electrical fuses			5	*Seat Belts			0
*Four Way Flashers			0	Fire Extinguisher			2	AC/Heat/Defroster			2
*Tires front 4/32 rear 2/32			0	Rear door buzzer			3	*Wipers			0
*Headlights high and low			0	Exit windows/buzzers			3	Gauges and Indicators			2
*Parking lights			0	Roof Hatch			3	*Brakes (Foot/Parking)			0
*Brake lights			0	Spare Tire/Jack/Lug Wrench			3	Cleanliness			2
Cleanliness			2								

SIGNAGE	P	F	#	LIFT	P	F	#	SECUREMENTS	P	F	#
Buckle Up (or equivalent)			5	*Interlocks			0	*Belt (4 or 8 floor)			0
Emergency Exits			3	Level Platform			3	*Lap Belt			0
Lift Operating Instructions			5	Lift Light			1	*Shoulder belt			0
Vehicle Height			5	*Electric Wires (cut, frayed)			0				
				*Hand Pump			0				
				Hand Rails on Lift (2)			1				

Comments and Observations of Inspector:

Items that are **bolded** may be placed out of service for failing inspection. The vehicle may not be returned to service until defect is repaired and the Agency Administrator is notified of the repairs. Body damage depending on severity should be repaired as soon as possible.

Agency Administrator:

Name: _____

Signature: _____

Inspector:

Name: _____

Signature: _____

This document can be completed by agency personnel and is a tool for you to monitor the maintenance source you are using. For questions, please contact Brian Galles, PTT Program Compliance Officer, 801-209-3744. Inspections are to be performed on April 1 and October 1 and the completed inspection entered into PTT Online at: <https://www.udot.utah.gov/public/ptt/f?p=131:101:1166169282072615>

EXHIBIT "F"

BAILMENT AGREEMENT

This Bailment Agreement ("AGREEMENT") is entered into as of the 30th day of October, 2020 2019 (the "EFFECTIVE DATE") by and between:

Utah Transit Authority (UTA)
669 West 200 South
Salt Lake City, Utah 84004
(BAILEE)

Park City Transit Municipal Corporation (Park
City) 1053 Iron horse Drive,
Park City, Utah 84060
(BAILOR)

1. DEFINITION OF "PROPERTY"

For purposes of this Agreement, the term "PROPERTY" means the four (4) PC-SLC Connect Electric Vehicles and batteries procured or leased by Park City as a sub recipient to an FTA grant made to the Utah Department of Transportation (UDOT), as further described in Attachment "A" attached hereto and incorporated herein.

2. BAILMENT

The parties agree that UTA can possess and use the Property subject to the terms and conditions in this Agreement. The established value of Bailed Property is in the amount of approximately Two Million Dollars (\$2,000,000.00).

3. TERM

The terms and conditions in this Agreement shall remain in effect for as long as the buses remain in the possession of UTA or the useful life of the vehicles as described in the **Collaboration Agreement between Utah Transit Authority and Park City Transit Municipal Corporation Regarding ELECTRIC BUS AND CHARGING EQUIPMENT Program dated October 30, 2020, 2020, attached hereto and incorporated herein as Attachment "B"**. (Hereinafter "Collaboration Agreement") This Agreement can be terminated in writing by mutual agreement of all parties.

4. OWNERSHIP

The Parties acknowledge that title and ownership of the buses is maintained by Park City and that UTA's use and possession of it is by virtue of this Agreement. UTA agrees not to do anything that is inconsistent with Park City's ownership in the Property.

5. USE OF THE PROPERTY

UTA agrees to use the Property for the sole purpose of serving the PC-SLC Connect and UTA's traveling public.

6. MAINTENANCE

UTA agrees to keep vehicles in good and efficient working order during their useful life by performing normal maintenance and repairs at UTA expense in accordance with any available warranties. UTA further agrees to follow the specifications and recommended procedures contained in the manufacturer's operator's manuals, guides, schedules, and warranties.

7. MARKING/LOGO

UTA is permitted to place its markings and logo on the vehicles. Such marking and logos need not be removed when the bailment is terminated.

8. ACCESS

UTA agrees that Park City can enter UTA premises during normal business hours for purposes of inspecting and inventorying the vehicles.

9. TERM, DISPOSITION, AND RETURN OF PROPERTY

This Agreement shall remain in effect so long as UTA shall retain possession of the PC-SLC Connect Electric Vehicles, but in no event less than twelve (12) years, unless it is found that the buses do not meet UTA requirements for the PC-SLC Connect route, in which case the buses will revert to Park City possession. UTA acknowledges that the federal interest remains in the Vehicles and that disposition of the Vehicles for any reason is subject to approval of Park City and FTA, pursuant to the terms and parameters set forth in any then-applicable FTA circulars or guidance. The term of the Agreement, for each separate Vehicle, shall continue for a minimum of twelve (12) years or until the Vehicle shall have travelled a minimum of five hundred thousand (500,000) miles (the "Minimum Term"), whichever is first in time; and shall end no later than the date which is twelve (12) years from the date the Vehicles go into revenue service (the "Maximum Term"). The term of the Agreement, for each Charger, shall continue for a minimum of twelve (12) years. Park City and UTA acknowledge that upon reaching the end of the useful life of the Vehicles Park City shall have the option of obtaining possession of the vehicles or of surrendering them to UTA for final disposition. Upon reaching the end of the useful life, Park City shall surrender any further interest in the chargers and related equipment. They will become the property of UTA.

At the end of the useful life of the vehicles and/or termination under the terms of the Collaboration Agreement, at Park City's election, UTA agrees to surrender the vehicles to Park City. However, should the bailed property prove not to be suitable for the intended use, Bailee has the option to cancel this Agreement and return all bailed property to the Bailor.

10. RISK OF LOSS

UTA agrees to bear the risk of loss of Property and either self-insure or carry sufficient insurance to cover the complete loss of the vehicles. This paragraph is not intended, however, to diminish UTA's right to obtain reimbursement from any Party who proximately caused the damage or injury. Where damage or injury is caused by a third party, UTA shall have the right to take all actions necessary in order to obtain reimbursement from the responsible 3rd party and/or its insurers and PC agrees to take all necessary measures to facilitate such recovery. In the event the damage or injury is caused by PC, PC agrees to indemnify UTA for its costs and expenses incurred in repair, replacement and/or other directly associated damages.

11. DISCLAIMER

EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT, PARK CITY MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PROPERTY, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

12. ENTIRE AGREEMENT

This Agreement is the entire understanding and agreement between the parties as to its subject matter, and completely overrides (supersedes) all previous understandings, agreements, communications and representations, whether written or oral. Provided however, that this Bailment Agreement does not alter or supersede the terms of the Collaboration Agreement between the Parties.

13. GOVERNING LAW

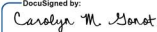
This Agreement shall be governed by, and construed in accordance with, the laws of the state of Utah, without regard to that state's rules concerning conflict of laws.

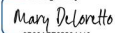
14. SIGNATURES

This Agreement has been signed by the parties or their duly authorized representatives to become effective as of the date of last signature.

Utah Transit Authority

669 W 200 South, SLC, Utah 84101

By:  9/11/2020
DocuSigned by: Carolyn M. Bonet
0C1EDCBAD507410

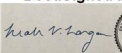
By:  9/3/2020
DocuSigned by: Mary DeLoritto
9893A8E82284418

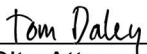
Approved as to Form and Consent

UTA Legal Counsel  9/3/2020
DocuSigned by: Tim Merrill
87323825981056469

PARK CITY MUNICIPAL CORPORATION, a
Utah municipal corporation
445 Marsac Avenue
Post Office Box 1480
Park City, UT 84060-1480


Matt Dias, Acting City Manager
City Manager

Attest:

City Recorder's Office

Approved as to form:

City Attorney's Office

BAILMENT AGREEMENT – ATTACHMENT "A"
DESCRIPTION OF "PROPERTY"

Buses: Four (4) electric powered buses.

Batteries: leased vehicle batteries will be minimum 440 kWh energy on board.

Charging Infrastructure: Depot Charging (2 units) and On Route Charging equipment (1 unit)

Exhibit G
PROJECT BUDGET

2018 Bus Low No Budget

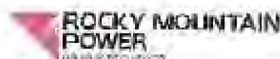
Buses					
Item Description	Project Costs	Total Maximum Federal Amount 85%	Match 15%	Grant Total	Remaining Budget Needed Over Match
Buses (2)	\$ 1,234,000	\$ 974,860	\$ 172,034	\$ 1,146,894	
Radios (2)	\$ 36,000	\$ 28,440	\$ 5,019	\$ 33,459	
Bus configurable/contingency	\$ 240,000	\$ 94,800	\$ 16,729	\$ 111,529	
Project Management	\$ 100,000	\$ 39,500	\$ 6,971	\$ 46,471	
Training	\$ 35,000	\$ 27,650	\$ 4,879	\$ 32,529	
Tools	\$ 15,000	\$ 11,850	\$ 2,091	\$ 13,941	
Shop Improvements	\$ 20,000	\$ 15,800	\$ 2,788	\$ 18,588	
Federal and required match totals		\$ 1,192,900	\$ 210,512	\$ 1,403,412	
Project Total	\$ 1,680,000				\$ 276,588

Charging Equipment and Facilities					
Item Description	Project Costs	Total Maximum Federal Amount 90%	Match 10%	Grant Total	Remaining Budget Needed Over Match
On Route Charging Equipment	\$ 427,000	\$ 337,330	\$ 37,481	\$ 374,811	
On Route A & E Services	\$ 65,000	\$ 51,350	\$ 5,706	\$ 57,056	
Depot Charging Equipment (2 Units)	\$ 160,000	\$ 126,400	\$ 14,044	\$ 140,444	
Depot A&E Services (completed as part of Depot District)	\$ -	\$ -	\$ -	\$ -	
Depot Charger construction Services	\$ 80,000	\$ 63,200	\$ 7,022	\$ 70,222	
Software	\$ 3,600	\$ 2,844	\$ 316	\$ 3,160	
Training	\$ 15,000	\$ 11,850	\$ 1,317	\$ 13,167	
On Route Construction Services	\$ 268,200	\$ 211,878	\$ 23,542	\$ 235,420	
Offset to project 1 for charger construction	\$ 184,241	\$ 63,200	\$ 7,022	\$ 70,222	
UTA Project Management	\$ 95,000	\$ 27,650	\$ 3,072	\$ 30,722	
Contingency	\$ 124,948	\$ 98,698	\$ 10,966	\$ 109,664	
Federal and required match Totals		\$ 994,400	\$ 110,489	\$ 1,104,889	
Project Total	\$ 1,422,989				\$ 318,100

Federal and required match totals		\$ 102,700	\$ 11,411	\$ 114,111	
PCT charger retrofit	\$ 130,000				\$ 15,889

	Total Project Cost	Federal	Local	Grant Total	Over Match
Low No Grant Totals	\$ 3,232,989	\$ 2,290,000	\$ 332,412	\$ 2,622,412	\$ 610,577
Local Match Source					Match
UTA/Park City funding (Operational Deficit Account)					\$ 442,989
Rocky Mountain Power					\$ 500,000
Required & Over Match					\$ 942,989

Exhibit "H"

**Plug-in Electric Vehicle Custom Project – Incentive Offer Letter**

Utah Transit Authority
669 West 200 South
Salt Lake City, Utah 84101

Re: EVUT 252139

Rocky Mountain Power
Electric Vehicle Program
EV@rockymountainpower.net

After reviewing your application, we are pleased to provide you an incentive offer for the successful implementation of your electric vehicle custom project as outlined in your project application (2 – High Power Overhead Chargers and 5 – DC Fast Chargers).

Incentive Estimate

Issue Date: December 17, 2018

Estimated Incentive: \$500,000 up to 26% of total project costs

Completion Date: May 1, 2019

For this offer to remain valid and to receive an incentive, it is the responsibility of the participant to:

1. Sign and return this offer and revised application to the contact above within 14 days of the issue date.
2. Implement the project as outlined in the project plan/application and by the Completion Date.
3. Notify Rocky Mountain Power of any changes that materially affect the implementation schedule, project costs or project scope.
4. Upon project completion notify Rocky Mountain Power via email project has been completed.
5. Provide actual itemized project cost documentation after project completion.
6. Provide all required documentation and participate in any required inspections no later than 60 days from the Completion Date.

Acknowledgement

I understand: (1) my responsibilities listed above; (2) the incentive offer is an estimate; (3) the incentive paid will be based upon completion of the project as outlined in the project application.

W. STEVE MACEY
Name (please print)

INTERIM EXECUTIVE DIRECTOR
Title

W. STEVE MACEY
Signature

12/21/18
Date

Approved for Forth
UTA Legal Counsel

12/20/18
VP of Operations, Capital, and Assets

Exhibit "I"

Park City – Salt Lake City Connect Service Interlocal Agreement

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INTERLOCAL AGREEMENT REGARDING BUS SERVICE BETWEEN PARK CITY AND THE SALT LAKE VALLEY

THIS INTERLOCAL AGREEMENT REGARDING BUS SERVICE BETWEEN PARK CITY AND THE SALT LAKE VALLEY (this "Agreement"), is entered into as of August 24th, 2011 ("Effective Date"), by and between SUMMIT COUNTY, a political subdivision of the State of Utah (the "County"), PARK CITY, a municipal corporation and political subdivision of the State of Utah (the "City"), and UTAH TRANSIT AUTHORITY, a public transit district and political subdivision of the State of Utah ("UTA"). The County, City and UTA are hereafter sometimes collectively referred to as "Parties" and may be referred to individually as a "Party."

RECITALS

WHEREAS, UTA operates a public transportation system along the Wasatch Front, including bus service within Salt Lake County; and

WHEREAS, the City operates a public transportation system within Park City and parts of unincorporated Summit County; and

WHEREAS, Utah Senate Bill 301 was enacted in the 2011 General Session to amend Utah Code Ann. § 17B-2a-805 to explicitly allow public transit districts and political subdivisions of the state to enter into interlocal agreements regarding the operation of transit services; and

WHEREAS, there is currently no public transportation system providing service between Salt Lake County and Summit County, and the Parties desire to establish such service according to the terms and conditions herein.

AGREEMENT

NOW, THEREFORE, based upon the stated Recitals, which are incorporated herein by reference, and for and in consideration of the mutual covenants and agreements hereinafter set forth, the mutual benefits to the Parties to be derived herefrom, and other valuable consideration, the receipt and sufficiency of which the Parties acknowledge, it is hereby agreed as follows:

1. **Salt Lake to Park City Connect Service.** UTA agrees to operate an express bus service between Salt Lake City, Summit County, and Park City (hereafter, the "Park City to Salt Lake Valley Bus Service"). The route, schedule, stop locations, park and ride lots, and other characteristics of the Park City to Salt Lake Valley Bus Service are defined in the "Operating Plan" attached hereto as Exhibit A. The Parties may amend the Operating Plan from time to time, through the process defined in paragraph 6, below.
2. **Equipment.** During the term of this Agreement, UTA will provide buses for use in connection with the Park City to Salt Lake Valley Bus Service. Initially, UTA will

contribute buses from its existing fleet. These buses are expected to be 2005 MCI buses but may require the use of other buses in UTA's fleet. Bus replacement, routine maintenance of buses, including repairs to buses damaged while in service, will be performed by UTA, but shall be deemed an operational cost subject to paragraph 3, below.

3. **Operational Costs.** The cost of operating and administering the Park City to Salt Lake Valley Bus Service includes the following: (i) direct costs of operator and supervisor wages, maintenance, and fuel, (ii) proportional costs of operational and administrative support provided by UTA, (iii) bus replacement costs, and (iv) a Liability Premium (defined below) (collectively, the "Operating Expenses"). As of the Effective Date, the anticipated monthly Operating Expenses are detailed in the Operating Plan, attached hereto as Exhibit A. The Parties anticipate that farebox revenues will cover much, if not all, of the Operating Expenses. The Parties recognize, however, that farebox revenues may be less than the Operating Expenses. In the event the Operating Expenses exceed farebox revenues during a one month period, the Operating Expenses less the farebox revenues shall be defined and hereafter referred to as the "Operational Deficit."
 - a. The City and County hereby agree to jointly fund the Operational Deficit, up to a maximum amount as set forth in the Operating Plan, attached hereto as Exhibit A (the "Annual Operating Expense Cap"). UTA shall invoice the City and County for such Operational Deficit on a monthly basis, and the City and County shall remit payment to UTA within 30 days of receipt of an invoice. UTA shall maintain its cost records, and allow the City and the County to inspect such records upon request.
 - b. Once the City and County have made payments to UTA pursuant to this paragraph equal to the Annual Operating Expense Cap, UTA shall be responsible to fund the Operational Deficit for the remainder of the annual term of the Agreement, up to a maximum amount as set forth in the Operating Plan, attached hereto as Exhibit A (the "UTA's Annual Operating Expense Cap"). In the event that the annual Operational Deficit exceeds both the Annual Operating Expense Cap and UTA's Annual Operating Expense Cap, UTA may, at its sole option, immediately cease operating the Park City to Salt Lake Valley Bus Service for the remainder of the term. Prior to any service termination UTA will provide the City and County the opportunity to increase their Annual Operating Expense Cap in a sum sufficient to keep service in operation.
 - c. The Operating Cost will be determined using actual costs incurred by UTA, and not current cost estimations. The Parties understand and agree that UTA's actual Vehicle Replacement Cost or other cost line items might be different than estimated Operating Costs. In the event that there is a surplus of farebox revenues during any month, such surplus shall be applied on a continuing basis to future Operating Expenses so as to reduce the Operational Deficit in future months as set forth in paragraph 3(a) herein.

4. **Facilities.** The City and County shall allow UTA to use City or County-owned or controlled facilities as necessary to operate the Park City to Salt Lake Valley Bus Service. Such facilities include: City streets and County roads along the route, the Bus Stops listed in the Operating Plan, and portions of the Ironhorse Transit Facility, as set forth in the Operating Plan. Such City or County-owned facilities shall be maintained by the City or County, as appropriate. UTA will have no maintenance duties with respect to facilities located in Park City or Summit County.

UTA may layover buses at the Ironhorse Transit Facility as detailed in the Operating Plan, and may perform routine maintenance on its buses parked at the Ironhorse Transit Facility.

5. **Term.** The term of this Agreement is for one (1) year, commencing on the Effective Date, and shall automatically renew for successive one (1) year terms, until such time as any Party serves written notice of termination. Such written notice of termination must be given at least three (3) months in advance of the terminating Party's desired termination date. In addition to UTA's right to cease service as provided in paragraph 3(b) above, any Party may terminate this Agreement for default by another Party, in accordance with the provisions of paragraph 14, below. In no event shall this Agreement exceed fifty (50) years in duration. The expiration or termination of this Agreement shall not relieve or excuse a Party of any obligations accruing prior to such expiration or termination.
6. **Management of Project.** The Parties hereby create a Project Management Team consisting of the following individuals, or their designees: (i) for the City, Park City Transit General Manager; (ii) for the County, Public Works Administrator, (iii) for UTA, the Regional General Manager, and (iv) UTA's Project Manager for the Park City to Salt Lake Valley Bus Service. A Party may change its representative on the Project Management Team by providing written notice of such change to the other Parties.

The Project Management Team shall: (a) meet on a regular basis, as determined by the Project Management Team, (b) perform all functions expressly assigned to the Project Management Team in this Agreement or amendments hereto, (c) recommend any amendments to this Agreement deemed necessary or desirable, and (d) address and resolve issues, disputes or concerns arising during the term of the Agreement.

The Project Management Team may, by letter agreement executed by each of the representatives on the Project Management Team, amend the Operating Plan attached hereto as Exhibit A, in order to make minor changes to the Park City to Salt Lake Valley Bus Service. Minor changes may include, but are not limited to, changes to the route; adding, eliminating, or changing the location of Bus Stops; adjusting the number or timing of daily bus trips, or changing the amount of the Annual Operating Expense Cap. The Project Management Team should review and, if appropriate, amend the Operating Plan at least annually. Such annual review and amendment should take place in advance of the three (3) month deadline for termination as described in the preceding paragraph. More substantial changes to the Park City to Salt Lake Valley Bus Service operations, along with changes to other provisions of this Agreement, should be made through formal

amendment of this Agreement. The Parties acknowledge and agree that amending the Operating Plan may require the approval of one or more of the Parties' governing bodies.

The Project Management Team may elect, by mutual written agreement, to hire a private firm to operate the Park City to Salt Lake Valley Bus Service in whole or in part. Any such arrangement would have to comply with all applicable laws, including applicable procurement law and approval, when needed, by the Parties' respective governing bodies.

7. **Paratransit Services.** The Parties agree that Park City Transit shall provide any Paratransit services, made necessary by the implementation of the Park City to Salt Lake Valley Bus Service, in Summit County. The Parties further agree that UTA shall provide any necessary Paratransit services in Salt Lake County.
8. **Road calls and Maintenance.** In the event that a Park City to Salt Lake Valley Bus Service becomes inoperable while in Summit County, the Parties agree to work cooperatively together to provide the necessary personnel, vehicles, and services as necessary to transport passengers and resume service as soon as possible, with the mutual goal of meeting the expectations of bus patrons and providing a consistently reliable service. Costs incurred by the City or County in connection with such road calls or maintenance work shall be credited against the monthly operational charge described in paragraph 3, above, at UTA's standard hourly and mileage rates for personnel and vehicles, and at actual cost of supplies used.
9. **Marketing.** The City and County agree to work cooperatively with UTA to promote the Park City to Salt Lake Valley Bus Service service, with the mutual goal of maximizing ridership.
10. **Dispute Resolution.** Any dispute that cannot be resolved by the Project Management Team shall be forwarded to UTA's General Manager, the Park City Manager, and the Summit County Manager for resolution prior to any Party initiating arbitration proceedings. If the matter has not been resolved within thirty (30) days of the meeting of the UTA General Manager, the Park City Manager, and the Summit County Manager, any controversies arising out of the terms of this Agreement or its interpretation, including any subcontractor dispute, shall be settled in Utah in accordance with the rules of the American Arbitration Association, and the judgment upon award may be entered in any court having jurisdiction thereof.
11. **Jurisdiction and Venue.** This Agreement has been and shall be construed as having been made and delivered within the state of Utah, and it is agreed by each Party hereto that this Agreement shall be governed by laws of the state of Utah, both as to interpretation and performance.
12. **Losses and Liability.** The Parties shall indemnify and hold one another and their respective agents employees, and officers, harmless from and shall process and defend at their own expense any and all claims, demands, suits, at law or equity, actions, penalties, losses, damages, or costs, of whatsoever kind or nature, brought against a Party arising

out of, in connection with, or incident to the execution of this Agreement and/or a Party's defective performance or failure to perform any aspect of this Agreement; provided, however, that if such claims are caused by or result from the concurrent negligence of another Party, its agents, employees, and officers, this indemnity provision shall be valid and enforceable only to the extent of the negligence of a Party against whom a claim is made; and provided further, that nothing herein shall require a Party to hold harmless or defend another Party, its agents, employees and/or officers, from any claims arising from the sole negligence of another Party, its agents, employees, and/or officers.

Each Party agrees to maintain throughout the duration of this Agreement insurance coverage (or a self-insurance program) for the activities set out in this Agreement in an amount that is equal to or greater than the Parties' maximum exposure to liability as determined by the Utah Director of Risk Management and as set forth in Utah Code Annotated Section 63G-7-604, as amended.

The Parties agree that each Parties' workers compensation insurance will cover each Parties' employees and that under no circumstances shall an employee of one Party be considered an employee or agent of another Party.

Any dispute regarding responsibility for losses or liability under this paragraph shall be referred to dispute resolution as described in paragraph 10.

13. **Liability Premium.** UTA shall charge the City and County a Liability Premium of Five Cents (\$0.05) per mile traveled by the Park City to Salt Lake Valley Bus Service to compensate UTA for the assumption of risk inherent in operating the Park City to Salt Lake Valley Bus Service.
14. **Passenger Data.** UTA shall make available Park City to Salt Lake Valley Bus Service passenger, fare, boarding, and alighting data available to the City or County upon request.
15. **Default.** If any Party determines that another Party is in breach of the terms of this Agreement, that Party shall give written notice to the breaching Party of such violation and demand corrective action sufficient to cure the breach. If the breaching Party fails to cure the breach within thirty (30) days after receipt of notice thereof from another Party, or under circumstances where the violation cannot reasonably be cured within a thirty (30) day period, fails to begin curing such breach within the thirty (30) day period, or fails to continue diligently to cure such breach until finally cured, a Party may commence the dispute resolution process described in paragraph 10.
16. **Notices.** Any notice, demand, request, consent, submission, approval, designation or other communication which either Party is required or desires to give under this Agreement shall be made in writing and delivered to the other Party at the addresses set forth below or at such other addresses as the Party may provide in writing from time to time. Such notices shall be hand delivered, mailed (by first-class mail, postage prepaid) or delivered by courier service as follows:

If to the City:

Park City Manager's Office
445 Marsac
PO Box 1480
Park City, Utah 84060

If to UTA:

Utah Transit Authority
Attn: Michael Allegra, General Manager
669 West 200 South
Salt Lake City, Utah 84101

If to the County:

Summit County
Attn: Robert Jasper
County Manager
PO Box 128
60 N Main
Coalville, Utah 84017

With a Copy to:

Park City Attorney's Office
445 Marsac
PO Box 1480
Park City, Utah 84060

With a Copy to:

Utah Transit Authority
Attn: General Counsel's Office
3600 South 700 West
Salt Lake City, Utah 84119

With a Copy to:

Summit County
Attn: David Thomas
Chief Civil Deputy
PO Box 128
60 N Main
Coalville, Utah 84017

17. **Acquisition, Ownership, and Disposition of Property.** Unless otherwise agreed by the Parties in writing, all real and personal property acquired by a Party for use in connection with the Park City to Salt Lake Valley Bus Service service, or property already owned by a Party and used in connection with the Park City to Salt Lake Valley Bus Service service, shall remain the property of that Party during and after the term of this Agreement. By way of example only and not of limitation, buses now owned by UTA, or acquired in the future by UTA, and used as Park City to Salt Lake Valley Bus Services, shall at all times remain the property of UTA.

18. **Miscellaneous.**

- a. **Non-Waiver.** No covenant or condition of this Agreement may be waived by either Party unless done so in writing by such Party. Forbearance or indulgence by a Party in any regard whatsoever shall not constitute a waiver of the covenants or conditions to be performed by the other Party.
- b. **Severability.** If any provision of this Agreement shall be held or deemed to be or shall, in fact, be illegal, inoperative or unenforceable, the same shall not affect any other provisions herein contained or render the same invalid, inoperative or unenforceable to any extent whatsoever.
- c. **No Third Party Beneficiaries.** There are no intended third Party beneficiaries to this Agreement. It is expressly understood that enforcement of the terms and

conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Parties, and nothing contained in this Agreement shall give or allow any claim or right of action by any third person under this Agreement. It is the express intention of the Parties that any third person who receives benefits under this Agreement shall be deemed an incidental beneficiary only.

- d. Entire Agreement; Amendment. This Agreement contains the entire agreement between the Parties with respect to the subject matter hereof, and statements, promises or inducements made by any Party or agents of any Party that are not contained in this Agreement shall not be binding or valid. This Agreement may not be amended, enlarged, modified or altered except through a written instrument signed by all Parties.

19. **Interlocal Cooperation Act Requirements.** In satisfaction of the requirements of the Interlocal Cooperation Act, Title 11, Chapter 13, Utah Code Annotated, as amended, and in connection with this Agreement, the Parties agree as follows:

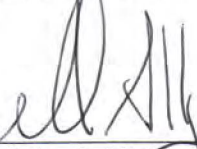
- a. The Agreement shall be authorized by resolution or ordinance of the governing body of each Party pursuant to §11-13-202.5 of the Act.
- b. This Agreement shall be approved as to form and legality by a duly authorized attorney on behalf of each Party pursuant to §11-13-202.5 of the Act.
- c. A duly executed original counterpart of this Agreement shall be filed with the keeper of records of each Party pursuant to §11-13-209 of the Act.
- d. Prior to the expiration of the term of this Agreement pursuant to paragraph 5, this Agreement may only be terminated in accordance with the terms of this Agreement, or by and upon the express written consent of all of the Parties. Cessation of service under 3(b) of this agreement shall also automatically terminate this agreement, but obligations accruing prior to any such termination shall survive the termination of the Agreement.

IN WITNESS WHEREOF, the Parties have each executed this Interlocal Agreement Regarding Bus Service between Park City and the Salt Lake Valley as of the date first set forth above.

PARK CITY MUNICIPAL CORPORATION

UTAH TRANSIT AUTHORITY

By: 
~~Thomas B. Bakaly, City Manager~~
Michael Kovacs, Acting City Manager

By: 
Michael Allegra, General Manager

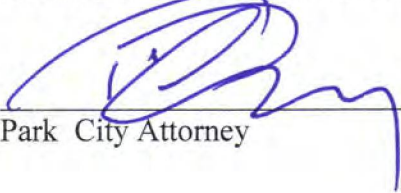
ATTEST AND COUNTERSIGN:

By: 
City Recorder

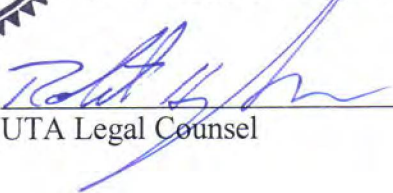
By: 



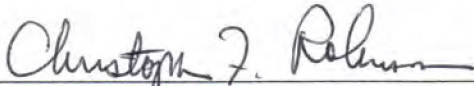
APPROVED AS TO FORM AND LEGALITY:

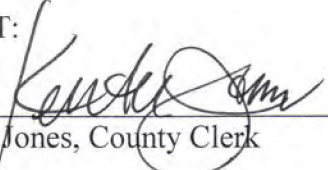

Park City Attorney

APPROVED AS TO FORM AND LEGALITY:


UTA Legal Counsel

SUMMIT COUNTY

By: 
Christopher F. Robinson, Chair

ATTEST:
By: 
Kent Jones, County Clerk

APPROVED AS TO FORM AND LEGALITY:

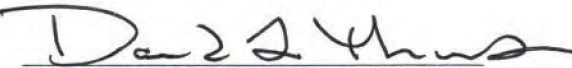

David L. Thomas
Chief Civil Deputy



EXHIBIT A

The Park City to Salt Lake Valley Bus Service – Operating Plan

- a. Route. The Park City to Salt Lake Valley Bus Service will run from the Salt Lake Intermodal Center along 200 South to State Street, then along 100 south to the University Hospital, then along Foothill Boulevard, up Parley's Canyon to Jeremy Ranch, on Highway 224 to Kimball Junction, The Canyons Resort, Park City Mountain Resort, then to the Park City Old Towne Transit Center, and Deer Valley. Buses travelling from Park City to Salt Lake will travel the same route, in the reverse direction. The route is depicted on Exhibit 1 hereto.
- b. Stops. The Park City to Salt Lake Valley Bus Service will stop at the following locations:
- Salt Lake Central Station
 - State Street and 200 South
 - University Hospital
 - Foothill
 - Jeremy Ranch
 - Kimball Junction
 - The Canyons
 - Park City Mountain Resort
 - Old Town Transit Center
 - Deer Valley

The stops are depicted on Exhibit 1 hereto.

- c. Park and Ride Lots. The Park City to Salt Lake Valley Bus Service will be served by the following park and ride lots:
- Jeremy Ranch
- d. Schedule. The Park City to Salt Lake Valley Bus Service will initially operate according to the schedule in exhibit 2 hereto.

The Project Management Team may, from time to time, adjust the schedule according to demand, pursuant to paragraph 6 of the Agreement.

- e. Buses. The Park City to Salt Lake Valley Bus Service will primarily use high capacity coach buses. UTA reserves the right to use buses that meet the demand per trip and time of day.

- f. Fares. The fare for the Park City to Salt Lake Valley Bus Service will be Five Dollars and 50 Cents (\$5.50). The fare for the service will follow UTA fare increases and fuel surcharge schedules. The Project Management Team, pursuant to paragraph 6 of the Agreement may adjust the fare from time to time, in accordance with UTA's standard practices and policies regarding fares.
- g. Monthly Cost. As of the effective date of the Agreement, the anticipated gross monthly cost to operate the Park City to Salt Lake Valley Bus Service ranges from approximately \$63,500 for off-season months and \$82,500 for peak-season months (the "Operating Cost", as described in paragraph 3 of the Agreement). Such cost consists of the following individual line items:
 - Operating cost/platform hour
 - Maintenance cost per mile
 - Fuel cost per mile
 - Supervisor Expense
 - Marketing Expenses
 - Administrative Support
 - Vehicle Replacement Cost
 - Liability Premium (\$0.05 per vehicle mile)

All four members of the Project Management Team may, at their discretion, elect to hire subcontractors to perform services typically performed by UTA, as described above. In the event the Parties contract out such services, the actual costs paid by UTA to such contractors would be included within the Operating Cost.

As described in paragraph 3 of the Agreement, the City and County shall fund the Operating Cost, less the amount recovered by the service through the farebox (the "Operational Deficit"). The Operational Deficit for which the City and County are responsible shall not exceed \$470,000 for the first operating year (October 2011 to October 2012) (the "Annual Operating Expense Cap.") The Annual Operating Expense Cap may be adjusted by the Project Management Team, pursuant to paragraph 6 of the Agreement.

As described in paragraph 3 of the Agreement, UTA shall fund the Operational Deficit after the City and County have fully satisfied their obligation to fund the Operational Deficit up to their Annual Operating Expense Cap. The Operational Deficit for which UTA is responsible shall not exceed \$180,000 for the first operating year (October 2011 to October 2012) (the "UTA's Annual Operating Expense Cap.") The UTA Annual Operating Expense Cap may be adjusted by the Project Management Team, pursuant to paragraph 6 of the Agreement.

The actual Operating Cost will be based on actual costs incurred by UTA, not the estimated costs cited above. If UTA elects, for example, to use buses other than the MCI buses that the estimated Operating Costs are based on, the actual Vehicle Replacement Cost or other cost line items might be different than the estimated Operating Cost cited above.

- h. Facilities. Two bus stalls at the Ironhorse Transit Facility will be made available for UTA's use at all times, including End of Line waiting times, layovers during peak and non-peak hours, and overnight. UTA acknowledges that Park City will lock the bus stalls between 10 p.m. and 6 a.m. but that Park City will attempt to provide access to those stalls if possible on an as-needed basis. The stalls must be located in proximity to a power outlet, so that UTA can use block heaters when necessary. Additionally, a 5 by 15 foot area adjacent to such stalls will be made available for UTA's use, for storing supplies necessary to the bus service. The stalls and area available to UTA must be covered and secure, to prevent damage to UTA's buses.

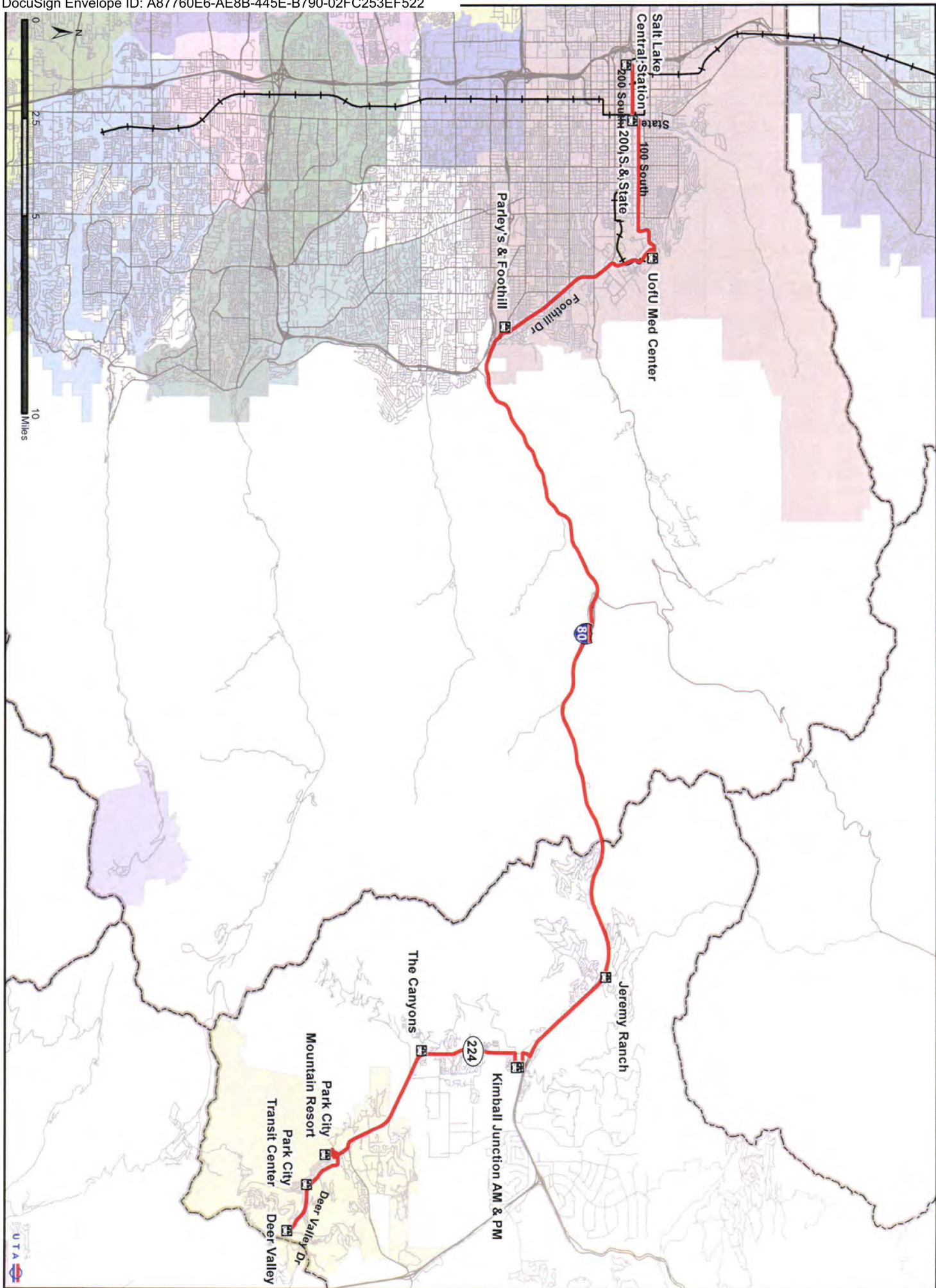


Exhibit 1

Exhibit 2

Trips Run Times Node to Node Stop Trips													
TO DEER VALLEY [8]													
Frz	Tr	P	Ve	IN	SLCSTATN	16SSSTAT	MEDCTR	U.U.HOSP	WAKACHIP	JERRANCH	KIMBALL	CANYONS	PCRM
0	0	1	-	-	5:23	5:30	5:40						
0	0	1	-	-	6:12	6:19	6:29						
0	0	1	-	-	6:42	6:49	6:59						
0	0	1	-	-	7:12	7:19	7:29						
0	0	1	-	-	16:24	16:31	16:41		16:49	17:24	17:29	8:14	8:39
0	0	1	-	-	16:54	17:01	17:11		17:19	17:54	17:59		17:39
0	0	1	-	-	17:50	17:57	18:07		18:15	18:50	18:55		18:09
0	0	1	-	-	18:20	18:27	18:37		18:45	19:20	19:25		19:05
To SLC [7]													
Frz	Tr	P	Ve	IN	DEERVILLY	PCHUB	PCRM	CANYONS	KIMBALL	JERRANCH	WAKACHIP	U.U.HOSP	16SSSTAT
0	IN	1	-	-	6:36	7:06			6:51	6:56	7:33		7:52
0	IN	1	-	-		7:50			7:21	7:26	8:03		8:22
0	IN	1	-	-		16:15			8:05	8:10	8:47		9:06
0	IN	1	-	-	16:10	16:15	16:20	16:31	16:37				17:28
0	IN	1	-	-	16:40	16:45	16:50	17:01	17:07				17:37
0	IN	1	-	-	17:10	17:15	17:20	17:31	17:37				17:58
0	IN	1	-	-	17:44	17:49	17:54	18:05	18:11				18:26
0	IN	1	-	-									18:37
0	IN	1	-	-									19:02
0	IN	1	-	-									19:11

- The AM trips to PC skip Research Park and Jeremy Ranch
- The AM trips to SLC skip the resort stops
- The PM trips to PC skip the resort stops
- The PM trips to SLC skip Jeremy Ranch and Research Park
- Kimball Junction is serviced via Highland
- PCMR is accessed with a clockwise loop from Empire to Lowell

Amendment No. 1**To****Interlocal Agreement Regarding Bus Service Between
Park City And The Salt Lake Valley**

THIS Amendment No. 1 to Interlocal Agreement Regarding Bus Service Between Park City and the Salt Lake Valley is made this 26th day of June, 2017, by and between UTAH TRANSIT AUTHORITY ("UTA"), PARK CITY MUNICIPAL CORPORATION ("PARK CITY"), and SUMMIT COUNTY ("COUNTY"). UTA, PARK CITY and COUNTY are hereinafter collectively referred to as "parties" and each may be referred to individually as "party," all as governed by the context in which such words are used.

WHEREAS, on or about August 24, 2011, the parties entered into the Interlocal Agreement Regarding Bus Service Between Park City and the Salt Lake Valley (the "Agreement") whereby the parties agreed to participate jointly in operating transit service in and around the Salt Lake and Summit Counties as described in the Operating Plan attached to the Agreement as Exhibit A; and

WHEREAS, the Agreement provides for amending the Operating Plan through letter agreement executed by each of the representatives on the Project Management Team; and

WHEREAS, the parties desire to amend the Operating Plan to increase the Operational Deficit identified in the Agreement.

NOW, THEREFORE, the parties hereby agree as follows:

1. Section 3 Paragraph A of the Agreement states, "The City and County hereby agree to jointly fund the Operational Deficit, up to a maximum amount as set forth in the Operating Plan..." According to Exhibit A – The Park City to Salt Lake Valley Bus Service – Operating Plan, Paragraph G – "The Operational Deficit for which the City and County are responsible shall not exceed \$470,000." The parties hereby agree to increase the Operational Deficit from \$470,000 per year to \$708,000 per year, as set forth in Exhibit 3, which is attached hereto.
2. Exhibit 3 is hereby incorporated into the Agreement.
3. The UTA Project Manager shall be Joey Alsop. The representative for each of the other entities shall be as follows: UTA: Lorin Simpson; PARK CITY: Blake Fannesbeck; SUMMIT COUNTY: Caroline Rodriguez.
4. With the exception of the terms in this Amendment, all other terms of the Agreement shall remain in full force and effect.

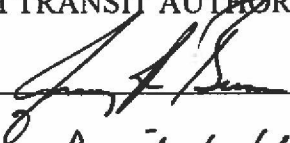
5. This Amendment may be executed in one or more counterparts, each of which shall be an original, with the same effect as if the signatures were upon the same instrument.

IN WITNESS WHEREOF, the Parties have entered into this Amendment effective the date first set forth herein.

[Signature pages to follow]

[Signature pages to Amendment No. 1 To Interlocal Agreement Regarding Bus Service Between
Park City and the Salt Lake Valley, between Utah Transit Authority, Park City and Summit
County]

UTAH TRANSIT AUTHORITY

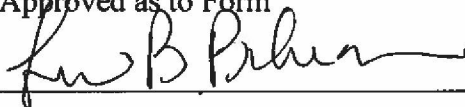
By 

Its President / CEO

By 

Its Mayor

Approved as to Form



UTA Legal Counsel

[Signature pages to Amendment No. 1 To Interlocal Agreement Regarding Bus Service Between
Park City and the Salt Lake Valley, between Utah Transit Authority, Park City and Summit
County]

PARK CITY

By

Its

[Signature]
City Manager, acting

By

Its

[Signature]
DEPUTY City Atty



MB Stuchdale
Deputy City Recorder

[Signature pages to Amendment No. 1 To Interlocal Agreement Regarding Bus Service Between
Park City and the Salt Lake Valley, between Utah Transit Authority, Park City and Summit
County]

Summit County

By  1/5/18
THOMAS C. FISHER
Its COUNTY MANAGER

By _____
Its _____

Approved as to form
Summit County Attorney

By 

Exhibit 3

Park City Costing Scenarios

Change Day	Daily Trip/Week Day	# Weekend Trips	Weekdays / Change Day	Weekday Total Daily Miles	Weekday Total Daily Hours	Weekday Change Day	Saturday Total Daily Miles	Saturday Total Daily Hours	Sunday Total Daily Miles	Sunday Total Daily Hours	Holidays/Change Day	Holiday Total Daily Miles	Holiday Total Daily Hours	Total Change Day Miles	Total Change Day Hours	Operator Cost	Maintenance Cost	Fuel Cost	Admin Support Cost	Liability Premium	Vehicle Recovery Cost	Supervisor Costs	2016 Operational Deficit
December	10	6	96	414.08	17.65	20	273.18	17.72	20	273.18	17.72	4	273.18	17.72	2,474.08	\$ 88,868.95	\$ 99,840.44	\$ 36,754.43	\$ 63,337.18	\$ 2,988.94	\$ 64,706.50	\$ 29,448.00	
April	8	0	87	317.89	13.12	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	1,141.44	\$ 41,000.32	\$ 21,298.18	\$ 19,138.54	\$ 96,511.08	\$ 1,883.09	\$ 54,574.89	\$ 29,448.00	
August	8	0	69	312.43	13.27	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	915.63	\$ 32,889.43	\$ 16,758.80	\$ 35,452.82	\$ 20,729.38	\$ 1,883.23	\$ 27,205.84	\$ 29,448.00	
Total Annual															915.63	\$ 162,756.81	\$ 77,837.36	\$ 71,835.88	\$ 133,572.62	\$ 5,958.57	\$ 126,889.29	\$ 88,346.00	
Total PC-SLC Connect Scheduled Expense																							\$ 665,887.57

Total PC-SLC Connect Scheduled Expense \$ 665,887.57

Exhibit 3

Change Day	Daily Trip/Week Day	# Weekend Trips	Weekdays / Change Day	Weekday Total Daily Miles	Weekday Total Daily Hours	Weekday Change Day	Saturday Total Daily Miles	Saturday Total Daily Hours	Sunday Total Daily Miles	Sunday Total Daily Hours	Holidays/Change Day	Holiday Total Daily Miles	Holiday Total Daily Hours	Total Change Day Miles	Total Change Day Hours	Operator Cost	Maintenance Cost	Fuel Cost	Admin Support Cost	Liability Premium	Vehicle Recovery Cost	Supervisor Costs	Adjusted Operational Deficit (New Amendment 1)
December	20	12	96	594.81	24.44	20	333.76	12.55	20	243.76	12.55	4	333.76	12.55	3,898.44	\$ 104,111.04	\$ 54,536.04	\$ 50,187.51	\$ 89,491.80	\$ 3,541.88	\$ 88,194.00	\$ 29,448.00	
April	15	0	87	479.24	20.57	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	1,193.19	\$ 42,183.27	\$ 22,044.29	\$ 39,820.85	\$ 55,015.92	\$ 2,984.69	\$ 52,117.35	\$ 29,448.00	
August	15	0	69	479.24	20.57	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	1,419.19	\$ 50,962.33	\$ 25,462.02	\$ 38,577.87	\$ 43,649.18	\$ 1,813.38	\$ 41,194.45	\$ 29,448.00	
Total Annual															1,419.19	\$ 233,796.37	\$ 112,800.25	\$ 103,540.38	\$ 192,177.89	\$ 7,279.43	\$ 181,886.46	\$ 88,346.00	
Total PC-SLC Connect Scheduled Expense																							\$ 804,831.89

Total PC-SLC Connect Scheduled Expense \$ 804,831.89

Year & Month	April	August	December	Weekend
Trips per day	8	8	10	6

Differences \$ [65,617.46] \$ [84,185.89] \$ [13,572.05] \$ [5,496.58]

Annual Cost Difference Between Scenarios \$ 233,646.23

2016 Operational Deficit \$ 470,000

Adjusted Operational Deficit \$ 708,646.23

Exhibit "J"

Park City – VW Settlement Agreement

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Agreement #	210454
Amount:	\$3,693,941.00
Date:	

VOLKSWAGEN ELIGIBLE MITIGATION ACTION FUNDING AGREEMENT
PARK CITY MUNICIPAL CORPORATION and
STATE OF UTAH
DEPARTMENT OF ENVIRONMENTAL QUALITY

WHEREAS, pursuant to the terms of the settlement,¹ on January 29, 2018, the Trustee of the Volkswagen Diesel Emissions Environmental Mitigation Trust for State Beneficiaries, Puerto Rico, and the District of Columbia ("Trust") designated the State of Utah a beneficiary under the Trust.² In accordance with the Environmental Mitigation Trust Agreement for State Beneficiaries ("Trust Agreement"),³ the State of Utah may disburse Trust funds for Eligible Mitigation Actions to mitigate the lifetime excess nitrogen oxide ("NO_x") emissions from noncompliant vehicles;⁴

¹ On October 25, 2016, and on May 17, 2017, the United States District Court, Northern District of California ("Court"), entered partial consent decrees requiring the settling defendants (Volkswagen AG, Audi AG, Volkswagen Group of America, Inc., Volkswagen Group of America Chattanooga Operations, L.L.C., Dr. Ing. H.c. F. Porsche AG, and Porsche Cars North America, Inc.), to collectively fund Eligible Mitigation Actions that will reduce nitrogen oxide emissions where the noncompliant vehicles "were, are or will be operated." *Partial Consent Decree*, In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 (CRB (JSC) ("*First Partial Consent Decree*"), (Approved October 25, 2016) at 5; *Second Partial Consent Decree*, In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 (CRB)(JSC), (Approved May17, 2017).

² *Notice of Beneficiary Designation Under the Volkswagen Diesel Emissions Environmental Mitigation Trust for State Beneficiaries, Puerto Rico, and the District of Columbia*, In Re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 (CRB (JSC) (January 29, 2019).

³ *See Environmental Mitigation Trust Agreement for State Beneficiaries* (filed October 2, 2017).

⁴ *First Partial Consent Decree* at 5; *Second Partial Consent Decree* at 5.

WHEREAS, the Utah Department of Environmental Quality ("UDEQ"), as the lead agency in the Trust matter, intends to provide funding assistance to Utah governmental entities⁵ to reduce the purchase price of Eligible Mitigation Actions;⁶

WHEREAS, pursuant to the Environmental Mitigation and Response Act, Title 19, Chapter 1, Part 6, Utah Code, 1953, as amended, the UDEQ may accept and distribute settlement funds in accordance with the terms and conditions of that settlement;

WHEREAS, Park City Municipal Corporation ("Park City"), a governmental entity in the State of Utah, requested financial assistance derived from the Trust to partially fund the replacement of one or more diesel vehicles;

NOW, THEREFORE, pursuant to the Environmental Mitigation and Response Act and the Trust Agreement, this Volkswagen Eligible Mitigation Action Funding Agreement ("Agreement") is entered into by and between the UDEQ and Park City as follows:

I. Terms of the Eligible Mitigation Action Funding.

- A. **Funding Assistance Purpose:** The UDEQ awards Eligible Mitigation Action Funding Assistance ("Funding Assistance") to Park City to reduce the purchase price of each new replacement vehicle to achieve a reduction in NO_x emissions.

⁵ Government entity defined pursuant to Title 11, Chapter 13, Interlocal Cooperation Act, Utah Code.

⁶ Trust at ¶ 5.1.

B. Eligible Vehicles to Receive Funding Assistance for Replacement:

Once verified by the UDEQ as meeting the Eligible Mitigation Action requirements, the UDEQ may authorize Funding Assistance for the replacement of each of the following vehicles (also referred to as "replaced vehicle"):

1. Vehicle identification numbers (VIN) 15GGB291561076504, engine model year 2005, Class 8 transit bus;
2. VIN 15GGB291761076505, engine model year 2005, Class 8 transit bus;
3. VIN 15GGB291961076506, engine model year 2005, Class 8 transit bus;
4. VIN 15GGB291061076507, engine model year 2005, Class 8 transit bus;
5. VIN 1M8PDMPA06P057017, engine model year 2005, Class 8 transit bus; and
6. VIN 1M8PDMPA76P057015, engine model year 2005, Class 8 transit bus.

C. Eligible Mitigation Action Funding Deadline:

To receive Funding Assistance, on or before three years from the effective date of this Agreement, Park City shall complete and submit to the UDEQ supporting documentation that all requirements specified in this Agreement have been met.

D. Maximum Award: To reduce the purchase price, the UDEQ may provide Funding Assistance up to sixty-five percent (65%) of the lowest price quote for each new replacement vehicle purchased by Park City. The total maximum combined Funding Assistance awarded to Park City is \$3,693,941.00.**II. Required Certifications:** In signing this Agreement, Park City agrees and certifies, under penalty of perjury, that:

- A. **Park City Cost Share:** Park City shall cost-share or fund a minimum of thirty-five percent (35%) of each new replacement vehicle partially funded under this Agreement.
- B. **Leased Vehicles Not Eligible for Funding Assistance:** Park City shall use Funding Assistance only to purchase each authorized replacement vehicle and not to lease any vehicle.
- C. **Highway Model Year:** Park City shall use Funding Assistance only to replace eligible, UDEQ-approved, Class 8 highway vehicles with engine model years 1992 to 2006.

- D. **Eligible Mitigation Action Funding:** Park City shall only use Funding Assistance:
1. To purchase each new replacement vehicle powered by a 2020 model year or newer engine certified by the U.S. Environmental Protection Agency ("EPA") or the California Air Resources Board;
 2. To purchase a new replacement vehicle that is in the same Class and associated Gross Vehicle Weight Rating ("GVWR") as the replaced vehicle listed in ¶ I.B; and
 3. To fund up to sixty-five percent (65%) of the lowest price quote for each new replacement vehicle, including the cost of any modifications, attachments, accessories, or auxiliary apparatus necessary to make it usable for the purpose for which it is acquired,⁷ and freight.
- E. **Mandated Measures:** Park City shall not use Funding Assistance for emissions reductions that are otherwise mandated under federal law.⁸
- F. **Normal Attrition:** Park City shall not use Funding Assistance to replace vehicles that Park City intends to replace through normal attrition or fleet turnover.⁹ Vehicle replacements that would have occurred through normal attrition or fleet turnover on or before December 31, 2021, are considered the result of normal fleet turnover or normal attrition; and those vehicles are not eligible to be replaced using Eligible Mitigation Action Funding.
- G. **Fleet Expansion:** Park City shall not use Funding Assistance for the purchase of vehicles to expand its fleet.
- H. **Matching Funds:** Park City shall not use Funding Assistance as matching or cost-share funds for other federal grants, including funds received under EPA's federal Supplemental Environmental Project funds.
- I. **Procurement Code:** Park City shall procure each replacement vehicle in accordance with applicable provisions of the Utah Procurement Code, Title 63G, Chapter 6a, Utah Code and any local procurement rules in Park City's jurisdiction.

⁷ The cost of additional "optional" components or "add-ons" that significantly increase the cost of the vehicle may not be eligible for funding.

⁸ Voluntary or elective emissions reductions measures shall not be considered "mandated," regardless of whether the reductions are included in the State of Utah, State Implementation Plan.

⁹ Normal attrition is defined by Park City's budget plan, operating plan, standard procedures, or retirement schedule.

- J. **Disable Replaced Vehicles:** Park City shall scrap or disable each replaced vehicle within ninety (90) days of being replaced in accordance with the criteria specified in ¶ III.F below.
- K. **Sufficient Progress:** Park City agrees that the UDEQ may terminate any Funding Assistance if Park City fails to make sufficient progress to reasonably ensure completion of the requirements specified in this Agreement prior to three years from the effective date of this Agreement. The UDEQ shall determine whether Park City is achieving sufficient progress by examining quarterly reports, the status of each requirement, the milestone schedule and the time remaining in the project period.
- L. **Replacement Vehicle Use, Management, and Disposition:**
 - 1. Park City shall register, license, and insure each new replacement vehicle in the State of Utah.
 - 2. Park City shall operate each new replacement vehicle, partially funded under this Agreement, in the same function and operation as the replaced vehicle, specified in ¶ I.B.
 - 3. For each replacement vehicle partially funded under this Agreement, Park City shall follow the manufacturer's recommendations for routine maintenance and retain documents demonstrating that the maintenance was completed. These documents shall be made available to the UDEQ upon request.
 - 4. Park City shall not tamper with, remove, or render inoperative an emission control component of the EPA or CARB certified engine.
 - 5. If Park City uses a replacement vehicle as a trade-in, it shall only trade for an equivalent replacement vehicle. If Park City sells a replacement vehicle, it shall use the proceeds to offset the cost of a subsequent equivalent replacement vehicle.
 - 6. If the current per unit, fair market value of each replacement vehicle partially funded under this Agreement is \$5,000 or less, the vehicle may be retained, sold or otherwise disposed of with no further obligation.

III. **Eligible Mitigation Action Funding Conditions.**

To receive Funding Assistance, Park City shall comply with the following conditions:

- A. **Standard Terms and Conditions:** Park City shall comply with the Funding Assistance Agreement, Standard Terms and Conditions, Attachment A.
- B. **Quarterly Reporting and Environmental Results:** Beginning with the subsequent quarter, at least (90) days after the effective date of this Agreement until Park City is reimbursed under ¶ III.F., Park City shall prepare and submit quarterly progress reports to the UDEQ on or before:

July 1st
 October 1st
 January 1st
 April 1st

In its quarterly reports, Park City shall describe its status with respect to completing the requirements specified in this Agreement, including: a summary of Park City's progress toward completing the Eligible Mitigation Action; (¶ III.C.3) expenditures and planned activities for the next quarter (i.e., submitting to UDEQ documentation that demonstrates compliance with applicable procurement requirements, ordering each replacement vehicle, delivery of each replacement vehicle, entering each replacement vehicle into service, disabling each replaced vehicle, etc.); an explanation of any challenges encountered during the reporting period that may impede progress toward completing the Eligible Mitigation Action; a description of any public outreach activities involving the Eligible Mitigation Action project; and anticipated completion date. Park City may submit the quarterly reports and responses to the UDEQ through electronic mail.

- C. **Eligible Mitigation Action Activities:** Prior to each replacement vehicle purchase, Park City shall obtain written approval from UDEQ acknowledging Park City's justification that its purchasing procedures comply with applicable state and local laws (¶ II.I procurement requirements) and verifying vehicle eligibility. To determine eligibility, Park City shall provide the following information to UDEQ:
 - 1. For each vehicle to be replaced:
 - a) The make and model;
 - b) Legible photos of:
 - (1) the side profile, including any vehicle identifier name or number;

- (2) the full engine plate that clearly specifies the engine make, model, year, horsepower, displacement, serial number, engine family name, and EPA estimated emissions for NO_x (nitrogen oxides) and PM (particulate matter);
 - (3) the Vehicle Identification Number (VIN) plate; and
 - (4) the GVWR;
 - c) The total percentage of time the vehicle operates in the 24-hour PM_{2.5} nonattainment counties - Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, and Weber counties;
 - d) Evidence demonstrating that the vehicle is an early replacement, that the replacement would not have occurred through normal attrition, including a description of Park City's normal attrition cycle, and that the vehicle has a minimum of three years remaining in its useful life;
 - e) Vehicle route description, including details of the vehicle's current purpose, routes, and daily/weekly/seasonal operation schedule;
 - f) An odometer reading within thirty (30) days of the date of Application submission;
 - g) The annual miles traveled;
 - h) The annual fuel usage;
 - i) The estimated annual hours the vehicle idles;
 - j) Proof of current registration in the State of Utah; and
 - k) Proof of current insurance.
2. For each proposed new replacement vehicle:
- a) The vehicle make, model, and model year;
 - b) The engine family name and model year;
 - c) The GVWR;
 - d) The horsepower;
 - e) The displacement;
 - f) The fuel type;
 - g) The estimated cost (including itemized add-ons);
 - h) An explanation if any add-ons are necessary to make the vehicle usable for the vehicle's intended purpose; and
 - i) Documentation that Park City's jurisdiction shall fund a minimum of the thirty-five percent (35%) cost share.
3. A timeline specifying anticipated dates to meet key milestones specified in this Agreement, including submission of new vehicle purchase price quotes, ordering the vehicles, securing the thirty-five percent (35%) cost share funding, purchase of vehicles, disabling the replaced vehicle engine and chassis, and submission of reimbursement documentation.

D. Replacement Vehicle Procurement Code Documentation: Park City shall obtain competitive bids for the purchase of each new

replacement vehicle in accordance with Utah Code § 63G-6a-6 and any local procurement rules that apply to Park City's jurisdiction. To demonstrate proof of competition and to allow cost and price analyses, Park City shall submit to the UDEQ, for approval, a minimum of two itemized price quotes for replacement vehicles in the same class, same model year, and similar GVWR, engine displacement and horsepower as the replaced vehicle. Park City shall submit the Vehicle Price Quote Bid Summary Form ("Price Quote Form"), provided by the UDEQ, signed and dated by each vendor. In lieu of submitting the Price Quote Form, Park City may submit a signed and dated price quote from each vendor that summarizes the information specified in the Price Quote Form. Each price quote shall be dated within in ninety (90) days of the other quote and within one year of the date of purchase. The information required in the Vehicle Price Quote Bid Summary Form includes:

1. The vehicle and engine make and model;
2. The GVWR;
3. The engine model year;
4. The horsepower;
5. The engine displacement;
6. That the vehicle is certified to the most stringent EPA emissions standards;
7. Add-ons, modifications or attachments;
8. Delivery costs, if applicable;
9. The dealership providing the quote;
10. That the quote is offered to Park City;
11. The time period the quote is valid; and
12. Warranty information.

E. **Replacement Vehicles Orders:** Any replacement vehicles orders are incurred at Park City's own peril, unless, for each vehicle, Park City has received written authorization from the UDEQ confirming:

1. Park City's vehicle is eligible for replacement using Funding Assistance;
2. Park City's desired replacement vehicle meets the criteria specified in this Agreement, ¶ II.D;
3. Park City obtained a minimum of two competitive price quotes in accordance with ¶ III.D above; and
4. Park City is authorized to place an order for the purchase of its replacement vehicles.

F. **Reimbursement and Receiving Funding Assistance:** Reimbursement of the Funding Assistance portion of each new vehicle purchase price shall occur after each replacement vehicle is entered into service and upon determination by the UDEQ that Park City has complied with the terms, conditions, and certifications of this

Agreement. To demonstrate compliance with the terms of this Agreement, Park City shall:

1. **Permanently Disable Each Replaced Vehicle:** Within ninety (90) days of entering each replacement vehicle into service, Park City shall scrap or permanently disable each replaced vehicle by:
 - a) Cutting a three-inch by three-inch hole in the engine block, the part of the engine that contains the cylinders; and
 - b) Disabling the chassis by cutting through the frame rails on both sides of the vehicle between the front and rear axles.

2. **Demonstration of Each Disabled Replaced Vehicle and Proper Disposal:** Within ninety (90) days of entering each replacement vehicle into service, Park City shall obtain a signed certificate of destruction¹⁰ signed by both the individual disabling each vehicle and an individual authorized to represent Park City. The certificate of destruction for each individual replaced vehicle shall include an electronic copy of a continuous, clear, unedited video that captures:
 - a) The side profile of the vehicle;
 - b) The VIN plate showing a legible VIN;
 - c) The entire engine plate clearly displaying the engine make, model, year, horsepower, displacement, serial number, and engine family name;
 - d) The three-inch by three-inch hole drilled into the engine block; and
 - e) The cut chassis rails.

Park City may supplement the continuous, clear, unedited video with still photographs of engine and vehicle data if the location of the data is impossible to capture in the continuous video.

3. **Submission of Documentation for Reimbursement:** On or before three years from the effective date of this Agreement, Park City shall submit to the UDEQ the following:
 - a) For each replaced vehicle, a certificate of destruction, signed by both the dismantler and person authorized to represent Park City, specifying the date of destruction and an electronic video meeting the requirements specified in ¶¶ III.F.1 and 2 above;

¹⁰ Certificate of Destruction form to be obtained from the UDEQ.

- b) Any receipt for scrappage if Park City received proceeds from the scrappage of the replaced vehicles;¹¹
- c) A final purchase invoice for each replacement vehicle that specifies:
 - (1) the invoice date;
 - (2) the total purchase price of the vehicle;
 - (3) the vehicle make, model, and model year;
 - (4) the Vehicle Identification Number (VIN);
 - (5) the dealership name; and
 - (6) Park City as the purchaser;
- d) Proof of payment for each replacement vehicle rendered by Park City; and
- e) The date Park City placed each replacement vehicle into service.
- f) For each replaced vehicle, a statement, signed by an individual authorized to represent Park City, that:
 - (1) describes the procurement process to purchase the vehicle and
 - (2) states that "each replacement vehicle for which I am seeking funding assistance was procured in accordance with applicable state (63G-6a Utah Code) and local laws as described in this statement."

G. **Funds Derived from Scrappage:** Park City shall use any proceeds from the scrappage of the replaced vehicles to pay, in part, Park City's cost-share portion of the cost of the replacement vehicles.

H. **Delays or Favorable Developments:**

- 1. Park City shall promptly notify the UDEQ in writing of any problems, delays, or adverse conditions which may materially impair its ability to deliver on its obligations specified in this Agreement. This disclosure must include a statement of any actions taken, or contemplated, and any assistance needed to resolve the situation.
- 2. Park City shall notify the UDEQ in writing of any favorable development which may enable it to meet time schedules and objectives sooner or at less cost.

I. **Timely Follow-Up:** Park City shall timely respond with any necessary supporting documentation to any follow-up inquiries from the UDEQ, no later than fifteen (15) days after receipt of the inquiry.

¹¹ Equipment and vehicle components may be salvaged from the vehicle being replaced (e.g. plow blades, shovels, seats, tires, etc.).

EXECUTION

NOW, THEREFORE, by virtue of the authority contained in Title 19, Part 6, Utah Code, the parties hereto mutually agree to perform and execute this Agreement. This Agreement shall take effect upon the signature of the Executive Director as evidenced below.

PARK CITY MUNICIPAL CORPORATION
1053 Ironhorse Drive
Park City, UT 84060

STATE OF UTAH
DEPARTMENT OF
ENVIRONMENTAL QUALITY
195 North 1950 West
Salt Lake City, Utah 84114

DocuSigned by:

D5D5222E86E246E...
Matthew Dias
By: _____
Print your name
Date: 7/24/2020 _____


Scott Baird (Jul 30, 2020 13:57 MDT)
By: L. Scott Baird
Executive Director
Date: 07/30/2020 _____

RECEIVED AND PROCESSED
BY DIVISION OF FINANCE

07/30/2020

ATTACHMENT A
Volkswagen Diesel Emission Environmental Mitigation Trust
Eligible Mitigation Action Funding Agreement
Park City Municipal Corporation
Standard Terms and Conditions

1. **DEFINITIONS:** The following terms shall have the meanings set forth below:
 - a. "Agreement" means the Volkswagen Eligible Mitigation Action Funding Agreement, including all attachments and documents incorporated by reference.
 - b. "Project Sponsor" means City of Park City Municipal Corporation as the entity to receive Funding Assistance pursuant to the terms of this Agreement. Project Sponsor as used in this Agreement shall include Project Sponsor's agents, officers, employees, and partners.
 - c. "State of Utah" means the State of Utah, in its entirety, including its institutions, agencies, departments, UDEQ's authorities, instrumentalities, boards, commissions, elected or appointed officers, employees, agents, and authorized volunteers.
 - d. "Trust" means the Volkswagen Diesel Emission Environmental Mitigation Trust created pursuant to *Partial Consent Decree, In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 (CRB (JSC) ("First Partial Consent Decree"), (Approved October 25, 2016); and Second Partial Consent Decree, In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, MDL No. 2672 (CRB (JSC), (Approved May 17, 2017).*
 - e. "Trust Agreement" means the Environmental Mitigation Trust Agreement for State Beneficiaries, approved September 19, 2017, effective October 2, 2017.
 - f. "UDEQ" means the Department of Environmental Quality, the lead agency for the Trust as designated by the Governor of the State of Utah.
2. **GOVERNING LAW AND VENUE:** This Agreement shall be governed by the laws, rules, and regulations of the State of Utah. Any action or proceeding arising from this Agreement shall be brought in a court of competent jurisdiction in the State of Utah. Venue shall be in Salt Lake City, in the Third Judicial District Court for Salt Lake County.
3. **LAWS AND REGULATIONS:** At all times during this Agreement, Project Sponsor shall comply with all applicable federal and state constitutions, laws, rules, codes, orders, and regulations, including applicable licensure and certification requirements.
4. **RECORDS ADMINISTRATION:** Project Sponsor shall maintain all records specified in this Agreement. These records shall be retained by Project Sponsor for at least six (6) years after final reimbursement, or until all audits initiated within the six (6) years have been completed, whichever is later. Project Sponsor agrees to allow, at no additional cost, State of Utah auditors, federal auditors or any firm identified by the UDEQ, access to all such records.

5. **CONFLICT OF INTEREST:** Project Sponsor represents that none of its officers or employees are officers or employees of the UDEQ unless previously disclosed in writing.
6. **INDEPENDENT CAPACITY:** Project Sponsor shall act in an independent capacity and not as officers or employees or agents of the UDEQ or other agencies of the State of Utah.
7. **INDEMNITY:** Both parties are governmental entities as defined in the Utah Governmental Immunity Act (Utah Code § 63G-7-1010 et. seq.). Nothing in this Agreement shall be construed as a waiver by either or both parties of any rights, limits, protections, or defenses provided by the Act. Nor shall this Agreement be construed as a waiver of any governmental immunity to which a party to this Agreement is otherwise entitled. Each party is responsible for its own actions or negligence and will defend against any claim or lawsuit brought against it. There are no indemnity obligations between these parties.
8. **AMENDMENTS:** This Agreement may only be amended by the mutual written agreement by the UDEQ and Project Sponsor, which amendment will be attached to this Agreement.
9. **TERMINATION:** This Agreement may be terminated, with cause by the UDEQ, upon written notice. The Project Sponsor will be given ten (10) days after written notification is received to correct and cease the violations, after which this Agreement may be terminated for cause immediately and subject to the remedies below. The Project Sponsor may terminate this Agreement in writing at any time prior to reimbursement. Termination of this Agreement for cause or by the Project Sponsor will render the Project Sponsor ineligible for reimbursement of any costs associated with the EVSE project.
10. **NONAPPROPRIATION OF FUNDS, REDUCTION OF FUNDS, OR CHANGES IN LAW:** Upon thirty (30) days after written notice is delivered to Project Sponsor, this Agreement may be terminated in whole or in part at the sole discretion of the UDEQ, if it reasonably determines that: (i) a change in Federal or State legislation or applicable laws materially affects the ability of either party to perform under the terms of this Agreement; or (ii) that a change in available funds affects the UDEQ's ability to provide financial assistance under this Agreement. If a written notice is delivered under this section, the UDEQ will reimburse the Project Sponsor for eligible costs of the project until the effective date of said notice. The UDEQ will not be liable for any performance, commitments, penalties, or liquidated damages that accrue after the effective date of said written notice.
11. **PUBLIC INFORMATION:** The Project Sponsor agrees that this Agreement, related purchase orders, related pricing documents, and invoices will be public documents and may be available for public and private distribution in accordance with the State of Utah's Government Records Access and Management Act (GRAMA) and the Trust Agreement. The Project Sponsor

gives the UDEQ and the State of Utah express permission to make copies of this Agreement, related sales orders, related pricing documents, and invoices in accordance with GRAMA and the Trust Agreement. The UDEQ and the State of Utah are not obligated to inform Project Sponsor of any GRAMA requests for disclosure of this Agreement, related purchase orders, related pricing documents, or invoices.

12. **ASSIGNMENT:** The Project Sponsor may not assign, sell, transfer or delegate any right or obligation under this Agreement, in whole or in part.
13. **REMEDIES:** Any of the following events will constitute cause for the UDEQ to declare the Project Sponsor in default of this Agreement: (i) the Project Sponsor's non-performance of its contractual requirements and obligations under this Agreement; or (ii) Project Sponsor's material breach of any term or condition of this Agreement. The UDEQ may issue a written notice of default providing a ten (10) day period in which Project Sponsor will have an opportunity to cure. Time allowed for cure will not diminish or eliminate Project Sponsor's liability for damages. If the default remains after Project Sponsor has been provided the opportunity to cure, the UDEQ may do one or more of the following: (i) exercise any remedy provided by law or equity; (ii) terminate this Agreement or (iii) demand a full refund of any payment that the UDEQ has made to Project Sponsor under this Agreement.
14. **FORCE MAJEURE:** Neither the UDEQ nor Project Sponsor will be held responsible for delay or default caused by fire, riot, act of God or war which is beyond that party's reasonable control.
15. **WAIVER:** A waiver of any right, power, or privilege shall not be construed as a waiver of any subsequent right, power, or privilege.
16. **PROCUREMENT ETHICS:** The Project Sponsor understands that a person who is interested in any way in the receipt of Funding Assistance from the State of Utah is violating the law if the person gives or offers to give any compensation, gratuity, contribution, loan, reward, or any promise thereof to any person who participates in the award of the funding assistance on behalf of the UDEQ whether it is given for their own use or for the use or benefit of any other person or organization.
17. **CHANGES IN SCOPE:** Any changes in this Agreement to be performed under these terms and conditions shall be in the form of a written amendment, mutually agreed to and signed by both parties, specifying any such changes, fee adjustments, any adjustment in time of performance, or any other significant factors arising from the changes in this Agreement.
18. **REVIEWS:** The UDEQ reserves the right to perform plan checks, plan reviews, other reviews, and/or comment upon the implementation status of this Agreement. Such reviews do not waive the requirement of Project Sponsor to meet all of the terms and conditions of this Agreement, including providing quarterly reports.

19. **ORDER OF PRECEDENCE:** In the event of any conflict in the terms and conditions in this Agreement, the order of precedence shall be: (i) this Agreement and (ii) this Attachment A. Any provision attempting to limit the liability of Project Sponsor or limit the rights of the UDEQ or the State of Utah must be in writing and attached to this Agreement or it is rendered null and void.
20. **SURVIVAL OF TERMS:** Termination or expiration of this Agreement shall not extinguish or prejudice the UDEQ's right to enforce this Agreement with respect to any default of this or of any of the following clauses, including: Governing Law and Venue, Laws and Regulations, Records Administration, Remedies, Dispute Resolution, Indemnity, and Insurance.
21. **SEVERABILITY:** The invalidity or unenforceability of any provision, term, or condition of this Agreement shall not affect the validity or enforceability of any other provision, term, or condition of this Agreement, which shall remain in full force and effect.
22. **ERRORS AND OMISSIONS:** The Project Sponsor shall not take advantage of any errors and/or omissions in this Agreement. The Project Sponsor must promptly notify the UDEQ of any errors and/or omissions that are discovered.
23. **ENTIRE AGREEMENT:** This Agreement constitutes the entire agreement between the parties and supersedes any and all other prior and contemporaneous agreements and understandings between the parties, whether oral or written.

Contract 20-03267PP
Electric Buses and Charging Equipment

ELECTRIC BUSES AND CHARGING EQUIPMENT CONTRACT 20-03267

THIS ELECTRIC BUSES AND CHARGING EQUIPMENT CONTRACT (“Contract”) is entered into effective as of the last signature below (the “Effective Date”) by and between the **UTAH TRANSIT AUTHORITY**, a public transit district organized under the laws of the State of Utah (the “Agency”), and **GILLIG LLC**, a company, with a place of business at 451 Discovery Drive, Livermore, CA 94551 (the “Contractor”).

RECITALS

WHEREAS, on July 20, 2020, the Agency issued a Request for Proposals (RFP No. 20-03267 and hereinafter the “RFP”) for the purchase of Electric Buses and Various Charging Equipment (the “Vehicles and Equipment”), including configuration options, and all associated hardware, software, transportation, tools, training and documentation (together with the Vehicles and Charging Equipment collectively the “Goods and Services”); and

WHEREAS, on October 23, 2020, the Agency received an initial proposal from Contractor; and;

WHEREAS, Contractor is willing to furnish the Goods and Services as set forth in the RFP (as modified by this Contract); and

WHEREAS, on January 22, 2021, the Agency issued to Contractor an award notification for the Goods and Services.

AGREEMENT

NOW, THEREFORE, on the stated premises, 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 therefrom, and for other valuable consideration, the receipt and sufficiency of which the parties acknowledge, it is hereby agreed as follows:

1. TO BE PROVIDED BY CONTRACTOR

The Agency hereby retains Contractor to furnish the Goods and Services and Contractor will to the best of its ability and in a professional manner, provide the labor, equipment and materials necessary to furnish, deliver, and test the Goods and Services subject to the terms and conditions of: (i) 20-03267; (ii) Contractor's proposal dated October 23, 2020 (the “Proposal”). This Contract includes an initial base order quantity of forty-four (44) electric buses, four (4) overhead chargers, and sixteen (16) depot chargers with a follow-on quantity of twenty-six (26) Vehicles in the Base Order, with the features and options described in an initial notice to proceed issued concurrently with this Contract.

Contract 20-03267PP
Electric Buses and Charging Equipment

2. **TERM**

Subject to the provisions for termination as hereinafter provided, this Contract shall be effective with respect to the purchase of any Goods and Services (up to the aggregate number of base and option Vehicle quantities set forth in the RFP) ordered prior to February 20, 2026 (the “Term”). All warranties, indemnities, and other obligations of either party with respect to the Goods and Services shall continue after the Term in accordance with the provisions of this Contract.

3. **COMPENSATION AND FEES**

For the initial order, the Agency agrees to pay Contractor a sum of \$44,267,668.84, determined in accordance with Attachment A. This sum includes all hardware, software, equipment, materials, labor, shipping costs, and other items necessary to supply the Goods and complete the Services in a satisfactory manner in compliance with this Contract.

The Agency (at its sole and exclusive election to be exercised in its sole discretion) may purchase up to ninety-five (95) additional Vehicles and fourteen (14) overhead chargers and thirty-two (32) depot chargers (in any combination of Vehicle powertrain configurations, and option packages) during the Term of this Contract, conditioned upon approval from the UTA Board of Trustees. The price for option Vehicles shall be based on the prices indicated in Attachment A (hereinafter the “Base Order Prices”). The Base Order Prices shall remain firm for any option Vehicles ordered within one hundred twenty (120) days of following the Effective Date. The price of any Vehicles ordered more than one hundred eighty (180) days following the Effective Date shall be the Base Order Price, subject to adjustment as provided in the following paragraph.

Adjustments to the Base Order Prices will be calculated based on the following formula which utilizes the U.S. Department of Labor/(14) of Labor Statistics Producer Price Index (“PPI”) Category 1413, “Truck and Bus Bodies”. In no event will the price (s) for any order placed exceed by more than five percent (5%) the price(s) that would have been in effect twelve (12) months prior to the date of the release. The Base Order Price will be multiplied by the positive or negative percentage change in this index (subject to the five (5) percent cap on annual price increases to determine pricing for option Vehicles,

FORMULA:

<u>Index Point Change</u>	<u>Example</u>
PPI Index: Future Award Month	141.1
Less PPI Index: Base Award Month	<u>137.6</u>
Index Point Change	3.5
 Index Percent Change	 3.5
Index Point Change	<u>137.6</u>
Divided by PPI Index: Base Award Month	.0254
Results Multiplied by 100 = Percent Change	2.54%
 Base Order Price	 \$50,000.00
Plus Percent Change (2.54% x \$50,000)	<u>1,270.00</u>

Contract 20-03267PP
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Revised Price for Future Order \$51,270.00

There is no guarantee that options with respect to any Vehicles will be exercised.

4. INCORPORATED DOCUMENTS

This Contract consists of the documents listed below. In case of any conflict among these documents, the order of precedence shall be:

1. This form of Contract.
2. "Section 4: Special Provisions" of the RFP.
3. "Section 3: General Conditions," and "Section 5: Federal Requirements" of the RFP.
4. "Section 6: Technical Specifications," "Section 7: Warranty Requirements," and "Section 8: Quality Assurance" of the RFP.
5. Contractor's Proposal

A modification or change to any document that is part of this Contract shall take its precedence from the term it amends. All other documents and terms and conditions shall remain unchanged.

As used herein, all referenced sections of RFP are deemed to include the modifications made pursuant to addenda issued by the Agency prior to the due date for proposals.

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. DELIVERY

Contractor hereby agrees to furnish, deliver, install, and test the Vehicles with associated spare parts and manuals within seventy-two (72) weeks after notice to proceed is issued by the Agency. Contractor shall, no later than ten (10) days after the execution of this Contract, provide the Agency with a proposed delivery schedule that satisfies the requirements of Special Provision 2.2 (Delivery Schedule). Once approved by the Agency's Project Manager, such delivery schedule (including agreed modifications thereto) shall constitute the "Delivery Schedule" against which Contractor's performance shall be monitored.

7. PAYMENT

Contractor shall submit to the Agency's Project Manager and Procurement & Contract Specialist

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Electric Buses and Charging Equipment

for approval, invoices, after acceptance of the Vehicles, for which Contractor seeks payment from the Agency under this Contract. Within thirty (30) days after receipt of an invoice, the Agency shall: (i) approve and pay the invoice in accordance with Special Provision 5.1 (Payment Terms); or (ii) notify Contractor that it disapproves, in whole or in part, Contractor's invoice and the reasons for such disapproval. The Agency shall not be liable to Contractor for any expenses paid or incurred by Contractor unless listed herein or otherwise agreed to in advance, in writing, by the parties hereto.

8. WARRANTY OF TITLE

Contractor warrants that title to all Vehicles and Charging Equipment delivered as part of the Goods and Services and covered by an invoice for payment will pass to the Agency upon acceptance by the Agency. Contractor further warrants that upon payment, all equipment and/or work for which invoices for payment have been previously issued and payments received from the Agency 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. Contractor shall indemnify, defend, and hold the Agency harmless from and with respect to any claims, costs, fees (including attorneys' fees), liens, judgments or other losses sustained as a result of the breach of this warranty by Contractor.

9. USE OF SUBCONTRACTORS

Contractor shall not subcontract any services to be performed by it under this Contract other than those listed and identified in the Proposal without prior approval of the Agency. Contractor shall pay all subcontractors for satisfactory performance of their contracts no later than ten (10) days from receipt of each payment the Agency makes to Contractor, unless other arrangements are agreed to in writing by the parties involved. The Agency shall have no obligations to any subcontractors retained by Contractor.

10. CONTRACTOR SAFETY COMPLIANCE

The Agency 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 the GILLIG Quality Control Manual which was requested and approved during the approved equal process 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 the Agency to receive while working on this project. Each employee, contractor and subcontractor must be trained in the Agency's EMS and Safety Management principles.

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11. BUY AMERICA REQUIREMENTS

The phase increases in domestic content was included in the FAST Act, 49 U.S.C. Section 5323(j)/FAST Section 3011). The phase increases apply to this contract and are as follows:

- FY20 & beyond: more than 70% domestic content

12. AUDIT

The Agency and its authorized agents or representatives may, during the term of this Contract and for a period of three (3) years thereafter, upon giving reasonable notice and during usual business hours, audit and inspect all Contractor's files and records pertaining to the handling of the Agency's account and the products and services provided or performed under this Contract including, without limitation, all cost and profit data required to be provided to comply with General Condition 9.9 (Maintenance of Records; Access by Agency; Right to Audit Records).

13. AMENDMENTS TO GENERAL CONDITIONS AND SPECIAL PROVISIONS

This Contract includes the following changes to the General Conditions and Special Provisions:

- a. Special Provision 5.2 (Performance Guarantee (Optional) Alternatives Disputes is hereby deleted in its entirety.
- b. Special Provision 10 (Software Escrow Account) is hereby deleted in its entirety.

14. PROJECT MANAGER

The Agency's Project Manager for this Contract is Hal Johnson, or designee. All questions and correspondence relating to the technical aspects of this Contract should be directed to Mr. Johnson, at Utah Transit Authority, office located at 669 West 200 South, Salt Lake City, Utah 84101, office phone (801) 237-1905.

15. CONTRACT ADMINISTRATOR

The Agency's Contract Administrator for this Contract is Pat Postell, Procurement & Contract Specialist, or designee. All questions and correspondence relating to the contractual aspects of this Contract should be directed to Ms. Postell, or designee, phone (801) 287-3060.

16. NOTICES OR DEMANDS

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 will be personally delivered, mailed by US Mail, postage prepaid, or sent by overnight courier service and addressed to such party as follows:

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If to the Agency:
Utah Transit Authority
ATTN: Procurement & Contract Specialist
669 West 200 South
Salt Lake City, UT 84101

If to Contractor:
Utah Transit Authority
Attn: General Counsel
669 West 200 South
Salt Lake City, UT 84101

If to Contractor:
GILLIG LLC
ATTN: William F. Fay, Jr., Vice President, Sales
451 Discovery Drive
Livermore, CA 94551

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.

17. GOVERNING LAW

The validity, interpretation and performance of this 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 this 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.

18. SEVERABILITY

In the event any one or more of the provisions contained in this Contract are for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Contract. This Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

19. 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:

- i. In the Scope of Services;
- ii. In the method or manner of performance of the Work; or
- iii. In the schedule or completion dates applicable to the Work.
- iv. 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

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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:

- i. The date, circumstances, and source of the change; and
- ii. adjustment in this Contract.
- iii. 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.

20. 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.

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21. INSURANCE

The Contractor shall maintain in effect during the term of this Contract, including any warranty period, at its own expense, at least the following coverage and limits of insurance:

- Statutory Workers Compensation and Employers Liability insurance and/or qualified self-insurance program covering Supplier's employees while on Agency property.
- Commercial General Liability Insurance:
 - Bodily Injury and Property Damage, including Contractual Liability covering the indemnification contained herein, \$10,000,000 combined single limits per occurrence, \$10,000,000 aggregate, where applicable.
 - Product liability: \$5,000,000 per occurrence, for a period of five (5) years after acceptance of the last bus delivered under this Contract (Products Liability coverage may be affected through one or more excess liability policies).
- Automobile Liability Insurance: Bodily Injury and Property Damage, \$1,000,000 combined single limits per occurrence.

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

b. Contractor shall furnish UTA with certificates of insurance (ACORD form or equivalent approved by UTA) as required by the Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

c. Contractors' certificate(s) shall include all subcontractors as additional insureds under its policies **or** Contractor shall furnish to UTA separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to the minimum requirements identified above.

d. The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. UTA 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.

Contractor shall deliver to the Agency, within ten (10) days after receiving Notice of Award of this Contract, evidence of the above. Prior to the expiration of any insurance during the time required, the Supplier shall furnish evidence of renewal to the Agency's Contract Administrator.

22. STANDARD OF CARE.

Contractor shall perform any Services to be provided under the Contract in a good and

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Electric Buses and Charging Equipment

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).

23. 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.

24. 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:

- i. 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;

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- ii. Pursue other remedies available under the Contract (regardless of whether the termination remedy is invoked); and/or
- iii. 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.

25. FINDINGS CONFIDENTIAL

a. Any documents, reports, information, or other data and materials available to or prepared or assembled by Contractor or subcontractors 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.

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

c. Information already in the public domain;

d. Information disclosed to Contractor by a third party who is not under a confidentiality obligation;

e. Information developed by or in the custody of Contractor before entering into this Contract;

f. Information developed by Contractor through its work with other clients; and

g. 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.

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27. 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.

28. 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.

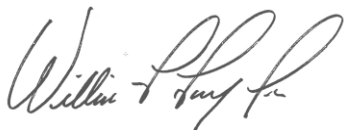
29. ENTIRE AGREEMENT

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.

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IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by officers duly authorized to execute the same as of the day and year first above written.

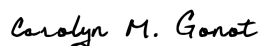
GILLIG, LLC.



Printed Name: WILLIAM F. FAY, JR.
Title: VICE PRESIDENT - SALES

UTAH TRANSIT AUTHORITY

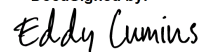
DocuSigned by:



4/29/2021

Carolyn M. Gonot
Executive Director

DocuSigned by:



Eddy D. Cumins
Chief Operating Officer

DocuSigned by:

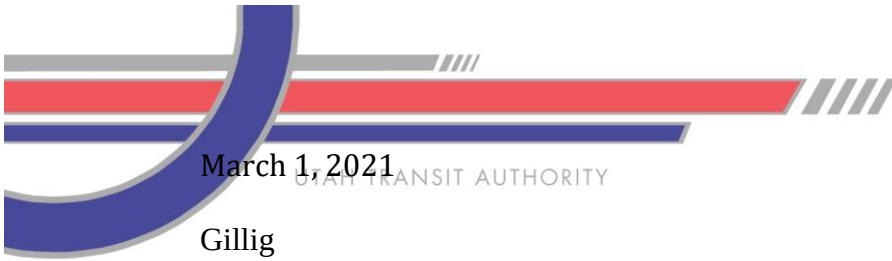


David Hancock
Director of Asset Management

DocuSigned by:



Michael Bell
Assistant Attorney General
UTA Counsel



Sent by email only:

Sales@gillig.com

Tim.McCunney@gillig.com

RE: Contract 20-03267, Electric Buses and Charging Equipment

BASE ORDER NOTICE TO PROCEED

For Forty-Four (44) Electric Buses and Four (4) Overhead Chargers and Sixteen (16) Depot Chargers

Dear Mr. Fay, Jr.,

This letter shall serve as the Base Order for Contract Award wherein the Authority places the base order from Gillig, LLC., Contract Effective February 20, 2021.

These various Electric Buses and Charging Equipment shall be manufactured as outlined in the Authority's Updated Red-Lined Technical Requirements, the above referenced contract and Gillig, LLC.'s Exhibit A Pricing Schedule.

The cost of the forty-four (44) Electric Buses, Four (4) Overhead Chargers, and (Sixteen) Depot Chargers are as follows:

Quantity	Description	U/Price	Total Price
10	Thirty-Five (35') Foot Electric Propulsion Transit/Suburban Bus	\$912,446.00	\$9,124,460.00
1	Training	\$45,600.00	\$45,600.00
1	Special Tools	\$7,275.71	\$7,275.71
10	Keys – Quantity Two (2)/Bus	\$0.00	\$0.00
10	Extended Warranty – Operator's Seat – Two (2) Years or 100,000 miles, 100% parts and labor except foam and fabric - INCLUDED IN BASE PRICE	\$0.00	\$0.00

10	Extended Warranty – Exterior Paint and Finish – Two (2) Years unlimited miles, 100% parts and labor - INCLUDED IN BASE PRICE	\$0.00	\$0.00
10	Delivery Costs-Included in Price	\$4,640.00	\$46,400.00
	TOTAL 35' COMPUTER		\$9,223,735.71
20	Forty (40') Foot Electric Propulsion Transit /Suburban Buses	\$916,655.00	\$18,333,100.00
1	Training	\$45,600.00	\$45,600.00
1	Special Tools	\$7,275.71	\$7,275.71
20	Keys – Quantity Two (2)/Bus	\$0.00	\$0.00
20	Extended Warranty – Operator's Seat – Two (2) Years or 100,000 miles, 100% parts and labor except foam and fabric - INCLUDED IN BASE PRICE	\$0.00	\$0.00
20	Extended Warranty – Exterior Paint and Finish – Two (2) Years unlimited miles, 100% parts and labor - INCLUDED IN BASE PRICE	\$0.00	\$0.00
20	Delivery Costs-Included in Price	\$4,640.00	\$92,800.00
	TOTAL 40' TRANSIT		\$18,478,775.71
4	Forty (40') Foot Suburban (1) door bus with Commuter style interior layout	\$951,022.00	\$3,804,088.00
1	Training	\$45,600.00	\$45,600.00
1	Special Tools	\$7,275.71	\$7,275.71
4	Keys – Quantity Two (2)/Bus	\$0.00	\$0.00
4	Extended Warranty – Operator's Seat – Two (2) Years or 100,000 miles, 100% parts and labor except foam and fabric - INCLUDED IN BASE PRICE	\$0.00	\$0.00
4	Extended Warranty – Exterior Paint and Finish – Two (2) Years unlimited miles, 100% parts and labor - INCLUDED IN BASE PRICE	\$0.00	\$0.00
4	Delivery Costs-Included in Price	\$4,640.00	\$18,560.00

	TOTAL 40' COMMUTER		\$3,875,523.71
10	Forty (40') Foot BRT route specific bus.	\$922,211.00	\$9,222,110.00
1	Training	\$45,600.00	\$45,600.00
1	Special Tools	\$7,275.71	\$7,275.71
10	Keys – Quantity Two (2)/Bus	\$0.00	\$0.00
10	Extended Warranty – Operator's Seat – Two (2) Years or 100,000 miles, 100% parts and labor except foam and fabric - INCLUDED IN BASE PRICE	\$0.00	\$0.00
10	Extended Warranty – Exterior Paint and Finish – Two (2) Years unlimited miles, 100% parts and labor - INCLUDED IN BASE PRICE	\$0.00	\$0.00
10	Delivery Costs-Included in Price	\$4,640.00	\$46,400.00
	TOTAL 40' BRT		\$9,321,385.71
	TOTAL VEHICLES COSTS		\$40,899,420.84
	CHARGERS		
4	On-Route Chargers – ABB with Mast / Pantograph, 450kW, with commissioning at one site	\$377,130.00	\$1,508,520.00
16	Depot Chargers, ABB (UL) with two remote dispensers, 150 kW, with commissioning at one site	\$116,233.00	\$1,859,728.00
	TOTAL CHARGER COSTS - BASE ORDER		\$3,368,248.00
	GRAND TOTAL BASE ORDER		\$44,267,668.84

The total amount of this Notice to Proceed is \$44,267,668.84. Delivery of the Forty-Four (44) Electric Buses, Four (4) On-Route Chargers, and (16) Depot Chargers is no later than July 11, 2022.

If you are in agreement to the above, please sign on the line indicated below and return a copy to Ms. Pat Postell at ppostell@rideuta.com. A fully executed copy will be provided after all signatures are obtained.

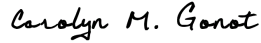
GILLIG, LLC.



Printed Name: William F. Fay, Jr.
Title: Vice President - Sales

UTAH TRANSIT AUTHORITY

DocuSigned by:



4/29/2021

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Carolyn M. Gonot
Executive Director

DocuSigned by:



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D. Eddy Cumins
Chief Operating Officer

DocuSigned by:



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David Hancock
Director of Asset Management

DocuSigned by:



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Michael Bell
Assistant Attorney General



October 22, 2020

Upload to: www.SciQuest.com

Pat Postell
Procurement & Contract Specialist
UTAH TRANSIT AUTHORITY
669 West 200 South
Salt Lake City, Utah 84101

RE: RFP 20-03267PP for PURCHASE OF ELECTRIC VEHICLES & CHARGERS

DATE DUE: October 23, 2020 at 11:00 AM

Dear Ms. Postell:

GILLIG is pleased to submit the enclosed **PACKAGE 2: PRICE PROPOSAL** documentation covering our response to the above solicitation for your review and consideration.

Contact During Proposal Evaluation Period:
JOSEPH POLICARPIO, VICE PRESIDENT, SALES
PHONE: 800-735-1500
EMAIL: sales@gillig.com
FAX: 510-785-6819

We appreciate this opportunity and look forward to a successful bid opening.

Very truly yours,

A handwritten signature in black ink, appearing to read "J Policarpio". The signature is fluid and cursive.

Joseph Policarpio
Vice President, Sales
Phone: 800-735-1500
Email: sales@gillig.com
FAX: 510-785-6819

JP:df
Encs.

Cc: William F. Fay, Jr., Director National Sales
Javier Hernandez, Jr., Director, Sales Operations
Arminster Dhillon, Director, Technical Publications
Sean Solis, Regional Sales Manager

**MINUTES OF A SPECIAL MEETING
OF THE MANAGERS OF
HCC MANAGER LLC**

A special meeting of the managers of **HCC MANAGER LLC**, an Illinois limited liability company (the "Company"), was held at 222 N. LaSalle Street, Chicago, IL 60601, on May 31, 2019. All of the Company's managers, namely A. Steven Crown, James S. Crown and William H. Crown, and the Company's Secretary, David M. Rubin, were present either in person or by phone. William H. Crown acted as Chairman of the meeting and David M. Rubin acted as Secretary of the meeting.

The Chairman stated that the purpose of the meeting was the appointment of officers for (a) Gillig LLC, a California limited liability company ("Gillig"); (b) Arkay Acquisition LLC, a Delaware limited liability company ("Acquisition"); (c) Arkay Land LLC, a California limited liability company ("Land"); and (d) Arkay Properties LLC, a California limited liability company ("Properties"), and, together with Gillig, Acquisition and Land, the "LLCs"), in the Company's capacity as Manager of the LLCs. Upon motion duly made, seconded and unanimously carried, the following resolutions were adopted:

Gillig

RESOLVED, that the officers of Gillig are set forth below and such persons shall serve in the capacities set forth opposite their names until the earlier of their removal, replacement, or resignation:

DEREK MAUNUS	President and Chief Executive Officer
MICHAEL S. CANMANN	Vice President and Assistant Secretary
CHRISTOPHER TURNER	Executive Vice President -- Operations
BRIAN SHEPHERD	Vice President -- Finance and Chief Financial Officer
MARLA LOAR	Vice President -- Human Resources
CHARLES E. O'BRIEN	Vice President -- Aftermarket Parts
JOSEPH POLICARPIO	Vice President -- Sales and Marketing
GREG VISMARA	Vice President -- Engineering
DAVID M. RUBIN	Vice President, General Counsel and Secretary
MAUREEN FLYNN	Vice President, Controller, Treasurer and Assistant Secretary
AMY BLUMENTHAL	Assistant Secretary
BRIAN B. GILBERT	Assistant Secretary

FURTHER RESOLVED, that the above named officers be, and are hereby, authorized to execute any and all instruments for and on behalf of Gillig which are required in the usual and ordinary conduct of the business, including, but not limited to, Bid Documents, Sales Contracts, Purchase Contracts, Lease Purchase Agreements, assignments to such Lease Purchase Agreements, together with any documents which may be or become necessary to support such transactions of Gillig.

Acquisition

RESOLVED, that the officers of Acquisition are set forth below and such persons shall serve in the capacities set forth opposite their names until the earlier of their removal, replacement, or resignation:

WILLIAM H. CROWN	President
A. STEVEN CROWN	Vice President and Assistant Secretary
JAMES S. CROWN	Vice President and Assistant Secretary
WILLIAM C. KUNKLER III	Vice President and Assistant Secretary
MICHAEL S. CANMANN	Vice President, Treasurer and Assistant Secretary
DAVID M. RUBIN	Vice President, General Counsel and Secretary
MAUREEN FLYNN	Vice President, Controller and Assistant Secretary
DEREK MAUNUS	Vice President
BRIAN SHEPHERD	Vice President
AMY BLUMENTHAL	Assistant Secretary
BRIAN B. GILBERT	Assistant Secretary

Land and Properties

RESOLVED, that the officers of Land and Properties are set forth below and such persons shall serve in the capacities set forth opposite their names until the earlier of their removal, replacement, or resignation:

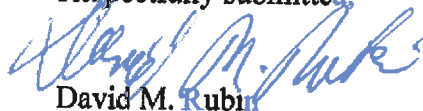
WILLIAM H. CROWN	President
MICHAEL S. CANMANN	Vice President, Treasurer, and Assistant Secretary
MAUREEN FLYNN	Vice President, Controller and Assistant Secretary
DEREK MAUNUS	Vice President
DAVID M. RUBIN	Vice President, General Counsel and Secretary
WILLIAM C. KUNKLER III	Assistant Secretary
AMY BLUMENTHAL	Assistant Secretary
BRIAN B. GILBERT	Assistant Secretary

Omnibus Resolution

RESOLVED, that any person previously serving the LLCs in the capacity of an officer and not otherwise appointed pursuant to the foregoing resolutions be, and hereby is, removed from such office with immediate effect.

Upon motion duly made, seconded and unanimously carried, the meeting was adjourned.

Respectfully submitted,



David M. Rubin
Secretary of the Meeting



CHARGING EQUIPMENT

We are pleased to submit the following pricing for ABB charging equipment and associated services for use with your GILLIG Battery Electric buses. This pricing has been assembled in coordination with ABB and represents our proposed equipment options based on the scoping information you have provided to date.

Charging Equipment	Quantity	Unit Price	Total
<i>Hardware</i>			
ABB 150kW (HVC-150) Plug-In Charger	33	116,233	3,835,689
ABB Remote Plug-In Dispenser and Pedestal - Includes 23' Cord & CCS1 Plug-In Connector	99	Included	Included
ABB 450kW (HVC-450PD) On-Route Charger - Includes Mast and Pantograph	20	377,130	7,542,600
<i>Warranty</i>			
ABB - 2 year Standard Warranty for Plug-In Chargers	1	Included	Included
ABB - 2 year Standard Warranty for On-Route Charger	1	Included	Included
<i>Services</i>			
ABB Charger Connect & Operator Pro Software 2 Year Subscription	53	Included	Included
ABB Provided Plug-In Charger Commissioning - One Site Mobilization	1	Included	Included
ABB Provided On-Route Charger Commissioning - One Site Mobilization	1	Included	Included
<i>Optional Equipment or Service</i>			
HVC-100/150 Metal Support Frame	-	2,148	-
HVC-100/150 Cold-Climate Upgrade Kit	33	Included	Included
HVC-100/150 Long Distance Support Upgrade (150 meters)	33	Included	Included
ABB Cable Management for Remote Plug-In Dispenser	-	2,353	-
ABB HVC-150C Extended Warranty (3 Year)	-	3,000	-
ABB Remote Plug-In Dispenser Extended Warranty (3 Year)	-	500	-
HVC-450PD Extended Warranty (3 Year) - Pantograph and Pole	-	12,000	-
<i>Freight Charge**</i>	1	Included	Included
Total Hardware			\$11,378,289
Total Warranty			\$0
Total Services			\$0
Total Optional Equipment or Services			\$0
Total Freight Charge			\$0
GRAND TOTAL			\$11,378,289

The warranties on the charging equipment are provided by ABB and are subject to the ABB Standard Warranty. GILLIG makes no warranty of any kind whatever, express or implied; and all implied warranties of merchantability and fitness for a particular purpose which exceed the aforesaid obligation are hereby disclaimed by GILLIG and excluded from any agreement. Pricing reflects equipment shipped directly to the Agency by ABB and the services described above. No further services are included as part of this GILLIG quote. Payment to GILLIG is due upon shipment of the equipment described herein. All pricing in USD.

CER 6. REVISED Pricing Schedule

	All prices are to be in United States dollars	
	– Unit Price	– Extension
BUSES:		
Thirty-Five (35') Foot Electric Propulsion Transit/Suburban Bus – Quantity One (1)	\$860,210.00	\$860,210.00
Battery Type and Price: 5 PACKS 370 kWh	BASE	BASE
Battery Type and Price: 6 PACKS 444 kWh	\$912,466.00	\$912,466.00
Battery Type and Price:	N/A	N/A
Forty (40') Foot Electric Propulsion Transit/Suburban Buses Electric Bus in the following configurations:	SEE BELOW	SEE BELOW
1. Priced Configuration #1: Standard Transit bus configuration of two (2) doors low floor bus. Quantity one (1)	\$864,410.00	\$864,410.00
Battery Type and Price: 5 PACKS 370 kWh	BASE	BASE
Battery Type and Price: 6 PACKS 444 kWh	\$916,655.00	\$916,655.00
Battery Type and Price: 7 PACKS 518 kWh	\$974,805.00	\$974,805.00
2. Priced Configuration #2: Suburban (1) door bus with commuter style interior layout. Padded vinyl forward facing captain's chair commuter seating with seatbelts shall be included. USB and 110v patron outlets. Patron Wi-fi, 70mph Governor, overhead luggage storage racks (if available.) Bus shall be designed for a quiet comfortable highway ride and capable of long highway canyon grade trips. The bus shall also include an automatic tire chain system, or a prewire setup for one to be installed upon delivery. Quantity one (1). FORTY (40') BUS	\$951,022.00	\$951,022.00
Battery Type and Price: 6 PACKS 444 kWh	BASE	BASE
Battery Type and Price: 7 PACKS 518 kWh	\$1,009,161.00	\$1,009,161.00

Battery Type and Price:		
3. Priced Configuration #3: BRT route specific bus. Bus Shall have a ramp designed for near level platform boarding. Platform height is 12". The bus shall have streamlined large rear door to quickly allow boarding and unloading Wheelchair stations shall be priced with Quantum auto front or rear facing system (or approved equivalent). Provide pricing for one and both sides of the wheelchair securement area. The bus shall also include an automatic tire chain system, or a prewire setup for one to be installed upon delivery. Quantity one (1). FORTY (40') BUS	\$922,211.00 (1) QUANTUM 444 kWh	\$922,211.00 (1) QUANTUM 444 kWh
Battery Type and Price: 6 PACKS 444 kWh (2) QUANTUM	\$927,427.00	\$927,427.00
Battery Type and Price: 7 PACKS 518 kWh (1) QUANTUM	\$980,361.00	\$980,361.00
Battery Type and Price: 7 PACKS 518 kWh (2) QUANTUM)	\$985,577.00	\$985,577.00
CHARGING EQUIPMENT: Charging infrastructure/connections: Provide pricing for compatible charging infrastructure, including compatible depot chargers and high-power on route chargers as follows:		
1. Depot Chargers – Quantity one (1)	\$116,233.00	\$116,233.00
2. On-Route Chargers – Quantity one (1)	\$377,130.00	\$377,130.00
Special Tools (provide itemized list with tool manufacturer's name and price for all specialty tools)	SEE RECOMMENDED TOOLS LIST	SEE RECOMMENDED TOOLS LIST
Training – In accordance with Section 6 Technical Specifications.	SEE OPTIONAL TRAINING PRICE LIST	SEE OPTIONAL TRAINING PRICE LIST
Deliverables in accordance with Section 6 Technical Requirements (provide itemized list)	Not Separately Priced	Not Separately Priced
Keys – Any compartment that is lockable – Quantity Two (2)/Bus	INCLUDED	INCLUDED
Extended Warranty – Operator's Seat – Two (2) Years or 100,000 miles, 100% parts and labor except foam and fabric	INCLUDED	INCLUDED
Extended Warranty – Exterior Paint and Finish – Two (2) Years, unlimited miles, 100% parts and labor	INCLUDED	INCLUDED

BUS OPTION QUANTITIES - A total of ninety-five (95) option quantities of any pricing configurations described above maybe purchased during the term of this contract.	35' OR 40' BUS PRICE + PPI**	35' OR 40' BUS PRICE + PPI**
OPTIONS – Depot Chargers – An option quantity of thirty-two (32) Depot Chargers may be purchased during the term of this contract.	\$116,233.00	\$3,719,456.00
OPTIONS – On-Route Chargers – An option quantity of fourteen (14) (20) On-Route Chargers may be purchase during the term of this contract.	\$377,130.00	\$7,542,600.00
Leasing of Battery (indicate size) * 5 PACKS 370 kWh	DEDUCT \$202,960.00 PER BASE BUS PRICE ADD TWELVE \$30,933.00 ANNUAL PAYMENTS	
Leasing of Battery (indicate size) * 6 PACKS 444 kWh	DEDUCT \$248,753.00 PER BASE BUS PRICE ADD TWELVE \$37,120.00 ANNUAL PAYMENTS	
Leasing of Battery (indicate size) * 7 PACKS 518 kWh	DEDUCT \$294,546.00 PER BASE BUS PRICE ADD TWELVE \$45,290.00 ANNUAL PAYMENTS	
– Sales tax (if applicable)	N/A	N/A
–Delivery charges PER BUS	\$4,640.00	\$4,640.00
– TOTAL PROPOSED PRICE	DEPENDENT UPON CONFIGURATION SELECTION	DEPENDENT UPON CONFIGURATION SELECTION
40' BUS CONFIGURATION #1 – ADA equipment (included in above unit prices)	\$23,860.00	N/A

– This form is to be completed and included in the Price Package

*PROFORMA PROPOSAL. LEASE RATES AND PAYMENTS WILL BE FINALIZED AT TIME OF LEASE CONTRACT EXECUTION. CUMMINS TO REPLACE BATTERY PACKS AT THE SIXTH YEAR.

** BASE BUS PRICE IS VALID FOR 120 DAYS. OPTION BUSES AND EQUIPMENT PURCHASED AFTER INITIAL ORDER WILL BE PRICED AT THE BASE PRICES SHOWN ON THIS PRICING SCHEDULE PLUS PPI (PRODUCER PRICE INDEX) "CATEGORY 1413 TRUCK & BUS BODIES". BASE INDEX USED WILL BE THE INDEX AT CONTRACT EXECUTION OR FIRM P.O. DATE.



SALT LAKE CITY, UT RFP 20-03267PP

Maintenance & Diagnostic Tools

E-Bus

LAPTOPS

82-19526-000	COMPUTER, LAPTOP DELL E5570 LATITUDE	\$ 1,453.00
82-19526-001	LAPTOP, TOUGHBOOK CF31	\$ 4,648.00
82-19526-004	LAPTOP, DELL LATITUDE 14 RUGGED	\$ 2,046.00
82-19526-005	TABLET, 10.1" PANASONIC TOUGHBOOK 20	\$ 3,940.60
82-19526-007	SAMSUNG GALAXY TABLET	\$ 561.00

CUMMINS TOOLS

82-17098-003	SOFTWARE, INSITE LITE SUBSCRIPTION	\$ 1,040.00
82-17098-002	SOFTWARE, INSITE PRO SUBSCRIPTION	\$ 1,320.00
82-23481-004	KIT,DATALINK ADAPTER	\$ 1,327.00

ABS TOOLS

82-24262-000	WABCO SOFTWARE, ABS TOOLBOX	\$ 498.00
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DESTINATION SIGN

82-83177-000	SOFTWARE, MIE (FOR SMART SERIES 3 SIGNS)	\$ 350.00
82-55054-000	USB 2.0 DATA KEY	\$ 64.00

HVAC TOOLS

82-58779-001	TOOL,INTELLIGARE III,SMART PAC	\$ 1,676.00
82-43359-001	KIT, DIAGNOSTIC, W/USB WEBASTO	\$ 530.00
10-76769-000	KIT, COOLANT BUCKET FILL	\$ 267.00
82-64551-014	PROHEAT SOFTWARE, DATALINK	FREE
82-09171-000	TOOL, CLUTCH PULLER (TK)	\$ 570.00

RAD/CAC TOOLS

82-73071-000	KIT, MODINE RADIATOR DIAGNOSTIC	\$ 216.00
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I/O TOOLS

82-40737-008	CABLE, INTERFACE(LAPTOP)	\$ 47.00
82-40737-012	UTILITY PROGRAM, G5-DINEX	\$ 142.00
82-40737-010	USB, DOWNLOADER, PROGRAM	\$ 50.00
82-40737-011	TOOL, MAINTENANCE I/O, (TABLET)	\$ 5,000.00



SALT LAKE CITY, UT RFP 20-03267PP

Maintenance & Diagnostic Tools

E-Bus

82-79937-000	SOFTWARE,REAL TIME LADDER LOGIC	\$ 4,000.00
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GENERAL TOOLS

06-42218-000	BAR TOW, LOWFLOOR	\$ 3,325.00
83-01910-000	AIMER, OPTICAL HEADLIGHT	\$ 1,845.00
82-85747-000	DIAGNOSTIC THERMAL IMAGER	\$ 1,992.86
83-00238-000	JACK, FLOOR HYDRAULIC 10 TONS	\$ 2,047.00
54-43146-001	KEY,COMBINATION COMPRESSION LATCH & 5/16 INSQUAR	\$ 24.66
82-90178-000	KIT, LOW FLOOR TOW BRKT & PIN	\$ 717.60
82-47673-001	LIFTER,WINDSHIELD,250LBS	\$ 4,599.00
53-15741-000	LOCK ASM,W/2 BH010 KEYS	\$ 10.83
82-77708-000	ON-VEHICLE DISC BRAKE LATHE	\$ 28,257.43
83-00848-000	REFRIGERANT RRR MACHINE	\$ 9,163.20
82-86101-000	TOOL, BRAKE MATE VIS CHECK	\$ 20,460.00
82-08122-000	TOOL, BUSHING REMOVAL SUSPENSION	\$ 948.73
82-47680-000	USB-S TRANLATOR (MAGIC KEY)	\$ 974.67
82-84075-000	VOLTAGE DETECTOR TOOL, USB CURRENT	\$ 26.32

ELECTRICAL TOOLS

82-90661-000	AMP CONNECTOR & TERMINAL KIT	\$ 305.32
82-51914-001	DT DEUTSCH CONN W/TOOLS KIT	\$ 783.32
82-77874-000	VANNER, DIAGNOSTIC KIT (INCLUDES SOFTWARE, DRIVERS & HARNESS)	\$ 1,200.00
82-84075-000	VOLTAGE DETECTOR TOOL, USB CURRENT	\$ 26.32
82-90029-000	WEATHER PACK CONNECTOR & TERMINAL KIT	\$ 327.88
83-02283-000	DIAGNOSTIC DEVICE, QUICK CHECK for C703 & C706 ALTERNATOR	\$ 254.00
83-02284-000	DIAGNOSTIC DEVICE, QUICK CHECK for C803D ALTERNATOR	\$ 254.00



SALT LAKE CITY, UT RFP 20-03267PP

Maintenance & Diagnostic Tools

E-Bus

HIGH VOLTAGE TOOLS

82-33295-003	FLUKE DIGITAL MULTIMETER	\$	707.14
83-03379-000	FLUKE 1503 INSULATION TESTER	\$	901.43
83-03151-000	SALISBURY TORQUE WRENCH	\$	766.07
83-03151-001	SALISBURY TORQUE DRIVER	\$	673.93
83-03151-002	SALISBURY 6" EXTENSION	\$	63.57
83-03157-000	WIHA INSULATED SCREW DRIVER SET	\$	378.89
83-03153-000	WIHA INSULATED NUT DRIVER SET	\$	125.57
83-03154-000	WIHA INSULATED OFFSET WRENCH SET	\$	461.40
83-03155-000	WIHA INSULATED OFFSET WRENCH 8MM	\$	47.49
83-03156-000	WIHA INSULATED OFFSET WRENCH 9MM	\$	47.50
83-03157-000	WIHA INSULATED SLIMLINE SET	\$	157.11
83-03158-000	WIHA 10MM SOCKET	\$	41.86
83-03159-000	WIHA 8MM SOCKET	\$	41.86
83-03160-000	WIHA 1/4" SOCKET	\$	26.71
83-03161-000	WIHA 1/4" OPEN-END WRENCH	\$	36.94
B00ES8KX84	CARHARTT GEAR BAG, BLACK	\$	107.13
83-03163-000	MASTERLOCK #488 PLUG LOCKOUT COVERS	\$	31.05
83-03179-000	(2PCS) ZING 3" LOCK	\$	46.57
83-03164-000	(6PCS) BRADY 1" LOCK	\$	85.74
83-03165-000	(3PCS) LOCKOUT HASP	\$	17.10
83-03166-000	LOCKOUT TAGS	\$	19.77

PERSONAL PROTECTION EQUIPMENT

83-03167-000	KNIPEX INSULATED MAT 39 3/8 IN.	\$	651.11
83-03168-000	DELTA ARC FLASH HARNESS UNIVERSAL	\$	676.11
83-03169-000	CAPITOL SAFETY 6FT. ARC FLASH KEVLAR LANYARD	\$	361.11
83-03170-000	SALISBURY ARC FLASH KIT	\$	983.33

Kit Includes:

Coverall

12 cal./cm2 Face Shield

Safety Glasses

ATPV Rated AFHOOD

Storage Bag



October 22, 2020

SALT LAKE CITY, UT RFP 20-03267PP TRAINING

GILLIG training can only be purchased in 24-hour blocks, a GILLIG instructor will travel to your facility to administer all GILLIG training. These classes are scheduled Tuesday thru Thursday (they travel Monday & Friday) and can be tailored to your operational needs. Some OEM training may be conducted at a local dealer as determined by the OEM and their training resources at the time of purchase.

OPTION TRAINING	PRICE
Operator Instruction (Provided During PDI) provided by GILLIG	No Charge
Maintenance Department General Vehicle Orientation (Provided During PDI) provided by GILLIG	No Charge
GILLIG Aftermarket Parts Orientation provided by GILLIG	No Charge
Wheel Chair Ramp – 8 hours up to 12 students provided by Lift-U	No Charge
Destination Sign Training - 8 hours up to 12 students provided by Luminator	No Charge
Fire Suppression Training – 8 hours up to 12 students provided by Amerex	No Charge
Multiplex Electrical System – 24-hour program up to 12 students provided by GILLIG	\$5,000.00
System Level Maintenance Training - 24-hour program up to 12 students provided by GILLIG	\$5,000.00
Shop Level Maintenance Training - 24-hour program up to 12 students provided by GILLIG	\$5,000.00
Any Future New Technologies Equipment Not Identified - 24-hour program up to 12 students provided by GILLIG	\$5,000.00
GILLIG Training – 24 hours custom tailored up to 12 students provided by GILLIG	\$5,000.00
Air System and Brake – 16-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Steering/Suspension – 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Body and Panel Repair – 4-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Tow, Service Truck Procedures and Proper Lifting of Vehicle - 4-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Battery Electric Bus Operator Training – 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Battery Electric Bus Service Personnel Training – 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Battery Electric Bus Technician Training – 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase

Hydraulic System - 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase
EFAN System – 6-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Entrance/Exit Door Systems - 8-hour program (to be included with 24-hour block)	Part of 24hr Purchase
Electric Powertrain Familiarization Training – Provided at local Cummins dealer, price is per student per day. Does not include travel. (3 mechanics for one (1) 8hr class = \$2,700.00)	\$2,700.00
Cummins Commercial Electric Vehicle Qualification Training - Provided at Cummins Facility in Columbus, IN, price is per student per day. Does not include travel. (3 mechanics for one (1) 16hr class = \$5,400.00)	\$5,400.00
Thermo King HVAC Virtual Training – Price is per student per day. Does not include travel. Requires minimum of (8) attendees, \$200.00 per student per day.	\$1,600.00
Thermo King HVAC Field Training at Customer Site – Price is per student per day. Does not include travel. Requires minimum of (8) attendees, \$300.00 per student per day.	\$2,400.00



PRICING CLARIFICATION

PRICING CLARIFICATION

All the following general comments and clarifications may not apply to your specific procurement, but they are included so as to avoid misunderstandings, so they should not be construed as making this a conditional bid. These comments do not change the quoted pricing for the initial order and build.

TAX/FEE STATEMENT

The prices quoted for this procurement are for the specified deliverables only and **exclude** (unless specifically noted by buyer or seller) any Local, City, County, State, Franchise or Income or Value Added(VAT) taxes, tariffs, fees, business licenses, or other licenses, that may need to be paid as part of the performance of this contract, or any option of it. If any additional fees are required, they will be noted and added to the appropriate invoice.

PAYMENT

All prices are in U.S. Dollars and payments are only accepted on U.S. bank checks or via electronic funds transfers, (no credit, debit or bank cards) and any applicable transaction fees would be the responsibility of the buyer.

EMISSIONS AND OTHER REGULATED OR MANDATED CHANGES

The prices quoted for the initial build quantity are for vehicles meeting all applicable Federal and State regulations (including EPA, CARB, or NHTSA requirements) **currently known to be in effect at the time of delivery of those vehicles**. Changes caused by or related to future regulations, any subsequently enacted regulations, or technologies necessitating revisions from the currently proposed vehicle configuration (e.g. component change/availability due to emission or other regulations, requirements or mandates), may require a price adjustment, which would be subject to negotiation and agreement by both GILLIG and the buyer. This latter statement applies to future builds only that may need to use different components or currently unknown or unavailable technology, to meet regulations or requirements in effect at the time(s) of those optional deliveries.

OPTIONAL BUILD PRICING

Most bids include a PPI adjuster to determine pricing for future builds, and this is to clarify that bus pricing for such future build quantities may be different from the PPI adjusted price because of the above regulated/mandated changes and/or due to customer initiated change notices.

GILLIG LLC

By:


JOSEPH POLICARPIO

Title: VICE PRESIDENT, SALES

Date: OCTOBER 22, 2020

CER 9. Other Certifications

CER 9.1 Proposal Form

Proposer shall complete the following form and include it in the price Proposal.

PROPOSAL

By execution below by a duly authorized representative(s) of the Proposer, the Proposer hereby offers to furnish equipment and services as specified in its Proposal submitted to **Utah Transit Authority** in response to Request for Proposal No. **UT 20-03267PP** in its entirety.

Proposer: GILLIG LLC

Street address: 451 DISCOVERY DRIVE

City, state, ZIP: LIVERMORE, CA 94551

Name and title of Authorized Signer(s): JOSEPH POLICARPIO, VICE PRESIDENT, SALES

Name and title of Authorized Signer(s): ---

Phone: 800-735-1500 OR 510-785-1500

 OCTOBER 22, 2020
Authorized signature Date

--- ---
Authorized signature Date



PRODUCT LEAFLET

Electric Vehicle Infrastructure

HVC-C UL depot charging for electric fleets



ABB HVC-C UL Depot Charging systems offer a highly reliable, intelligent and cost-effective solution to charge large EV fleets such as buses, trucks and other commercial vehicles.

HVC Depot Boxes and power cabinets, lined up at a depot site.

A practical solution for busy depots
ABB Heavy Vehicle Charger (HVC) products enable electric buses and trucks to charge at the depot ensuring flexibility and scale for every fleet operation that is transitioning to zero-emission transportation.

Key Benefits
+ Smart charging
+ Small infrastructure footprint at vehicle interface
+ Flexible design for roof and floor mounting
+ SAE J1772 CCS and OCPP 1.6 compliant
+ Remote diagnostics and management tools

Sequential Charging
Improving total cost of ownership is easy using the sequential charging feature offered by ABB’s depot chargers. This feature allows connection of up to three depot charge boxes with a single power cabinet and vehicles are charged sequentially over time. The system can follow an embedded, predefined charging process or remote triggers sent by a fleet management system via OCPP 1.6.

- Vehicles are charged with high power, maximizing vehicle availability
- The required grid connection is smaller, reducing upfront investments and operational costs
- The compact depot box is easy to install at sites with space constraints
- Optimal utilization of installed infrastructure meaning lower investments in charging equipment.

Buy America
ABB can offer the HVC-C Depot Charging Solution with compliance to the Buy America Act Rule 49 CFR Part 661.5.

Future-proof modular design
Power cabinets can be upgraded from 100 or 150 kW in the field, as well as add additional depot charge boxes, allowing operators to scale their operation and to spread investments over time.

Safe and reliable operation
ABB fast chargers are designed to the highest international electrical, safety, and quality standards, and are certified by notified bodies - guaranteeing safe and reliable operation.

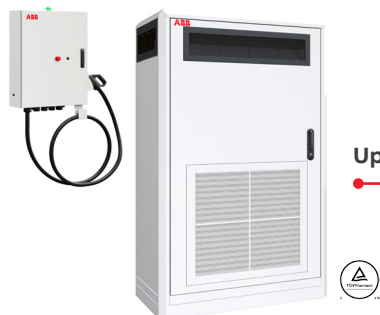
Connectivity and remote services
ABB chargers come with an extensive suite of connectivity features including remote services such as monitoring, management, diagnostics and software upgrades. These advanced services provide equipment owners with powerful insights into their charging operations while enabling high uptime.

ABB is your experienced partner
ABB HVC products are based on a decade of high power experience in EV charging solutions. ABB has installed over 13,000 fast charging systems in more than 80 countries – and is the leading EV infrastructure technology supplier globally.

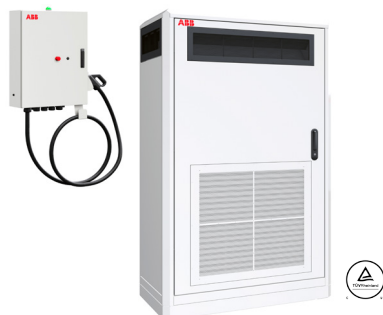
Overnight charging 100 kW - 150 kW

A field upgradeable system with future proof reliability

HVC 100C



HVC 150C



Upgrade
→

HVC 150C*



* 150 kW overnight charging system with three depot charge boxes; shown mounted on pedestal option.

A power upgrade can be done in the field by adding an extra power module. No groundworks, digging and disturbance to the site are required.

Technical specifications

Configurations		HVC 100C	HVC 150C
Maximum output power		100 kW	150 kW
AC Input voltage		UL: 3-phase, 480Y/277 VAC +/- 10% (60 Hz) CSA: 3-phase, 600Y/347 VAC +/-10% (60 Hz)	
AC Input connection		L1, L2, L3, GND (no neutral)	
Rated input power		117 kVA	170 kVA
Rated input current		UL: 132 A / CSA: 108 A	UL: 198 A / CSA: 168 A
Recommended upstream circuit breaker(s)		UL: 1 x 200 A / CSA: 1 x 150 A	UL: 1 x 250 A / CSA: 1 x 250 A
Output voltage range		150 – 850 VDC	
Maximum DC output current		166 A	200 A
Vehicle connection interface		CCS/Combo Type 1 Connector	
Cable length		3.5 m (11.5 ft) standard; 7 m (23 ft) optional	
DC connection standard		SAE J1772 - IEC 61851-23 / DIN 70121 - ISO 15118	
Environment		Indoor/Outdoor	
Operating temperature		Standard: -10 °C to +50 °C (de-rating characteristic applies) Optional: -35 °C to +50 °C	
Protection		Power Cabinet: IP54 – IK10 (equivalent to NEMA 3R) Depot Charge Box: IP65 - IK10	
Network connection		GSM/3G modem 10/100 base-T Ethernet	
Compliance and Safety		CSA No. 107.1-16 and UL 2202 certified by TUV BA Rule 49 CFR Part 661.5 (Optional)	
Dimensions			
Power Cabinet	Dimensions (H x W x D)	2030 x 1170 x 770 mm / 79.9 x 46.1 x 30.3 in	
	Weight	1340 kg / 2954 lbs	
Depot Charge Box (without pedestal)	Dimensions (H x W x D)	800 x 600 x 210 mm / 31.5 x 23.6 x 8.3 in	
	Weight	61 kg / 134.5 lbs (with 7 m / 23 ft cable)	
Depot Charge Box (with pedestal)	Dimensions (H x W x D)	1914 x 600 x 400 mm / 75.4 x 23.6 x 16.3 in	
	Weight	181 kg / 398 lbs (with 7 m / 23 ft cable)	

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PRODUCT LEAFLET

Electric Vehicle Infrastructure

HVC-PD UL opportunity charging for electric buses



— The HVC-PD charging system leverages an automated connection to enable extremely fast charge times.

A practical solution for route charging
ABB’s Heavy Vehicle Charger (HVC) system architecture offers an ideal solution for opportunity charging, ensuring zero-emission public transit during the day without impacting daily route operations.

Key Benefits
+ Charge in 3 to 6 minutes
+ One charger serves many vehicle makes and models
+ Safe and reliable fully automated connection
+ SAE J3105-1 and OCPP 1.6 compliant
+ Remote diagnostics and management tools

Future-proof modular design
Additional power cabinets can be installed at any time, allowing operators to scale their operation and flexibly spread out infrastructure investments as their fleet grows.

Safe and reliable operation
ABB fast chargers are designed to the highest international electrical, safety, and quality standards, and are certified by notified bodies - ensuring safe and reliable operation.

Interoperability
ABB HVC chargers are based on international standards for operational compatibility with multiple

ABB’s HVC-PD opportunity charging system offers high-power charging via an automated rooftop connection. With typical charge times of 3 to 6 minutes the system can be easily integrated in existing operations by installing chargers at endpoints, terminals and intermediate stops.

vehicle types and brands. This allows operators to select vehicles from multiple vendors and not be locked into a single supplier.

Connectivity and remote services
ABB chargers come with an extensive suite of connectivity features including remote services such as monitoring, diagnostics and software upgrades. These advanced services provide equipment owners with powerful insights into their charging operations while delivering high uptime.

OCPP 1.6
ABB HVC-PD charging systems can be connected to standardized charging infrastructure management platforms using OCPP 1.6. ABB’s HVC suite supports OCPP 1.6 Core and Smart Charging Profiles.

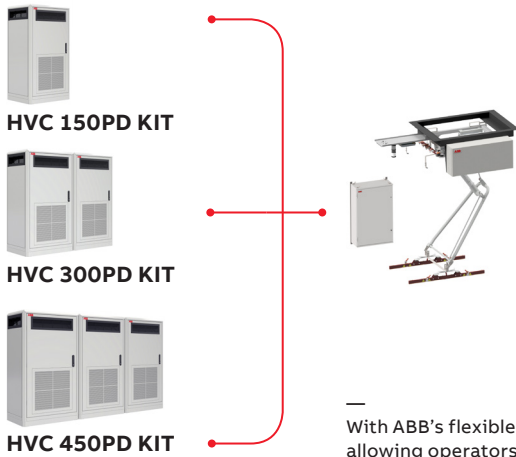
Buy America
ABB can offer the HVC-PD Depot Charging Solution with compliance to the Buy America Act, Rule 49 CFR Part 661.5.

ABB is your experienced partner
ABB HVC products are based on a decade of high-power experience in EV charging solutions. ABB has installed over 14,000 fast charging systems in more than 80 countries – and is the leading EV infrastructure technology supplier globally.

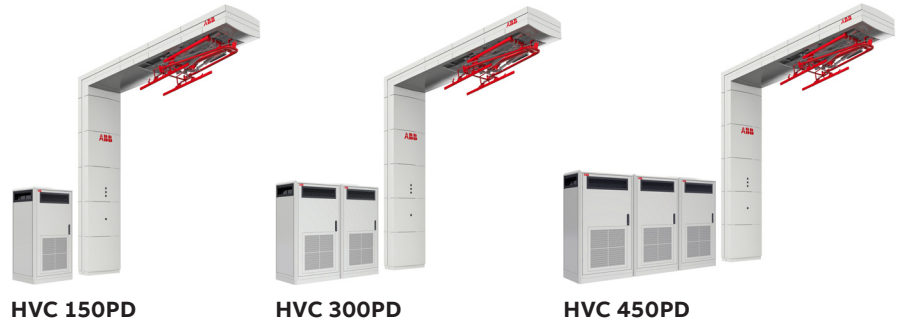
Opportunity charging 150 kW to 450 kW

A scalable system with future-proof reliability

Charging on existing structure



Charging on route



With ABB's flexible HVC architecture, power capability can be expanded over time, allowing operators to spread out infrastructure investments as their fleet grows.

Technical specifications

Configurations	HVC 150PD	HVC 300PD	HVC 450PD
Maximum output power	150 kW	300 kW	450 kW
Input AC connection	UL: 3-phase, 480Y/277 VAC +/- 10 % (60 Hz); CSA: 3-phase, 600Y/347 VAC +/-10% (60 Hz)		
Rated input power	170 kVA	2x 170 kVA	3x 170 kVA
Rated input current	UL: 198 A CSA: 168 A	UL: 2x 198 A CSA: 2x 168 A	UL: 3x 198 A CSA: 3x 168 A
Recommended upstream circuit breaker(s)	1 x 250 A	2 x 250 A	3 x 250 A
Output voltage range	150 – 850 VDC		
Maximum DC output current	250 A	500 A	600 A*
Vehicle connection interface	Inverted crossrail pantograph - OppCharge		
DC connection standard	SAE J3105-1 - IEC 61851-23-1** - ISO 15118		
Environment	Indoor/Outdoor		
Operating temperature	Standard: -10 °C to +50 °C (de-rating characteristic applies); Optional: -35 °C to +50 °C		
Protection	IP54 – IK10 (NEMA 3R)		
Network connection	GSM/3G/4G modem 10/100 base-T Ethernet		
Compliance and safety	CSA No. 107.1-16 and UL 2202, certified by TUV BA Rule 49 CFR Part 661.5 (Optional)		

Dimensions

Power cabinet (each)	Number of Power Cabinets	1	2	3
Dimensions (H x W x D)		2030 x 1170 x 770 mm / 79.9" x 46.1" x 30.3"		
Weight		1340 kg / 2954 lbs		
Charge pole (includes Pantograph & ACM)	Dimensions (H x W x D)	5240 x 1040 x 300 mm / 206.3" x 40.9" x 11.8"		
	Outreach	4670 mm / 183.9" x 30.3"		
	Weight	1706 kg / 3762 lbs		
ACM Control Module KIT	Dimensions (H x W x D)	1600 x 1000 x 476.9 mm / 63" x 39.4" x 18.8"		
	Weight	193 kg / 425 lbs		
Pantograph KIT	Dimensions (H x W x D)	(resting position / bolt-hole pattern) 574 x 1300 x 900mm / 22.6"H x 51.2"W x 35.4"D		
	Weight	227 kg / 500 lbs		

* Limited by inverted pantograph contact ratings

** IEC 61851-23-1 in draft status

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GILLIG LLC
LOW FLOOR TRANSIT COACH
STANDARD LIMITED WARRANTY & EXTENDED COVERAGE FOR
UTAH TRANSIT AUTHORITY - SALT LAKE CITY, UTAH
BID RFP 20-03267PP FOR ELECTRIC VEHICLES – OCTOBER 23, 2020

GILLIG LLC warrants to the original purchaser, that its transit coaches, save and except for those major component assemblies and other parts described below which are separately warranted by their respective manufacturer's (OEM's), will be **FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND SERVICE**, for the distance or time periods specified in the attached, and agrees to REPAIR or REPLACE the defective parts AT NO COST TO THE PURCHASER. This is a limited warranty subject to the provisions stated below and is referred to as GILLIG's Standard Limited Warranty.

This warranty **DOES NOT COVER** malfunction or failure resulting from the purchaser's or its agents or employees alteration, misuse, abuse, accident, neglect or failure to perform normal preventive maintenance as outlined in GILLIG's Service Manual, nor does it cover components or assemblies not originally provided by GILLIG. Further, this warranty **DOES NOT APPLY** to normal replacement items such as light bulbs, seals, filters or bushings, nor to consumable items such as belts, tires, brake linings or drums.

PURCHASER'S SOLE REMEDIES FOR LIABILITY OF ANY KIND WITH RESPECT TO THE PRODUCTS FURNISHED UNDER THIS WARRANTY AND ANY OTHER PERFORMANCE BY GILLIG UNDER OR PURSUANT TO THIS WARRANTY, OR WITH RESPECT TO PURCHASER'S USE THEREOF, INCLUDING NEGLIGENCE, SHALL BE LIMITED TO THE REMEDIES PROVIDED IN THIS WARRANTY AND SHALL IN NO EVENT INCLUDE ANY INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OR LOSS OF USE, REVENUE OR PROFIT. IN NO EVENT SHALL GILLIG'S LIABILITY FOR DAMAGES WITH RESPECT TO ANY OF THE PRODUCTS COVERED UNDER THIS WARRANTY EXCEED THE AMOUNT PAID BY THE PURCHASER TO GILLIG FOR SUCH PRODUCTS.

GILLIG **DOES NOT WARRANT** some major component assemblies (such as the engines, transmissions and air conditioning systems) which are warranted by their respective manufacturers (OEM's) and identified as Category 3 items on page three (3) of this Warranty. **Warranty coverage for these items is as defined in those manufacturer's own warranty documents** and per their terms and conditions, and as administered by their own support networks.

GILLIG makes **NO OTHER WARRANTIES**, except as stated herein, and GILLIG's obligation under this warranty is **LIMITED AND FULLY DESCRIBED HEREIN**. Determination of warrantable defects is at GILLIG's (or the OEM's) discretion and will require inspection of failed components. Correction or compensation under this warranty for Category 1 and Category 2 items cannot be made unless requested on a GILLIG Application for Warranty Claim form and in accordance with the claim procedure established by GILLIG.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED, but if such has legal status, it **CANNOT EXCEED THE DURATIONS STATED HEREIN**. This warranty gives the purchaser specific legal rights and some state statutes may include other rights.

This is GILLIG's sole warranty with respect to its transit coaches. **GILLIG MAKES NO OTHER WARRANTY OF ANY KIND WHATEVER, EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID OBLIGATION ARE HEREBY DISCLAIMED BY GILLIG AND EXCLUDED FROM THIS AGREEMENT.**

GILLIG LLC
LOW FLOOR TRANSIT COACH
STANDARD LIMITED WARRANTY & EXTENDED COVERAGE FOR
UTAH TRANSIT AUTHORITY - SALT LAKE CITY, UTAH
BID RFP 20-03267PP FOR ELECTRIC VEHICLES – OCTOBER 23, 2020

GILLIG's Standard Limited Warranty which covers Category 1 and Category 2 parts, components and assemblies, covers the following systems, components or assemblies for the period specified, and includes 100% PARTS AND LABOR to repair or replace the defective components as determined by GILLIG. (See Page 3 for explanation of notes (1)-(7).)

CATEGORY 1

Includes GILLIG manufactured or assembled components and systems as well as some purchased assemblies. Warranty and warranty claims administration provided by GILLIG.

	Coverage Period ⁽¹⁾	
	<u>Months</u>	<u>Miles</u>
FULL COACH WARRANTY ^{(2) (3) (7)}	12	50,000
BODY STRUCTURE WARRANTY ⁽⁴⁾	36	150,000
CORROSION & STRUCTURAL INTEGRITY WARRANTY ⁽⁵⁾	84	350,000

CATEGORY 2

Includes major components purchased and installed by GILLIG. Warranty provided by component OEM's. Warranty claims administration provided by GILLIG.

<u>AXLE</u>		
Meritor Front Steering	60	300,000
Meritor Rear Driving	60	300,000
<u>BRAKE SYSTEM</u>		
(Excludes Friction Material)		
Bendix Valves	24	100,000
Meritor Brakes	24	100,000
<u>ELECTRONIC COOLING PACKAGE</u>		
Modine System	36	Unlimited

GILLIG LLC
LOW FLOOR TRANSIT COACH
STANDARD LIMITED WARRANTY & EXTENDED COVERAGE FOR

UTAH TRANSIT AUTHORITY - SALT LAKE CITY, UTAH
BID RFP 20-03267PP FOR ELECTRIC VEHICLES – OCTOBER 23, 2020

Major components listed below under “Category 3” are covered by warranties or extended coverages⁽⁶⁾, for the miles and/or months indicated, provided by the manufacturer (OEM’s) of those components. Purchasers should refer to specific OEM warranty documents for details. Warranty claims are and will be administered by the respective manufacturers (OEM’s) and all warranty claims must be made directly to said manufacturers. GILLIG will assist purchasers in dealing with these OEM’s and warranty issues that may arise from time to time.

CATEGORY 3

	Coverage Period ⁽¹⁾	
	<u>Months</u>	<u>Miles</u>
<u>POWERTRAIN</u> ⁽⁷⁾		
CUMMINS	60	250,000
Energy Storage System	144	500,000 (90% of Original Useable Capacity/Pack Depth Charge 70%)
<u>AIR CONDITIONING SYSTEM</u>		
Thermo King Electric	24	Unlimited
<u>WHEELCHAIR RAMP</u>		
Lift-U LU18	24	Unlimited
<u>DOOR SYSTEM</u>		
Vapor	12	Unlimited

Low Floor Transit Coach Emission Warranty

GILLIG warrants to the ultimate purchaser and each subsequent purchaser that the new vehicle is designed, built and equipped so it conforms at the time of sale to the ultimate purchaser with all U.S. federal emissions regulations applicable at the time of manufacture and that it is free from defects in materials or workmanship which would cause the vehicle to fail to not meet these regulations within five years or 100,000 miles of operation, whichever occurs first, as measured from the date the vehicle is placed into service. In no case may this period be less than the Standard Limited Warranty where applicable to emission warrantable parts. If the ultimate purchaser registers the vehicle in the state of California (or any other state following the applicable California Air Resources Board regulations) a separate California Emissions Warranty applies.

GILLIG LLC
LOW FLOOR TRANSIT COACH
STANDARD LIMITED WARRANTY & EXTENDED COVERAGE FOR
UTAH TRANSIT AUTHORITY - SALT LAKE CITY, UTAH
BID RFP 20-03267PP FOR ELECTRIC VEHICLES – OCTOBER 23, 2020

GILLIG warrants to the ultimate purchaser that registers the vehicle in the state of California (or any other state following the applicable California Air Resources Board regulations), and each subsequent purchaser, that the new vehicle is designed, built and equipped so it conforms at the time of sale to the ultimate purchaser with all applicable regulations adopted by the California Air Resources Board at the time of manufacture and that it is free from defects in materials or workmanship which would cause the vehicle to fail to not meet these regulations within five years, 100,000 miles or 3000 hours of operation, whichever occurs first, as measured from the date the vehicle is placed into service. In no case may this period be less than the basic mechanical warranty provided to the purchaser of the engine.

GILLIG warrants to the ultimate purchaser and each subsequent purchaser that the tires on this vehicle conform at the time of sale to the ultimate purchaser with all U.S federal emissions regulations and all applicable regulations adopted by the California Air Resources Board at the time of manufacture and are free from defects in materials or workmanship which would cause the vehicle to fail to not meet these regulations for a period of 2 years or 24,000 miles, whichever occurs first.

This list of emission control parts may be covered by the Emission Warranty under certain failure modes.

- Ambient Air Temperature Sensor
- Wire harness circuits connected at both ends to emissions warrantable components
- On-Board Diagnostic (OBD) Malfunction Indicator Lamp (MIL)
- OBD Connector

NOTES

- 1) Coverage ceases at the first expiration of the time or distance noted.
- 2) Full coach warranty includes and applies to electrical, doors, seats, flooring, roof hatches, destination signs, wheelchair ramp, handrails, radio, P.A., etc., but not to IVS systems or special options.
- 3) Fleet defect coverage is for a maximum of 12 months or 50,000 miles and includes all warrantable components and assemblies on the vehicle.
- 4) Basic body structure warranty includes and applies to structural members in the body and undercarriage including the structural members in the suspensions.
- 5) The corrosion and structural integrity guarantee covers against a significant loss of structural integrity of the assembly or its functional performance, resulting from a pertinent loss of cross-section due to corrosion caused by normal environmental elements but excludes corrosion caused by aggressive road de-icers such as Magnesium Chloride or equivalents, unless Gillig approved preventative measures are taken (see Service Manual).
- 6) Extended coverage may not duplicate Standard Limited warranty coverage. Note: Please refer to OEM warranty documents for details.

Contract 20-03267PP
Electric Vehicles and Charging Equipment

EXHIBIT B -Final Relined Specifications

SECTION 6: TECHNICAL SPECIFICATIONS

GENERAL

TS 1. Scope

Bus specifications will be for Electric Propulsion Transit/Suburban Buses, The Bus body shall have the newer look of a “BRT” styling package which includes a more rounded and curved appearance on the top, front and rear of the bus, frameless passenger windows and an extra-large two-piece windshield.

The proposed buses shall have the following priced variants;

Length: Provide a price for 40ft and 35 ft bus if offered.

Priced Configuration #1: Standard Transit bus configuration of 2 door low floor bus.

Priced Configuration #2: Suburban (1) door bus with commuter style interior layout. Padded vinyl forward facing captain's chair commuter seating with seatbelts shall be included. USB and 110v patron outlets. Patron Wi-fi, 70mph Governor, overhead luggage storage racks (if available.) Bus shall be designed for a quiet comfortable highway ride and capable of long highway canyon grade trips. The bus shall also include an automatic tire chain system, or a prewire setup for one to be installed upon delivery

Priced Configuration #3: BRT route specific bus. Bus Shall have a ramp designed for near level platform boarding. Platform height is 12” The bus shall have streamlined large rear door to quickly allow boarding and unloading Wheelchair stations shall be priced with Quantum auto front or rear facing system (or approved equivalent). Provide pricing for one and both sides of the wheelchair securement area. The bus shall also include an automatic tire chain system, or a prewire setup for one to be installed upon delivery

Charging infrastructure/connections: Provide pricing for compatible charging infrastructure, including compatible depot chargers and high-power on route chargers. Proposed chargers will be included in the technical/delivery schedule/price scores and should meet the following requirements.

1. The successful proposer will need to demonstrate that the buses and charging equipment are fully tested and integrated. The contractor must show that the protocol on the bus is correct and matches the agency's selected charger protocol before the buses leave the factory.
2. Proposed Charging equipment must be compatible with the Agency's existing electric buses.
3. Proposed buses must be compatible with the Agency's existing chargers.
4. Depot charger connections should utilize SAE J1772 DC CCS type 1
5. Overhead High-Power chargers should utilize SAE J3105, and conductors on the proposed bus shall be located towards the front of the bus.
6. Provide a standardized application protocol for communication between Electric vehicle (EV) charging stations and central management systems from different vendors to communicate with each other. The Open Charge Point Protocol (OCPP) is APPROVED.
7. Charging equipment shall include an online system where the agency can see the status of the charging equipment, pull reports/data on charger use, and diagnose problems.

Contract 20-03267PP

Electric Vehicles and Charging Equipment

8. The proposer should disclose the maximum rate of charge the proposed bus ESS can accept from the overhead charger, as well as the max output of the On-route charger, since a long-range type battery typically can't accept max output of the high-power charger
9. The agency is requesting pricing for the equipment/hardware only and is NOT soliciting design or construction costs for chargers.
10. Provide an estimated delivery date/lead-time for charging equipment from NTP. This is considered in the delivery schedule score since infrastructure can make or break the project schedule.
11. The agency will accept pricing for inductive charging options, as well as overhead depot charging options if they exist. This is for informational purposes mainly & will not be required.

Product Demo: If there is interest, the agency will entertain the idea of a bus demonstration/test from proposers. This will be on an as needed or as requested basis and is not intended for scoring purposes, but for supplementation/clarification of what is being proposed and for answering questions that may arise.

The expanded specifications are easy to recognize because they are underlined, and italicized. This paragraph is a good example of added specifications. The original specifications that are specifically not used have either been removed, or they are in their original font, black ink and have been struck through, such as this example. Whenever a brand name of a component is mentioned, the words "or approved equal" follows the brand name even though the words "or approved equal" are not printed in the specification.

Technical specifications define requirements for heavy-duty transit buses and commuter style suburban buses ~~coaches~~, which, by the selection of specifically identified alternative configurations, may be used for both, suburban, express and BRT service and general service on urban arterial streets. Buses shall have a minimum expected life of twelve (12) years or 500,000 miles, whichever comes first, and are intended for the widest possible spectrum of passengers, including children, adults, the elderly and people with disabilities.

TS 2. Definitions

Alternative: An alternative specification condition to the default bus configuration. The Agency may define alternatives to the default configuration to satisfy local operating requirements. Alternatives for the default configuration will be clearly identified.

Ambient Temperature: The temperature of the surrounding air. For testing purposes, ambient temperature must be between 16 °C (50 °F) and 38 °C (100 °F).

Analog Signals: A continuously variable signal that is solely dependent upon magnitude to express information content.

Audible Discrete Frequency: An audible discrete frequency is determined to exist if the sound power level in any 1/3-octave band exceeds the average of the sound power levels of the two adjacent 1/3-octave bands by 4 decibels (dB) or more.

Battery Compartment: Low-voltage energy storage, i.e. 12/24 VDC batteries.

Battery Management System (BMS): Monitors energy, as well as temperature, cell or module voltages, and total pack voltage. The BMS adjusts the control strategy algorithms to maintain the batteries at uniform state of charge and optimal temperatures.

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Braking Resistor: Device that converts electrical energy into heat, typically used as a retarder to supplement or replace the regenerative braking.

Burst Pressure: The highest pressure reached in a container during a burst test.

Capacity (fuel container): The water volume of a container in gallons (liters).

Cells: Individual components (i.e., battery or capacitor cells).

Code: A legal requirement.

Combination Gas Relief Device: A relief device that is activated by a combination of high pressures or high temperatures, acting either independently or together.

Composite Container for CNG: A container fabricated of two or more materials that interact to facilitate the container design criteria.

Compressed Natural Gas (CNG): Mixtures of hydrocarbon gases and vapors consisting principally of methane in gaseous form that has been compressed for use as a vehicular fuel.

Container: A pressure vessel, cylinder or cylinders permanently manifolded together, used to store CNG.

Container Appurtenances: Devices connected to container openings for safety, control or operating purposes.

Container Valve: A valve connected directly to a container outlet.

Curb Weight: Weight of vehicle, including maximum fuel, oil and coolant; and all equipment required for operation and required by this Specification, but without passengers or driver.

dBA: Decibels with reference to 0.0002 microbar as measured on the “A” scale.

DC to DC Converter: A module that converts a source of direct current from one voltage level to another.

Default Configuration Bus: The bus described if no alternatives are selected. Signing, colors, the destination sign reading list and other information must be provided by the Agency.

Defueling: The process of removing fuel from a tank.

Defueling Port. Device that allows for vehicle defueling, or the point at which this occurs.

Destroyed: Physically made permanently unusable.

Discrete Signal: A signal that can take only pre-defined values, usually of a binary 0 or 1 nature, where 0 is battery ground potential and 1 is a defined battery positive potential.

DPF: Diesel particulate filter.

Driver’s Eye Range: The 95th-percentile ellipse defined in SAE Recommended Practice J941, except

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that the height of the ellipse shall be determined from the seat at its reference height.

Energy Density: The relationship between the weight of an energy storage device and its power output in units of watt-hours per kilogram (Wh/kg).

Energy Storage System (ESS): A component or system of components that stores energy and for which its supply of energy is rechargeable by the on-vehicle system (engine/regenerative braking/ generator) or an off-vehicle energy source.

Fill Pressure for CNG: The pressure attained at the actual time of filling. Fill pressure varies according to the gas temperatures in the container, which are dependent on the charging parameters and the ambient conditions. The maximum dispensed pressure shall not exceed 125 percent of service pressure.

Flow Capacity: For natural gas flow, this is the capacity in volume per unit time (normal cubic meters/minute or standard cubic feet per minute) discharged at the required flow rating pressure.

Fuel Line: The pipe, tubing or hose on a vehicle, including all related fittings, through which natural gas passes.

Fusible Material: A metal, alloy or other material capable of being melted by heat.

Fire Resistant: Materials that have a flame spread index less than 150 as measured in a radiant panel flame test per ASTM-E 162-90.

Fireproof: Materials that will not burn or melt at temperatures less than 2000 °F.

Free Floor Space: Floor area available to standees, excluding the area under seats, area occupied by feet of seated passengers, the vestibule area forward of the standee line, and any floor space indicated by manufacturer as non-standee areas, such as the floor space “swept” by passenger doors during operation. Floor area of 1.5 sq ft shall be allocated for the feet of each seated passenger protruding into the standee area.

Fuel Management System: Natural gas fuel system components that control or contribute to engine air fuel mixing and metering, and the ignition and combustion of a given air-fuel mixture. The fuel management system would include, but is not limited to, reducer/regulator valves, fuel metering equipment (e.g. carburetor, injectors), sensors (e.g., main throttle, wastegate).

GAWR (Gross Axle Weight Rated): The maximum total weight as determined by the axle manufacturer, at which the axle can be safely and reliably operated for its intended purpose.

Gross Load: 150 lbs for every designed passenger seating position, for the driver, and for each 1.5 sq ft of free floor space.

GVW (Gross Vehicle Weight): Curb weight plus gross load.

GVWR (Gross Vehicle Weight Rated): The maximum total weight as determined by the vehicle manufacturer, at which the vehicle can be safely and reliably operated for its intended purpose.

High Pressure: Those portions of the CNG fuel system that see full container or cylinder pressure.

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High Voltage (HV): Greater than 50 V (AC and DC).

Hose: Flexible line.

Hybrid: A vehicle that uses two or more distinct power sources to propel the vehicle.

Hybrid System Controller (HSC): Regulates energy flow throughout hybrid system components in order to provide motive performance and accessory loads, as applicable, while maintaining critical system parameters (voltages, currents, temperatures, etc.) within specified operating ranges.

Hybrid Drive System (HDS): The mechanical and/or electromechanical components, including the engine, traction motors and energy storage system, which comprise the traction drive portion of the hybrid propulsion system.

Intermediate Pressure: The portion of a CNG system after the first pressure regulator, but before the engine pressure regulator. Intermediate pressure on a CNG vehicle is generally from 3.5 to 0.5 MPa (510 to 70 psi).

Inverter: A module that converts DC to and from AC.

Labeled: Equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, which is acceptable to the authority having jurisdiction and concerned with product evaluation, which maintains periodic inspection of production labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Leakage: Release of contents through a Defect or a crack. See *Rupture*.

Line: All tubes, flexible and hard, that carry fluids.

Liner: Inner gas-tight container or gas container to which the overwrap is applied.

Local Regulations: Regulations below the state level.

Low-Floor Bus: A bus that, between at least the front (entrance) and rear (exit) doors, has a floor sufficiently low and level so as to remove the need for steps in the aisle between the doors and in the vicinity of these doors.

Low Voltage (LV): 50 V or less (AC and DC).

Lower Explosive Limit: The lowest concentration of gas where, given an ignition source, combustion is possible.

Maximum Service Temperature: The maximum temperature to which a container/cylinder will be subjected in normal service.

Metallic Hose: A hose whose strength depends primarily on the strength of its metallic parts; it can have metallic liners or covers, or both.

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Metering Valve: A valve intended to control the rate of flow of natural gas.

Module: An assembly of individual components

Motor (Electric): A device that converts electrical energy into mechanical energy.

Motor (Traction): An electric motor used to power the driving wheels of the bus.

Operating Pressure: The varying pressure developed in a container during service.

Physical Layer: The first layer of the seven-layer International Standards Organization (ISO) Open Systems Interconnect (OSI) reference model. This provides the mechanical, electrical, functional and procedural characteristics required to gain access to the transmission medium (e.g., cable) and is responsible for transporting binary information between computerized systems.

Pipe: Nonflexible line.

Pressure Relief Device (PRD): A pressure and/or temperature activated device used to vent the container/cylinder contents and thereby prevent rupture of an NGV fuel container/cylinder, when subjected to a standard fire test as required by fuel container/cylinder standards.

NOTE: Since this is a pressure-activated device, it may not protect against rupture of the container when the application of heat weakens the container to the point where its rupture pressure is less than the rated burst pressure of the relief device, particularly if the container is partially full.

Power: Work or energy divided by time

Power Density: Power divided by mass, volume or area.

Propulsion System: System that provides propulsion for the vehicle proportional to operator commands. Includes, as applicable, engine, transmission, traction motors, the hybrid drive system, (HDS), energy storage system (ESS), and system controllers including all wiring and converter/inverter.

Real-Time Clock (RTC): Computer clock that keeps track of the current time.

Regenerative Braking: Deceleration of the bus by switching motors to act as generators, which return vehicle kinetic energy to the energy storage system.

Rejectable Damage: In terms of NGV fuel containers/cylinders, this is damage as outlined in CGA C-6.4, "Methods for External Visual Inspection of Natural Gas Vehicle Fuel Containers and Their Installations," and in agreement with the manufacturer's recommendations.

Retarder: Device used to augment or replace some of the functions of primary friction based braking systems of the bus.

Rupture: Sudden and unstable damage propagation in the structural components of the container resulting in a loss of contents. See *Leakage*.

Seated Load: 150 lbs for every designed passenger seating position and for the driver.

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SLW (Seated Load Weight): Curb weight plus seated load.

Serial Data Signals. A current loop based representation of ASCII or alphanumeric data used for transferring information between devices by transmitting a sequence of individual bits in a prearranged order of significance.

NOTE: An example is the communication that takes place between two or more electronic components with the ability to process and store information.

Service Pressure: The settled pressure at a uniform gas temperature of 21 °C (70 °F) and full gas content. It is the pressure for which the equipment has been constructed, under normal conditions. Also referred to as the nominal service pressure or working pressure.

Settled Pressure: The gas pressure when a given settled temperature, usually 21 °C (70 °F), is reached.

Settled Temperature: The uniform gas temperature after any change in temperature caused by filling has dissipated.

Solid State Alternator: A module that converts high-voltage DC to low-voltage DC (typically 12/24 V systems).

Sources of Ignition: Devices or equipment that because of their modes of use or operation, are capable of providing sufficient thermal energy to ignite flammable compressed natural gas-air mixtures when introduced into such a mixture, or when such a mixture comes into contact with them.

Special Tools: Tools not normally stocked by the Agency.

Specification: A particular or detailed statement, account or listing of the various elements, materials, dimensions, etc. involved in the manufacturing and construction of a product.

Standard: A firm guideline from a consensus group. Standards referenced in “Section 6: Technical Specifications” are the latest revisions unless otherwise stated.

Standee Line: A line marked across the bus aisle to designate the forward area that passengers may not occupy when the bus is moving.

State of Charge (SOC): Quantity of electric energy remaining in the battery relative to the maximum rated amp-hour (Ah) capacity of the battery expressed in a percentage. This is a dynamic measurement used for the energy storage system. A full SOC indicates that the energy storage system cannot accept further charging from the engine-driven generator or the regenerative braking system.

Stress Loops: The “pigtailed” commonly used to absorb flexing in piping.

Structure: The basic body, including floor deck material and installation, load-bearing external panels, structural components, axle mounting provisions and suspension beams and attachment points.

Thermally Activated Gas Relief Device: A relief device that is activated by high temperatures and generally contains a fusible material.

NOTE: Since this is a thermally activated device, it does not protect against over-pressure from improper

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charging practices.

Wheelchair: A mobility aid belonging to any class of three- or four-wheeled devices, usable indoors, designed for and used by individuals with mobility impairments, whether operated manually or powered. A “common wheelchair” is such a device that does not exceed 30 in. in width and 48 in. in length measured 2 in. above the ground, and does not weigh more than 600 lbs when occupied.

TS 3. Referenced Publications

The documents or portions thereof referenced within this specification shall be considered part of the requirements of the specification. The edition indicated for each referenced document is the current edition, as of the date of the APTA issuance of this specification.

TS 4. Legal Requirements

The Contractor shall comply with all applicable federal, state and local regulations. These shall include but not be limited to ADA, as well as state and local accessibility, safety and security requirements. Local regulations are defined as those below the state level.

Buses shall meet all applicable FMVSS regulations and shall accommodate all applicable FMCSR regulations in effect at the location of the Agency and the date of manufacture.

In the event of any conflict between the requirements of these specifications and any applicable legal requirement, the legal requirement shall prevail. Technical requirements that exceed the legal requirements are not considered to conflict.

TS 5. Overall Requirements

The Contractor shall ensure that the application and installation of major bus subcomponents and systems are compliant with all such subcomponent vendors’ requirements and recommendations. Contractor and Agency shall identify subcomponent vendors that shall submit installation/application approval documents with the completion of a pilot or lead bus. Components used in the vehicle shall be of heavy-duty design and proven in transit service.

TS 5.1 Weight

It shall be a design goal to construct each bus as light in weight as possible without degradation of safety, appearance, comfort, traction or performance.

Buses at a capacity load shall not exceed the tire factor limits, brake test criteria or structural design criteria.

TS 5.2 Capacity

The vehicle shall be designed to carry the gross vehicle weight, which shall not exceed the bus GVWR.

TS 5.3 Service Life

The minimum useful design life of the bus in transit service shall be at least twelve (12) years or 500,000 miles. It shall be capable of operating at least 40,000 miles per year, including the 12th year.

TS 5.4 Maintenance and Inspection

Scheduled maintenance tasks shall be related and shall be in accordance with the manufacturer’s

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recommended preventative maintenance schedule (along with routine daily service performed during the ~~fueling~~ **charging** operations).

Test ports, as required, shall be provided for commonly checked functions on the bus, such as ~~air intake, exhaust,~~ hydraulic, pneumatic, ~~charge air and engine~~ cooling systems.

The coach manufacturer shall give prime consideration to the routine problems of maintaining the vehicle. All coach components and systems, both mechanical and electrical, which will require periodic physical Work or inspection processes shall be installed so that a minimum of time is consumed in gaining access to the critical repair areas. It shall not be necessary to disassemble portions of the coach structure and/or equipment such as seats and flooring under seats in order to gain access to these areas. Each coach shall be designed to facilitate the disassembly, reassembly, servicing or maintenance, using tools and equipment that are normally available as standard commercial items.

Requirements for the use of unique specialized tools will be minimized. The body and structure of the coach shall be designed for ease of maintenance and repair. Individual panels or other equipment that may be damaged in normal service shall be repairable or replaceable. Ease of repair shall be related to the vulnerability of the item to damage in service.

Contractor shall provide a list of all special tools and pricing required for maintaining this equipment. Said list shall be submitted as a supplement to the Pricing Schedule.

NOTE: Tools such as compartment door keys, bellows gauges and other tools that are required for daily maintenance and inspections shall not be included in the special tool list and shall be furnished for each coach.

TS 5.5 Interchangeability

Unless otherwise agreed, all units and components procured under this Contract, whether provided by Suppliers or manufactured by the Contractor, shall be duplicates in design, manufacture and installation to ensure interchangeability among buses in each order group in this procurement. This interchangeability shall extend to the individual components as well as to their locations in the buses. These components shall include, but are not limited to, passenger window hardware, interior trim, lamps, lamp lenses and seat assemblies. Components with non-identical functions shall not be, or appear to be, interchangeable.

Any one component or unit used in the construction of these buses shall be an exact duplicate in design, manufacture and assembly for each bus in each order group in this Contract. Contractor shall identify and secure approval for any changes in components or unit construction provided within a Contract.

In the event that the Contractor is unable to comply with the interchangeability requirement, the Contractor must notify the Agency and obtain the Agency's prior written approval, including any changes in pricing.

Agency shall review proposed product changes on a case-by-case basis and shall have the right to require extended warranties to ensure that product changes perform at least as well as the originally supplied products.

TS 5.6 Training

Introduction

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Training Costs shall be part of the bus evaluation, but priced separately.

Contractor shall be responsible for providing the following training:

1. Training in the maintenance and operation of the contracted buses. Training materials sufficient to support continued in-house Agency's training.
2. Update training and training materials when, in the scope of the contract, changes or modifications are made that affect the operation or maintenance of the buses that are contracted through final delivery of the initial base order of buses. All subsequent training which may be requested for optional bus orders will be negotiated and priced accordingly. This deliverable section specifies the nature of the training activities and training materials that are required from the Contractor.

Scope of Work for the Maintenance and Operation's Departments

Operation's Department:

The Contractor shall have at least one qualified instructor who will be available at UTA for three continuous days between the hours of 8:00 am – 5:00 pm sometime after the acceptance of the first bus. The instructor shall conduct classes to teach UTA training staff on the proper operation of the buses as well as useful troubleshooting techniques associated with operating the bus. The Contractor shall provide sufficient operating manuals for the training staff to be used during the 2 days of training sessions. Provide an electronic copy of the operating manual to UTA for future training needs.

Maintenance Department:

Up to five (5) Maintenance Training Specialists and Maintenance Instructors, and five (5) Maintenance Supervisors shall be provided "Train the Trainer" instructions for Maintenance Procedures, as outlined below in Salt Lake City, Utah. Up to forty (40) mechanics shall be trained on the proper and recommended procedures to perform Maintenance procedures as outlined below at a UTA location to be determined by Maintenance Training and, at the discretion of UTA, be provided on more than one (1) shift (i.e. days, swing).

1. Maintenance Training will be tailored specifically to the Agency's buses, including all new technology equipment, and be designed to develop the knowledge and skills of the Maintenance Employees and Maintenance Training Specialists required to maintain the buses delivered under the contract. Maintenance Training will be provided in the following major areas:
 - a. Propulsion system (Vendor Specific)
 - b. Transmission (Vendor Specific if applicable)
 - c. Battery system
 - d. HVAC(Vendor Specific)
 - e. Passenger Door
 - f. Wheelchair ramp (R & R and Overhaul) (Vendor Specific)
 - g. Air & Brake System
 - h. Electrical System (emphasis on new technologies)

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- i. Steering/Suspension
 - j. Familiarization and Orientation
 - k. Preventive Maintenance (Contractor shall provide Inspection Sheets)
 - l. Body and Panel Repair
 - m. Tow, Service Truck procedures, and proper lifting of vehicle (specific to UTA equipment & facility).
 - n. Fire Suppression Systems (Vendor Specific
 - o. Any new technology equipment not covered in section 2 a-m.
2. System Level Maintenance Training, covering:
- a. Theory of Operation
 - b. Mechanical System Configuration
 - c. Preventive Maintenance
 - d. Written and Validated Inspection
 - e. Use of any and all special tools and equipment necessary to diagnose, troubleshoot, and repair the bus.
3. Shop Level Maintenance Training, covering:
- a. Detailed Theory of operation to module, board, and/or device level.
 - b. Component level Troubleshoot and Replacement.
 - c. Testing and Alignment of repaired units.
 - d. Use of any and all special tools and equipment necessary to diagnose, troubleshoot, and repair the bus.

Deliverables

Within sixty (60) days after Notice to Proceed, the Contractor will provide the Agency's Maintenance Training Department an outline of the proposed training programs for approval.

The Contractor shall submit two (2) draft copies of each deliverable for approval ninety (90) days prior to the first scheduled class. The Agency's Maintenance Training Department will coordinate and schedule all classes.

Thirty (30) days prior to the beginning of the first scheduled class, the Agency's Training Department requires the following approved course materials to be delivered by the Contractor according to the following specifications:

- 1. Instructor's Guide to contain all the information and directions necessary for the Agency's instructors to make an effective presentation and practical demonstration. It shall include adequate guidelines to conduct a comprehensive training program. Individual lessons within the course will be organized as separate units or modules which may be taught as a unit. In some instances, the same unit could be used more than once. For example, the unit on standard operating procedures could be used to train operators, mechanics and service personnel.

The Instructors Guide should contain, at a minimum:

- a. A list of learner prerequisites (if any);

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- b. Program Overview;
 - c. A statement of overall program goals;
 - d. Lesson Plans that include a session by session outline containing the following:
 - 1. A Terminal Objective stated in measurable terms, defining the expected behavior of the learner at the completion of the specific session.
 - 2. Enabling Objectives identifying the specific behavior the learner must exhibit to achieve the Terminal Objective.
 - 3. Overview of each lesson.
 - 4. Suggested instructional methods/learning activities.
 - 5. Required equipment, audio/visual aids and/or other resources.
 - 6. Estimated time required for each lesson and objective.
 - e. Evaluation devices, (written and practical tests with an answer key for each of the tests developed) designed to measure the extent of Knowledge and Skill transfer that align with Terminal Objectives of courses
2. Learner Materials, to include all materials for the student to interact in the learning situation. It shall contain, at a minimum:
- a. Program overview/introduction.
 - b. Statement of overall program goals.
 - c. Terminal objectives stated in measurable terms that specifically describe desired behaviors or knowledge to be gained.
 - d. Enabling Objectives identifying the specific behavior the learner must exhibit to achieve the Terminal Objective.
 - e. A fully developed prose treatment of content presentation, developed to follow the instructors guide.
 - f. Illustrations, charts, or graphics, as needed to enhance learner's retention.
 - g. Problem/questions related to lesson content, as appropriate.
3. Audio-visual (AV) aids shall be included for all systems listed in Scope of Work 1: a., b., c., d., e., f., g., h., i., j., k., l., m, and n. These AV aids may include: handouts, videos, online training and slide presentations (PowerPoint, Prezi, etc.).
4. Special Tools
- a. The Contractor shall submit a list of equipment or tools, other than those normally found in a mechanic's tool box, necessary for the general upkeep, maintenance, and overhaul of the equipment or products contained in buses delivered under this contract. This list must contain the tool manufacturer's name and price for all specialty tools.
5. Supplemental Materials. A functional mock-up, or a functional representation, is required of any equipment which requires discussions. This may be in the form of a model of the equipment, actual device, an interactive video training device, or the Procuring Agency's Training Department's approved substitute. All mock-ups, training aids and audio visual supplies and equipment shall become the property of the Procuring Agency.

All Training "Deliverables" listed above, including Items 1 through 5, shall be provided upon acceptance of the last bus. If all items are not delivered with the acceptance of the last bus, the five percent (5%) retention payment on all buses will be withheld until all items are received by the Agency.

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Number of Copies

The Contractor shall deliver final copies to the Agency as follows:

1. One (1) complete set of training materials that is completely camera-ready. Camera-ready is defined as typewritten or typeset originals or high quality copies such that further copies can be made with no noticeable decrease in copy quality.
2. Forty(40) copies of Learners guides and two (2) instructor guides, (maintenance courses) to be used for archival purposes in the Agency's Technical Library.
3. A complete set of all written materials, drawings, pictures, etc. shall be in electronic format (stored on DVD). The electronic format shall be written in Word or Excel. If the Contractor uses a software other than that specified, the Contractor's software shall be included.
4. All written and audio-visual training and software materials shall become the property of the Agency. The Agency reserves the right to copy any and all materials to be used in training the Agency's personnel.

Instructional Delivery

Contractor shall meet the following specifications in instructional delivery:

1. Instructor Qualifications. A description of instructor qualifications, a resume, curriculum vita, or other description of instructor qualifications must be submitted during the RFP's Approved Equals stage of the procurement. The description should document a thorough knowledge of the equipment being taught, an understanding of the adult learning process, and demonstrated experience in vocational instruction.
2. Class Size. Classes shall be limited to a maximum of ten (10) mechanics per class for Maintenance personnel.
3. Testing. Instructor must give written and practical tests as a measuring device to determine knowledge and skills transference. Tests must be pre-approved by the Agency. A practical hands-on test is required (if applicable) to measure the skills transfer of Technicians. The practical test, if provided, shall be administered by the use of a check list of each job and/or task.

TS 5.6.1 Technical/Service Representatives

The Contractor shall, at its own expense, have one or more competent technical service representatives available on request to assist the Agency in the solution of engineering or design problems within the scope of the specifications that may arise during the warranty period. This does not relieve the Contractor of responsibilities under the provisions of "Section 7: Warranty Requirements."

TS 5.7 Operating Environment

ALTERNATIVE-----APPROVED

Agency will provide temperature range.

The bus shall achieve normal operation in ambient temperature ranges of 10 °F to 115 °F, at relative humidity

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between 5 percent and 100 percent, and at altitudes ~~up to 4,200 ft thru 5,200 ft~~ above sea level in urban service areas. Degradation of performance due to atmospheric conditions shall be minimized at temperatures below 10 °F, above 115 °F or at altitudes above 5200. Altitude requirements above will need separate discussions with the ~~engine~~ manufacturer to ensure that performance requirements are not compromised. Speed, gradability and acceleration performance requirements shall be met at, or corrected to, 77 °F, 29.31 in. Hg, dry air per SAE J1995.

TS 5.8 Noise

TS 5.8.1 Interior Noise

The combination of inner and outer panels and any material used between them shall provide sufficient sound insulation so that a sound source with a level of 80 dBA measured at the outside skin of the bus shall have a sound level of 65 dBA or less at any point inside the bus. These conditions shall prevail with all openings, including doors and windows, closed ~~and with the engine and accessories switched off~~.

The bus-generated noise level experienced by a passenger at any seat location in the bus shall not exceed 80 dBA. The driver area shall not experience a noise level of more than 75 dBA. Measurements of interior noise levels shall be taken in accordance with ISO 3381. An exception shall be made for the turntable area, which shall be considered a separate environment. **The Agency will accept performance at 75 dBA with A/C off and 78 dBA with A/C on at the driver's area.**

TS 5.8.2 Exterior Noise

Airborne noise generated by the bus and measured from either side shall not exceed 80 dBA under full power acceleration when operated at 0 to 35 mph at curb weight. The maximum noise level generated by the bus pulling away from a stop at full power shall not exceed 83 dBA. The bus-generated noise at curb idle shall not exceed 65 dBA. If the noise contains an audible discrete frequency, a penalty of 5 dBA shall be added to the sound level measured. The Contractor shall comply with the exterior noise requirements defined in local laws and ordinances identified by the Agency and SAE J366. **The Agency will accept a Curbside idle noise level of 68 dB.**

DEFAULT-----APPROVED

Noise level should be as stated.

TS 5.9 Fire Safety

The bus shall be designed and manufactured in accordance with all applicable fire safety and smoke emission regulations. These provisions shall include the use of fire-retardant/low-smoke materials, fire detection systems, bulkheads and facilitation of passenger evacuation.

TS 5.9.1 Materials

DEFAULT-----APPROVED

All materials used in the construction of the passenger compartment of the bus shall be in accordance with the Recommended Fire Safety Practices defined in FMVSS 302.

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TS 5.10 Fire Suppression

DEFAULT-----APPROVED

The bus shall have a fire suppression system installed per manufacturer's recommendations.

Any proposed fire suppression system MUST be specifically designed and engineered for the ESS system that is proposed. The agency will not accept a fire suppression system designed for an internal combustion powered vehicle.

Supply and install a Fire Suppression System for bus protection. The system shall be a dry chemical or other pre-engineered fire suppression system with automatic detection and actuation.

1. System must comply with NFPA 17.
2. System shall provide 24-hour fire detection of the electric drive compartment.
3. The system shall be designed to operate at 12 or 24 VDC and shall not exceed 0.1 amp current draw.
4. The entire Fire Suppression System shall be Factory Mutual Research Corporation approved.
5. A minimum of four ambient, temperature-sensitive sensors shall be provided.
6. Sensors shall be located in the electric drive compartment under all horizontal bulkheads, above and downwind of the major heat sources, and in areas likely to be exposed to leaking flammable fluids.
7. Additional sensors shall be located in other potentially critical areas.
8. The sensors shall detect over-temperature in the critical areas and shall activate the fire alarm bell and warning light in the driver's compartment.
9. The sensors shall return to normal setting and deactivate alarms when the temperature returns to normal.
10. ~~The fire suppression system shall shut down the engine when activated.~~
11. Install the fire extinguisher Control Panel and Manual Switch in the Operator's compartment.
12. System must have self-check and manual test functions to ensure the system is operational.
13. The dry chemical bottle must be located so the gauge can be easily seen and for ease of maintenance.

TS 5.11 Respect for the Environment

In the design and manufacture of the bus, the Contractor shall make every effort to reduce the amount of potentially hazardous waste. In accordance with Section 6002 of the Resource Conservation and Recovery Act, the Contractor shall use, whenever possible and allowed by the specifications, recycled materials in the manufacture of the bus.

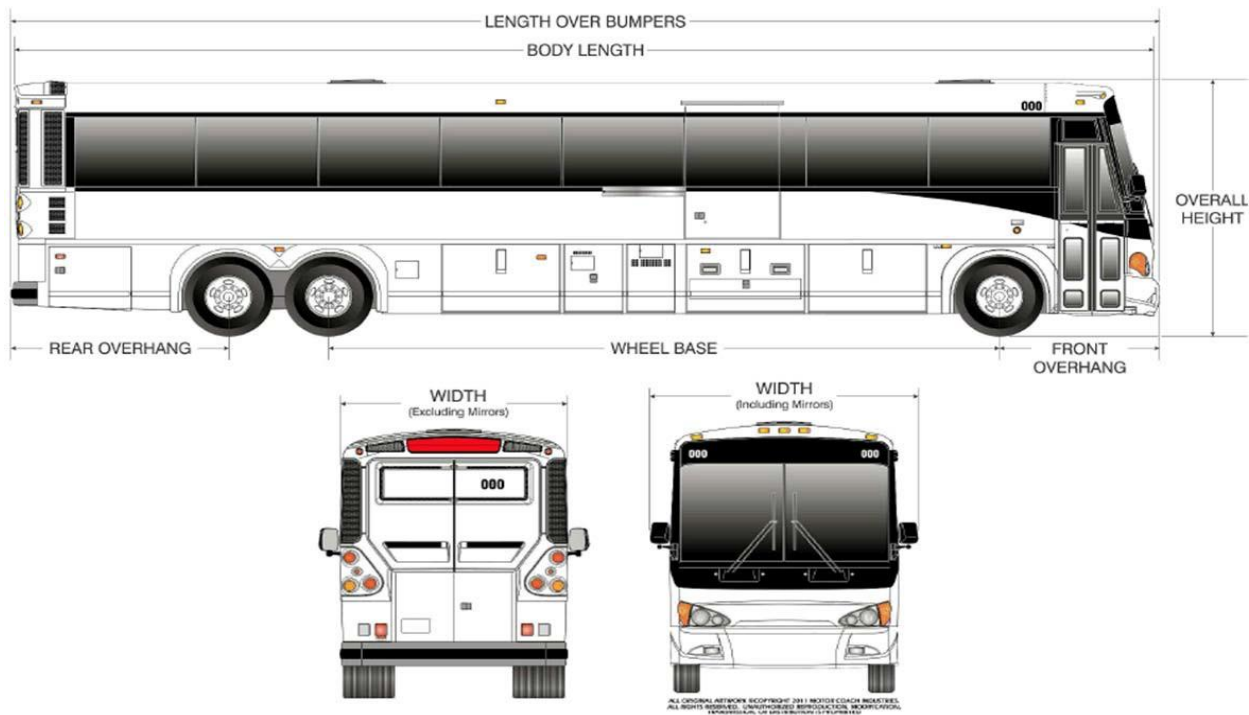
DIMENSIONS

TS 6. Physical Size

With exceptions such as exterior mirrors, marker and signal lights, bumpers, fender skirts, washers, wipers, ad frames, cameras, object detection systems, bicycle racks, feelers and rub rails, the bus shall have the following overall dimensions as shown in **Figure 1** at static conditions and design height.

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FIGURE 1
Transit Bus Exterior Dimensions



TS 6.1 Bus Length

For ease of use, the following tolerances will be allowable for each given bus length. Bus length is determined as the measurement from bumper to bumper.

- **30 ft bus:** 29 ft, 11 in. to 34 ft, 11 in.
- **35 ft bus:** 35 ft to 39 ft, 11 in.
- **40 ft bus:** 40 ft to 44 ft, 11 in.

TS 6.2 Bus Width

TS 6.2.1 Transit Coach

DEFAULT-----APPROVED

102 in. Width Bus

Body width shall be 102 in. (+0, -1 in.).

~~TS 6.2.2 Commuter Coach~~

TS 6.3 Bus Height

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DEFAULT-----APPROVED**Maximum Overall Height**

Maximum overall height shall be 140 in., including all rigid, roof-mounted items such as A/C, ~~exhaust, fuel system~~ Batteries and cover, etc.

TS 6.4 Step Height**TS 6.4.1 Transit Coach**

The step height shall not exceed 16.5 in. at either doorway without kneeling and shall not exceed 15.5 in. at the step. A maximum of two steps are allowed to accommodate a raised aisle floor in the rear of the bus.

~~TS 6.4.2 Commuter Coach~~**~~TS 6.4.3 Articulated Coach~~****TS 6.5 Underbody Clearance**

The bus shall maintain the minimum clearance dimensions as defined and shown in Figure 2 of SAE Standard J689, regardless of load up to the gross vehicle weight rating.

TS 6.6 Ramp Clearances with the use of Skid Plates

The approach angle is the angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to the ground.

The departure angle is the angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to the ground.

The breakover angle is the angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle that defines the largest ramp over which the vehicle can roll.

DEFAULT-----APPROVED with the exception of front and rear Skid Plates

Refer to **Table 2a**.

TABLE 2a
Default Breakover Angle

Angle	30 to 45 ft Bus	60 ft Bus
Approach	8.6 deg (min.)	8.6 deg (min.)
Front breakover	8 deg (min.)	10.2 deg (min.)
Rear breakover (articulated only)	n/a	8.7 deg (min.)
Departure	8.6 deg (min.)	8.6 deg (min.)

SKID PLATES:

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The bus must meet the Approach and Departure Angles with the **exception** of the protective skid plates that are added to both front corners of the bus and the two skid plates at the rear of the bus.

Attach two (2) front corner skid plates securely to the bumper/bus frame members to protect under floor components from damage when scrapping the road, gutter or curb. The front skid plates shall be approximately 6-8 inches by 6-8 inches by ¼ inch thick steel. The skid plates are to be sloped or curved downward and pointed towards the rear of the bus and extend sideways at least 1/4 to 1/2 inch past the curb-side or street-side side body panels at the front corners of the bus. The skid plates are to have a smooth surface to slide or rub against the concrete curbs or street pavement. The skid plates are approved even if they provide less than the required 8.6 degrees Approach Angle.

The Agency will accept front skid plates that are of slightly different dimensions and on the StreetSide and do not extend past the side body panel.

Attach two (2) rear skid plates to the bus frame members at the very rear of the bus. Each steel skid plate needs to be at least 2 inches wide, 2 inches thick and 6 inches long. The leading edge of the skid plate is to be curved slightly up to prevent digging into the road surface when sliding on street pavement. The skid plates are approved even if they provide less than the required 8.6 degrees Departure Angle.

TS 6.7 Ground Clearance

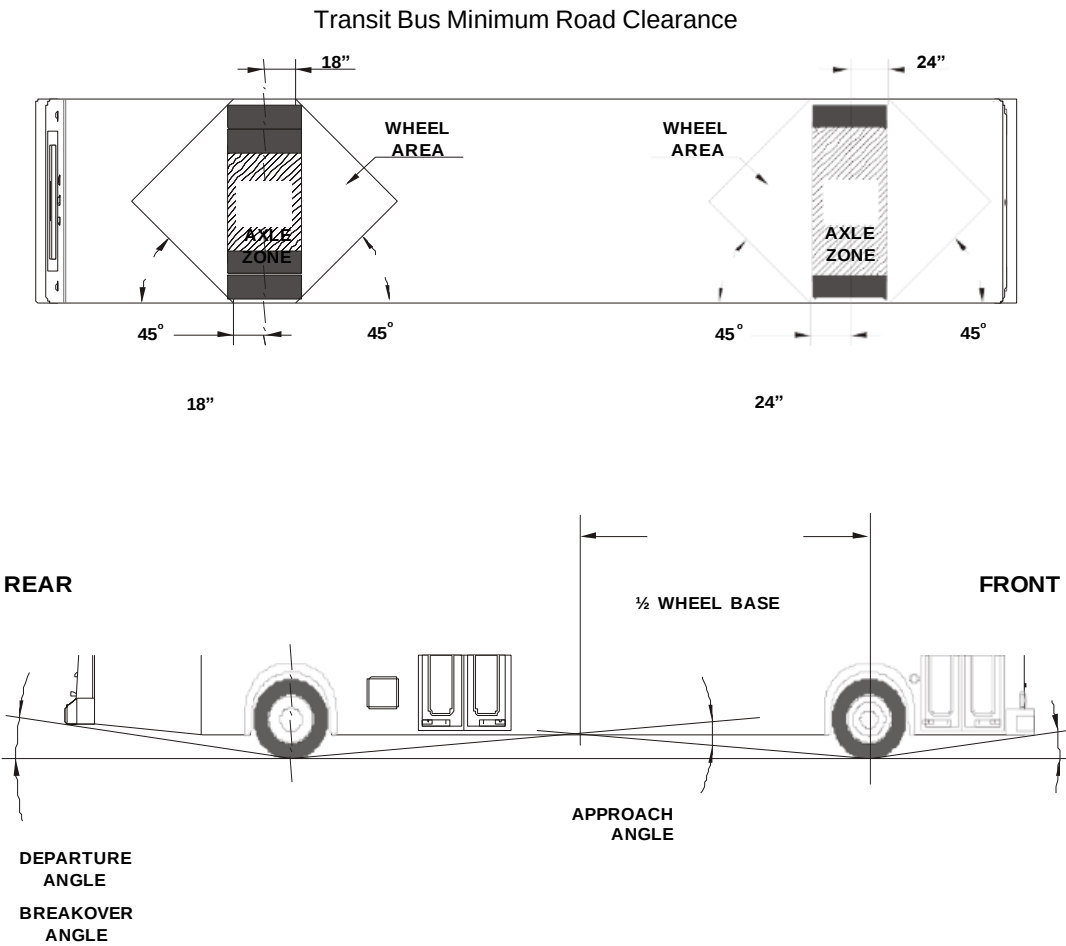
Ground clearance shall be no less than 9 in., (8 in. at jacking pad) except within the axle zone and wheel area.

Axle zone clearance, which is the projected area between tires and wheels on the same axial centerline, shall be no less than 5.4 in.

Wheel area clearance shall be no less than 8 in. for parts fixed to the bus body and 6 in. for parts that move vertically with the axles.

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FIGURE 2



TS 6.8 Floor Height

TS 6.8.1 Transit Coach

Height of the step above the street shall be no more than 16 in. measured at the centerline of the front and rear doorway. All floor measurements shall be with the bus at the design running height and on a level surface and with the standard installed tires. A maximum of two steps are allowed to accommodate a raised aisle floor in the rear of the bus.

~~**TS 6.8.2 Commuter Coach**~~

TS 6.9 Interior Headroom

Headroom above the aisle and at the centerline of the aisle seats shall be no less than 78 in. in the forward half of the bus tapering to no less than 74 in. forward of the rear settee. At the centerline of the window seats, headroom shall be no lower than 65 in., except for parcel racks and reading lights, if specified. Headroom at the back of the rear bench seat may be reduced to a minimum of 56 in., ~~but it shall increase to the ceiling height at the front of the seat cushion.~~ In any area of the bus directly over the head of a seated passenger and positioned where a passenger entering or leaving the seat is prone to strike his or her head, padding shall be provided on the overhead paneling.

VEHICLE PERFORMANCE

TS 7. Power Requirements

The propulsion system shall be sized to provide sufficient power to enable the bus to meet the defined acceleration, top speed and gradability requirements, and operate all propulsion-driven accessories using actual road test results and computerized vehicle performance data.

The bus shall have a double wound or high output motor for canyon service at highway speeds and a min of 210kw output.

TS 7.1 Top Speed

ALTERNATIVE-----APPROVED
Agency to specify top speed limit. The bus shall be capable of achieving a top speed of 72 mph (*when and if prograded*) and a governed speed of 65 mph on a straight, level road at GVWR with all accessories operating. The bus shall be capable of safely maintaining the vehicle speed according to the recommendations by the tire manufacturer.

NOTE: Values are assumed to be sustained. Manufacturer shall supply Agency with data if there is a variance between peak performance and sustained vehicle performance.

TS 7.2 Gradability

Gradability requirements shall be met on grades with a dry commercial asphalt or concrete pavement at GVWR with all accessories operating.

DEFAULT-----APPROVED
The propulsion system shall enable the bus to achieve and maintain a speed of 45 mph on a 3 percent ascending grade and 18 mph on a 10 percent ascending grade continuous.

NOTE: Values are assumed to be sustained. Manufacturer shall supply Agency with data if there is a variance between peak performance and sustained vehicle performance.

TS 7.3 Acceleration

TS 7.3.1 Non-Hybrid Electric bus

The acceleration shall meet the requirements in **Table 3** below and shall be sufficiently gradual and smooth to prevent throwing standing passengers off-balance. Acceleration measurement *from idle* shall commence when the accelerator is depressed. Use the information from the engine data logger to calculate and determine the acceleration rates as found in Table 3.

TABLE 3
Maximum Start Acceleration Times on a Level Surface¹

Speed (mph)	Maximum time (seconds)
10	5
20	10
30	18
40	30
50	60
Top speed	

1. Vehicle weight = GVWR

TS 7.3.2 Acceleration Hybrid Electric bus deceleration

The propulsion and braking systems shall meet the performance requirements of the Duty Cycle.

Braking application and performance shall remain consistent regardless of hybrid system state of charge (SOC) or other variances related to regenerative braking.

The system shall be programmable to allow optimization of acceleration and deceleration rate. Performance may be affected when reprogramming. The manufacturer shall supply the new performance data.

~~TS 7.3.3 Acceleration (Commuter Coach)~~

TS 7.4 Operating Range

The operating range of the coach shall be designed to meet the operating profile as stated in the “Design Operating Profile” section. Operating range is subjective and dependent upon battery size. Final battery size and operating range TBD at a later time by the Agency. The bus batteries should however include a minimum of a 12 year warranty built into the base bus price.

~~TS 7.4.1 Diesel (Transit Coach)~~**~~TS 7.4.2 Diesel (Commuter Coach)~~****~~TS 7.4.3 CNG~~****~~TS 7.4.4 Hybrid~~****~~TS 8. Fuel Economy (Design Operating Profile)~~****POWERPLANT****~~TS 9. Engine~~****~~TS 9.1 Engine (CNG)~~****~~TS 9.2 Propulsion System (Hybrid)~~****~~TS 9.2.1 Propulsion System Description~~****~~TS 9.2.2 Propulsion System Service~~****~~TS 9.2.3 Primary Propulsion Unit and Traction Motor~~****~~TS 9.2.4 Energy Storage and Controller~~****~~TS 9.2.5 Hybrid System Controller (HSC)~~****~~TS 9.2.6 Engine~~****ALTERNATIVE-----APPROVED**

Agency shall define required powerplant. Propulsion system

The engine Propulsion system shall be equipped with an electronically controlled management system, compatible with multiplex wiring systems and either 12 or 24 V electrical systems.

The engine Propulsion system shall have on-board diagnostic capabilities, be able to monitor vital functions, store out-of- parameter conditions in memory and communicate faults and vital conditions to service personnel. Diagnostic reader device connector ports, suitably protected against dirt and moisture, shall be provided in the operator's area and near or inside the electric drive compartment. The on-board diagnostic system shall inform the operator via visual and/or audible alarms when out-of-parameter conditions exist for vital engine functions.

The engine starting system shall be protected by an interlock that prevents its engagement when the engine is running. Special equipment or procedures may be employed to start the engine when exposed to temperatures less than 30 °F for a minimum of four hours without the engine in operation. All cold weather starting aids, engine heating devices and procedures shall be of the type recommended by the engine manufacturer and approved by the Agency.

TS 10. Cooling Systems

The cooling systems if applicable for electric propulsion shall be of sufficient size to maintain all engine and transmission fluids and engine intake air propulsion drive components at safe, continuous operating temperatures during the most severe operations possible and in accordance with engine and transmission propulsion drive manufacturers' cooling system requirements. The cooling system fan controls should sense the temperatures of the operating fluids and any temperature critical components (electrical boxes ect.) the intake air, and if either is above safe operating conditions, the cooling fan should be engaged. The fan control system shall be designed with a fail- safe mode of "fan on." The cooling system shall meet the requirements stated in the operating environment.

TS 10.1 Engine Cooling System Requirements, Electric Fan, Coolant, Coolant Sample Test Port

If applicable for Electric Propulsion, A means of determining satisfactory engine coolant level shall be provided. A spring-loaded, push-button type valve or lever shall be provided to safely release pressure or vacuum in the cooling system with both it and the water filler no more than ±60 in. above the ground. Both shall be accessible through the same access door. Provide a means for checking coolant level whether the vehicle is hot or cold

Minimum Ambient Cooling Capacity of 110 °F ** at 5,000 ft. Elevation

If applicable for Electric Propulsion, The cooling system in new condition is required to have a minimum Ambient Cooling Capacity of at least 110 °F using a 50/50 mix of antifreeze and water as coolant, while operating at 5,000 feet above sea level at GVW. A brand new bus cooling system meeting the above Ambient Cooling Capacity of 110°F with 50/50 coolant, at 5,000 ft. altitude will perform at a minimum Ambient Cooling Capacity of 123°F at sea level (from 0 to 500 ft. above sea level).

** Actual maximum summer temperature is more like 105°F. After 3 or more years in bus transit use, the degradation of the cooling system would perform more like it was 110 °F.

Ambient cooling capacity figure notes:

- Start at 500 ft. above sea level. Add an average 3°F per 1000 ft. rise in elevation, which equals to 13.5°F less cooling capacity at 5,000 ft (almost the highest point of the Authority's urban service area) than at sea level.
- When the 13.5°F is added to the minimum specification of 110°F, the total equals the required minimum Ambient Cooling Capacity of just over 123°F at sea level.

The proposer shall provide detailed test and evaluation reports showing how the electric fan cooling system was determined to meet the minimum Required Ambient Cooling Capacity of 110°F at 5,000 ft. elevation.

DEFAULT

The radiator and charge air cooler shall be of durable, corrosion-resistant construction with non-removable tanks.

ALTERNATIVE----- APPROVED

If applicable for electric propulsion, The radiator and charge air cooler shall be of durable, corrosion-resistant construction with non-removable radiator headers.

Add Corrosion Resistant Epoxy (E-Coat) to the entire exterior of the radiator and charge air cooler by the dipping process. Provide a strong, cross braced, if necessary, radiator core made totally of aluminum; lead free solder inside and out, with reinforced tubes and core corners. Provide solid fins made out of aluminum with the leading and trailing edges folded and crimped with a maximum of 10 fins per inch. Hump hoses are to be installed on the radiator inlet and outlet. The Agency requests this be a part of the base bus price.

The threads of all bolts/nuts that are used to mount the Radiator shall be coated with anti-seize.

TS 10.1.1 Radiator Screen**ALTERNATIVE----- APPROVED****Screen in Front of Radiator**

The radiator input shall be protected by an easily cleanable screen designed to collect large debris. Radiators with a fin density greater than ~~12~~ **10** fins per inch or a louvered slit design shall not be used. ~~No heat-producing components or climate control system components shall be mounted between the engine cooling air intake aperture and the radiator.~~ The radiator and charge air cooler shall be designed to withstand thermal fatigue and vibration associated with the installed configuration. The radiator and charge air cooler cores shall be easily cleaned (to include engine side core surface) with standard pressure-washing equipment.

TS 10.1.2 Coolant**DEFAULT----- APPROVED****Standard Requirement for Coolant Filtration**

If applicable for Electric Propulsion, The engine cooling system shall be equipped with a properly sized water filter with a spin-on element and an automatic system for releasing supplemental coolant additives (Nitrite/Borate Chemistry) as needed to replenish and maintain protection properties. When replacing the water filter, only the water in the filter will be lost. Use ¼ turn brass valves rated at 150 psi on each side of the coolant filter. Gate valves are not approved for any reason, anywhere on the bus.

Engine Coolant

If applicable for Electric Propulsion ,Provide a fully formulated (Nitrite/Borate Chemistry) antifreeze from virgin antifreeze that is phosphate free, low silicone, ethylene glycol base, mixed with de-ionized or vacuum distilled water in a 50/50 water and antifreeze blend. Coolant shall meet the minimum Cummins Engineering Standard 14603.

Install a heavy duty push button valve from the coolant outlet to take coolant samples.
Location TBD.

The “Checkfluid KP18NV” sample valve has been **APPROVED**.
Old World Industries **FLEET CHARGE®** coolant has been **APPROVED**

TS 10.1.3 Drive Design

ALTERNATIVE-----APPROVED

Electric Fans

The bus shall be equipped with an electric fan drive bus cooling system. A screen guard must be installed on electric motor fans per SAE J1308.

ALTERNATIVE-----APPROVED

Self-Cleaning

Radiator ~~and charge air cooler~~ fan(s) shall be electrically driven and capable of automated reverse operations for periodic self-cleaning of the radiator ~~and charge air cooler~~.

If applicable for Electric Propulsion provide an electric cooling fan system with electronic controls:

- The system shall be constructed completely of lightweight materials.
- The fan system shall have the ability to separately cool the radiator using J1939 information.
- The fan system shall have the ability to vary fan speeds according to the coolant and electrical component cooling needs
- The entire electric fan system shall be sealed from the elements to prevent corrosion and premature failure.
- The system shall fully shut down in the event of a fire.
- The fans used shall have guards to prevent finger injury by accidental insertion.

TS 10.1.4 Mounting

DEFAULT-----APPROVED

Standard Mounting Design

Mounting location of radiator ~~and charge air cooler~~ shall be the Contractor’s standard design.

TS 10.2 Charge Air Cooling
TS 10.3 Transmission Cooling

TS 10.4 Hybrid Propulsion Drive System Cooling

The thermal management system shall maintain hybrid drive system components within design operating temperature limits.

TS 11. Transmission (Conventional Powertrain)

-If bus is equipped with a mechanical transmission with oil, provide a transmission oil sampling valve on a pressurized flow through oil line, or approved equal. Care should be taken to minimize the length of the line that feeds the sampling valve. Location TBD.

*The “Checkfluid KP18NV” sampling valve has been **APPROVED**.*

ALTERNATIVE-----APPROVED

A nominal brake pedal application of 15 to 20 psi shall be required by the driver to engage forward or reverse range from the neutral position to prevent sudden acceleration of the bus from a parked position.

The electronically controlled transmission shall have on-board diagnostic capabilities, be able to monitor functions, store and time-stamp out-of-parameter conditions in memory, and communicate faults and vital conditions to service personnel. The transmission shall contain built-in protection software to guard against severe damage. The on-board diagnostic system shall trigger a visual alarm to the driver when the electronic control unit detects a malfunction.

An electronic transmission fluid level monitoring and protection system shall be provided.

ALTERNATIVE-----APPROVED

Automatic Neutral Function with Automatic Re-Engagement

The transmission, when in forward direction, shall automatically shift the transmission to neutral when the vehicle registers zero road speed, engine is idle and service brakes are applied. If the status of any one or more of the three signals changes, the transmission immediately and automatically resumes forward mode operation.

The transmission shall have the ability to travel 48,000 miles between oil changes, in transit service, when using approved synthetic transmission oil.

TS 12. Retarder (Transit Coach)

2

~~A hydraulic retarder application gauge is not required for the Vansco Multiplex Instrument cluster.~~

TS 13. Engine Brake (Commuter Coach)

TS 14. Mounting

All ~~powerplant~~ drivetrain mounting shall be mechanically isolated to minimize transfer of vibration to the body structure and provide a minimum clearance of 0.75 in. Mounts shall control the movement of the ~~powerplant~~ drivetrain so as not to affect performance of belt-driven accessories or cause strain in piping and wiring connections to the ~~powerplant~~ drivetrain.

TS 14.1 Service

The propulsion system shall be arranged for ease of access and maintenance. The Contractor shall list all special tools, fixtures or facility requirements recommended for servicing. ~~The muffler, exhaust system, air cleaner, air compressor, starter, alternator, radiator, all accessories and any other component requiring service or replacement shall be easily removable and independent of the~~ Electric Propulsion drive engine and transmission removal. ~~An engine oil pressure gauge and~~ If applicable for Electric Propulsion, A coolant temperature gauge shall be provided in the electric drive compartment. These gauges shall be easily read during service and mounted in an area where they shall not be damaged during minor or major repairs.

TS 15. Hydraulic Systems

Hydraulic system service tasks shall be minimized and scheduled no more frequently than those of other major coach systems. All elements of the hydraulic system shall be easily accessible for service or unit replacement. Critical points in the hydraulic system shall be fitted with service ports so that portable diagnostic equipment may be connected or sensors for an off-board diagnostic system permanently attached to monitor system operation when applicable. A tamper-proof priority system shall prevent the loss of power steering during operation of the bus if other devices are also powered by the hydraulic system.

Provide a service port on the steering gear for testing hydraulic pressure and flow.

The hydraulic system shall operate within the allowable temperature range as specified by the lubricant manufacturer.

ALTERNATIVE-----APPROVED

Hydraulic System Sensors

Sensors in the main hydraulic system, excluding those in the power steering system, shall indicate on the driver's on-board diagnostic panel conditions of low hydraulic fluid level.

TS 15.1 Fluid Lines

All lines shall be rigidly supported to prevent chafing damage, Fatigue Failures, degradation and tension strain. Lines should be sufficiently flexible to minimize mechanical loads on the components. Lines passing through a panel, frame or bulkhead shall be protected by grommets (or similar devices) that fit snugly to both the line and the perimeter of the hole that the line passes through to prevent chafing and wear. Pipes and fluid hoses shall not be bundled with or used to support electrical wire harnesses.

Add split plastic conduit over all flexible hoses that carry fluids and air located in the electric drive compartment, a/c compartment and under the bus. Flexible hoses that are adequately clamped to ensure that there is no chaffing and when hoses are routed close to the heat source adequate protection is provided is Approved without split plastic conduit.

Lines shall be as short as practicable and shall be routed or shielded so that failure of a line shall not allow the contents to spray or drain onto any component operable above the auto-ignition temperature of the fluid.

All hoses, pipes, lines and fittings shall be specified and installed per the manufacturer's recommendations.

TS 15.2 Fittings and Clamps

All clamps shall maintain a constant tension at all times, expanding and contracting with the line in response to temperature changes and aging of the line material. The lines shall be designed for use in the environment where they are installed (for example, high-temperature resistant in the electric drive compartment, resistant to road salts near the road surface, and so on).

*Oetiker and Breeze clamps have been **APPROVED**.*

*Ideal constant torque clamps have been **APPROVED***

Compression fittings shall be standardized to prevent the intermixing of components. Compression fitting components from more than one manufacturer shall not be mixed, even if the components are known to be interchangeable.

TS 15.3 Charge Air Piping

TS 16. Radiator

Radiator piping shall be stainless steel, brass tubing or painted steel rated at 1000 hours of salt spray according to ASTM B117 and where practicable, hoses shall be eliminated, ~~including biodiesel~~. Necessary hoses shall be impervious to all bus fluids. All hoses shall be secured with stainless steel clamps that provide a complete 360 deg seal. The clamps shall maintain a constant tension at all times, expanding and contracting with the hose in response to temperature changes and aging of the hose material.

TS 17. Oil and Hydraulic Lines

Oil and hydraulic lines shall be compatible with the substances they carry. The lines shall be designed and intended for use in the environment where they are installed (for example, high-temperature resistant in the electric drive compartment, resistant to road salts near the road surface and so on). Lines within the electric drive compartment shall be composed of steel tubing where practicable, except in locations where flexible lines are required.

*Add split plastic conduit over all flexible hoses that carry fluids and air located in the electric drive compartment, a/c compartment and under the bus. **Flexible hoses that are adequately clamped to ensure that there is no chaffing and when hoses are routed close to the heat source adequate protection is provided is Approved without split plastic conduit.***

Hydraulic lines of the same size and with the same fittings as those on other piping systems of the bus, but not interchangeable, shall be tagged or marked for use on the hydraulic system only.

TS 18. Fuel

~~TS 19. Emissions and Exhaust~~

STRUCTURE

TS 20. General

TS 20.1 Design

The structure of the bus shall be designed to withstand the transit service conditions typical of an urban or intercity duty cycle throughout its service life. The vehicle structural frame shall be designed to operate with minimal maintenance throughout the 12-year design operating profile. The design operating profile specified by the Agency shall be considered for this purpose.

TS 21. Altoona Testing

Prior to acceptance of first bus, the vehicle must have completed any FTA-required Altoona testing. Any items that required repeated repairs or replacement must undergo the corrective action with supporting test and analysis. A report clearly describing and explaining the failures and corrective actions taken to ensure that any and all such failures will not occur shall be submitted to the Agency.

DEFAULT-----APPROVED

If available, The Altoona Test Report shall be provided to the Agency with the Proposal submittal. If not available, then the report shall be provided prior to first acceptance of bus.

TS 21.1 Structural Validation

DEFAULT-----APPROVED

Baseline Structural Analysis

The structure of the bus shall have undergone appropriate structural testing and/or analysis. At minimum, appropriate structural testing and analysis shall include Altoona testing ~~or~~ **and** finite element analysis (FEA).

TS 22. Distortion

The bus, loaded to GVWR and under static conditions, shall not exhibit deflection or deformation that impairs the operation of the steering mechanism, doors, windows, passenger escape mechanisms or service doors. Static conditions shall include the vehicle at rest with any one wheel or dual set of wheels on a 6 in. curb or in a 6 in. deep hole.

TS 23. Resonance and Vibration

All structure, body and panel-bending mode frequencies, including vertical, lateral and torsional modes, shall be sufficiently removed from all primary excitation frequencies to minimize audible, visible or sensible resonant vibrations during normal service.

TS 23.1 Electric drive compartment Bulkheads

The passenger and engine Electric Propulsion compartment shall be separated by fire-resistant bulkheads. The electric drive compartment shall include areas where the engine and exhaust system are housed. This

bulkhead shall preclude or retard propagation of ~~an electric drive compartment~~ fire into the passenger compartment and shall be in accordance with the Recommended Fire Safety Practices defined in FTA Docket 90A, dated October 20, 1993. Only necessary openings shall be allowed in the bulkhead, and these shall be fire-resistant. Any passageways for the climate control system air shall be separated from the ~~engine~~ Electric Propulsion compartment by fire-resistant material. Piping through the bulkhead shall have fire-resistant fittings sealed at the bulkhead. Wiring may pass through the bulkhead only if connectors or other means are provided to prevent or retard fire propagation through the bulkhead. ~~Engine~~ Access panels in the bulkhead shall be fabricated of fire-resistant material and secured with fire-resistant fasteners. These panels, their fasteners and the bulkhead shall be constructed and reinforced to minimize warping of the panels during a fire that will compromise the integrity of the bulkhead.

TS 23.2 Crashworthiness (Transit Coach)

The bus body and roof structure shall withstand a static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a 6 in. reduction in any interior dimension. Windows shall remain in place and shall not open under such a load. These requirements must be met without the roof-mounted equipment installed.

The bus shall withstand a 25 mph impact by a 4000 lb automobile at any side, excluding doorways, along either side of the bus and the articulated joint, if applicable, with no more than 3 in. of permanent structural deformation at seated passenger hip height. This impact shall not result in sharp edges or protrusions in the bus interior.

Exterior panels below 35 in. from ground level shall withstand a static load of 2000 lbs applied perpendicular to the bus by a pad no larger than 5 sq in. This load shall not result in deformation that prevents installation of new exterior panels to restore the original appearance of the bus.

TS 24. Corrosion

The bus flooring, sides, roof, understructure and axle suspension components shall be designed to resist corrosion or deterioration from atmospheric conditions and de-icing materials for a period of 12 years or 500,000 miles, whichever comes first. It shall maintain structural integrity and nearly maintain original appearance throughout its service life, with the Agency's use of proper cleaning and neutralizing agents.

All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings. All joints and connections of dissimilar metals shall be corrosion resistant and shall be protected from galvanic corrosion. Representative samples of all materials and connections shall withstand a two-week (336-hour) salt spray test in accordance with ASTM Procedure B-117 with no structural detrimental effects to normally visible surfaces and no weight loss of over 1 percent.

ALTERNATIVE-----APPROVED

Corrosion Resistance Requirements

All exposed surfaces and the interior surfaces of tubing and other enclosed members below and above the lower window line shall be corrosion resistant through application of a corrosion protection system.

The following is the procedure that shall be followed when using non-inherently corrosion resistant material for

the main structure:

Surface Preparation:

After the bus frame has been welded together, it must be prepped before applying corrosion protection. This involves several processes to adequately protect the structure from premature corrosion.

1. All bus frame members must be thoroughly washed with a mild detergent using a high pressure wand wash at 140°F (60°C). This process will remove mill oils, machine shop oils and weld antispatter compounds from the surface to be treated.
2. All steel members to be thoroughly blown dry.
3. Using at least 50 grit, grit blast all surfaces to bare metal. Grit blast surfaces to an SSPC-SP6 profile of 1.0 to 2.5 mils. Wheel abrade any spots missed during grit blasting which still have rust, mill scale or weld spatter present. (SSPC-SP6/NACE No. 3 "Commercial Blast Cleaning" is a standard available from SSPC: The Society for Protective Coatings.)
This will provide the bonding surface required for adequate primer adhesion for corrosion protection.

Primer Application:

1. Apply primer to all exterior metal parts forming the structure.
2. Prepare a low VOC, two part Urethane, organic Zinc Rich Primer (such as PPG S2809 catalyst and S28080 zinc powder, or approved equal) by following the manufacturer's instructions.
Apply primer using appropriate spraying equipment. Wet film thickness should be 8.0 to 10.0 mils. This will result in a dry film of 5.0 to 6.0 mils. Film thickness is important to ensure adhesion and corrosion protection.
Ensure all surfaces are properly coated and allow a minimum of 4 hours curing time.

Frame Tubing Internal Coating:

Use an internal structural tube coating (such as PPG CoraTube, or approved equal).

1. Insert spray nozzle into tube through 1/2" hole previously drilled and spray sufficient compound to fully coat the internal vertical and horizontal faces of the tubing.
2. Remove spray nozzle and install sealing plugs in each hole.

Undercoating Application

Apply to all the under chassis areas exposed to road spray.

NOTE: Do not apply undercoat to the following components: axles, bellows, suspension beams, radius rods, steering box, leveling valves, brake valves, safety valves, drain cocks, and the air dryer.

1. Mix undercoating compound (such as PPG Corashield™ 7972, or approved equal) and thin to required consistency.
2. Ensure ambient temperature is between 50 and 90°F (10 and 32°C) and humidity is under 80%. Substrate temperature cannot exceed 212°F (100°C).
3. Spray repair areas with a wet film thickness of 11 to 14 mils while maintaining a spray distance of 12 to 15" (30 to 38 cm).
4. If undercoating will not adhere properly, wash area with appropriate solvent and allow drying for 5 to 10 minutes. Repeat spraying process and allow undercoating to set for a minimum of 10 minutes.
Allow adequate air flow to ensure even drying. Material should be dry to touch in 30 minutes, dry hard in 24 hours and fully cured in 72 hours.

The proposer shall submit documentation on proposal due date that explains how they met all corrosion requirements listed above.

Corashield 7947 applied to the structural exterior and underbody, And Cora Tube applied to the inside structural tubing from the window-line down is Approved

TS 25. Towing

Each towing device shall withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the bus within 20 deg of the longitudinal axis of the bus. If applicable, the rear towing device(s)

shall not provide a toehold for unauthorized riders. The method of attaching the towing device shall not require the removal, or disconnection, of front suspension or steering components. Removal of the bike rack is permitted for attachment of towing devices.

DEFAULT-----APPROVED

Shop air connectors shall be provided at the front and rear of the bus and shall be capable of supplying all pneumatic systems of the bus with externally sourced compressed air. The location of these shop air connectors shall facilitate towing operations.

*A shop air connector, Foster 10-3 and tethered dust cap have been **APPROVED**.*

DEFAULT-----APPROVED

No Provision of Glad-Hand Type Connectors for Towing

No glad-hand type connector shall be provided.

DEFAULT-----APPROVED

Lifted (Supported) Front Axle and Flat Towing Capability

The front towing devices shall allow attachment of adapters for a rigid tow bar and shall permit the lifting of the bus until the front wheels are clear off the ground in order to position the bus on the towing equipment by the front wheels. These devices shall also permit common flat towing.

Two rear recovery devices/tie downs shall permit lifting and towing of the bus for a short distance, such as in cases of an emergency, to allow access to provisions for front towing of bus. The method of attaching the tow bar or adapter shall require the specific **approval of the Agency**. Any tow bar or adapter exceeding 50 lbs should have means to maneuver or allow for ease of use and application. Each towing device shall accommodate a crane hook with a 1 in. throat.

TS 26. Jacking

It shall be possible to safely jack up the bus, at curb weight, with a common 10-ton floor jack with or without special adapter, when a tire or dual set is completely flat and the bus is on a level, hard surface, without crawling under any portion of the bus. Jacking from a single point shall permit raising the bus sufficiently high to remove and reinstall a wheel and tire assembly. Jacking pads located on the axle or suspension near the wheels shall permit easy and safe jacking with the flat tire or dual set on a 6 in. high run-up block not wider than a single tire. The bus shall withstand such jacking at any one or any combination of wheel locations

without permanent deformation or damage.

DEFAULT-----APPROVED

Yellow Pads

Jacking pads shall be painted safety yellow.

TS 27. Hoisting

The bus axles or jacking plates shall accommodate the lifting pads of a two-post (or three-post if 60 ft articulated bus) hoist system. Jacking plates, if used as hoisting pads, shall be designed to prevent the bus from falling off the hoist. Other pads or the bus structure shall support the bus on jack stands independent of the hoist.

The vehicle shall be capable of lifting by the wheels, and, as necessary to meet tire load requirements, the proper number for wheel lifts and/or adapters must be used.

TS 28. Floor

TS 28.1 Design (Transit Coach)

The floor shall be essentially a continuous plane, except at the wheel housings and platforms. Where the floor meets the walls of the bus, as well as other vertical surfaces such as platform risers, the surface edges shall be blended with a circular section of radius not less than ¼ in. or installed in a fully sealed butt joint. Similarly, a molding or cover shall prevent debris accumulation between the floor and wheel housings. The vehicle floor in the area of the entrance and exit doors shall have a lateral slope not exceeding 2 deg to allow for drainage.

DEFAULT-----APPROVED

Bi-Level Floor Design

The floor design shall consist of two levels (bi-level construction). Aft of the rear door extending to the rear settee riser, the floor height may be raised to a height no more than 21 in. above the lower level, with equally spaced steps. An increase slope shall be allowed on the upper level, not to exceed 3.5 deg off the horizontal.

~~TS 28.2 Design (Commuter Coach)~~

~~TS 28.3 Design (Articulated Transit Coach)~~

TS 28.4 Strength

The floor deck may be integral with the basic structure or mounted on the structure securely to prevent chafing or horizontal movement and designed to last the life of the bus. Sheet metal screws shall not be used to retain the floor, and all floor fasteners shall be serviceable from one side only. Any adhesives, bolts or screws used to secure the floor to the structure shall last and remain effective throughout the life of the coach. Tapping plates, if used for the floor fasteners, shall be no less than the same thickness as a standard nut, and all floor fasteners shall be secured and protected from corrosion for the service life of the bus.

The floor deck shall be reinforced as needed to support passenger loads. At GVWR, the floor shall have an

elastic deflection of no more than 0.60 in. from the normal plane. The floor shall withstand the application of 2.5 times gross load weight without permanent detrimental deformation. The floor, with coverings applied, shall withstand a static load of at least 150 lbs applied through the flat end of a ½ in. diameter rod, with 1/32 in. radius, without permanent visible deformation.

TS 28.5 Construction

The floor shall consist of the subfloor and the floor covering that will last the life of the bus. The floor as assembled, including the sealer, attachments and covering, shall be waterproof, non-hygroscopic and resistant to mold growth. The subfloor shall be resistant to the effects of moisture, including decay (dry rot). It shall be impervious to wood-destroying insects such as termites.

DEFAULT

Pressure-Preserved Plywood Panel

Plywood shall be certified at the time of manufacturing by an industry-approved third-party inspection agency such as APA – The Engineered Wood Association (formerly the American Plywood Association). Plywood shall be of a thickness adequate to support design loads, manufactured with exterior glue, satisfy the requirements of a Group I Western panel as defined in PS 1-95 (Voluntary Product Standard PS 1-95, “Construction and Industrial Plywood”) and be of a grade that is manufactured with a solid face and back. Plywood shall be installed with the highest-grade, veneer side up. Plywood shall be pressure-treated with a preservative chemical and process such as alkaline copper quaternary (ACQ) that prevents decay and damage by insects. Preservative treatments shall utilize no EPA-listed hazardous chemicals. The concentration of preservative chemicals shall be equal to or greater than required for an above ground level application. Treated plywood will be certified for preservative penetration and retention by a third-party inspection agency. Pressure-preservative treated plywood shall have a moisture content at or below 15 percent.

The following floor Construction is APPROVED:

Greenwood Forest, NT’s ACQ Bus Panel ¾ in. -7-PLY Veneer plywood Floor that is undercoated with Corashield for superior protection against the elements.. Pressure treated plywood shall be supplied in the wheelchair ramp cavity also. The forward five (5) feet of the upper level floor has been designed with a light weight durable molded “Fiberglass honey comb core with polyester resin” composite which incorporates a stylized step up to the upper level on the 40 ft. bus. Green Forest, NT’s ACQ Bus panel does not require sealing of cut edges as it is developed to assure full penetration and retention of ACQ, the environmentally-friendly preservative that prevents decay and insect damage.

ALTERNATIVE-----APPROVED

Composite flooring.

TS 28.6 Construction (Commuter Coach)

TS 29. Platforms

TS 29.1 Driver’s Area

The covering of platform surfaces and risers, except where otherwise indicated, shall be the same material as specified for floor covering. Trim shall be provided along top edges of platforms unless integral nosing is provided.

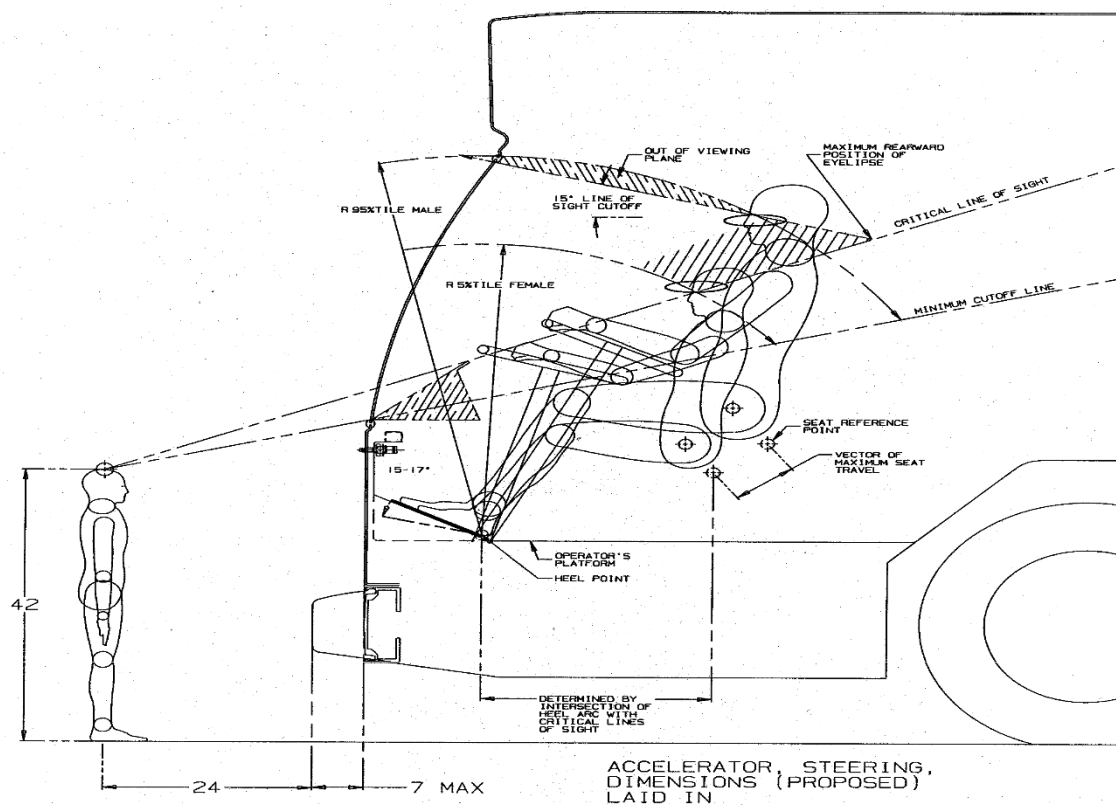
DEFAULT-----APPROVED

No specific trim.

TS 29.2 Driver's Platform

The driver's platform shall be of a height such that, in a seated position, the driver can see an object located at an elevation of 42 in. above the road surface, 24 in. from the leading edge of the bumper. Notwithstanding this requirement, the platform height shall not position the driver such that the driver's vertical upward view is less than 15 deg. A warning decal or sign shall be provided to alert the driver to the change in floor level. **Figure 2** illustrates a means by which the platform height can be determined, using the critical line of sight.

FIGURE 2
Determining Platform Height



TS 29.3 Farebox

Farebox placement should minimize impact to passenger access and minimize interference with the driver's line of sight.

DEFAULT-----APPROVED

Driver Interface Required; Platform Needed to Bring Height to Driver Access

If the driver's platform is higher than 12 in., then the farebox is to be mounted on a platform of suitable height to provide accessibility for the driver without compromising passengers' access.

The farebox base is approximately 13 in. by 13 in. The farebox platform is not to be usable as a step for the bus operator. A No-Step farebox platform provides additional maneuverability space for mobility devices.



TS 29.4 Rear Step Area to Rear Area (Transit Coach)

If the vehicle is of a bi-level floor design, then a rear step area shall be provided along the center aisle of the bus to facilitate passenger traffic between the upper and lower floor levels. This step area shall be cut into the rear platform and shall be approximately the aisle width, a minimum 12 in. deep and approximately half the height of the upper level relative to the lower level. The horizontal surface of this platform shall be covered with skid-resistant material with a visually contrasting nosing and shall be sloped slightly for drainage. A warning decal or sign shall be provided at the immediate platform area to alert passengers to the change in floor level.

TS 30. Wheel Housing

TS 30.1 Design and Construction

Sufficient clearance and air circulation shall be provided around the tires, wheels and brakes to preclude overheating when the bus is operating on the design operating profile. Wheel housings shall be constructed of corrosion-resistant and fire-resistant material.

Wheel housings, as installed and trimmed, shall withstand impacts of a 2 in. steel ball with at least 200 ft-lbs of energy without penetration.

TS 30.2 Design and Construction (Transit Coach)

Interference between the tires and any portion of the bus shall not be possible in maneuvers up to the limit of tire adhesion with weights from curb weight to GVWR. Wheel housings shall be adequately reinforced where seat pedestals are installed. Wheel housings shall have sufficient sound insulation to minimize tire and road noise and meet all noise requirements of this specification.

Design and construction of front wheel housings shall allow for the installation of a radio or electronic equipment storage compartment on the interior top surface, or its use as a luggage rack.

The finish of the front wheel housings shall be scratch-resistant and complement interior finishes of the bus to minimize the visual impact of the wheel housing. If fiberglass wheel housings are provided, ~~then they shall be color impregnated (dark matte gray) to match interior finishes.~~ The lower portion extending to approximately 10 to 12 in. above the floor and extended forward to the fare box pedestal shall be equipped with ~~scuff-resistant coating or~~ stainless steel trim.

A black wheelhouse cover is APPROVED

Wheel housings not equipped with seats or equipment enclosure shall have a horizontal assist mounted on the top portion of the housing no more than 4 in. higher than the wheel well housing. Horizontal assist on wheel housings measuring 6.7" from the housing service is Approved.

Provide front wheel housings with square tops.

Luggage rack tops that are rectangular and measure 30" x 19.5" are APPROVED.

DEFAULT-----APPROVED

No provision shall be made to chain regular transit buses.

ALTERNATIVE

The wheel housing shall be designed to have the ability to chain buses.

~~TS 30.3 Articulated Joint (Articulated Transit Coach)~~**~~TS 30.4 Raceway (Articulated Transit Coach)~~****TS 30.5 Bellows****CHASSIS****TS 31. Suspension****TS 31.1 General Requirements**

The front, rear and mid (if articulated) suspensions shall be pneumatic type. The basic suspension system shall last the service life of the bus without major overhaul or replacement. Adjustment points shall be minimized and shall not be subject to a loss of adjustment in service. Routine adjustments shall be easily accomplished by limiting the removal or disconnecting the components.

TS 31.2 Alignment

All axles should be properly aligned so the vehicle tracks accurately within the size and geometry of the vehicle.

TS 31.3 Springs and Shock Absorbers**TS 31.3.1 Suspension Travel**

The suspension system shall permit a minimum wheel travel of 2.75 in. jounce-upward travel of a wheel when the bus hits a bump (higher than street surface), and 2.75 in. rebound-downward travel when the bus comes off a bump and the wheels fall relative to the body. Elastomeric bumpers shall be provided at the limit of jounce travel. Rebound travel may be limited by elastomeric bumpers or hydraulically within the shock absorbers. Suspensions shall incorporate appropriate devices for automatic height control so that regardless of load the bus height relative to the centerline of the wheels does not change more than ½ in. at any point from the height required. The safe operation of a bus cannot be impacted by ride height up to 1 in. from design normal ride height.

TS 31.3.2 Damping

Vertical damping of the suspension system shall be accomplished by hydraulic shock absorbers mounted to the suspension arms or axles and attached to an appropriate location on the chassis. Damping shall be sufficient to control coach motion to three cycles or less after hitting road perturbations. The shock absorber bushing shall be made of elastomeric material that will last the life of the shock absorber. The damper shall incorporate a secondary hydraulic rebound stop. Provide hydraulic shock absorbers that can be manually adjusted for stiffness.

“Koni” shock absorbers have been **APPROVED**

TS 31.3.3 Lubrication

DEFAULT-----APPROVED

Standard Grease Fittings

All elements of steering, suspension and drive systems requiring scheduled lubrication shall be provided with grease fittings conforming to SAE Standard J534. These fittings shall be located for ease of inspection and shall be accessible with a standard grease gun from a pit or with the bus on a hoist. Each element requiring lubrication shall have its own grease fitting with a relief path. The lubricant specified shall be standard for all elements on the bus serviced by standard fittings and shall be required no less than every 6000 miles.

TS 31.3.4 Kneeling

DEFAULT-----APPROVED

A kneeling system shall lower the entrance(s) of the bus a minimum of 2 in. during loading or unloading operations regardless of load up to GVWR, measured at the longitudinal centerline of the entrance door(s) by the driver. A kneeling rate of 2" per second is Approved. The kneeling control shall provide the following functions:

- Downward control must be held to allow downward kneeling movement.
- Release of the control during downward movement must completely stop the lowering motion and hold the height of the bus at that position.
- Upward control actuation must allow the bus to return to normal floor height without the driver having to hold the control.

The brake and throttle interlock shall prevent movement when the bus is kneeled. The kneeling control shall be disabled when the bus is in motion. The bus shall kneel at a maximum rate of 1.25 in. per second at essentially a constant rate. After kneeling, the bus shall rise within 4 seconds to a height permitting the bus to resume service and shall rise to the correct operating height within 7 seconds regardless of load up to GVWR. During the lowering and raising operation, the maximum vertical acceleration shall not exceed 0.2 g, and the jerk shall not exceed 0.3 g/second.

An indicator visible to the driver shall be illuminated until the bus is raised to a height adequate for safe street travel. An audible warning alarm will sound simultaneously with the operation of the kneeler to alert passengers and bystanders. A warning light mounted near the curbside of the front door, a minimum 2.5 in. diameter amber lens, shall be provided that will blink when the kneel feature is activated. Kneeling shall not be operational while the wheelchair ramp is deployed or in operation.

The "raise" function (only) shall be operable while the bus is in motion, and shall be controlled by a momentary contact switch. This will enable the operator to raise the front above normal ride height when negotiating dips, gutters, etc. The bus shall automatically return to normal height quickly after the switch is released.

Provide a minimum of two (2) air ride springs on the front axle and a minimum of four (4) air ride springs on the rear axles for a firm suspension and anti-roll features. The outside edge of the rear air springs shall be located in front of and to the rear of the dual wheels, no more than six-inches from the bus sidewalls.

The outside edge of the rear air springs measuring 11" inboard from the outer skin of the bus sidewalls or more specifically, 7.9" inboard from the closest edge of the side structure is APPROVED.

All bolts/nuts used to mount suspension components shall be coated with anti-seize on the threads.

TS 32. Wheels and Tires

TS 32.1 Wheels

All wheels shall be interchangeable except for the middle axle of an artic **where a super single tire size is used** and shall be removable without a puller. Wheels shall be compatible with tires in size and load-carrying capacity. Front/Rear/Spare/(all) wheels and tires shall be dynamically balanced as an assembly per SAE J1986.

ALTERNATIVE-----APPROVED

Two-sided polished aluminum rims with cryogenic hardened surfaces and flanges to prevent premature wear.

Provide a total of eleven (11) wheels per bus. Mount 1 wheel for the spare tire. The other (4) spare wheels are for the Agency to mount snow tires on for winter use. (Spare wheels to be included in the bus price)

Provide 6 plastic wheel separators per bus for installation by the Agency between all wheels and hubs.

Provide double seal, Flow-Through Valve Stem Caps that do not stick so air will not slowly exhaust from the tire.

Provide Valve Stems that are the right length for use with long double seal flow-through stem caps.

Provide lug nut covers with a chrome appearance for all lug nuts on the bus.

Alcoa Dura Bright and Dura Flange wheels have been **APPROVED**.
Myers V2B Flow through Valve Stem Caps (21534) for all mounted wheels have been **APPROVED**.
Dill (VS-554-D) Valve Stems for all mounted wheels have been **APPROVED**.
Alcoa #000185 Lug Nut Covers have been **APPROVED**.

DEFAULT-----APPROVED

Standard non-locking lug nut.

TS 32.2 Tires

Tires shall be suitable for the conditions of transit service and sustained operation at the maximum speed capability of the bus. Load on any tire at GVWR shall not exceed the tire supplier’s rating.

~~Sufficient space shall be provided to allow the Agency to carry a spare tire, if required.~~

DEFAULT-----APPROVED

The tires shall be provided under a lease agreement between the Agency and the tire supplier and shall be the appropriate size and load range for the vehicle.

TS 33. Steering

DEFAULT-----APPROVED

Hydraulically assisted steering shall be provided. The steering gear shall be an integral type with the number and length of flexible lines minimized or eliminated. ~~Engine-driven~~ hydraulic pump shall be provided for power steering. Provide a pressure fitting off of the steering gear to test hydraulic pressure.

ALTERNATIVE-----APPROVED

Electrically assisted steering shall be provided to reduce steering effort. – *The Agency requests this be a part of the base bus price.*

*The TRW Electric Steering Assist has been **APPROVED**.*

TS 33.1 Steering Axle (Transit Coach)

ALTERNATIVE-----APPROVED

Oiled-Type Front Bearings

The front axle shall be non-driving with a load rating sufficient for the bus loaded to GVWR and shall be equipped with sealed, oiled-type front wheel bearings.

*Front M.A.N axles with “Unitized”, non-serviceable, maintenance free wheel bearings - **APPROVED**.*

All friction points on the front axle shall be equipped with replaceable bushings or inserts and, if needed, lubrication fittings easily accessible from a pit or hoist.

The steering geometry of the outside (frontlock) wheel shall be within 2 deg of true Ackerman up to 50 percent lock measured at the inside (backlock) wheel. The steering geometry shall be within 3 deg of true Ackerman for the remaining 100 percent lock measured at the inside (backlock) wheel.

TS 33.2 Steering and Tag Axles (Commuter Coach)

TS 33.3 Steering Wheel

TS 33.3.1 Turning Effort

Steering effort shall be measured with the bus at GVWR, stopped with the brakes released and the *drive system in an operational state* ~~engine at normal idling speed~~ on clean, dry, level, commercial asphalt pavement and the tires inflated to recommended pressure.

Under these conditions, the torque required to turn the steering wheel 10 deg shall be no less than 5 ft-lbs and no more than 10 ft-lbs. Steering torque may increase to 70 ft-lbs when the wheels are approaching the steering stops, as the relief valve activates.

Power steering failure shall not result in loss of steering control. With the bus in operation, the steering effort

shall not exceed 55 lbs at the steering wheel rim, and perceived free play in the steering system shall not materially increase as a result of power assist failure. Gearing shall require no more than seven turns of the steering wheel lock-to-lock.

Caster angle shall be selected to provide a tendency for the return of the front wheels to the straight position with minimal assistance from the driver.

TS 33.3.2 Steering Wheel, General

The steering wheel diameter shall be approximately ~~18 to 20~~ **16** in.; the rim diameter shall be 7/8 to 1¼ in. and shaped for firm grip with comfort for long periods of time.

Steering wheel spokes and wheel thickness shall ensure visibility of the dashboard so that vital instrumentation is clearly visible at center neutral position (within the range of a 95th-percentile male, as described in SAE 1050a, Sections 4.2.2 and 4.2.3). Placement of steering column must be as far forward as possible, but either in line with or behind the instrument cluster.

The VIP 16 inch, Soft Touch, 2 Spoke Steering Wheel has been **APPROVED**.

A 16" steering wheel standard with the Electric Assist Steering Column offered as standard in conjunction with base bus price to include electric assist steering.

TS 33.3.3 Steering Column Tilt

The steering column shall have full tilt capability with an adjustment range of no less than 40 deg from the vertical and easily adjustable by the driver and shall be accessible by a 5th percentile female and 95th percentile male.

TS 33.3.4 Steering Wheel Telescopic Adjustment

The steering wheel shall have full telescoping capability and have a minimum telescopic range of 2 in. and a minimum low-end adjustment of 29 in., measured from the top of the steering wheel rim in the horizontal position to the cab floor at the heel point.

TABLE 4
Steering Wheel Height¹ Relative to Angle of Slope

At Minimum Telescopic Height Adjustment (29 in.)		At Maximum Telescopic Height Adjustment (5 in.)	
Angle of Slope	Height	Angle of Slope	Height
0 deg	29 in.	0 deg	34 in.
15 deg	26.2 in.	15 deg	31.2 in.
25 deg	24.6 in.	25 deg	29.6 in.
35 deg	22.5 in.	35 deg	27.5 in.

– 1. Measured from bottom portion closest to driver.

TS 34. Drive Axle

The bus shall be driven by a heavy-duty axle with a load rating sufficient for the bus loaded to GVWR. The drive axle shall have a design life to operate for not less than 300,000 miles on the design operating profile without replacement or major repairs. The lubricant drain plug shall be magnetic type. If a planetary gear design is employed, the oil level in the planetary gears shall be easily checked through the plug or sight gauge. The axle and driveshaft components shall be rated for both propulsion and retardation modes with respect to duty cycle.

NOTE: The retardation duty cycle can be more aggressive than propulsion.

The drive shaft shall be guarded to prevent hitting any critical systems, including brake lines, coach floor or the ground, in the event of a tube or universal joint failure.

The axle ratio of the drive axle is to be optimum for the electric propulsion drive system. Any change in ratio needed to meet the agency's local operating conditions shall be included in the base bus price.

TS 34.1 Non-Drive Axle

The non-drive axle is the drive axle without the drive gear with a load rating sufficient for the load to GVWR.

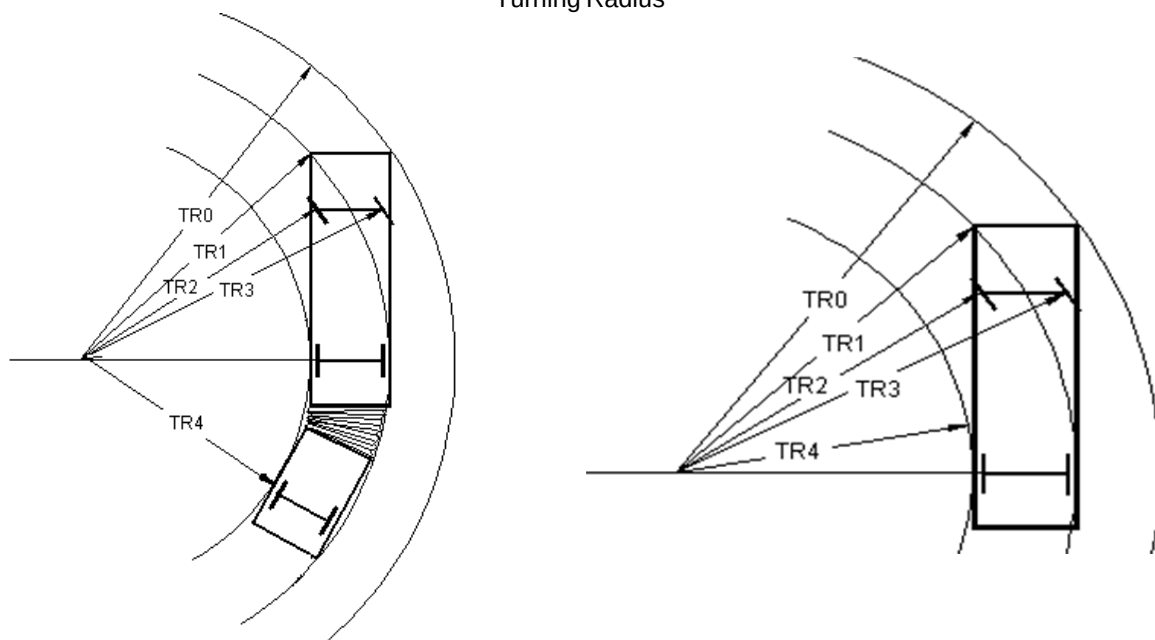
~~TS 35. Tag Axles (Commuter Coach)~~

TS 36. Turning Radius

TABLE 5
Maximum Turning Radius

Bus Length (approximate)	Maximum Turning Radius (see Figure 3)	Agency Requirement
30 ft	31 ft (TR0)	<u>31'</u>
35 ft	39 ft (TR0)	<u>39'</u>
40 ft	44 ft (TR0)	<u>44'</u>
45 ft	49 ft (TR0)	<u>49'</u>
60 ft	44.5 ft (outside front axle, TR0) 17 ft (inside rearmost axle, TR4)	<u>44.5'</u> <u>17'</u>

FIGURE 3
Turning Radius



TS 37. Brakes

TS 37.1 Service Brake

DEFAULT-----APPROVED

Brakes shall be self-adjusting. Brake wear indicators (visible brake sensors) shall be provided on exposed push rods.

ALTERNATIVE-----APPROVED

Visible stroke indicators may be combined with electronic brake monitoring system and vehicle brake warning system to notify driver and maintenance of unsafe brake conditions.

Vehicles provided under this RFP are to include Electronic Brake Monitoring (specifically brake stroke) as part of the vehicle air disc braking on-board diagnostic system. The Electronic Brake Monitoring System (EBMS) shall include both parking brake and service brake electronic monitoring utilizing a computer module with appropriate software, brake application pressure sensing via pressure transducer(s), associated cabling communicating the required electronic signals, and optical as well as mechanical sensing at the brake actuator / air disc caliper. The EBMS system shall be designed to detect over-stroke, non-functioning, brake drag and low pad-to-rotor clearance conditions at each vehicle wheel end. **The Agency requests this be a part of the base bus price.**

Any wheel-end brake fault condition detected by the EBMS shall be communicated via SAE brake fault codes over the vehicle J-1939 network in real-time. These predefined fault codes shall provide instant warnings to operations and maintenance of critical brake system problems which may affect the safe operation of vehicle.

The system shall specifically employ embedded optical and mechanical sensing at each wheel end which

monitors operational conditions for air brake delivery and release, (as well as mechanical conditions inside the caliper that effect lining and pad clearance), and the proper mechanical functionality of air disc calipers at each wheel end position

The on-board EBMS shall be designed to augment safety and aid maintenance in determining when to perform necessary unscheduled maintenance to mitigate vehicle performance and safety concerns. The EBMS shall additionally provide a log of stored fault codes for later retrieval by maintenance personnel to additionally be utilized by maintenance personnel for vehicle troubleshooting. The system shall also provide additional capability for conducting electronic pre-trip and/or post trip inspection on air disc brake vehicles.

The E-stroke Brake Monitoring System has been APPROVED.

TS 37.2 Actuation

DEFAULT-----APPROVED

Service brakes shall be controlled and actuated by a compressed air system. Force to activate the brake pedal control shall be an essentially linear function of the bus deceleration rate and shall not exceed 75 lbs at a point 7 in. above the heel point of the pedal to achieve maximum braking. The heel point is the location of the driver's heel when his or her foot is rested flat on the pedal and the heel is touching the floor or heel pad of the pedal. The ECU for the ABS system shall be protected, yet in an accessible location to allow for ease of service. The total braking effort shall be distributed among all wheels in such a ratio as to ensure equal friction material wear rate at all wheel locations. Manufacturer shall demonstrate compliance by providing a copy of a thermodynamic brake balance test upon request. The Agency requires a copy of the complete test.

ALTERNATIVE-----APPROVED

Microprocessor controlled automatic traction control (ATC) shall be provided on all buses. The Agency requests this be a part of the base bus price.

Provide a momentary type Mud and Snow switch on the dash. This switch is to be used temporarily by the bus operator when the ATC is activated to the point the electric drive system has derated to the point of removing almost all power to the drive wheels. The Mud and Snow switch temporarily over-rides the ATC and allows for maximum throttle if necessary, regardless of wheel slip.

TS 37.3 Friction Material

The brake linings shall be made of non-asbestos material. In order to aid maintenance personnel in determining extent of wear, a provision such as a scribe line or a chamfer indicating the thickness at which replacement becomes necessary shall be provided on each brake lining. The complete brake lining wear indicator shall be clearly visible from the hoist or pit without removing backing plates.

ALTERNATIVE-----APPROVED

Remote brake wear indicator shall be provided. The Agency requests this be a part of the base bus price.

TS 37.4 Hubs and Drums/Discs

Replaceable wheel bearing seals shall run on replaceable wear surfaces or be of an integral wear surface sealed design. Wheel bearing and hub seals and unitized hub assemblies shall not leak or weep lubricant when operating on the design operating profile for the duration of the initial manufacturer's warranty.

ALTERNATIVE-----APPROVED

Disc Brakes on All Axles Disc Brakes should be considered the Default with the base bus price.

The bus shall be equipped with disc brakes on all axles, and the brake discs shall allow machining of each side of the disc to obtain smooth surfaces per manufacturer's specifications.

The brake system material and design shall be selected to absorb and dissipate heat quickly so that the heat generated during braking operation does not glaze the brake linings.

~~TS 37.5 Hubs and Drums (Commuter Coach)~~

TS 37.6 Parking/Emergency Brake

DEFAULT-----APPROVED

Air Brakes

The parking brake shall be a spring-operated system, actuated by a valve that exhausts compressed air to apply the brakes. The parking brake may be manually enabled when the air pressure is at the operating level per FMVSS 121.

Emergency Brake

An emergency brake release shall be provided to release the brakes in the event of automatic emergency brake application. The driver shall be able to manually depress and hold down the emergency brake release valve to release the brakes and maneuver the bus to safety. Once the driver releases the emergency brake release valve, the brakes shall engage to hold the bus in place. Air to the emergency brake release system shall be provided by a dedicated emergency air tank.

TS 38. Interlocks (Transit Coach)

TS 38.1 Passenger Door Interlocks

To prevent opening mid and rear passenger doors while the bus is in motion, a speed sensor shall be integrated with the door controls to prevent the mid/rear doors from being enabled or opened unless the bus speed is less than 2 mph.

To preclude movement of the bus, an accelerator interlock shall lock the accelerator in the closed position, and a brake interlock shall engage the service brake system to stop movement of the bus when the driver's door control is moved to a mid/rear door enable or open position, or a mid or rear door panel is opened more than 3 in. from the fully closed position (as measured at the leading edge of the door panel). The interlock engagement shall bring the bus to a smooth stop and shall be capable of holding a fully loaded bus on a 6 percent grade, with the engine at idle and the transmission in gear, until the interlocks are released. These interlock functions shall be active whenever the vehicle master run switch is in any run position.

All door systems employing brake and accelerator interlocks shall be supplied with supporting failure mode

effects analysis (FEMA) documentation, which demonstrates that failure modes are of a failsafe type, thereby never allowing the possibility of release of interlock while an interlocked door is in an unsecured condition, unless the door master switch has been actuated to intentionally release the interlocks.

DEFAULT-----APPROVED

Non-adjustable brake interlock regulator.

DEFAULT-----APPROVED

No requirements for accelerator and brake interlocks whenever front doors are open.

TS 39. Pneumatic System

TS 39.1 General

The bus air system shall operate the air-powered accessories and the braking system with reserve capacity. New buses shall not leak down more than 5 psi over a 15-minute period of time as indicated on the dash gauge.

Provision shall be made to apply shop air to the bus air systems. A quick disconnect fitting shall be easily accessible and located in the electric drive compartment and near the front bumper area for towing and for filling the air tanks of the bus. Retained caps shall be installed to protect fitting against dirt and moisture when not in use. Air for the compressor shall be filtered. The air system shall be protected per FMVSS 121.

If retaining caps on tow fittings cannot be not provided. – The Agency will work with the vendor to determine the best solution after award in pre-production stage.

A Foster #10-3 with a tethered dust cap has been APPROVED.

TS 39.2 Air Compressor

DEFAULT-----APPROVED

~~The engine driven air compressor shall be sized to charge the air system from 40 psi to the governor cut-off pressure in less than 4 minutes while not exceeding the fast idle speed setting of the engine.~~

TS 39.3 Air Lines and Fittings

Air lines, except necessary flexible lines, shall conform to the installation and material requirements of SAE Standard J1149 for copper tubing with standard, brass, flared or ball sleeve fittings, or SAE Standard J844 for nylon tubing if not subject to temperatures over 200 °F. The air on the delivery side of the compressor where it enters nylon housing shall not be above the maximum limits as stated in SAE J844. Nylon tubing shall be installed in accordance with the following color-coding standards:

DEFAULT-----APPROVED

- **Green:** Indicates primary brakes and supply.
- **Red:** Indicates secondary brakes.
- **Brown:** Indicates parking brake.
- **Yellow:** Indicates compressor governor signal.
- **Black:** Indicates accessories.
- **An additional air line- Blue for suspension - APPROVED**

Line supports shall prevent movement, flexing, tension, strain and vibration. Copper lines shall be supported to prevent the lines from touching one another or any component of the bus. To the extent practicable and before installation, the lines shall be pre-bent on a fixture that prevents tube flattening or excessive local strain. Copper lines shall be bent only once at any point, including pre-bending and installation. Rigid lines shall be supported at no more than 5 ft intervals. Nylon lines may be grouped and shall be supported at 30 in. intervals or less.

The compressor discharge line between powerplant and body-mounted equipment shall be flexible convoluted ~~copper~~ or stainless steel line, or may be a #16 flexible Teflon hose with a braided stainless steel jacket. Other lines necessary to maintain system reliability shall be flexible Teflon hose with a braided stainless steel jacket. End fittings shall be standard SAE or JIC brass or steel, flanged, swivel-type fittings. Flexible hoses shall be as short as practicable and individually supported. They shall not touch one another or any part of the bus except for the supporting grommets. Flexible lines shall be supported at ~~2-ft~~ 30 in. intervals or less.

Air lines shall be clean before installation and shall be installed to minimize air leaks. All air lines shall be routed to prevent water traps to the extent possible. Grommets or insulated clamps shall protect the air lines at all points where they pass through understructure components. All flexible air lines (except air compressor discharge air line to the air dryer) are to be covered with split plastic conduit. ***Flexible hoses that are adequately clamped to ensure that there is no chaffing and when hoses are routed close to the heat source adequate protection is provided is Approved without split plastic conduit.***

TS 39.4 Air Reservoirs

All air reservoirs shall meet the requirements of FMVSS Standard 121 and SAE Standard J10 and shall be equipped with drain plugs and guarded or flush type drain valves. Major structural members shall protect these valves and any automatic moisture ejector valves from road hazards. Reservoirs shall be sloped toward the drain valve. All air reservoirs shall have drain valves that discharge below floor level with lines routed to eliminate the possibility of water traps and/or freezing in the drain line. If ¼ turn valves are used anywhere on the bus, provide valves with a minimum pressure rating of 150 psi.

TS 39.5 Air System Dryer

An air dryer shall prevent accumulation of moisture and oil in the air system. The air dryer system shall include ~~one or more~~ two replaceable spin-off desiccant cartridges, two electrically heated drains, two oil separator filters and is capable of handling up to a 100% air compressor duty cycle with a maximum of 30.7 cfm.

A SKF Dual Turbo-2000 Air Dryer with double oil and water filtration, heated, has been **APPROVED**.

The Bendix AD-IP Tandem has been Approved.

DEFAULT-----APPROVED

No requirements for additional oil separator provision.

ALTERNATIVE-----APPROVED

The air system shall be equipped with an air dryer located before the no. 1 air tank and as far from the compressor as possible to allow air to cool prior to entering the air dryer.

ELECTRICAL, ELECTRONIC AND DATA COMMUNICATION SYSTEMS

TS 40. Overview

The electrical system will consist of vehicle battery systems and components that generate, distribute and store power throughout the vehicle. (e.g., generator, voltage regulator, wiring, relays and connectors).

Electronic devices are individual systems and components that process and store data, integrate electronic information or perform other specific functions.

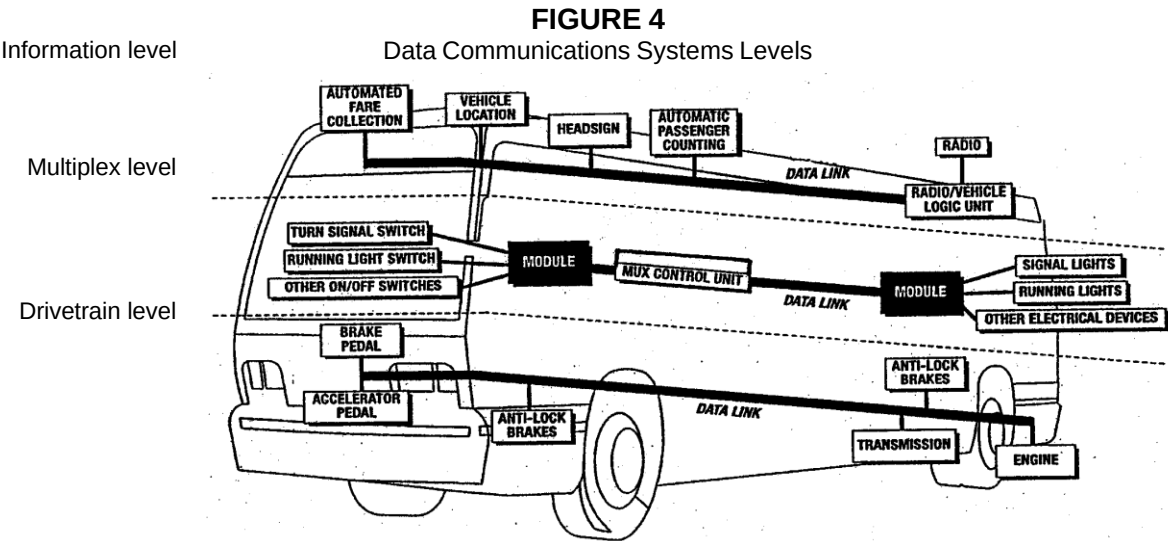
The data communication system consists of the bi-directional communications networks that electronic devices use to share data with other electronic devices and systems. Communication networks are essential to integrating electronic functions, both on board the vehicle and off.

Information level systems that require vehicle information for their operations or provide information shall adhere to J1939 data standard.

Data communications systems are divided into three levels to reflect the use of multiple data networks:

- **Powertrain level:** Components related to the powertrain, including the propulsion system components (~~engine, transmission and hybrid units~~) and anti-lock braking system (ABS), which may include traction control. At a minimum, powertrain components ~~consisting of the engine, transmission, retarder, ASR and anti-lock braking systems~~ shall be powered by a dedicated and isolated ignition supply voltage to ensure data communication between components exists when the vehicle ignition is switched to the “on” position.
- **Information level:** Components whose primary function is the collection, control or display of data that is not necessary to the safe drivability of the vehicle (i.e., the vehicle will continue to operate when those functions are inoperable). These components typically consist of those required for automatic vehicle location (AVL) systems, destination signs, fareboxes, passenger counters, radio systems, automated voice and signage systems, video surveillance and similar components.
- **Multiplex level:** Electrical or electronic devices controlled through input/output signals such as discrete, analog and serial data information (i.e., on/off switch inputs, relay or relay control outputs).

Multiplexing is used to control components not typically found on the drivetrain or information levels, such as lights; wheelchair lifts; doors; heating, ventilation and air conditioning (HVAC) systems (if applicable); and gateway devices.



TS 40.1 Modular Design

Design of the electrical, electronic and data communication systems shall be modular so that each electronic device, apparatus panel, or wiring bundle is easily separable from its interconnect by means of connectors.

~~Powerplant~~ Drivetrain wiring shall be an independent wiring harness. Replacement of the electric drive compartment wiring harness(es) shall not require pulling wires through any bulkhead or removing any terminals from the wires.

TS 41. Environmental and Mounting Requirements

The electrical system and its electronic components shall be capable of operating in the area of the vehicle in which they will be installed, as recommended in SAE J1455.

Electrical and electronic equipment shall not be located in an environment that will reduce the performance or shorten the life of the component or electrical system when operating within the design operating profile. As a recommendation, no vehicle component shall generate, or be affected by, electromagnetic interference or radio-frequency interference (EMI/RFI) that can disturb the performance of electrical/electronic equipment as defined in SAE J1113 and UNECE Council Directive 95/54 (R10).

The Agency shall follow recommendations from bus manufacturers and subsystem suppliers regarding methods to prevent damage from voltage spikes generated from welding, jump starts, shorts, etc.

TS 41.1 Hardware Mounting

The mounting of the hardware shall not be used to provide the sole source ground, and all hardware shall be isolated from potential EMI/RFI, as referenced in SAE J1113.

All electrical/electronic hardware mounted in the interior of the vehicle shall be inaccessible to passengers and hidden from view unless intended to be viewed. The hardware shall be mounted in such a manner as to protect it from splash or spray.

All electrical/electronic hardware mounted on the exterior of the vehicle that is not designed to be installed in an exposed environment shall be mounted in a sealed enclosure.

All electrical/electronic hardware and its mounting shall comply with the shock and vibration requirements of SAE J1455.

TS 42. General Electrical Requirements

TS 42.1 Batteries

TS 42.1.1 Low-Voltage Batteries (24 V)

DEFAULT-----APPROVED

Same Size Terminal Ends

Positive and negative terminal ends shall be the same size.

NOTE: Agency to specify post size if different sized terminal ends are utilized.

ALTERNATIVE-----APPROVED *(If applicable for Electric Propulsion,)*

Four Group 31 AGM Batteries

Four Group 31 Series deep-cycling sealed non spillable maintenance free absorbed glass mat (AGM) batteries shall be provided. Each battery shall have a minimum of 1000 cold cranking amps (CCA) at 0 °F. The batteries shall be *designed and installed to withstand the operating environment. Each battery shall have a purchase date no more than one year from the date of release for shipment to the Agency.*

Additional specifications for AGM Batteries

- Requires a built in handle
- Reserve Capacity: 200 minutes minimum at a 25 amp discharge at 0° F.
- Must meet or exceed SAE J2185, minimum cycle rating for “Commercial Starting is 200 cycles” and “Deep cycle is 300 cycles”. Bidders must provide proof that batteries meet or exceed this requirement with their offer.
- Positive and negative plate construction: Pure lead or pure lead/tin.
- Battery terminals: Top mounted 3/8 inch coarse thread, stainless steel terminals with lead or brass pads, aligned on the longitudinal centerline of the battery.
- Warranty: 4 year full replacement warranty.
- Must be available for delivery locally.

An Odyssey AGM Battery 31-PC2150S-H has been **APPROVED**.

TS 42.1.2 Battery Cables

The battery terminal ends and cable ends shall be color-coded with red for the primary positive, black for negative and another color for any intermediate voltage cables. Positive and negative battery cables shall not cross each other if at all possible, shall be flexible and shall be sufficiently long to reach the batteries with the tray in the extended position without stretching or pulling on any connection and shall not lie directly on top of the batteries. Except as interrupted by the master battery switch, battery and starter wiring shall be continuous cables with connections secured by bolted terminals and shall conform to specification requirements of SAE Standard J1127–Type SGR, SGT, SGX or GXL and SAE Recommended Practice J541, with 2100 strand 4/0 cable or greater recommended.

ALTERNATIVE-----APPROVED

Color code each voltage.

A jumper power cable in the fuse box which links the disconnect switch to the main 24V busbar. A power cable feeds the starter from the main 24V busbar is **APPROVED.**

TS 42.1.3 Jump Start *(If applicable for Electric Propulsion)*

Base bus price to include front and rear jump connectors .

ALTERNATIVE-----APPROVED**Jump-Start Connector**

A jump-start connector, red for 24 V and ~~blue for 12 V~~, shall be provided in the electric drive compartment, equipped with dust cap and adequately protected from moisture, dirt and debris. Provide access to the connector by opening the large rear electric drive access door

The Whitaker #15121 jump-start connector with dust cap has been **APPROVED**.

ALTERNATIVE-----A second 24 V Jump-Start connector is APPROVED**Jump-Start Connector**

A jump-start connector shall be located next to the battery disconnect switch if the disconnect switch is located at the front of the bus.

The Whitaker #15121 jump-start connector with dust cap has been **APPROVED**.

The Whitaker jumpstart 15126 is APPROVED provided the connection matches the 15121 to allow for backwards compatibility.

TS 42.1.4 Battery Compartment

The battery compartment shall prevent accumulation of snow, ice and debris on top of the batteries and shall be vented and self-draining. It shall be accessible only from the outside of the vehicle. All components within the battery compartment, and the compartment itself, shall be protected from damage or corrosion from the electrolyte. The inside surface of the battery compartment's access door shall be electrically insulated, as required, to prevent the battery terminals from shorting on the door if the door is damaged in an accident or if a battery comes loose. The battery compartment temperature should not exceed manufacturers specification.

The vehicle shall be equipped with a 12 V DC and 24 V DC quick disconnect switch(es). The battery compartment door shall conveniently accommodate operation of the 12 V DC and 24 V DC quick disconnect switch(es).

A disconnect switch located on the fuse box with access through a flip open door positioned on the curbside electric drive compartment door when the fuse box is located directly rearward of the battery tray is APPROVED

The battery quick disconnect access door shall be identified with a decal. The decal size shall not be less than 3.5 × 5 in. (8.89 × 12.7 cm).

The battery hold-down bracket shall be constructed of a nonconductive and corrosion-resistant material (plastic or fiberglass).

This access door shall not require any special locking devices to gain access to the switch, and it shall be accessible without removing or lifting the panel. The door shall be flush-fitting and incorporate a spring tensioner or equal to retain the door in a closed position when not in use.

The batteries shall be securely mounted on a stainless steel or equivalent tray that can accommodate the size and weight of the batteries. The battery tray, if applicable, shall pull out easily and properly

support the batteries while they are being serviced. The tray shall allow each battery cell to be easily serviced. One or more ~~A~~ locking device(s) shall retain the battery tray to the stowed position to prevent the battery tray from rattling and bouncing around.

A polyethylene battery tray supported by a stainless steel sub-frame, with an enclosure that is also polyethylene, and batteries supported by structural stainless steel U-channels, sized to provide the correct support for 4 GP 31 batteries is APPROVED.

The location of the batteries or the design of the battery box, must keep the majority of the road spray off the batteries. The batteries shall not be located in the hot electric drive compartment unless the batteries have their own enclosure that protects them from the high electric drive compartment heat. This box must slide or rotate out easily and be corrosion proof. A battery box with ¼ inch or larger stainless steel ball rollers is acceptable.

If not located in the electric drive compartment, the same fire-resistant properties must apply to the battery compartment. No sparking devices should be located within the battery box.

TS 42.1.5 Auxiliary Electronic Power Supply

If required, gel-pack, or any form of sealed (non-venting) batteries used for auxiliary power are allowed to be mounted on the interior of the vehicle if they are contained in an enclosed, non-airtight compartment and accessible only to maintenance personnel. This compartment shall contain a warning label prohibiting the use of lead-acid batteries.

TS 42.1.6 Master Battery Switch

The location of the heavy duty master battery knife switch shall be clearly identified on the exterior access panel, be accessible with-out locks in less than 10 seconds for deactivation and prevent corrosion from fumes and battery acid when the batteries are washed off or are in normal service.

A rotary style disconnect switch supplied by Kissling is APPROVED.

Turning the master switch off with the powerplant operating bus in an operational state, during an emergency, shall ~~shut off the engine and shall~~ not damage any component of the electrical system. The master switch shall be capable of carrying and interrupting the total circuit load.

DEFAULT-----APPROVED

Single Switch

The batteries shall be equipped with a single switch for disconnecting both 12 V and 24 V power.

TS 42.1.7 Low-Voltage Generation and Distribution

The low-voltage generating system shall maintain the charge on fully charged batteries, except when the vehicle is at standard idle with a total low-voltage generator load exceeding 70 percent of the low-voltage generator nameplate rating.

Voltage monitoring and over-voltage output protection (recommended at 32 V) shall be provided.

Dedicated power and ground shall be provided as specified by the component or system manufacturer. Cabling to the equipment must be sized to supply the current requirements with no greater than a 5 percent volt drop across the length of the cable.

TS 42.1.8 Circuit Protection

All branch circuits, except ~~battery to starting motor and battery to generator/alternator circuits~~ except where applicable for Electric Propulsion, shall be protected by current-limiting devices such as circuit breakers, fuses or solid-state devices sized to the requirements of the circuit. ~~Electronic circuit protection for the cranking motor shall be provided to prevent engaging of the motor for more than 30 seconds at a time to prevent overheating.~~ The circuit breakers or fuses shall be easily accessible for authorized personnel. Fuses shall be used only where it can be demonstrated that circuit breakers are not practicable. This requirement applies to in-line fuses supplied by either the Contractor or a supplier. Fuse holders shall be constructed to be rugged and waterproof. All manual reset circuit breakers critical to the operation of the bus shall be mounted in a location convenient to the Agency mechanic with visible indication of open circuits. The Agency shall consider the application of automatic reset circuit breakers on a case-by-case basis. The Contractor shall show all in-line fuses in the final harness drawings. Any manually resettable circuit breakers shall provide a visible indication of open circuits. Any manually resettable circuit breakers shall provide a visible indication of open circuits.

Circuit breakers or fuses shall be sized to a minimum of 15 percent larger than the total circuit load. The current rating for the wire used for each circuit must exceed the size of the circuit protection being used.

TS 42.2 Grounds

The battery shall be grounded to the vehicle chassis/frame at one location only, as close to the batteries as possible. When using a chassis ground system, the chassis shall be grounded to the frame in multiple locations, evenly distributed throughout the vehicle to eliminate ground loops. No more than five ground ring/spade terminal connections shall be made per ground stud with spacing between studs ensuring contactivity and serviceability. Electronic equipment requiring an isolated ground to the battery (i.e., electronic ground) shall not be grounded through the chassis but to the battery ground cable.

TS 42.3 Low Voltage/Low Current Wiring and Terminals

All power and ground wiring shall conform to specification requirements of SAE Recommended Practice J1127, J1128 and J1292. Double insulation shall be maintained as close to the junction box, electrical compartment or terminals as possible. The requirement for double insulation shall be met by wrapping the harness with plastic electrical tape or by sheathing all wires and harnesses with non-conductive, rigid or flexible conduit.

Wiring shall be grouped, numbered and/or color-coded. Wiring harnesses shall not contain wires of different voltage classes unless all wires within the harness are insulated for the highest voltage present in the harness. Kinking, grounding at multiple points, stretching, and exceeding minimum bend radius shall be prevented.

Strain-relief fittings shall be provided at all points where wiring enters electrical compartments. Grommets or other protective material shall be installed at points where wiring penetrates metal structures outside of electrical enclosures. Wiring supports shall be protective and non-conductive at areas of wire contact and shall not be damaged by heat, water, solvents or chafing.

To the extent practicable, wiring shall not be located in environmentally exposed locations under the vehicle.

Wiring and electrical equipment necessarily located under the vehicle shall be insulated from water, heat, corrosion and mechanical damage. Where feasible, front-to-rear electrical harnesses should be installed above the window line of the vehicle.

All wiring harnesses over 5 ft long and containing at least five wires shall include 10 percent (minimum one wire) excess wires for spares. This requirement for spare wires does not apply to datalinks and communication cables. Wiring harness length shall allow end terminals to be replaced twice without pulling, stretching or replacing the wire. Terminals shall be crimped to the wiring according to the connector manufacturer's recommendations for techniques and tools. All cable connectors shall be locking type, keyed and sealed, unless enclosed in watertight cabinets or vehicle interior. Pins shall be removable, crimp contact type, of the correct size and rating for the wire being terminated. Unused pin positions shall be sealed with sealing plugs. Adjacent connectors shall use either different inserts or different insert orientations to prevent incorrect connections.

Terminals shall be crimped, corrosion-resistant and full ring type or interlocking lugs with insulating ferrules. When using pressure type screw terminal strips, only stranded wire shall be used. Insulation clearance shall ensure that wires have a minimum of "visible clearance" and a maximum of two times the conductor diameter or 1/16 in., whichever is less. When using shielded or coaxial cable, upon stripping of the insulation, the metallic braid shall be free from frayed strands that can penetrate the insulation of the inner wires.

Ultra-sonic and T-splices may be used with 8 AWG or smaller wire. When a T-splice is used, it shall meet these additional requirements:

- It shall include a mechanical clamp in addition to solder on the splice.
- The wire shall support no mechanical load in the area of the splice.
- The wire shall be supported to prevent flexing.
- If harnesses with T-splices are located so they will be in contact with liquid corrosive magnesium and sodium chloride salts, the T-splices will need to be examined by the Agency for being weather-proof on a case by case basis.

T-splices made from pre-molded weather sealed T-connectors may be approved by the Agency.

A "T" or a "Y" connection using Packard Electric, WeatherPack connectors has been **APPROVED**.

All splicing shall be staggered in the harness so that no two splices are positioned in the same location within the harness.

Wiring located in the electric drive compartment shall be routed away from high-heat sources or shielded and/or insulated from temperatures exceeding the wiring and connector operating requirements.

The instrument panel and wiring shall be easily accessible for service from the driver's seat or top of the panel. The instrument panel shall be separately removable and replaceable without damaging the instrument panel or gauges. Wiring shall have sufficient length and be routed to permit service without stretching or chafing the wires.

TS 42.4 Electrical Components

All electrical components, including switches, relays, flashers and circuit breakers, shall be heavy-duty designs with either a successful history of application in heavy-duty vehicles or design specifications for an

equivalent environment.

All electric motors shall be heavy-duty brushless type where practical, and have a continuous duty rating of no less than 40,000 hours (except cranking motors, washer pumps, auxiliary heater pumps, defroster and wiper motors). All electric motors shall be easily accessible for servicing.

TS 42.5 Electrical Compartments

All relays, controllers, flashers, circuit breakers and other electrical components shall be mounted in easily accessible electrical compartments. All compartments exposed to the outside environment shall be corrosion-resistant and sealed. The components and their functions in each electrical compartment shall be identified and their location permanently recorded on a drawing attached to the inside of the access panel or door. The drawing shall be protected from oil, grease, fuel and abrasion.

A side console decal is shipped loose is APPROVED

The front compartment shall be completely serviceable from the driver's seat, vestibule or from the outside. "Rear start and run" controls shall be mounted in an accessible location in the electric drive compartment and shall be protected from the environment.

TS 42.6 Electrical Corrosion Prevention Requirements

1. The Agency is extremely concerned about corrosion. During the winter months, the Agency's buses are covered with sodium chloride, calcium chloride, liquid magnesium chloride, and sand soaked in salt and moisture. Even though the exteriors are washed frequently, these elements cover the bus and work their way into the bus body and wiring connections. Many of the electrical specifications as written in this section have been developed over the 34 years this writer has purchased buses and for the total of 39 years being in bus maintenance. These performance specifications help combat the destructive corrosion caused by the chlorides and moisture.
2. Only non-insulated, tin/lead covered, brazed seam, copper electrical terminals will be used on the wiring underneath the bus, in the battery compartment, electric drive compartment, and HVAC compartment. All terminals and adjoining wires shall be covered with heat shrink tubing that has an inner meltable sealer. The heat shrink will act as insulation, a strain relief and will seal against the wire insulation. The heat shrink needs to be heated enough to have the melted sealer seep out from underneath the heat shrink tubing. Attach heat shrink before spraying the wires and terminals with corrosion preventer.
3. All positive and negative connections from 8 gauge and larger, that are located on the exterior of the bus, including but not limited to, underneath the bus, in the HVAC compartment, battery compartment, and in the electric drive compartment, shall be made against clean terminals and clean grounds. Before making the electrical connection, grind off any paint and undercoating to expose bare metal. BEFORE making a connection, spray the corrosion preventer on and around the clean metal, bolt, nut, washers and terminal. Use under the bolt heads and lock nuts, hardened flat washers (grade "C"). Split lock washers, star lock washers, or stainless steel washers, WILL NOT be allowed between the terminals and/or grounds. The Agency will decide if there are exceptions to this rule.
4. AFTER the connection is made, the Contractor shall spray the corrosion preventer on the connection again.
5. The battery cable terminals are to have heat shrink with a meltable sealer. Do not use the preformed, rubber covered terminal/cable assemblies that trap and hide corrosion.
6. Electrical terminals that end inside the bus or inside exterior weather proof junction boxes where moisture does not penetrate, ARE NOT to be sprayed with corrosion preventer. The corrosion preventer is very messy. These terminals may be of the standard insulated type.
7. All 10 gauge and smaller wires that are on the exterior of the bus and are connected as a "T" or "Y" or in-line with another wire, shall be connected together by weather proof connectors.

8. Wires terminating in junction boxes (located anywhere on the bus), in the dash, shall terminate preferably at a stud/nut or screw. Tight spade type connectors may be used on a limited number of components, when there is no other choice, such as horns, that require a spade terminal. Any spade terminals on components which are located in areas where moisture can be present, must be sprayed from both sides of the insulated terminal with corrosion preventer. Be sure to cover the bare exposed copper wire with the corrosion preventer.
9. Cover the battery cable with split loom or provide battery cable conduit from the battery box to the starter motor.
10. **Corrosion Preventer Specifications:**
This material shall be: 1) a liquid that can be sprayed on terminals, bare copper wires, etc.; 2) the sprayed liquid shall have the ability to wick its way up stranded copper wires wrapped in an insulated vinyl jacket to provide a corrosion inhibited liquid barrier against air and corrosive liquids. This barrier prevents copper wires that are covered with vinyl insulation from corroding; 3) the liquid shall not dry out or become hard over time which could eventually act as an insulator if the terminal is removed and reattached; 4) the preventive corrosion spray shall be a bright red color for quick identification that the corrosion preventer has been applied; 5) the preventive corrosion spray shall be such a powerful deterrent that when tested, corrosive sodium chloride salts will not create a salt bridge over the corrosion inhibitor and will not wick its way up conductors covered with insulation when tested in a 206 °F heated salt/water vapor bath.
11. Send proposed corrosion preventer sprays with product information and any test results when requesting an Approved Equal. The proposed sprays will be tested by the Agency to see if they meet the preceding performance specifications.

The best available corrosion preventive spray that has been **APPROVED** is Battery Corrosion Preventive Spray, NOCO, NCP-2. This red spray is available in many auto part and battery stores as Part #A-202. This product is made by the NOCO Company in Cleveland, Ohio.

Not providing loom on the battery cables if located within a contained assembly is APPROVED.

TS 42.7 Other General Electrical Requirements (equalizer, min. alternator amps, clean air, nylon ties square cut smooth)

1. Provide heavy-duty bus-bars, terminal strips, or stud-terminal blocks. This means they do not crack, break, become loose, fall apart, and do not need constant preventive maintenance to check or tighten the studs or nuts. All electrical panels are to be located in clean, dry, weatherproof compartments, especially those electrical panels located in the electric drive compartment.
2. Provide a minimum 80-amp (12-volt) capable, 12/24 volt battery Equalizer.
3. If the alternator is belt driven, the belt must be entirely enclosed within a shroud that is hinged to the bus and locked with several 5/16" inch square lock(s).
4. Provide a minimum, 450 amp alternator.
5. If the alternator is air cooled, the air shall be clean as compared to the dirty electric drive compartment air or air from around the rear of the drive tires. The clean air for the alternator can come from one of two sources:
 - a. The air can be drawn from a cleaner air source near where an air intake would be for a traditional bus. Preferred method.
 - b. The air can be pre-cleaned by using a centrifuge type cleaner in the electric drive compartment.
6. Provide a separate 12-volt "cigarette" style power connector that can be used to power diagnostic laptops etc., somewhere near the interior main J1939 connector.
7. For ease of starting, especially in cold weather, when starting the engine from the front or the rear of bus, all un-necessary loads shall be eliminated by the use of the bus multiplex system.
8. Whenever nylon ties are used anywhere on the bus, they shall be square cut-off with a blunt cut-off

plier or tool. The nylon ties shall not have sharp or pointed edges.

TS 43. General Electronic Requirements

If an electronic component has an internal real-time clock, it shall provide its own battery backup to monitor time when battery power is disconnected, and/or it may be updated by a network component. If an electronic component has an hour meter, it shall record accumulated service time without relying on battery backup.

All electronic component suppliers shall ensure that their equipment is self-protecting in the event of shorts in the cabling, and also in over-voltage (over 32 V DC on a 24 V DC nominal voltage rating with a maximum of 50 V DC) and reverse polarity conditions. If an electronic component is required to interface with other components, it shall not require external pull-up and/or pull-down resistors. Where this is not possible, the use of a pull-up or pull-down resistor shall be limited as much as possible and easily accessible and labeled.

TS 43.1 Wiring and Terminals

Kinking, grounding at multiple points, stretching and reducing the bend radius below the manufacturer's recommended minimum shall not be permitted.

TS 43.1.1 Discrete I/O (Inputs/Outputs)

All wiring to I/O devices, either at the harness level or individual wires, shall be labeled, stamped or color-coded in a fashion that allows unique identification at a spacing not exceeding 4 in. Wiring for each I/O device shall be bundled together. If the I/O terminals are the same voltages, then jumpers may be used to connect the common nodes of each I/O terminal.

TS 43.1.2 Shielding

All wiring that requires shielding shall meet the following minimum requirements. A shield shall be generated by connecting to a ground, which is sourced from a power distribution bus bar or chassis. A shield shall be connected at one location only, typically at one end of the cable. However, certain standards or special requirements, such as cs J1939 or RF applications, have separate shielding techniques that also shall be used as applicable.

NOTE: A shield grounded at both end forms a ground loop, which can cause intermittent control or faults.

When using shielded or coaxial cable, upon stripping of the insulation, the metallic braid shall be free from frayed strands, which can penetrate the insulation of the inner wires. To prevent the introduction of noise, the shield shall not be connected to the common side of a logic circuit.

TS 43.1.3 Communications

The data network cabling shall be selected and installed according to the selected protocol requirements. The physical layer of all network communication systems shall not be used for any purpose other than communication between the system components, unless provided for in the network specifications. Communications networks that use powerline carriers (e.g., data modulated on a 24 V powerline) shall meet the most stringent applicable wiring and terminal specifications.

TS 43.1.4 Radio Frequency (RF)

RF components, such as radios, video devices, cameras, global positioning systems (GPS), etc., shall use coaxial cable to carry the signal. All RF systems require special design consideration for losses along the cable. Connectors shall be minimized, since each connector and crimp has a loss that will attribute to attenuation of the signal. Cabling should allow for the removal of antennas or attached electronics without removing the installed cable between them. If this cannot be done, then a conduit of sufficient size shall be provided for ease of attachment of antenna and cable assembly. The corresponding component vendors shall be consulted for proper application of equipment, including installation of cables.

TS 43.1.5 Audio

Cabling used for microphone level and line level signals shall be 22 AWG minimum with shielded twisted pair. Cabling used for amplifier level signals shall be 18 AWG minimum.

TS 44. Multiplexing

TS 44.1 General

The primary purpose of the multiplexing system is control of components necessary to operate the vehicle. This is accomplished by processing information from input devices and controlling output devices through the use of an internal logic program.

Versatility and future expansion shall be provided for by expandable system architecture. The multiplex system shall be capable of accepting new inputs and outputs through the addition of new modules and/or the utilization of existing spare inputs and outputs. All like components in the multiplex system shall be modular and interchangeable with self-diagnostic capabilities. The modules shall be easily accessible for troubleshooting electrical failures and performing system maintenance. Multiplex input/output modules shall use solid-state devices to provide extended service life and individual circuit protection.

DEFAULT-----APPROVED

Ten percent of the total number of inputs and outputs, or at least one each for each voltage type utilized (0 V, 12 V, 24 V) at each module location shall be designated as spares.

TS 44.2 System Configuration

Multiplexing may either be distributed or centralized. A distributed system shall process information on multiple control modules within the network. A centralized system shall process the information on a single control module. Either system shall consist of several modules connected to form a control network.

TS 44.2.1 I/O Signals

The input/output for the multiplex system may contain four types of electrical signals: discrete, modulating, analog or serial data.

Discrete signals shall reflect the on/off status of switches, levers, limit switches, lights, etc. Analog signals shall reflect numerical data as represented by a voltage signal (0–12 V, 10–24 V, etc.) or current signal (4–20 mA). Both types of analog signals shall represent the status of variable devices such as rheostats, potentiometers, temperature probes, etc. Serial data signals shall reflect ASCII or alphanumeric data used in the communication between other on-board components.

TS 45. Data Communications

TS 45.1 General

All data communication networks shall be either in accordance with a nationally recognized interface standard, such as those published by SAE, IEEE or ISO, or shall be published to the Agency with the following minimum information:

- Protocol requirements for all timing issues (bit, byte, packet, inter-packet timing, idle line timing, etc.) packet sizes, error checking and transport (bulk transfer of data to/from the device).
- Data definition requirements that ensure access to diagnostic information and performance characteristics.
- The capability and procedures for uploading new application or configuration data.
- Access to revision level of data, application software and firmware.
- The capability and procedures for uploading new firmware or application software.
- Evidence that applicable data shall be broadcast to the network in an efficient manner such that the overall network integrity is not compromised.

Any electronic vehicle components used on a network shall be conformance tested to the corresponding network standard.

TS 45.2 Drivetrain Level

Drivetrain components, consisting of ~~the engine~~, transmission, ~~retarder~~, anti-lock braking system and all other related components, shall be integrated and communicate fully with respect to vehicle operation with data using SAE Recommended Communications Protocols such as J1939 and/or J1708/J1587 with forward and backward compatibilities or other open protocols. At a minimum, drivetrain components consisting of the ~~engine~~, transmission, ~~retarder~~ ASR, and anti-lock braking systems shall be powered by a dedicated and isolated ignition supply voltage to ensure data communication among components exists when the vehicle ignition is switched to the “on” position. Provide a gateway (J1939) and a 12 volt power plug (cigarette lighter type) inside the bus and close together for diagnostic laptop connections. Location TBD.

TS 45.2.1 Diagnostics, Fault Detection and Data Access

Drivetrain performance, maintenance and diagnostic data, and other electronic messages shall be formatted and transmitted on the communications networks.

The drivetrain level shall have the ability to record abnormal events in memory and provide diagnostic codes and other information to service personnel. At a minimum, this network level shall provide live/fail status, current hardware serial number, software/data revisions and uninterrupted timing functions.

TS 45.2.2 Programmability (Software)

The drivetrain level components shall be programmable by the Agency with limitations as specified by the subsystem Supplier.

TS 45.3 Multiplex Level

TS 45.3.1 Data Access

At a minimum, information shall be made available via a communication port on the multiplex system. The location of the communication port shall be easily accessible. A hardware gateway and/or wireless communications system are options if requested by the Agency. The communication port(s) shall be located as specified by the Agency.

Providing diagnostic connectors in four areas on the bus which are; the electric drive compartment switch box, under the left hand side of the dash, behind the driver on the SDS enclosure and in the SDS box. The diagnostic connectors available at each location:

Electric drive compartment Switch Box:

-9 pin diagnostic connector for Powertrain J1939

Under the Left Hand Side of the Dash:

-USB port for the Vansco Multiplexing System

Behind the driver on the SDS Enclosure:

-9 pin diagnostic connector for powertrain J1939 and chassis J1939

Inside the SDS enclosure:

-9 pin diagnostic connector for the agency installed Smart Drive camera system

TS 45.3.2 Diagnostics and Fault Detection

The multiplex system shall have a proven method of determining its status (system health and input/output status) and detecting either active (online) or inactive (offline) faults through the use of on-board visual/audible indicators.

In addition to the indicators, the system shall employ an advanced diagnostic and fault detection system, which shall be accessible via either a personal computer or a handheld unit. Either unit shall have the ability to check logic function. The diagnostic data can be incorporated into the information level network or the central data access system.

DEFAULT-----APPROVED

No requirement for mock-up board.

TS 45.3.3 Programmability (Software)

The multiplex system shall have security provisions to protect its software from unwanted changes. This shall be achieved through any or all of the following procedures:

- Password protection
- Limited distribution of the configuration software
- Limited access to the programming tools required to change the software
- Hardware protection that prevents undesired changes to the software

Provisions for programming the multiplex system shall be possible through a PC or laptop. The multiplex system shall have proper revision control to ensure that the hardware and software are identical on each vehicle equipped with the system. Revision control shall be provided by all of the following:

- Hardware component identification where labels are included on all multiplex hardware to identify components
- Hardware series identification where all multiplex hardware displays the current hardware serial

- number and firmware revision employed by the module
- Software revision identification where all copies of the software in service display the most recent revision number
- A method of determining which version of the software is currently in use in the multiplex system

DEFAULT-----APPROVED
Revision control labels shall be electronic.

TS 45.4 Electronic Noise Control

Electrical and electronic subsystems and components on all buses shall not emit electromagnetic radiation that will interfere with on-board systems, components or equipment, telephone service, radio or TV reception, or violate regulations of the Federal Communications Commission.

Electrical and electronic subsystems on the coaches shall not be affected by external sources of RFI/EMI. This includes, but is not limited to, radio and TV transmission, portable electronic devices including computers in the vicinity of or onboard the buses, AC or DC power lines and RFI/EMI emissions from other vehicles.

DRIVER PROVISIONS, CONTROLS AND INSTRUMENTATION

TS 46. Driver’s Area Controls

TS 46.1 General

In general when designing the driver’s area, it is recommended that SAE J833, “Human Physical Dimensions,” be used.

Switches and controls shall be divided into basic groups and assigned to specific areas, in conformance with SAE Recommended Practice J680, Revised 1988, “Location and Operation of Instruments and Controls in Motor Truck Cabs,” and be essentially within the hand reach envelope described in SAE Recommended Practice J287, “Driver Hand Control Reach.”

TS 46.2 Glare

The driver’s work area shall be designed to minimize glare to the extent possible. Objects within and adjacent to this area shall be matte black or dark gray in color wherever possible to reduce the reflection of light onto the windshield. Both front wheel housings are to be dark matte gray to reduce glare on the windshield. The use of polished metal and light-colored surfaces within and adjacent to the driver’s area shall be avoided.

Providing Black wheelhousings to reduce the glare on the windshield is APPROVED.

Providing a Vansco DPS70 dash display is Approved.

TS 46.3 Visors/Sun Shades

DEFAULT-----APPROVED
Front and Side Sun Shade/Visor

Adjustable sun visor(s) shall be provided for the driver's windshield and the driver's side window. Visors shall be shaped to minimize light leakage between the visor and windshield pillars. *To minimize light leakage, apply a dark shaded band similar in size and color to the windshield shaded band, to the glass between the visor and windshield/window pillars.* Visors shall store out of the way and shall not obstruct airflow from the climate control system or interfere with other equipment, such as the radio handset or the destination control. Deployment of the visors shall not restrict vision of the rearview mirrors. Visor adjustments shall be made easily by hand with positive locking and releasing devices and shall not be subject to damage by over-tightening. Sun visor construction and materials shall be strong enough to resist breakage during adjustments.

Visors may be transparent but shall not allow a visible light transmittance in excess of 10 percent. Visors, when deployed, shall be effective in the driver's field of view at angles more than 5 deg above the horizontal.

Provide manual pull-down/push-up style (solid) visors at driver's side window and street-side windshield.

Provide a curb-side windshield visor if it does not block the curb-side exterior mirrors. This visor shall pull down approximately 10 inches (TBD) and shall be mounted as close as possible to the windshield.

Automotion Sun Shades have been APPROVED.

The agency approves the disuse of a sunshade that blocks the mirror, but will work with vendor for a possible solution for a sunshade for the operator on the curbside.

Driver's Window Sunscreens

An adjustable roller type sunscreen shall be provided over the driver's windshield and/or the driver's side window. The sunscreen shall be capable of being lowered to the midpoint of the driver's window. When deployed, the screen shall be secure, stable, and shall not rattle, sway or intrude into the driver's field of view due to the motion of the coach or as a result of air movement. Once lowered, the screen shall remain in the lowered position until returned to the stowed position by the driver. Sunscreen shall be shaped to minimize light leakage between the visor and windshield pillars to the extent possible.

TS 46.4 Driver's Controls

Frequently used controls must be in easily accessible locations. These include the door control, kneel control, windshield wiper/washer controls, ramp, and lift and run switch. Any switches and controls necessary for the safe operation of the bus shall be conveniently located and shall provide for ease of operation. They shall be identifiable by shape, touch and permanent markings. Controls also shall be located so that passengers may not easily tamper with control settings.

All panel-mounted switches and controls shall be marked with easily read identifiers. Graphic symbols shall conform to SAE Recommended Practice J2402, "Road Vehicles – Symbols For Controls, Indicators, and Tell Tales," where available and applicable. Color of switches and controls shall be dark with contrasting typography or symbols.

Mechanical switches and controls shall be replaceable, and the wiring at these controls shall be serviceable from a convenient location. Switches, controls and instruments shall be dust- and water-resistant.

DEFAULT-----APPROVED

All switches/controls in the driver's controls area shall be mounted in an angled panel steep enough to discourage drivers from using it as a personal storage area for items like food, drinks, cell phones, etc.

ALTERNATIVE-----APPROVED

The transmission shift selector shall be mounted in an angled panel steep enough to discourage drivers from using it as a personal storage area for electronic devices such as cell phones, music players, navigation systems, etc.

TS 46.5 Normal Bus Operation Instrumentation and Controls

The following list identifies bus controls used to operate the bus. These controls are either frequently used or critical to the operation of the bus. They shall be located within easy reach of the operator. The operator shall not be required to stand or turn to view or actuate these controls unless specified otherwise.

Systems or components monitored by onboard diagnostics system shall be displayed in clear view of the operator and provide visual and/or audible indicators. The intensity of indicators shall permit easy determination of on/off status in bright sunlight but shall not cause a distraction or visibility problem at night by using a dimmer switch. All indicators and dash lighting shall be illuminated using fiber optics for backlighting.

The side console and any other controls the operator may use from his/her seat must be illuminated at night. The agency prefers fiber optic backlighting if available but will accept LED light.

The indicator panel shall be located in Area 1 or Area 5, within easy view of the operator instrument panel. All indicators shall have a method of momentarily testing their operation. The audible alarm shall be tamper resistant and shall have an outlet level between 80 and 83 dBA when measured at the location of the operator's ear.

On-board displays visible to the operator shall be limited to indicating the status of those functions described herein that are necessary for the operation of the bus. All other indicators needed for diagnostics and their related interface hardware shall be concealed and protected from unauthorized access. **Table 6** represents instruments and alarms. The intent of the overall physical layout of the indicators shall be in a logical grouping of systems and severity nature of the fault.

Consideration shall be provided for future additions of spare indicators as the capability of onboard diagnostic systems improves. Blank spaces shall contain LEDs.

A dash mounted MFD multifunction display shall be provided with a minimum screen size of 7" measured diagonally. The display shall have a brightness adjustment and incorporate all electronic gauges, all warning light indicators and rear view or any installed door camera images. The electronic gauges shall include but not be limited to: Large Font Speedometer, 24 volt gauge, Coolant Temp (1 for each coolant loop), 12 volt gauge.

A shift selector position will TBD in pre-production.

TABLE 6 (Transit Coach)
Transit Bus Instruments and Alarms

Final instrument panel layout to be approved by the Agency pre-production. Location TBD.

Device	Description	Location	Function	Visual/ Audible
Master run switch	Rotary, four-position detent	Side console	Master control for bus, off, day run, night run and clearance ID lights	
Engine start, front	Approved momentary switch	Side console	Activates engine starter motor	
Engine start, rear	Approved momentary switch	Electric drive compartment	Activates engine starter motor	
Engine run, rear	Three-position toggle switch	Electric drive compartment	Permits running engine <u>activating propulsion system</u> from rear start, normal front run position and off	Amber light
Drive selector	Touch panel switch	Side console <u>TBD</u>	Provides selection of propulsion: forward, reverse and neutral	Gear selection
HVAC	Switch or switches to control HVAC	Side console	Permits selection of passenger ventilation: off, cool, heat, low fan, high fan or full auto with on/off only	
Driver's ventilation	Rotary, three-position detent	Side console or dash left wing	Permits supplemental ventilation: fan off, low or high	
Defroster fan	Rotary, three-position detent	Side console or dash left wing	Permits defroster: fan off, low, medium or high	
Defroster temperature	Variable position	Side console or dash left wing	Adjusts defroster water flow and temperature	
Windshield wiper	One-variable rotary position operating both wipers	Dash left wing	Variable speed control of left and right windshield wipers	
Windshield washer	Push button	Dash left wing	Activates windshield washers	
Dash panel lights	Rotary rheostat or stepping switch	Side console or dash left wing	Provides adjustment for light intensity in night run position	

Interior <u>Dome</u> light <u>switch</u>	Three-position switch	Side console or front dash	<u>Reduces interior light reflection from the windshield at night.</u> Selects mode of passenger compartment lighting: off, on, normal <u>All, Off, Normal</u>	<u>"All" = all Dome lights "on" when doors are open or closed.</u> <u>"Off" = all Dome lights "off".</u> <u>"Normal" = only street-side Dome lights "on" when all doors are closed.</u> <u>When either door is opened, all Dome lights are "on".</u>
<u>Dimmer Switch for all Dome lights or knob</u>	<u>Two position switch or knob</u>	<u>Next to the "Interior Dome Light" three-position switch.</u>	<u>Select mode: "Bright", "Dim"</u>	<u>"Bright" = All Dome lights are 100% "bright".</u> <u>"Dim" = All Dome lights dimmed to 60% bright when both front and rear doors are closed. When one or both doors are open, dome lights are 100% bright.</u>
Fast idle	Two position switch	Side console	Selects high idle speed of engine	
WC ramp/ kneel enable	Two position switch[±]	Side console or dash right wing	Permits operation of ramp and kneel operations at each door remote panel	Amber light
Front door ramp/kneel enable	Two position keyed switch [±]	Front door remote or dash right wing	Permits ramp and kneel activation from front door area, key required [±]	Amber light
Front door ramp	Three position momentary switch <u>Buttons on door control handle</u>	Right side of steering wheel <u>door control handle</u>	Permits deploy and stow of front ramp	Red light/ <u>other</u>
Front kneel	Three position momentary switch <u>Buttons on door control handle</u>	Front door remote <u>door control handle</u>	Permits kneeling activation and raise and normal at front door remote location	Amber or red dash indicator; exterior alarm (<u>only when raising or lowering</u>) and amber <u>flashing</u> light
Rear door ramp/kneel enable	Two position keyed switch [±]	Rear door remote	Permits ramp and kneel activation from rear door area; key required [±]	Red light
Rear door ramp	Three position momentary switch	Rear door remote	Permits deploy and stow of rear ramp	

Rear kneel	Three position momentary switch	Rear door remote	Permits kneeling activation and raise and normal at rear door remote location	
Silent alarm	Recessed push button, NO and NC contacts momentary <u>Heel switch</u>	Side console <u>On floor in front of Operator's seat</u>	Activates emergency radio alarm at dispatch and permits covert microphone and/or enables destination sign emergency message	<u>Harness and switch provided by the Agency and installed by the Contractor</u>
Video system event switch	on/off momentary switch with plastic guard	Side console	Triggers event equipment, triggers event light on dash	Amber light
Left remote <u>Flat & Convex</u> mirrors	<u>Single control</u> -Four-position toggle type	Side console	<u>Individually</u> Permits two-axis adjustment of <u>both flat and convex</u> left exterior mirrors	
Right remote <u>Flat & Convex</u> mirrors	<u>Single control</u> -Four-position toggle type	Side console	<u>Individually</u> Permits two-axis adjustment of <u>both flat and convex</u> right exterior mirrors	
Mirror heater	<u>Momentary 15 minute</u> Switch/button or temperature	Side console	Permits heating of <u>ALL</u> outside mirrors when required	<u>Lighted button with "Push on" decal near heated mirror decal</u>
Passenger door control	<u>A Vapor control handle with built in kneel and ramp controls with fiberoptic backlighting(or similar)</u> -Five position handle type detent or two momentary push buttons	Side console, forward	Permits open/close control of front and rear passenger doors	Red light
Rear door override	Two position switch in approved location	Side console, forward	Allows driver to override activation of rear door passenger tape switches	
Engine Propulsion system shutdown override	Momentary switch with operation protection	Side console	Permits driver to override auto engine-Propulsion system shutdown	

Hazard flashers	Two-position, <u>long handle steel</u> switch	Side console or dash right wing	Activates emergency flashers. <u>Not audible with parking brake activated. Medium audible clicking when "in gear" and parking brake released.</u>	Two green lights
Fire suppression	Red push button with protective cover <u>Fire suppression manual actuator and fire suppression control module</u>	Dash left wing or dash center <u>Above the driver on the saw tooth panel</u>	Permits driver to override and manually discharge fire suppression system	Red light
Mobile data terminal	Mobile data terminal coach operator interface panel	Above To the right of the right dash wing	Facilitates driver interaction with communication system and master log-on	LCD display with visual status and text messages
Farebox interface	Farebox coach operator interface panel	Near farebox	Facilitates driver interaction with farebox system	LCD display
Destination sign interface	Destination sign interface panel	In approved location	Facilitates driver interaction with destination sign system, manual entry	LCD display
Turn signals	Momentary push button (two required) raised from other switches	Left foot <u>on 30% raised</u> panel	Activates left and right turn signals	Two green lights and optional <u>low</u> audible <u>clicking</u> indicator
PA manual	<u>Vendor provided.</u> Momentary push button	In approved location <u>on floor next to steering column</u>	Permits driver to manually activate public address microphone	
Low-profile microphone <u>Microphone-less</u>	Low-profile discrete mounting <u>Microphone provided as part of the PA amplifier</u>	Steering column <u>In approved location</u>	Permits driver to make announcements with both hands on the wheel and focusing on road conditions	
High beam	Detented push button <u>located above and between the two turn signal switches</u>	In approved location <u>Left foot on 30% raised panel</u>	Permits driver to toggle between low and high beam	Blue light

Parking brake	Pneumatic PPV (<u>must have metal knob</u>)	Side console or dash left wing	Permits driver to apply and release parking brake	Red light
Park brake release <u>Park brake release valve</u>	Pneumatic PPV	Vertical side of the side console or dash center. <u>Horizontal surface of the side console</u>	Permits driver to push and hold to release brakes	
Hill holder	Two position momentary switch	Side console	Applies brakes to prevent bus from rolling <u>All hill holding/anti roll back devices shall be automatic and seamless to the operator.</u>	
Remote engine speed	Rotary rheostat <u>3 position momentary toggle switch (Increase off Decrease)</u>	Electric drive compartment	Permits technician to raise and lower engine RPM from electric drive compartment in 250 rpm increments	
Master door/interlock	Multi-pole toggle, detented	Out of operator's reach <u>in approved location</u>	Permits driver override to disable door and brake/throttle interlock	Red light
Warning interlocks deactivated	Red indicator light	Dash panel center	Illuminates to warn driver that interlocks have been deactivated	Red light
Retarder <u>Regen braking</u> disable	Multi-pole switch detented <u>2 position with red guard</u>	Within reach of operator or approved location	Permits driver override to disable brake retardation/regeneration (<u>only if allowable for electric propulsion system</u>)	Red light
Alarm acknowledge	Push button momentary	Approved location	Permits driver to acknowledge alarm condition	
Rear door passenger sensor disable	Multi-pole toggle, detented	In sign compartment or driver's barrier compartment	Permits driver to override rear door passenger sensing system	
Indicator/ alarm test button	Momentary switch or programming ¹	Dash center panel	Permits driver to activate test of sentry, indicators and audible alarms	All visuals and audibles

Auxiliary power	110 V power receptacle	Approved location	Property to specify what function to supply	
Speedometer	Speedometer, odometer, and diagnostic capability, 5- mile increments	Dash center panel/ MFD	Visual indication of speed and distance traveled, accumulated vehicle mileage, fault condition display	Visual
Air pressure gauge	Primary and secondary, 5 psi increments	Dash center panel	Visual indication of primary and secondary air systems	Red light and buzzer
Fire detection	Coach operator display	Property specific or dash center	Indication of fire detection activation by zone/location	Buzzer and red light
Door obstruction	Sensing of door	Dash center	Indication of rear door sensitive edge activation	Red light and buzzer
Door ajar	Door not properly closed	Property specific or dash center	Indication of rear door not properly closed	Buzzer or alarm and red light
Low system air pressure	Sensing low primary and secondary air tank pressure	Dash center	Indication of low air system pressure	Buzzer and red light
Methane detection function	Detection of system integrity	Property specific or dash center	Detects system failure	No start condition, amber light
Methane detection	Indication of 20% LED emergency light (LEL)	Property specific or dash center	Detects levels of methane	Flashing red at 20% LEL
Methane detection	Indication of 50% LEL	Property specific or dash center	Detects levels of methane	Solid red at 50% LEL
Engine coolant indicator	Low coolant indicator may be supplied as audible alert and visual and/or text	Within driver's sight	Detects low coolant condition	Amber light
Hot engine Drivetrain indicator	Coolant temperature indicator may be supplied as audible alert and visual and/or text message	Within driver's sight	Detects hot engine drivetrain condition and initiates time delay shutdown	Red light
Low engine oil pressure indicator	Engine oil pressure indicator may be supplied as audible alert and visual and/or text message	Within driver's sight	Detects low engine oil pressure condition and initiates time-delayed shutdown	Red light
ABS indicator	Detects system status	Dash center	Displays system failure	Amber light
HVAC indicator	Detects system status	Dash center	Displays system failure	Amber or red light
Charging system indicator (12/24 V)	Detect charging system status	Dash center	Detects no charge condition and optionally detects battery high, low, imbalance, no charge condition, and initiates time-delayed shutdown	Red light flashing or solid based on condition

Bike rack deployed indicator	Detects bike rack position	Dash center	Indication of bike rack not being in fully stowed position	Amber or red light
Fuel tank SOC level	Analog gauge, graduated based on fuel type	Dash center	Indication of <u>SOC</u> fuel tank level/pressure	
DEF gauge	Level Indicator	Center dash	Displays level of DEF tank and indicates with warning light when low	Red light <u>Amber light</u>
Active regeneration	Detects status	Dash center	Indication of electric regeneration	Amber or red light
Turntable	Detects status	Dash center	Warning indication for hinge locking	Audible and amber warning and red light if locked
Turntable	Interlock momentary switch	Side console	Momentarily release interlock brakes due to overangled condition	
<u>Mud and Snow Switch</u>	<u>Push On/Push Off switch</u>	<u>Front dash or side console</u>	<u>Temporary overrides engine idle ATC derate</u>	<u>Blinking ATC Tell-Tale light</u>
<u>Switch</u>	<u>On/Off toggle switch</u>	<u>Side console</u>	<u>Turns off the "Stop Request" chime</u>	
<u>Switch</u>	<u>Volume switch</u>	<u>Side console</u>	<u>Controls the volume of the "Stop Request" chime</u>	
<u>Connect System</u>			<u>Remote diagnostics. Reduces road calls.</u>	
<u>No Adjustable Chime</u>		<u>Mounted behind driver on forward side of the SDS enclosure</u>	<u>Outputs 83DBA when measured at a distance of 18"</u>	

1. Indicate area by drawing. Break up switch control from indicator lights.

TABLE 6 (ALTERNATIVE (APPROVED), Transit Coach)
Transit Bus Instruments and Alarms

Device	Description	Location	Function	Visual/Audible
Control switches for 3 extra Fans (6 in. dia.) (in approved location)	2 or 3 switches, 3 position (Off, High, Low)	In approved location	extra Fans (6 in. dia.) (in approved location) to assist windshield defroster	

<i>Additonal “Stop Requested” Indicator Light</i>	<i>LED indicator</i>	<i>Front Dash--to be HIGHLY visible to the driver</i>	<i>Additional, highly visible “Stop Requested” tell-tale light</i>	<i>Large Amber LED, independently dimmable</i>
<i>Dimmer knob for additional “stop Requested” LED Indicator</i>	<i>Dimmer Knob</i>	<i>Front Dash next to the additional LED Indicator</i>	<i>Controls the brightness of the additional “Stop Requested” tell-tale light during bright sun light or night time.</i>	<i><u>Independent of regular dimmer dash knob</u></i>

TS 46.6 Driver Foot Controls

Accelerator and brake pedals shall be designed for ankle motion. Foot surfaces of the pedals shall be faced with wear-resistant, nonskid, replaceable material.

TS 46.6.1 Pedal Angle

The vertical angle of the accelerator and brake pedals shall be determined from a horizontal plane regardless of the slope of the cab floor. The accelerator and brake pedals shall be positioned at an angle of 37 to 50 deg at the point of initiation of contact and extend downward to an angle of 10 to 18 deg at full throttle.

The location of the brake and accelerator pedals shall be determined by the manufacturer, based on space needs, visibility, lower edge of windshield and vertical H-point.

TS 46.6.2 Pedal Dimensions and Position

The floor-mounted accelerator pedal shall be 10 to 12 in. long and 3 to 4 in. wide. Clearance around the pedal must allow for no interference precluding operation.

The accelerator and brake pedals shall be positioned such that the spacing between them, measured at the heel of the pedals, is between 1 and 2 in. Both pedals should be located approximately on the same plane coincident to the surface of the pedals.

TS 46.7 Brake and Accelerator Pedals

ALTERNATIVE-----APPROVED

Adjustable Brake and Accelerator Pedals *The Agency requests this be a part of the base bus price.*

Both pedals shall be adjustable forward and rearward a minimum of 3 in. The adjustment shall be made by use of a dash-mounted toggle or rocker switch. The switch shall be clearly labeled to identify it as pedal adjustment and shall be within easy reach of the driver. Pedal adjustment shall be enabled only when the bus is stationary and the parking brake engaged.

The Konsberg Pedals have been APPROVED.

TS 46.8 Driver Foot Switches

Floor-Mounted Foot Control Platform

The angle of the turn signal platform shall be determined from a horizontal plane, regardless of the slope of the cab floor. The turn signal platform shall be angled at a minimum of 10 deg and a maximum of 37 deg. It shall be located no closer to the seat front than the heel point of the accelerator pedal.

DEFAULT-----APPROVED

Foot Switch Control

The control switches for the turn signals shall be mounted on an inclined, floor-mounted stainless steel enclosure or metal plate mounted to an incline integrated into the driver’s platform, located to the left of the steering column. The location and design of this enclosure shall be such that foot room for the operator is not impeded. The inclined mounting surface shall be skid-resistant. All other signals, including high beam and public address system, shall be in approved locations.

The foot switches shall be UL-listed, heavy-duty type, of a rugged, corrosion-resistant metal construction. The foot switches for the directionals shall be momentary type, while those for ~~the PA system and~~ the high beam shall be latching type. The spacing of the switches (*minimum 5” between Turn Signal Switches*) shall be such that inadvertent simultaneous deflection of switches is prevented.

ALTERNATIVE-----APPROVED

Other Floor-Mounted Controls

The following may be floor mounted, momentary or latching, **as identified by the Agency:**

- Hazard *mounted on operator’s side panel.*
- Silent Alarm *harness and heel-operated switch shall be provided by the Agency, installed by the Contractor on the floor in front of the operator’s seat.*
- PA System *Clam-Shell Switch shall be a vendor supplied momentary switch, mounted to the floor next*
- *to the rear left-side of the steering column. Exact location TBD.*
- *High Beam Switch to be mounted between and slightly above the two Turn Signal Switches.*

An inclined stainless steel mounting surface, but not skid resistant is Approved.

TS 47. Driver’s Amenities

TS 47.1 Coat Hanger

ALTERNATIVE-----APPROVED

Coat Hook

A hook and loop shall be provided to secure the driver’s coat. **Location TBD**

TS 47.2 Drink Holder

ALTERNATIVE-----APPROVED

Drink Holder

A device shall be provided to securely hold the driver’s drink container, which may vary widely in diameter. It must be mounted within easy reach of the driver and must have sufficient vertical clearance for easy

removal of the container. When the container is in the device, the driver's view of the road must not be obstructed, and leakage from the container must not fall on any switches, gauges or controls. Requires approval by the Agency.

TS 47.3 Storage Box

DEFAULT-----APPROVED

Storage Box

An enclosed driver storage area shall be provided with a positive latching door and/or lock. The minimum size is 2750 in.³

A Storage box above the seated driver: 12"H x 13-19"L x 9W (~1728 in.3) along with a Storage box behind the seated driver: 12"H x 19"L x 7"W (~1596 in.3) is approved with the condition that both storage boxes are installed.

TS 47.4 Garbage Cans and Mount

Provide two (2) plastic, beige colored, 8 quart, garbage cans and one (1) stainless steel garbage can mount. Location TBD.



*A Rubbermaid #2952 plastic garbage can has been **APPROVED**.*

TS 48. Windshield Wipers and Washers

TS 48.1 Windshield Wipers

The bus shall be equipped with a windshield wiper for each half of the windshield. At 60 mph, no more than 10 percent of the wiped area shall be lost due to windshield wiper lift. For two-piece windshields, both wipers shall park along the center edges of the windshield glass. For single-piece windshields, wipers shall park along the bottom edge of the windshield. Windshield wiper motors and mechanisms shall be easily accessible for repairs or service. The fastener that secures the wiper arm to the drive mechanism shall be corrosion-resistant

DEFAULT-----APPROVED

Single-control, electric two-speed intermittent wiper.

ALTERNATIVE-----APPROVED

Intermittent Wiper with Variable Control

A variable-speed feature shall be provided to allow adjustment of wiper speed for each side of the windshield between approximately five (5) and twenty-five (25) cycles per minute.

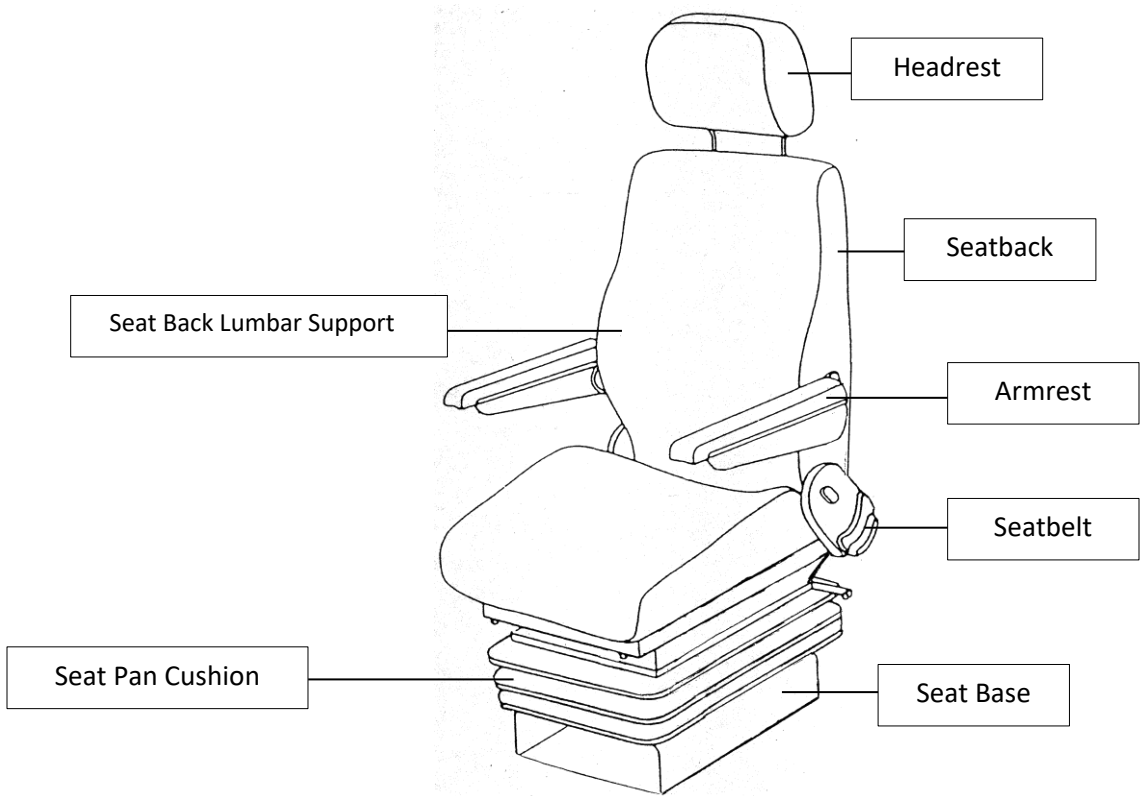
TS 48.2 Windshield Washers

The windshield washer system, when used with the wipers, shall deposit washing fluid evenly and completely wet the entire wiped area.

The windshield washer system shall have a minimum 3-gallon reservoir, located for easy refilling from outside the bus. Reservoir pumps, lines and fittings shall be corrosion-resistant and must include a means to determine fluid level.

TS 49. Driver’s Seat

FIGURE 5
Driver's Seat



TS 49.1 Dimensions

The driver’s seat shall be comfortable and adjustable so that people ranging in size from a 95th-percentile male to a 5th-percentile female may operate the bus.

TS 49.1.1 Seat Pan Cushion Length

Measurement shall be from the front edge of the seat pan to the rear at its intersection with the seat back. The adjustment of the seat pan length shall be no less than 16.5 in.at its minimum length and no more than 20.5 in.at its maximum length.

SP 12.1.1 Seat Pan Cushion Height

DEFAULT-----APPROVED

Dimensions

Measurement shall be from the cab floor to the top of the level seat at its center midpoint. The seat shall adjust in height from a minimum of 14 in., with a minimum 6 in. vertical range of adjustment.

TS 49.1.2 Seat Pan Cushion Slope

Measurement is the slope of the plane created by connecting the two high points of the seat, one at the rear of the seat at its intersection with the seat back and the other at the front of the seat just before it waterfalls downward at the edge. The slope can be measured using an inclinometer and shall be stated in degrees of incline relative to the horizontal plane (0 deg). The seat pan shall adjust in its slope from no less than plus 12 deg (rearward “bucket seat” incline) to no less than minus 5 deg (forward slope).

TS 49.1.3 Seat Base Fore/Aft Adjustment

Measurement is the horizontal distance from the heel point to the front edge of the seat. The minimum and maximum distances shall be measured from the front edge of the seat when it is adjusted to its minimum seat pan depth (approximately 15 in.). On all low-floor buses, the seat base shall travel horizontally a minimum of ~~9~~ 11 in. It shall adjust no closer to the heel point than 6 in. On all high-floor buses, the seat base shall travel a minimum of 9 in. and adjust no closer to the heel point than 6 in.

TS 49.1.4 Seat Pan Cushion Width

Measurement is the horizontal distance across the seat cushion. The seat pan cushion shall be 17 to 21 in. across at the front edge of the seat cushion and 20 to 23 in. across at the side bolsters.

TS 49.1.5 Seat Suspension

The driver’s seat shall be appropriately dampened to support a minimum weight of 380 lbs. The suspension shall be capable of dampening adjustment in both directions.

Rubber bumpers shall be provided to prevent metal-to-metal contact.

TS 49.1.6 Seat Back

Width

Measurement is the distance between the outermost points of the front of the seat back, at or near its midpoint in height. The seat back width shall be no less than 19 in. Seat back will include dual recliner gears

on both sides of the seat.

Height

Standard height seat back.

TS 49.1.7 Headrests

DEFAULT-----APPROVED

Adjustable headrest.

TS 49.1.8 Seat Back Lumbar Support

Measurement is from the bottom of the seat back at its intersection with the seat pan to the top of the lumbar cushioning. The seat back shall provide adjustable-depth lumbar back support with three individual operating lumbar cells within a minimum range of 7 to 11 in.

TS 49.1.9 Seat Back Angle Adjustment

The seat back angle shall be measured relative to a level seat pan, where 90 deg is the upright position and 90 deg-plus represents the amount of recline.

The seat back shall adjust in angle from a minimum of no more than 90 deg (upright) to at least 105 deg (reclined), with infinite adjustment in between.

TS 49.2 Seat Belt

The belt assembly should be an auto-locking retractor (ALR).All seat belts should be stored in automatic retractors. The belts shall be mounted to the seat frame so that the driver may adjust the seat without resetting the seat belt.

The seat and seatbelt assemblies as installed in the bus shall withstand static horizontal forces as required in FMVSS 207 and 210.

DEFAULT-----APPROVED

Lap seat belt only. *Mount the lap seat belt Retractor on the street-side of the operator’s seat.*

DEFAULT-----APPROVED

Seatbelt webbing shall be black in color.

ALTERNATIVE-----APPROVED

All seatbelt assemblies shall come equipped with a warning switch device (*buzzer and light*) to remind operators to buckle up.

Lap Belt Length

ALTERNATIVE-----APPROVED

72 in. with Extension

The lap belt assembly shall be 72 in. in length with an 8 in. extension

TS 49.3 Adjustable Armrest

ALTERNATIVE-----APPROVED

One armrest, right side.

**TS 49.4 Seat Control
Locations**

While seated, the driver shall be able to make seat adjustments by hand without complexity, excessive effort or being pinched. Adjustment mechanisms shall hold the adjustments and shall not be subject to inadvertent changes.

TS 49.5 Seat Structure and Materials

Cushion

Cushions shall be fully padded with at least 3 in. of materials in the seating areas at the bottom and back.

See TS 49.7 Seat Options for Approvals

Cushion Materials

DEFAULT-----APPROVED

Open-cell polyurethane (FMVSS 302). **Polyurethane with Liquicell upgrade is approved.**

TS 49.6 Pedestal

DEFAULT-----APPROVED

Powder-coated steel. ~~Stainless steel~~

TS 49.7 Seat Options

Choose among the following:

- heated seat
- seat alarm
- fabric options-----**APPROVED, Transit grade black vinyl**
- seat air vent
- side bolsters adjustments-----**APPROVED with Transit grade black vinyl Bolsters**
- silicone seat cushion
- **LiquiCell-----APPROVED**
- **Adjustable Thigh Cushion-----APPROVED**

The Ergo Metro AM80 has been **APPROVED**.

TS 49.8 Mirrors

TS 49.8.1 Exterior Mirrors

The bus shall be equipped with corrosion-resistant, outside rearview mirrors mounted with stable supports to minimize vibration. Mirrors shall be firmly attached to the bus to minimize vibration and to prevent loss

of adjustment with a breakaway mounting system. Mirrors shall permit the driver to view the roadway along the sides of the bus, including the rear wheels. Mirrors should be positioned to prevent blind spots.

Mirrors shall retract or fold sufficiently to allow bus washing operations but avoid contact with windshield.

ALTERNATIVE-----APPROVED

Exterior mirrors shall be installed with a breakaway mounting system.

ALTERNATIVE-----APPROVED

Spring-loaded mirror heads auto return. **The Agency request the Auto Return be part of the base bus price.**

Spring back mounted mirrors are APPROVED.

ALTERNATIVE-----APPROVED

Combination of flat and convex mirrors referred to as transit-specific.

Provide a High Mounted exterior **Curb-side**, hanging down, single mirror housing with an upper flat and a lower convex mirror, both heated and remotely adjusted. Use a minimum 10" w x 9" h flat mirror and a minimum 10" w x 5.5" h convex mirror.

Provide a Low Mounted exterior **Street-side**, pointing up, single mirror housing with an upper flat and a lower convex mirror, both heated and remotely adjusted. Use a minimum 10" w x 8" h flat mirror and a minimum 10" w x 4" h convex mirror.

A Hadley mirror housing of 10" x 16" inclosing a flat mirror of 10" w x 9" h and a convex mirror of 10" w x 5.5" h (convex located under the flat mirror) for the **Curb-side** has been **APPROVED**. These large dimensions are critical for removing blind spots and for good rear side vision.

A Hadley mirror housing of 10" x 13" inclosing a flat mirror of 10" w x 8" h and a convex mirror of 10" w x 4" h (convex located under the flat mirror) for the **Street-side** has been **APPROVED**. These large dimensions are critical for removing blind spots and for good rear side vision.

The Hadley 9x13 2/1 Dual Remove and Heated Mirrors are Acceptable but larger mirrors above are preferred. Mirror should include a ball and collet mechanism to allow for tilt up and down adjustment.

TS 49.8.1 Curbside Mirrors

The curbside rearview mirror shall be mounted so that its lower edge is no less than 76 in. above the street surface. A lower mount may be required due to mirror configuration requests.

The curb-side exterior mirror housing which includes the flat and convex mirrors is to be seen within the windshield or window wiper sweep area by a 95th percentile male sitting comfortably in an adjusted operator's seat.

DEFAULT-----APPROVED**Remote Adjustment of Curbside Mirror**

The driver shall be able to adjust the curbside mirror remotely while seated in the driving position. The control for remote positioning of the mirror shall be a single switch or device. Provide a single joy stick switch without a neutral switch position for adjusting both the flat mirror and convex mirror with-in a single housing. Use a molded weatherproof 9 pin connector for connecting the mirror wires to the bus.

ALTERNATIVE-----APPROVED**Heated and Remote Mirrors**

The heaters shall be energized whenever the driver's heater and/or defroster is activated or activated independently. One (1) switch on the driver's side dash shall activate the heat for ALL Street-side and Curb-side mirrors.

Activate both curb-side and street-side flat and convex mirror heaters using one momentary dash switch with a 15 minute shutdown timer.

Street-Side Mirrors**ALTERNATIVE-----APPROVED****Remote Adjustment of ~~Curbside~~ Street-side Mirror**

The driver shall be able to adjust the street-side mirror remotely while seated in the driving position. The control for remote positioning of the mirror shall be a single switch or device.

Provide a single joy stick switch without a neutral switch position for adjusting both the flat mirror and convex mirror with-in a single housing. Use a molded weatherproof 9 pin connector for connecting the mirror wires to the bus.

ALTERNATIVE -----APPROVED**Heated Street-Side Mirrors**

The street-side mirrors shall have heaters that energize whenever the driver's heater and/or defroster is activated, or can be activated independently.

See "Alternative---Heated and Remote Mirrors" above.

Provide a rear back-up camera which automatically turns "on" when the bus is backed up. Provide an automatic full screen visual on the dash Multifunctional Display (Minimum 7" screen). This is a non-recorded visual tool for the operator when backing the bus.

A Safety Vision rear bus camera with a metal guard has been **APPROVED**.

TS 49.8.2 Interior Mirrors

Mirrors shall be provided for the driver to observe passengers throughout the bus without leaving the seat and without shoulder movement. The driver shall be able to observe passengers in the front/entrance and rear/exit areas (if applicable), anywhere in the aisle, behind the street-side front wheel housing and in the rear seats.

Use a minimum 8" x 16" convex rear view mirror mounted below the destination sign to observe the interior of the bus. Provide the ability to adjust this mirror horizontally or vertically.

Provide a 6" flat adjustable mirror attached to the destination sign cabinet, pointed at the seats behind the street-side front wheel housing.

Provide a 6" flat adjustable mirror attached to the destination sign cabinet, pointed at the 12" round mirror located at the rear exit door.

Standard mirror that is 8" x 15" is APPROVED.

Lucerix p/n 271960 which as "ball type" joint for adjustment in all directions is APPROVED.

WINDOWS

TS 50. General

Use with 30ft length: A minimum of 6000 sq in. of window area, including operator and door windows, shall be required on each side of the standard configuration bus.

Use with 35ft length: A minimum of 8000 sq in. of window area, including operator and door windows, shall be required on each side of the standard configuration bus.

Use with 40ft length: A minimum of 10,000 sq in. of window area, including operator and door windows, shall be required on each side of the standard configuration bus.

Use with 45ft length: A minimum of 12,000 sq in. of window area, including operator and door windows, shall be required on each side of the standard configuration bus.

~~Use with 60ft length: A minimum of 16,000 sq in. of window area, including operator and door windows, shall be required on each side of the standard configuration bus.~~

TS 51. Windshield

The windshield shall permit an operator's field of view as referenced in SAE Recommended Practice J1050. The vertically upward view shall be a minimum of 14 deg, measured above the horizontal and excluding any shaded band. The vertically downward view shall permit detection of an object 3½ ft high no more than 2 ft in front of the bus. The horizontal view shall be a minimum of 90 deg above the line of sight. Any binocular obscuration due to a center divider may be ignored when determining the 90 deg requirement, provided that the divider does not exceed a 3 deg angle in the operator's field of view. Windshield pillars shall not exceed 10 deg of binocular obscuration. The windshield shall be designed and installed to minimize external glare as well as reflections from inside the bus.

The windshield shall be easily replaceable by removing zip-locks from the windshield retaining moldings. Bonded-in-place windshields shall not be used. Winglets may be bonded.

TS 51.1 Glazing

The windshield glazing material shall have a ¼ in. nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping AS-1 and the recommended practices defined in SAE J673.

DEFAULT-----APPROVED

Shaded Band The upper portion of the windshield above the driver's field of view shall have a dark, shaded band and marked AS-3, with a minimum luminous transmittance of 5 percent when tested in accordance to ASTM D- 1003

The shaded band shall extend to the winglets on both sides of the bus, including the entrance door top window and the operator's side window. The shaded band for the side window and upper door window may be a decal that is no darker than the windshield shaded band.

DEFAULT-----APPROVED

Two-piece windshield. *Preferred because a rock chip can crack only ½ of the windshield resulting in less windshield replacement expense.*

TS 52. Driver's Side Window

The driver's side window shall be the sliding type, requiring only the rear half of the sash to latch upon closing, and the front half of the sash shall open sufficiently to permit the seated operator to easily adjust the street-side outside rearview mirror. The front half of the sash shall have an inside and outside handle and shall not have a latch to prevent the opening or closing of the window. When in an open position, the window shall not rattle or close during braking. This window section shall slide in tracks or channels designed to last the service life of the bus. The operator's side window shall not be bonded in place and shall be easily replaceable. The glazing material shall have a single-density tint.

The driver's view, perpendicular through operator's side window glazing, should extend a minimum of 33 in. (840 mm) to the rear of the heel point on the accelerator, and in any case must accommodate a 95th percentile male operator. The view through the glazing at the front of the assembly should begin not more than 26 in. (560 mm) above the operator's floor to ensure visibility of an under-mounted convex mirror. Driver's window construction shall maximize ability for full opening of the window.

ALTERNATIVE-----APPROVED

The driver's side window glazing material shall have a ¼ in. nominal thickness tempered safety glass conforming to the requirements of ANSI Z26.1-1996 Test Grouping AS-2 and the recommended practices defined in SAE J673.

The design shall prevent sections from freezing closed in the winter. Light transmittance shall be 75 percent on the glass area below 53 in. from the operator platform floor. On the top-fixed-over-bottom-slider configuration, the top fixed area above 53 in. may have a maximum 5 percent light transmittance.

ALTERNATIVE-----APPROVED**Hidden Frame (Flush “Euro-Look”) Driver’s Side Window**

Agency to choose from the following options:

- full slider
 - egress
 - non-egress-----APPROVED
- top fixed over bottom slider
 - egress
 - non-egress

ALTERNATIVE-----APPROVED**Quick Change Operator’s Side Window**

Glazing in the window assembly shall be replaced without removing the window from its installed position on the bus or manipulation of the rubber molding surrounding the glazing. The glazing shall be held in place mechanically by a formed metal extruded ring constructed to last the life of the vehicle.

TS 53. Side Windows**TS 53.1 Configuration**

Side windows shall not be bonded in place, but shall be easily replaceable without disturbing adjacent windows and shall be mounted so that flexing or vibration from engine drivetrain operation or normal road excitation is not apparent. All aluminum and steel material will be treated to prevent corrosion.

TS 53.2 Emergency Exit (Egress) Configuration**DEFAULT-----APPROVED****Minimum Egress**

All side windows shall be fixed in position, except as necessary to meet the emergency escape requirements.

DEFAULT-----APPROVED**Standard Passenger Side Window Configurations**

Agency to choose from the following options:

- traditional frame
 - full fixed
 - openable windows with inward-opening transom panels
 - openable windows with sliding transom panels

- openable windows with a fixed transom panel and sliding lower panels
- openable windows with full-height sliding panels
- hidden frame (flush “Euro-look”)
- full fixed
- openable windows with inward-opening transom panels
- fixed lower panel with inward-opening upper transom panel -----APPROVED

Quick Change Passenger Side Windows

Glazing in the window assembly shall be replaced without removing the window from its installed position on the bus or manipulation of the rubber molding surrounding the glazing. The glazing shall be held in place mechanically by a formed metal extruded ring constructed to last the life of the vehicle.

ALTERNATIVE-----APPROVED

Hidden Frame (Seamless)

Agency to choose from the following options:

- full fixed
- openable windows with inward-opening transom panels
- fixed windows with inward-opening transom panels

The Agency has approved in the base bus price “Fixed lower panel with inward opening upper transom panels” only. It is the only bullet point with APPROVED listed directly next to it in the section listed above.

TS 53.3 Configuration

DEFAULT-----APPROVED

Fixed Side Windows

All side windows shall be fixed in position, except as necessary to meet the emergency escape requirements.

ALTERNATIVE-----APPROVED

Operable Windows with Inward-Opening Transom Panels (Fixed Bottom, Tip-In Top)

Each operable side window shall incorporate an upper transom portion. The transom shall be between 25 and 35 percent of the total window area. The lower portion of the window shall be fixed. The transom portion shall be hinged along the lower edge and open inward.

Transom panels to be held open or closed with gas springs.

TS 53.4 Materials

DEFAULT-----APPROVED

Safety Glass Glazing Panels

Side windows glazing material shall have a minimum of 3/16 in. nominal thickness tempered safety glass. The material shall conform to the requirements of ANSI Z26.1-1996 Test Grouping 2 and the recommended practices defined in SAE J673.

DEFAULT-----APPROVED

Windows on the bus sides and in the rear door shall be tinted a neutral gray color, complementary to the bus exterior. The maximum solar energy transmittance shall not exceed 37 percent, as measured by ASTM E-424. Luminous transmittance shall be measured by ASTM D-1003. Windows over the destination signs shall not be tinted.

DEFAULT (LIGHT) -----APPROVED

55 percent luminous transmittance.

5mm tempered (per spec) glass which comes in 50% LT is APPROVED.

Flush windows manufactured by Arrow Global are APPROVED

NOTE: All glass treatments must be permanent, within the glass and/or in the center membrane. Surface films are not permitted.

SHGC and light transmission performance shall be defined by the National Fenestration Rating Council.

TS 53.5 Rear Window

DEFAULT-----APPROVED

No requirement for rear window.

TS 54 HEATING, VENTILATING AND AIR CONDITIONING

Capacity and Performance the HVAC climate control system shall be capable of controlling the temperature and maintaining the humidity levels of the interior of the bus as defined in the following paragraphs.

DEFAULT-----APPROVED

HVAC equipped. See below for configuration.

No Requirements for Cooling

All requirements relevant to the HVAC cooling mode contained in this section, as well as throughout this specification, need not apply. All other requirements for heating and ventilation still apply.

DEFAULT-----APPROVED

Allow Either Roof- or Rear-Mounted HVAC Unit

The HVAC unit may either be roof or rear-mounted. Note that a rear-mounted unit will preclude a rear

window and that the term “roof-mounted unit” includes units mounted on top of or beneath the roof surface.
Base bus price to include the recommended configuration for electric propulsion powertrain. R-134a refrigerant is APPROVED.

ALTERNATIVE -----APPROVED

Fully AC high-voltage electric-driven A/C system with full hermetic AC compressor, condenser fan, evaporator blower motors and brushless AC generators.

With the bus running at the design operating profile with corresponding door opening cycle, and carrying a number of passengers equal to 150 percent of the seated load, the HVAC system shall control the average passenger compartment temperature within a range between 65 and 80 °F, while maintaining the relative humidity to a value of 50 percent or less. The system shall maintain these conditions while subjected to any outside ambient temperatures within a range of 10 to 95 °F and at any ambient relative humidity levels between 5 and 50 percent.

When the bus is operated in outside ambient temperatures of 95 to 115 °F, the interior temperature of the bus shall be permitted to rise 0.5 °F for each degree of exterior temperature in excess of 95 °F.

When the bus is operated in outside ambient temperatures in the range of -10 to 10 °F, the interior temperature of the bus shall not fall below 55 °F while the bus is running on the design operating profile.

System capacity testing, including pull-down/warm-up, stabilization and profile, shall be conducted in accordance to APTA’s *Recommended Practice* “Transit Bus HVAC System Instrumentation and Performance Testing.”

NOTE: The recommended locations of temperature probes are only guidelines and may require slight modifications to address actual bus design. Care must be taken to avoid placement of sensing devices in the immediate path of an air duct outlet. In general, the locations are intended to accurately represent the interior passenger area.

Additional testing shall be performed as necessary to ensure compliance to performance requirements stated herein.

ALTERNATIVE-----APPROVED

Hotter Ambient Conditions

The air conditioning portion of the HVAC system shall be capable of reducing the passenger compartment temperature from 110 to 70 °F $\pm$ 3 °F in less than 30 minutes after system engagement for 30, 35 and 40 ft buses. Engine coolant temperature shall be within the normal operating range at the time of start-up of the

cool-down test, and the engine speed shall be limited to fast idle at three-quarters max governed speed that may be activated by a driver-controlled device. During the cool-down period, the refrigerant pressure shall not exceed safe high-side pressures, and the condenser discharge air temperature, measured 6 in. from the surface of the coil, shall be less than 45 °F above the condenser inlet air temperature. No simulated solar load shall be used. There shall be no passengers on board, and the doors and windows shall be closed.

ALTERNATIVE-----APPROVED

Colder Ambient Conditions

The pull-up requirements for the heating system shall be in accordance with Section 11.1 of APTA's *Recommended Practice* "Transit Bus HVAC System Instrumentation and Performance Testing." With ambient temperature at -20 °F, and vehicle cold soaked at that temperature, the bus heating system shall warm the interior passenger compartment to an average temperature of 70 °F ±2 °F within 70 minutes.

ALTERNATIVE-----APPROVED

R134a

The air conditioning system shall meet these performance requirements using R134a. [Note that selection of this refrigerant may impact pull-down performance.]

TS 54.1 Other HVAC Performance Specifications

If applicable, provide an a/c compressor oil sample port (Shrader Valve) on the compressor for taking oil samples.

The compressor shall have suction and discharge convoluted SSTL refrigerant hoses covered with a stainless steel braid and with welded fittings.

Provide a "reheat" option instead of the "cycling clutch" option.

Provide two (2) electronic pressure gauges in the air-return compartment. A Electronic Pressure Display module in place of the Electronic Pressure Gauges is Approved.

Use copper Type "K" hard copper lines with brazed or silver soldered connections.

A Thermo King HVAC system has been **APPROVED**.

TS 55. Controls and Temperature Uniformity

The HVAC system excluding the driver's heater/defroster shall be centrally controlled with an advanced electronic/diagnostic control system with provisions for extracting/reading data. The system shall be compliant with J1939 Communication Protocol for receiving and broadcasting of data.

Hot engine coolant water shall be delivered to the HVAC system driver's defroster/heater and other heater cores by means of an auxiliary coolant pump, sized for the required flow, which is brushless and sealless

having a minimum maintenance-free service life for both the brushless motor and the pump of at least 40,000 hours at full power.

ALTERNATIVE-----APPROVED

Fully Automatic Climate Control System

The climate control system shall be fully automatic and control the interior average temperature to within ± 2 °F of specified temperature control setpoint.

ALTERNATIVE-----APPROVED

Manually Adjustable Temperature Control Set Point

The climate control system shall have the provision to allow the driver to adjust the temperature control setpoint at a minimum of between ~~68~~ 62 and ~~72~~ 78°F. From then on, all interior climate control system requirements shall be attained automatically, unless re-adjusted by the driver.

The driver shall have full control over the defroster and driver's heater. The driver shall be able to adjust the temperature in the driver's area through air distribution and fans. The interior climate control system shall switch automatically to the ventilating mode if the refrigerant compressor or condenser fan fails.

Interior temperature distribution shall be uniform to the extent practicable to prevent hot and/or cold spots. After stabilization with doors closed, the temperatures between any two points in the passenger compartment in the same vertical plane, and 6 to 72 in. above the floor, shall not vary by more than 5 °F with doors closed. The interior temperatures, measured at the same height above the floor, shall not vary more than ± 5 °F from the front to the rear from the average temperature determined in accordance with APTA's "Recommended Instrumentation and Performance Testing for Transit Bus Air Conditioning System." Variations of greater than ± 5 °F will be allowed for limited, localized areas provided that the majority of the measured temperatures fall within the specified requirement.

TS 55.1 Auxiliary Heater

ALTERNATIVE-----APPROVED

Auxiliary Heater

An auxiliary heater fired by diesel fuel shall be provided to supplement the heat supplied by the ~~engine~~ Electric propulsion system, and shall have an output necessary (minimum of 30,0000 btu) to meet the performance criteria. The heater shall be equipped with safety devices to prevent overfueling, overheating due to loss of coolant or water pump failure, and operation during conditions of low battery voltage. ~~The auxiliary heater shall have capability of functioning in the supplemental mode and preheat mode.~~ Provide a toggle switch located to the left of the bus operator, labeled "Auxiliary Heater" and "Enabled/Off". Provide an amber telltale light next to the switch which lights up when the Auxiliary Heater is operating. The supplemental mode shall automatically cycle the auxiliary heater "on" and "off" according to the coolant temperature. No driver input shall be required when the bus is in operating mode. ~~engine is running.~~ The preheat mode shall be enabled through a single-pole double-throw momentary switch located on the street-side rear corner of the bus, under a weatherproof cap. With the master run switch in the "off" position, toggling the switch to its momentary upward ("on") position shall enable the auxiliary heater to operate in preheat. Once in preheat, the unit shall continue to operate and cycle until either the preheat switch is toggled to its momentary downward ("off")

position, or the master run switch is turned “on,” or the time elapsed exceeds 60 minutes, at which time the preheat mode will automatically be disabled. The supplement mode will always override the preheat mode. The auxiliary heater coolant pump shall shut down when the coolant is up to temperature during the supplemental mode. With the bus is in operating mode, engine running, there shall be coolant flow through the heater all the time. The temperature sensor shall constantly measure the coolant temperature and cycle “on” if required, at which time the coolant pump turns on. The Auxiliary Heater shall obtain air for combustion somewhere other than inside the rear propulsion system compartment or from behind the bus tires The proposers shall state where and how the relatively clean combustion air will be obtained and delivered to the Auxiliary Heater.

Provide a variable BTU type auxiliary heater. The Proheat X30 31k BTU heater is APPROVED

The auxiliary heater shall be equipped with a self-priming fuel pump. The unit shall be electronically controlled with appropriate diagnostics for troubleshooting. Operation, as well as diagnostic data, shall be stored and shall be retrievable through an IBM compatible PC. The auxiliary heater maintenance/diagnostic information shall be communicated through the appropriate protocol, SAE J1708 or J1939.

TS 56. Air Flow
TS 56.1 Passenger Area

The cooling mode of the interior climate control system shall introduce air into the bus at or near the ceiling height at a minimum rate of 25 cubic ft per minute (cfm) per passenger based on the standard configuration bus carrying a number of passengers equal to 150 percent of the seated load. Airflow shall be evenly distributed throughout the bus, with air velocity not exceeding 100 ft per minute on any passenger. The ventilating mode shall provide air at a minimum flow rate of 20 cfm per passenger.

Airflow may be reduced to 15 cfm per passenger (150 percent of seated load) when operating in the heating mode. The fans shall not activate until the heating element has warmed sufficiently to ensure at least 70 °F air outlet temperature. The heating air outlet temperature shall not exceed 120 °F under any normal operating conditions.

The climate control blower motors and fan shall be designed such that their operation complies with the interior noise level requirements.

DEFAULT-----APPROVED
No “Fresh Air” Requirements
To be used by agencies that have an operating profile where the door opening cycle results in effectively providing an adequate “fresh air” mixture.

TS 56.2 Driver’s Area

The bus interior climate control system shall deliver at least 100 cfm of air to the driver’s area when operating in the ventilating and cooling modes. Adjustable nozzles shall permit variable distribution or shutdown of the airflow. Airflow in the heating mode shall be reduced proportionally to the reduction of airflow into the passenger area. The windshield defroster unit shall meet the requirements of SAE Recommended Practice J382, “Windshield Defrosting Systems Performance Requirements,” and shall have the capability of diverting heated air to the driver’s feet and legs. The defroster or interior climate control system shall maintain visibility through the driver’s side window.

TS 56.3 Controls for the Operator’s Climate Control System (CCS)

The controls for the driver’s compartment for heating, ventilation and cooling systems shall be integrated and shall meet the following requirements:

- The heat/defrost system fan shall be controlled by a separate switch that has an “off” position and at least two positions for speed control. All switches and controls shall preclude the possibility of clothing becoming entangled, and shields shall be provided, if required. **If the fans are approved by the Agency**, an “on/off” switch shall be located to the right of or near the main defroster switch.
- A manually operated control valve shall control the coolant flow through the heater core.
- If a cable-operated manual control valve is used, then the cable length shall be kept to a minimum to reduce cable seizing. Heater water control valves shall be “positive” type, closed or open. **The method of operating remote valves shall require the concurrence of the Agency project manager.**

TS 56.4 Driver’s Compartment Requirements

A separate heating, ventilation and defroster system for the driver’s area shall be provided and shall be controlled by the driver. The system shall meet the following requirements:

- The heater and defroster system shall provide heating for the driver and heated air to completely defrost and defog the windshield, driver’s side window, and the front door glasses in all operating conditions. Fan(s) shall be able to draw air from the bus body interior and/or exterior through a control device and pass it through the heater core to the defroster system and over the driver’s feet. A minimum capacity of 100 cfm shall be provided. The driver shall have complete control of the heat and fresh airflow for the driver’s area.
- The defroster supply outlets shall be located at the lower edge of the windshield. These outlets shall be durable and shall be free of sharp edges that can catch clothes during normal daily cleaning. The system shall be such that foreign objects such as coins or tickets cannot fall into the defroster air outlets. Adjustable ball vents or louvers shall be provided at the left of the driver’s position to allow direction of air onto the side windows.

A ventilation system shall be provided to ensure driver comfort and shall be capable of providing fresh air in both the foot and head areas. Vents shall be controllable by the driver from the normal driving position. Decals shall be provided, indicating “operating instructions” and “open” and “closed” positions. All decals are to be a permanent part of the dash. When closed, vents shall be sealed to prevent the migration of water or air into the bus.

TS 56.5 Driver’s Cooling

DEFAULT-----APPROVED

No dedicated evaporator.

ALTERNATIVE

Separate Dedicated Evaporator

Using a separate, dedicated evaporator, the climate control system shall be designed to maintain the driver’s compartment temperatures within the range specified for the passenger compartment. The unit shall operate when the climate control switch is in the “Cool” position. It shall have a separate thermostatic control.

ALTERNATIVE

A separate fan unit shall provide 100 cfm of air to the driver’s area through directionally adjustable nozzles and an infinitely variable fan control, both of which shall be located above and ahead of the driver.

ALTERNATIVE-----APPROVED

Driver’s booster blower.

TS 56.6 Three (3) additional Dash Fans

Provide an additional three (3) black fans (6” in diameter) to be mounted under the destination sign compartment. Provide fans with a heavy duty bolt & hinge swivel as opposed to a light duty ball & socket swivel. The purpose for these fans is to assist the defroster when removing fog and condensation from the windshield, window winglets, operator’s side window and front door. The preferred fan mounting locations are the upper left corner of the streetside windshield, the top center between both windshields and the top center of the curbside windshield. Provide 2 or 3 switches on the dash with High/Low/Off for fan control. Location TBD. Approval is provided to work with the Agency to find the best solution based on the front windshield/dash design.

TS 57. Air Filtration

Air shall be filtered before entering the AC system and being discharged into the passenger compartment. The filter shall meet the ANSI/ASHRAE 52.1 requirement for 5 percent or better atmospheric dust spot efficiency, 50 percent weight arrestance, and a minimum dust holding capacity of 120 g per 1000 cfm cell. Air filters shall be easily removable for service.

ALTERNATIVE-----APPROVED

Other Type Filters

Air filters shall be made out of cleanable, electrostatic mesh.

A Polypropylene Electrostatic Mesh cleanable filter has been **APPROVED**.

TS 58. Roof Ventilators

Each ventilator shall be easily opened and closed manually. When open with the bus in motion, this ventilator shall provide fresh air inside the bus. The ventilator shall cover an opening area no less than 425 sq in. and shall be capable of being positioned as a scoop with either the leading or trailing edge open no less than 4 in., or with all four edges raised simultaneously to a height of no less than 3½ in. An escape hatch shall be incorporated into the roof ventilator. Roof ventilator(s) shall be sealed to prevent entry of water when closed.

Clarification – One roof hatch is required.

DEFAULT-----APPROVED

One Roof Ventilator

One ventilator shall be provided in the roof of the bus.
Provide a cable to physically attach the escape hatch lid to the roof of the bus.

ALTERNATIVE-----APPROVED

A tool shall be provided to manually open and close the hatch.

TS 59. Maintainability

Manually controlled shut-off valves in the refrigerant lines shall allow isolation of the compressor and dehydrator filter for service. To the extent practicable, self-sealing couplings utilizing O-ring seals shall be used to break and seal the refrigerant lines during removal of major components, such as the refrigerant compressor. Shut-off valves may be provided in lieu of self-sealing couplings. The condenser shall be located to efficiently transfer heat to the atmosphere and shall not ingest air warmed above the ambient temperature by the bus mechanical equipment, or to discharge air into any other system of the bus. The location of the condenser shall preclude its obstruction by wheel splash, road dirt or debris. HVAC components located within 6 in. of floor level shall be constructed to resist damage and corrosion.

DEFAULT-----APPROVED

High and low refrigerant pressure electronic gauges to be located in the return air area.

NOTE: The Agency may include the following sections if an alternative for colder ambient performance is specified above.

TS 60. Entrance/Exit Area Heating

ALTERNATIVE-----APPROVED

Entrance/Exit Area Heating

Heat (hot air) shall be supplied to the entrance and exit areas to maintain a tread surface temperature no less than 35 °F in an ambient of -10 °F to prevent accumulation of snow, ice or slush with the bus operating under design operating profile and corresponding door opening cycle of the Transit Buses.

TS 61. Floor-Level Heating

TS 61.1 Transit Coach

ALTERNATIVE-----APPROVED for Transit Buses

Floor-Level Heating

Sufficient floor-level heaters shall be provided to evenly supply heated forced air. Control of the floor-level heating shall be through the main heating system electronic control.

TS 61.2 Commuter Coach

EXTERIOR PANELS, FINISHES AND EXTERIOR LIGHTING

TS 62. Design

The bus shall have a clean, smooth, simple design, primarily derived from bus performance requirements and passenger service criteria. The exterior and body features, including grilles and louvers, shall be shaped to facilitate cleaning by automatic bus washers without snagging washer brushes. Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the bus after leaving the washer. The body and windows shall be sealed to prevent leaking of air, dust or water under normal operating conditions and during cleaning in automatic bus washers for the service life of the bus.

Exterior panels shall be sufficiently stiff to minimize vibration, drumming or flexing while the bus is in service. When panels are lapped, the upper and forward panels shall act as a watershed. However, if entry of moisture into the interior of the vehicle is prevented by other means, then rear cap panels may be lapped otherwise. The windows, hatches and doors shall be able to be sealed. Accumulation of spray and splash generated by the bus’s wheels shall be minimized on windows and mirrors.

TS 62.1 Materials

Body materials shall be selected and the body fabricated to reduce maintenance, extend durability and provide consistency of appearance throughout the service life of the bus. Detailing shall be kept simple, and add-on devices and trim shall be minimized and integrated into the basic design.

DEFAULT-----APPROVED

No requirement for protection against graffiti/vandalism for body material surfaces.

TS 62.2 Roof-Mounted Equipment (Transit Coach)

A non-skid, clearly marked walkway or steps shall be incorporated on the roof to provide access to equipment without damaging any system or bus paneling. Provide an emergency fall protection clip-ring associated with each type of roof mounted equipment (a/c components, CNG tanks, etc.).

TS 63. Pedestrian Safety

Exterior protrusions along the side and front of the bus greater than ½ in. and within 80 in. of the ground shall have a radius no less than the amount of the protrusion. The exterior rearview mirrors, cameras and required lights and reflectors are exempt from the protrusion requirement. Advertising frames shall protrude no more than ⅞ in. from the body surface. Grilles, doors, bumpers and other features on the sides and rear of the bus shall be designed to minimize toeholds or handholds.

Exterior protrusions shall not cause a line-of-sight blockage for the driver.

TS 64. Repair and Replacement

TS 64.1 Side Body Panels (Transit Coach)

Structural elements supporting exterior body panels shall allow side body panels below the windows to be repaired in lengths not greater than 12.5 ft.

ALTERNATIVE-----APPROVED

Easily Replaceable Full-Height Side Body Panels

Full-height side body panels between the window and floor shall be easily and quickly replaceable in sections.

~~TS 64.2 Side Body Panels (Commuter Coach)~~

TS 65. Rain Gutters

Rain gutters shall be provided to prevent water flowing from the roof onto the passenger doors and driver’s side window. When the bus is decelerated, the gutters shall not drain onto the windshield, driver’s side window or door boarding area. Cross sections of the gutters shall be adequate for proper operation.

TS 66. License Plate Provisions

Provisions shall be made to mount standard-size U.S./Canada license plates per SAE J686 on the front and rear of the bus. These provisions shall direct-mount or recess the license plates so that they can be cleaned by automatic bus-washing equipment without being caught by the brushes. The rear license plate provision shall be illuminated per SAE J587.

ALTERNATIVE-----APPROVED

Front Plate or Holder is Required

Location to be provided to OEM.

Provide a recessed rear license plate mount with an LED light.

TS 66.1 Rub rails

DEFAULT-----APPROVED

No requirement for rub rails.

The rub rail may be discontinued at doorways, wheel wells and articulated joints if applicable. A damaged portion of the rub rail shall be replaceable without requiring removal or replacement of the entire rub rail.

NOTE: Installation of rub rails may preclude the installation and/or size of exterior advertising signs or racks.

TS 67. Fender Skirts

DEFAULT-----APPROVED

Features to minimize water spray from the bus in wet conditions shall be included in wheel housing design. Any fender skirts shall be easily replaceable. They shall be flexible if they extend beyond the allowable body width. Wheels and tires shall be removable with the fender skirts in place.

TS 68. Wheel Covers (Transit Coach)

DEFAULT-----APPROVED

Wheel covers not required.

TS 68.1 Splash Aprons

DEFAULT-----APPROVED

Standard Splash Aprons

Splash aprons, composed of ¼ in. minimum composition or rubberized fabric, shall be installed behind and/or in front of wheels as needed to reduce road splash and to protect under floor components. The splash aprons shall extend downward to within 6 in. off the road surface at static conditions. Apron widths shall be no less than tire widths. Splash aprons shall be bolted to the bus understructure. Splash aprons and their attachments shall be inherently weaker than the structure to which they are attached. The flexible portions of the splash aprons shall not be included in the road clearance measurements. Splash apron shall be installed as necessary to protect the wheelchair loading device from road splash. Other splash aprons shall be installed where necessary to protect bus equipment.

ALTERNATIVE (TRANSIT COACH)-----APPROVED

Full width rear splash apron.

ALTERNATIVE-----APPROVED

Other Locations Required

Splash apron in front of either or both front wheels to reduce splashing on ramp/lift and left mirror.

TS 69. Exterior Service Compartments and Access Doors

TS 69.1 Access Doors (Transit Coach)

Conventional or pantograph hinged doors shall be used for the electric drive compartment and for all auxiliary equipment compartments, including doors for checking the quantity and adding to the engine coolant, engine lubricants and transmission fluid. Access openings shall be sized for easy performance of tasks within the compartment, including tool operating space. Access doors shall be of rugged construction and shall maintain mechanical integrity and function under normal operations throughout the service life of the bus. They shall close flush with the body surface. All doors shall be hinged at the top or on the forward edge and shall be prevented from coming loose or opening during transit service or in bus washing operations. All access doors shall be retained in the open position by props or counterbalancing with over-center or gas-filled springs with safety props and shall be easily operable by one person. Springs and hinges shall be corrosion resistant. Latch handles shall be flush with, or recessed behind, the body contour and shall be sized to provide an adequate grip for opening. Access doors, when opened, shall not restrict access for servicing other components or systems.

If precluded by design, the manufacturer shall provide door design information specifying how the requirements are met.

Depot Charger connection ports: Bus shall include 2 depot charger connection ports preferably at the front and rear to allow two buses to charge on one depot charger at a time parked front to back. If front and back is not available, provide two ports on either side of the bus.

TS 69.2 Access Doors (Commuter Coach)

TS 69.3 Access Door Latch/Locks

DEFAULT-----APPROVED

Requirement for Latches on Access Doors

Access doors larger than 100 sq in. in area shall be equipped with corrosion-resistant flush-mounted latches or locks except for coolant and fuel fill **plug in charger** access doors. All such access doors that require a tool to open shall be standardized throughout the vehicle and will require a nominal 5/16 in. square male tool to open or lock.

The large rear electric drivetrain access door is not required to have locks. Attach a large grab handle to the access door and use non-locking, over-center gas springs to hold the engine access door open or closed.
A handle on the rear electric drivetrain access door that is recessed at the bottom of the door is APPROVED.

ALTERNATIVE-----APPROVED

Other Locks and Latches

Agency may define any required locks or latches for access doors.
Use barrel locks for A/C access doors and other sensitive areas. Use tumbler lock(s) and barrel locks on the Electronic/Radio Compartment door. Use a push latch for the operator's storage compartment door.

TS 70. Bumpers

TS 70.1 Location

Bumpers shall provide impact protection for the front and rear of the bus with the top of the bumper being 27 in., ±2 in., above the ground. Bumper height shall be such that when one bus is parked behind another, a portion of the bumper faces will contact each other.

TS 70.2 Front Bumper

No part of the bus, including the bumper, shall be damaged as a result of a 5 mph impact of the bus at curb weight with a fixed, flat barrier perpendicular to the bus's longitudinal centerline. The bumper shall return to its pre-impact shape within 10 minutes of the impact. The bumper shall protect the bus from damage as a result of 6.5 mph impacts at any point by the common carriage with contoured impact surface defined in Figure 2 of FMVSS 301 loaded to 4000 lbs parallel to the longitudinal centerline of the bus. It shall protect the bus from damage as a result of 5.5 mph impacts into the corners at a 30 deg angle to the longitudinal centerline of the bus. The energy absorption system of the bumper shall be independent of every power system of the bus and shall not require service or maintenance in normal operation during the service life of

the bus. The bumper may increase the overall bus length specified by no more than 7 in. Do not paint the naturally black bumper.

A front bumper height of 24 inches (610 mm) at the center line of the bus and a height at the outer edges of 27 inches (686 mm) from the street level at ride height is Approved.

ALTERNATIVE-----APPROVED

Mounting provisions for integrated bike rack.

The “through the bumper” Apex3 bike rack front bumper mount from Sportworks has been **APPROVED**.

DEFAULT-----APPROVED

Standard bumper.

TS 70.2.1 Bike Rack

Install a bike rack on the front bumper that will support **3 bicycles**. The bike rack tubing cannot be located exactly in front of headlights or turn signals in a raised or lowered position. Therefore, the high beam light center-to-center, is to be a minimum of 70 inches and low beam center-to-center, is to be a minimum of 81 inches. The bike rack shall be made out of brushed stainless steel. Use no paint.

A Sportworks Apex3 bike rack has been approved.

TS 70.3 Rear Bumper

No part of the bus, including the bumper, shall be damaged as a result of a 2 mph impact with a fixed, flat barrier perpendicular to the longitudinal centerline of the bus. The bumper shall return to its pre-impact shape within 10 minutes of the impact. When using a yard tug with a smooth, flat plate bumper 2 ft wide contacting the horizontal centerline of the rear bumper, the bumper shall provide protection at speeds up to 5 mph, over pavement discontinuities up to 1 in. high, and at accelerations up to 2 mph/sec. The rear bumper shall protect the bus when impacted anywhere along its width by the common carriage with contoured impact surface defined in Figure 2 of FMVSS 301 loaded to 4000 lbs, at 4 mph parallel to or up to a 30 deg angle to the longitudinal centerline of the bus. The rear bumper shall be shaped to preclude unauthorized riders standing on the bumper. The bumper shall not require service or maintenance in normal operation during the service life of the bus. The bumper may increase the overall bus length specified by no more than 70 in. Do not paint the naturally black bumper.

TS 70.4 Bumper Material

Bumper material shall be corrosion-resistant and withstand repeated impacts of the specified loads without sustaining damage. These bumper qualities shall be sustained throughout the service life of the bus.

TS 71. Finish and Color

TS 71.1 Appearance

All exterior surfaces shall be smooth and free of wrinkles and dents. Exterior surfaces to be painted shall be properly prepared as required by the paint system Supplier prior to application of paint to ensure a proper

bond between the basic surface and successive coats of original paint for the service life of the bus. Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting, where possible, to prevent corrosion. The bus shall be painted prior to installation of exterior lights, windows, mirrors and other items that are applied to the exterior of the bus. Body filler materials may be used for surface dressing, but not for repair of damaged or improperly fitted panels.

Paint shall be applied smoothly and evenly with the finished surface free of visible dirt and the following other imperfections:

- blisters or bubbles appearing in the topcoat film
- chips, scratches or gouges of the surface finish
- cracks in the paint film
- craters where paint failed to cover due to surface contamination
- overspray
- peeling
- runs or sags from excessive flow and failure to adhere uniformly to the surface
- chemical stains and water spots
- dry patches due to incorrect mixing of paint activators
- buffing swirls

All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial cleaning agents. Finished surfaces shall resist damage by controlled applications of commonly used graffiti-removing chemicals.

Proper adhesion between the basic surface and successive coats of the original paint shall be measured using an Elcometer adhesion tester as outlined in ASTM D4541-85. Adhesion shall be a minimum 300 ft-lbs. The bus manufacturer shall supply test samples of the exterior surface for each step of the painting process that may be subject to adhesion testing per ASTM G4541-87 and ASTM D4145-85. ASTM D4541-93 may be used for inspection testing during assembly of the vehicle.

DEFAULT-----APPROVED

Standard Contractor exterior paint finish quality.

ALTERNATIVE

High Gloss External Paint Finish Quality

Painted surfaces shall have a minimum 95 gloss and an orange peel rating of 7 or more on the Advanced Coating Technologies, Inc., orange peel standard panels set #APR 14941 or Agency accepted wave scan equipment. Paint shall last a minimum of six years with a minimum gloss of 90 as measured in ASTM E97-92, "Standard Test Method For Directional Reflectance."

DEFAULT

Base coat/clear coat paint system.

ALTERNATIVE-----APPROVED

Standard OEM exterior paint system.

ALTERNATIVE**Maintenance-Free Exterior Finish, Color Impregnated Panels or Unpainted Panels**

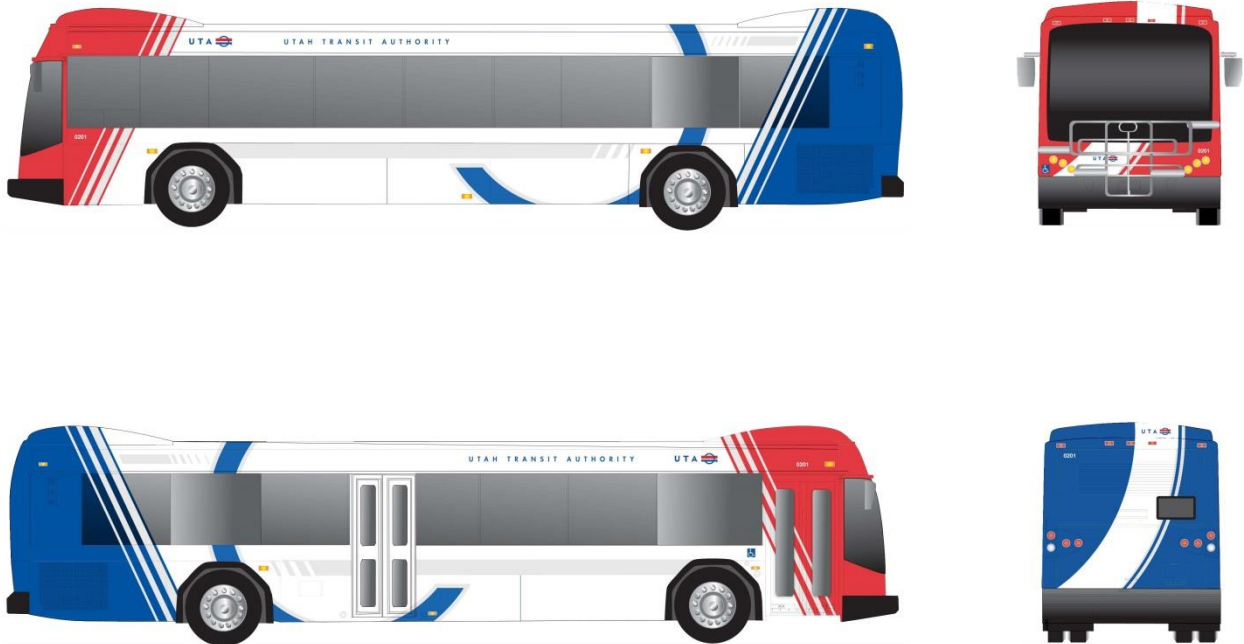
Except for periodic cleaning, exterior surfaces of the bus shall be maintenance free, permanently colored and not require refinish/repaint for the life of the vehicle. In general, the exterior surfaces shall be white. Durable, peel-resistant, pressure-sensitive appliques shall be used for any striping and coloring required.

NOTE: The Agency should insert approved paints, color scheme and graphics.

The following brand of material has been APPROVED for color, color durability, and material durability.

1. UTA's Logos
3M White Scotchlite = #280-10
3M Ruby Red Scotchlite = #280-82
3M Blue Scotchlite = #280-75
2. The Authority's logo shall be located in the front, both sides, and rear of the bus. A copy of UTA's logo will be sent to the successful proposer.
3. Four exterior bus numbers, four-inch high, white or black decals, are to be installed. Exact location TBD.
On the front of the bus
On the rear of the bus
On the street-side of the bus above the driver's window
On the curb-side of bus above the front entrance door
Use 3M White Scotchlite #280-10,
Use 3M Black Scotchlite #285-85,
4. Install one interior bus number – four (4) inches high – white or black, located on the center of the front destination sign door.
5. The style of both the interior and exterior numbers shall be Helvetica Medium.
5. The bus numbers shall be numbered consecutively from #XXXXX through #XXXXX ...TBD

The paint scheme shown below is for illustration only. Details will be provided to the successful vendor.



Dupont Imron 5000 Paint Colors: White Base 735085-EX
Blue 777407-EX
Red 777406-EX
Black N0001-EX
Color for axle hubs: Silver

TS 72. Decals, Numbering and Signing

Monograms, numbers and other special signing shall be applied to the inside and outside of the bus as required. Signs shall be durable and fade-, chip- and peel-resistant. They may be painted signs, decals or pressure-sensitive appliques. All decals shall be installed per the decal Supplier recommendations. Signs shall be provided in compliance with the ADA requirements defined in 49 CFR Part 38, Subpart B, 38.27.

NOTE: The Agency should supply a list of interior and exterior decals including size and location.

Provide signs and decals in English and Spanish for the passengers. Include the following if they apply to this bus purchase. If the Proposer desires to use their decals, they will need to be reviewed and accepted by the Procuring Agency:

Watch your step - Tenga Cuidado al Caminar; Caution, Do Not Cross in Front of the Bus - Advertencia, No se Cruce Delante del Autobús; Remain Behind the Yellow Line until the Bus Stops-Permanezca Detras De La

Linea Amarilla hasta que el Autobús se Detenga; Do Not Talk to the Operator While the Bus is in Motion - No Hable con el Conductor Mientras el Autobus este en Marcha; Emergency Door Release, (1) Lift Cover, Push Button, (2) Pull Handles on Doors to Open - Para Abrir la Puerta de Emergencia, (1) Levante la tapa y Oprima el Botoñ, (2) TIRE de las Manijas que hay en Las Puertas); Emergency Door -Puerta de Emergencia; Mobility Aid Securement Location-Area Designada para las Sillas de Ruedas; Push Button to Signal Driver to Stop- Presione el Botoñ Para Indicarle al Conductor que Pare; Pull Cord to Signal Driver to Stop-Tire de la Cuerda para Indicarle al Conductor que Pare; It is a Violation of Federal Law to Operate Bus with Passengers in Prohibited Areas-Conducir un Autobus con Pasajeros en Areas Prohibidas va Contra las Leyes Federales; Emergency Exit-Salida De Emergencia,;Pull Out and Down on Red Handle and Push Window Out-Primero Saque Y Tire Hacia Bajo la Manija Roja Despues Empuje la Ventana Hacia Fuera; Priority Seating for Passengers with Disabilities-Cédale Estos Puerstos a los Pasajeros con Discapacidades; Fare Payment Required Upon Boarding-Pague el Costo del Recorrido al Subirse al Autobús; Driver Carries No Change- El Conductor NO lleva Cambio; Disorderly Conduct and or Interfering with the Safe Operation of this Bus Violates State Law and UTA Ordinance. Persons Engaging in Such Conduct Will be Subject to Criminal Punishment and Civil Penalites Utah Code 76-10-1401; UTA Ord. CH. 5, Sec. 3 - El Tener Una Conducta Desordenada Y/O Interferir Con La Seguridad En Este Autobús Va En Contra De Leyes Y Decretos Estatales. La Persona Que Tenga Una Conducta Indeseada Estara Sujeta A Los Castigos Y Multas Correspondientes, LEY 76-10-1401; Decreto, C.5, Sec. 3; Push Here to Close-Empuje Aqui para Cerrar; Keep Feet Off Seats-NO ponga los pies en los asientos; CAUTION: Do Not Stand in Designated Area-Atención: No se Pare en las Áreas Marcadas; Do Not Lean Against Door-NO se Recueste a la Puerta.

ISO Symbol: No Smoking/No Eating/No open Radio playing

Signs and decals for operators and maintenance employees only need to be in English.

Provide a decal on the destination sign door and in front of the operator that shows the height of the vehicle.

TS 72.1 Passenger Information

ADA priority seating signs as required and defined by 49 CFR shall be provided to identify the seats designated for passengers with disabilities.

Requirements for a public information system in accordance with 49 CFR shall be provided.

TS 73. Exterior Lighting

All exterior lights shall be designed to prevent entry and accumulation of moisture or dust. Lamps, lenses and fixtures shall be interchangeable to the extent practicable. Two hazard lamps at the rear of the bus shall be visible from behind when the engine ~~engine~~ electric drivetrain service doors are opened. Light lenses shall be designed and located to prevent damage when running the vehicle through an automatic bus washer.

DEFAULT-----APPROVED

Commercially available LED-type lamps shall be utilized at all exterior lamp locations.

DEFAULT-----APPROVED**Standard Lamps**

All LED lamps shall be standard installation of the OEM. The entire assembly shall be specifically coated to protect the light from chemical and abrasion degradation.

ALTERNATIVE-----APPROVED**Potted Lamps**

LED lamps shall be potted type and designed to last the life of the bus.

DEFAULT-----APPROVED**Standard Size**

Size of LED lamps used for tail, brake and turn signal lamps shall be standard installation of OEM.

Each LED light shall consist of at least 10 super size diodes.

ALTERNATIVE-----APPROVED

Front marker (clearance) lights along with lights located on the roof and sides of the bus shall have protective shields or be of the flush mount type to protect the lens against minor impacts.

In an effort to reduce rear end accidents, program the turn signals and 4-way flashers so that the flashing pattern is non-typical. This would include something like a pattern where the light illuminates in two short bursts, followed by a pause, then two short bursts, etc.

Low profile lights without guards are Approved.

Turn signal flasher programming TBD pre-production.

TS 73.1 Backup Light/Alarm

Visible and audible warnings shall inform following vehicles or pedestrians of reverse operation. Visible reverse operation warning shall conform to SAE Standard J593. Audible reverse operation warning shall conform to SAE Recommended Practice J994 Type C or D.

TS 73.2 Doorway Lighting

LED lamps at the front and rear passenger doorways (if applicable) shall comply with ADA requirements and shall activate only when the doors open. These lamps shall illuminate the street surface to a level of no less than 1 foot-candle for a distance of 3 ft outward from the outboard edge of the door threshold. The lights may be positioned above or below the lower daylight opening of the windows and shall be shielded to protect passengers' eyes from glare.

TS 73.3 Turn Signals**DEFAULT-----APPROVED****Standard Turn Signals**

Turn-signal lights shall be provided on the front, rear, curb and street sides of the bus in accordance with federal regulations. *Provide (2) additional amber turn-signal LED lights in the upper rear corners of the*

bus in addition to the lower mounted turn-signal lights required by federal regulations.

Mirror mounted turn signals

Provide mirror housing mounted LED turn signal lamps

Curbside Corner Lamps

(2) additional Grote Silver Housing LED curb lamps (or similar)required, (1) Low mounted on the Curbside, fwd of REAR wheel with light facing aft and (1) mounted about 5” above the first one on the same panel also facing aft to light up rear wheel area... Lights are activated "solid on" in night run with the right turn signal switch ONLY @ or below 25MPH.. Over25MPH, the light will not be active.

Final layout of curbside light to be Approved by the Agency.

Rear Yield

Data LED, amber, triangular yield sign lamp (or similar) shall be provided on the streetside of the rear HVAC door. Programming for operation of this lamp shall be:

Light will flash when bus is operating with air pressure at normal range, Parking Brake released, Transmission in a forward gear, either door is cycled from the open to closed position, and both doors closed, and the left foot signal is depressed with amber indicator at dash panel 1. Once turn signal switch is released or the multiplexing system senses a speed output (approximately 3MPH), the light will continue to flash for an additional 8 seconds then extinguish.

TS 73.4 Headlights

Headlamps shall be designed for ease of replacement.

ALTERNATIVE-----APPROVED

Daytime Running Lights

Headlamps shall incorporate a daytime running light feature.

ALTERNATIVE-----APPROVED

LED

Headlamps shall be LED/~~halogen, sealed beam~~ lights with extra LED lights pointed to the right and left. The extra lights are to be programmable through the bus multiplex system. Program the extra lights to be 100% bright when when turn signal is activated left or right and 30% bright all other times. **The Agency requests this be a part of the base bus price.**

High and Low Beam Dinex Star LED Adaptive Headlights with Turning Alert have been **APPROVED**.

TS 73.5 Brake Lights

TS 73.5.1 Transit Coach

Brake lights shall be provided in accordance with federal regulations.

ALTERNATIVE-----APPROVED**High and Center Mount Red Brake Lamp**

Bus shall include red, 4" LED's in both upper rear corners of the bus or high and center mount brake lamp(s) (two 12 inch horizontal LED bars) along the backside of the bus in addition to the lower brake lamps required under FMVSS. The high 4" LED's or the high and center mount brake lamp(s) shall illuminate steadily with brake application. Agency to specify the size of the high and center mount brake lamp(s).

2 – 1x18" strip LED high center mount brake lights located above the electric drivetrain door are approved in lieu of 2 – 12 inch horizontal LED bars.

~~TS 73.5.2 Commuter Coach~~**TS 73.6 Service Area Lighting (Interior and Exterior)**

LED lamps shall be provided in the ~~engine~~ rear electric drivetrain and all other compartments where service may be required to generally illuminate the area for night emergency repairs or adjustments. These service areas shall include, but not be limited to, the electric drive compartment, the communication box, junction/apparatus panels and passenger door operator compartments. Lighting shall be adequate to light the space of the service areas to levels needed to complete typical emergency repairs and adjustments. The service area lamps shall be suitable for the environment in which they are mounted.

Electric drive compartment lamps shall be controlled by a switch mounted near the rear start controls. All other service area lamps shall be controlled by switches mounted on or convenient to the lamp assemblies. Power to the service area lighting shall be programmable. Power shall latch on with activation of the switch and shall be automatically discontinued (timed out) after 30 minutes to prevent damage caused by inadvertently leaving the service area lighting switch in the "on" position after repairs are made.

INTERIOR PANELS AND FINISHES**TS 74. General Requirements**

Materials shall be selected on the basis of maintenance, durability, appearance, safety, flammability and tactile qualities. Materials shall be strong enough to resist everyday abuse and be vandalism and corrosion resistant. Trim and attachment details shall be kept simple and unobtrusive. Interior trim shall be secured to avoid resonant vibrations under normal operational conditions.

Interior surfaces more than 10 in. below the lower edge of the side windows or windshield shall be shaped so that objects placed on them fall to the floor when the coach is parked on a level surface. Any components and other electrical components within close proximity to these surfaces shall also be resistant to this cleaning method.

ALTERNATIVE-----APPROVED

Requirements for additional anti-graffiti/vandalism treatments for interior surfaces.

The Agency requests anti-graffiti window film.

TS 75. Interior Panels

Panels shall be easily replaceable and tamper resistant. They shall be reinforced, as necessary, to resist vandalism and other rigors of transit bus service. Individual trim panels and parts shall be interchangeable to the extent practicable.

DEFAULT-----APPROVED

Interior panel required to meet FMVSS 302.

ALTERNATIVE-----APPROVED

Composite.

ALTERNATIVE-----APPROVED

Scratch-resistant plastic.

ALTERNATIVE-----APPROVED

Melamine-type material.

TS 75.1 Driver Area Barrier

TS 75.1.1 Transit Coach

A barrier or bulkhead between the driver and the street-side front passenger seat shall be provided. The barrier shall minimize glare and reflections in the windshield directly in front of the barrier from interior lighting during night operation. Location and shape must permit full seat travel **(11 horizontal inches)** and reclining possibilities that can accommodate the shoulders of a 95th-percentile male. The partition shall have a side return and stanchion to prevent passengers from reaching the driver by standing behind the driver's seat. The lower area between the seat and panel must be accessible to the driver. The partition must be strong enough in conjunction with the entire partition assembly for mounting of such equipment as flare kits, fire extinguishers (1.2 kg), microcomputer, public address amplifier, etc. The panel should be properly attached to minimize noise and rattles.

Attach a 4" diameter fire extinguisher to the vertical part of the front dash near the fare box. Attach the emergency reflecting triangles to the top of the curb-side wheel housing near the garbage can mount.

*Fire extinguisher located on the driver's barrier is **APPROVED** with the condition that it does not hinder seat adjustment range of motion. Fire extinguisher mounting bracket/kit is to be included in base bus price*

*The Amerex 5 lbs ABC rated fire extinguisher with hose has been **APPROVED**.
The K-D 610-4645 Safety Triangles have been **APPROVED**.*

*Safety triangle kit from ABC is **APPROVED**.*

DEFAULT (TC) -----APPROVED**Wheel-Well-to-Ceiling Configuration of Driver's Barrier**

The driver's barrier (*black in color*) shall extend from the top of the wheel well to the ceiling the level of the seated driver and shall fit close to the bus side windows and wall to prevent passengers from reaching the driver or the driver's personal effects.

~~TS 75.1.2 Commuter Coach~~**TS 75.2 Modesty Panels**

Sturdy divider panels constructed of durable, unpainted, corrosion-resistant material complementing the interior shall be provided to act as both a physical and visual barrier for seated passengers.

Design and installation of modesty panels located in front of forward-facing seats shall include a handhold or grab handle along its top edge. These dividers shall be mounted on the sidewall and shall project toward the aisle no farther than passenger knee projection in longitudinal seats or the aisle side of the transverse seats. Modesty panels shall extend from at least the window opening of the side windows, and those forward of transverse seats shall extend downward to 1 and 1½ in. above the floor. Panels forward of longitudinal seats shall extend to below the level of the seat cushion. Dividers positioned at the doorways, where applicable, shall provide no less than a 2½ in. clearance between the modesty panel and a fully open, inward opening door, or the path of a deploying flip-out ramp to protect passengers from being pinched. Modesty panels installed at doorways shall be equipped with grab rails if passenger assists are not provided by other means.

The modesty panel and its mounting shall withstand a static force of 250 lbs applied to a 4 × 4 in. area in the center of the panel without permanent visible deformation.

DEFAULT-----APPROVED

Modesty panels shall be installed as stated.

TS 75.3 Front End

The entire front end of the bus shall be sealed to prevent debris accumulation behind the dash and to prevent the driver's feet from kicking or fouling wiring and other equipment. The front end shall be free of protrusions that are hazardous to passengers standing at the front of the standee line area of the bus during rapid decelerations. Paneling across the front of the bus and any trim around the driver's compartment shall be formed metal or composite material. Composite dash panels shall be reinforced as necessary, vandal-resistant and replaceable. All colored, painted and plated parts forward of the driver's barrier shall be finished with a surface that reduces glare. Any mounted equipment must have provision to support the weight of Equipment. *Color TBD.*

Everything forward of the driver's barrier being black is Approved.

TS 75.4 Rear Bulkhead

The rear bulkhead and rear interior surfaces shall be material suitable for exterior skin; painted and finished to exterior quality; or paneled with melamine-type material, composite, scratch-resistant plastic or carpeting and trimmed with stainless steel, aluminum or composite. *Color TBD.*

The rear bulkhead paneling shall be contoured to fit the ceiling, side walls and seat backs so that any litter or trash will tend to fall to the floor or seating surface when the bus is on a level surface. Any air vents in this area shall be louvered to reduce airflow noise and to reduce the probability of trash or liter being thrown or drawn through the grille. If it is necessary to remove the panel to service components located on the rear bulkhead, then the panel shall be hinged or shall be able to be easily removed and replaced. Grilles where access to or adjustment of equipment is required shall be heavy duty and designed to minimize damage and use barrel locks to limit unauthorized access.

TS 75.5 Headlining

Ceiling panels shall be made of durable, corrosion resistant, easily cleanable material. Headlining shall be supported to prevent buckling, drumming or flexing and shall be secured without loose edges. Headlining materials shall be treated or insulated to prevent marks due to condensation where panels are in contact with metal members. Moldings and trim strips, as required to make the edges tamperproof, shall be stainless steel, aluminum or plastic, colored to complement the ceiling material. Headlining panels covering operational equipment that is mounted above the ceiling shall be on hinges for ease of service but retained with barrel locks to prevent inadvertent opening. Color TBD.

TS 75.6 Fastening

Interior panels shall be attached so that there are no exposed unfinished or rough edges or rough surfaces. Fasteners should be corrosion resistant. Panels and fasteners shall not be easily removable by passengers. Exposed interior fasteners should be minimized, and where required shall be tamper resistant.

TS 75.7 Insulation

Any insulation material used between the inner and outer panels shall minimize the entry and/or retention of moisture. Insulation properties shall be unimpaired during the service life of the bus. Any insulation material used inside the electric drive compartment shall not absorb or retain oils or water and shall be designed to prevent casual damage that may occur during maintenance operations.

The combination of inner and outer panels on the sides, roof, wheel wells and ends of the bus, and any material used between these panels, shall provide a thermal insulation sufficient to meet the interior temperature requirements. The bus body shall be thoroughly sealed so that the driver or passengers cannot feel drafts during normal operations with the passenger doors closed.

ALTERNATIVE-----APPROVED

FMVSS 302

Insulation shall meet the requirements of FMVSS 302.

TS 75.8 Floor Covering

The floor covering shall have a non-skid walking surface that remains effective in all weather conditions. The floor covering, as well as transitions of flooring material to the main floor and to the entrance and exit area, shall be smooth and present no tripping hazards. Seams shall be sealed/welded per manufacturer's specifications. The standee line shall be approximately 2 in. wide (deep yellow) and shall extend across the bus aisle. The color and pattern shall be consistent throughout the floor covering.

Any areas on the floor that are not intended for standees, such as areas "swept" during passenger door operation, shall be clearly and permanently marked.

The floor shall be easily cleaned and shall be arranged to minimize debris accumulation.

A one-piece center strip shall extend from the vertical wall of the rear settee between the aisle sides of transverse seats to the standee line. If the floor is of a bi-level construction, then the center strip shall be one piece at each level. The covering between the center strip and the wheel housings may be separate pieces. At the rear door, however, a separate strip as wide as the door shall extend from the center strip to the outboard edge of the rear/exit area.

The floor under the seats shall be covered with smooth surface flooring material. The floor covering shall closely fit the sidewall in a fully sealed butt joint or extend to the top of the cove.

Provide single color floor covering.

A floor covering has been **APPROVED** using ALTRO, Meta TFM27421 Midnight 2.7mm.

TS 75.9 Interior Lighting

The light source shall be located to minimize windshield glare, with distribution of the light focused primarily on the passengers' reading plane while casting sufficient light onto the advertising display. The lighting system may be designed to form part of or the entire air distribution duct.

The lens material shall be translucent polycarbonate. Lenses shall be designed to effectively "mask" the light source. Lenses shall be sealed to inhibit incursion of dust and insects yet be easily removable for service. Access panels shall be provided to allow servicing of components located behind light panels. If necessary, the entire light fixture shall be hinged.

TS 75.10 Passenger

DEFAULT-----APPROVED

First Row Lights

The first light on each side (behind the driver and the front door) is normally turned on only when the front door is opened, in "night run" and "night park." As soon as the door closes, these lights shall go out. These lights shall be turned on at any time if the switch is in the "on" "All" position.

TS 75.10.1 Modified Passenger Dome Light Requirements

See TS 46.5, Table #6, Interior Dome Lights---3 position switch

To help eliminate windshield reflection on suburban roads where street lighting is at a low level, provide the following "3 position" switch:

Switched to "All" (On)

All dome lights shall have the ability to be turned "on" at any time (even when bus is not in an operational mode) when the dash toggle switch is moved from the "Off" position to the "All" position. The interior lights are to be programmed by the bus multiplex system to turn "off" after 20 min. when the bus rotary Master Switch is turned "off".

Switched to "Off"

All passenger dome lights turn “off.”

Switch to “Normal”

When the front and exit doors are closed, only the street-side dome lights are still “on”.

When the front or exit doors are open, the first row of dome lights (above the driver and the front door) and the curb-side passenger dome lights are turned “on” when in “night run” and “night park”. As soon as the front and rear doors are closed, these lights shall go out.

TS 75.10.2 Dimmer Switch for all Dome Lights

See TS 46.5, Table #6, Dimmer Switch for all Dome Lights.

To help eliminate windshield reflection on suburban roads where street lighting is at a low level, provide a toggle switch or dimmer knob on the dash that can be used to dim the interior dome lights if the operator so desires. This switch or knob shall reduce the lights to 60% brightness. When the front or rear doors open, the dome lights return to full brightness for boarding passengers. When the front and rear doors are both closed, the dome lights return to their previous brightness setting.

Dimming Second Row Lights

~~To help eliminate windshield reflection on suburban roads where street lighting is at a low level, the second light on each side, when “night run” or “night park” is selected, shall be controlled by the switch; off in “off” and on in “normal.” These lights shall be turned on at any time if the switch is in the “on” position.~~

All interior lighting shall be turned off whenever the transmission selector is in reverse and the engine run switch is in the “on” position.

The design of the interior lighting shall require the approval of the Agency.

DEFAULT-----APPROVED

LED lights.

DEFAULT-----APPROVED

First Light Modules Dim/Extinguish When Front Door is Closed

When the master switch is in the “run” or “night/run” mode, the first light module on each side of the coach shall automatically extinguish or dim when the front door is in the closed position and illuminate when the door is opened.

TS 75.11 Driver’s Area

The driver’s area shall have a light to provide general illumination, and it shall illuminate the half of the steering wheel nearest the driver to a level of 5 to 10 foot-candles. Provide and “on/off” switch within reach of the operator while sitting in the operator’s seat.

TS 75.12 Seating Areas (Transit Coach)

The interior lighting system shall provide a minimum 15 foot-candle illumination on a 1 sq ft plane at an angle of 45 degrees from horizontal, centered 33 in. above the floor and 24 in. in front of the seat back at each seat position. Allowable average light level for the rear bench seats shall be 7 foot-candles only when the switch is turned to “ALL” interior lights and/or when the front and exit doors are open in the “Rear” position.

LED light fixtures and lenses shall be a maximum 6-foot length.
Provid sufficient low watt LED’s that effectively make the dome light look as if a bright white fluorescent bulb is behind the lens. This means the individual LED’s and their various color tones cannot be seen through the lens.

A Pretoria LED dome light system has been **APPROVED**.

~~**TS 75.13 Seating Areas (Commuter Coach)**~~

TS 75.14 Vestibules/Doors (Transit Coach)

Floor surface in the aisles shall be a minimum of 10 foot-candles, and the vestibule area a minimum of 4 foot- candles with the front doors open and a minimum of 2 foot-candles with the front doors closed. The front entrance area and curb lights shall illuminate when the front door is open and master run switch is in the “lights” positions. Rear exit area and curb lights shall illuminate when the rear door is unlocked/opened.

TS 75.15 Vestibules/Doors (Commuter Coach)

TS 75.16 Step Lighting

Step lighting for the intermediate steps between lower and upper floor levels shall be a minimum of 4 foot- candles and shall illuminate in all engine ~~engine~~ master run positions. The step lighting shall be low profile to minimize tripping and snagging hazards for passengers and shall be shielded as necessary to protect passengers’ eyes from glare.

TS 75.17 Ramp Lighting (Transit Coach)

Exterior and interior ramp lighting shall comply with federal regulations.

~~**TS 75.18 Turntable Lighting (Articulated Coach)**~~

TS 75.19 Farebox Lighting

TS 75.19.1 Transit Coach

DEFAULT (TC) -----APPROVED

Farebox Light (LED)

A light fixture shall be mounted in the ceiling above the farebox location. The fixture shall be capable of projecting a concentrated beam of light on the farebox. This light will automatically come on whenever the front doors are opened and the run switch is in the “night run” or “night park” position.

~~TS 75.19.2 Commuter Coach~~**TS 76. Fare Collection**

Space and structural provisions shall be made for installation of currently available fare collection devices, which shall be as far forward as practicable. Location of the fare collection device shall not restrict traffic in the vestibule, including wheelchairs if a front door loading device is used, and shall allow the driver to easily reach the farebox controls and to view the fare register. The farebox shall not restrict access to the driver area, shall not restrict operation of driver controls and shall not—either by itself or in combination with stanchions, transfer mounting, cutting and punching equipment, or route destination signs—restrict the driver's field of view per SAE Recommended Practice J1050. The location and mounting of the fare collection device shall allow use, without restriction, by passengers. The farebox location shall permit accessibility to the vault for easy manual removal or attachment of suction devices. Meters and counters on the farebox shall be readable on a daily basis. The floor under the farebox shall be reinforced as necessary to provide a sturdy mounting platform and to prevent shaking of the farebox. Provide a pedestal, approximately 13" x 13" with a side access door for hooking up wires to the fare box (12" x 12"). The Agency will install a 41" high, GFI Transview 100 on the pedestal. Provide a ground wire and 12 volt power through the Ignition.

Contractor shall provide fare collection installation layout to the Agency for approval.

TS 76.1 Electronic Fare Collection

The bus manufacturer shall install an Agency's supplied harness for the Electronic Fare Collection (EFC) from the front dash next to the Entrance Door to the Electronics/Radio Compartment which also includes a harness from the rear modesty panel next to the Exit Door to the Electronics/Radio Compartment. The bus manufacture will also install Agency supplied EFC mounting brackets, TBD. The Agency will install Electronic Fare Collection units to the harnesses and mounting brackets.

Transfer mounting, cutting and punching equipment shall be located in a position convenient to the driver.

TS 76.2 Transfer Cutter and Mount

Ship the Transfer Cutter and Mount loose. The Agency will install the Transfer Cutter and Mount.



*A Globe 600090 Transfer Cutter with 2 notchers has been **Approved**.*

DEFAULT-----APPROVED

Agency will install its own farebox.

The Agency requests a Priced alternate for vendor to install a 41" high, GFI Transview 100 farebox

TS 77. Interior Access Panels and Doors (Transit Coach)

Access for maintenance and replacement of equipment shall be provided by panels and doors that appear to be an integral part of the interior. Access doors shall be hinged with gas props or over-center springs, where practical, to hold the doors out of the mechanic's way. Panels shall prevent entry of mechanism lubricant into the bus interior. All fasteners that retain access panels shall be captive in the cover.

ALTERNATIVE-----APPROVED

Access Doors with Locks

Access doors shall be secured with locks. ~~The locks shall be standardized so that only one tool is required to open access doors on the bus.~~

*Access doors shall be secured with 2 locks. The square 5/16 key and the barrel key are **APPROVED**.]*

*SDS box with a key local and two square key locks is **APPROVED**.*

*Rear bulkhead small access panels secured with captive screws is **APPROVED** upon condition that captive*

screws are a tamper resistant type.

The Electronic/Radio Compartment will have a **standard key lock** (TBD) along with 2 barrel locks.

TS 77.1 Floor Panels

Access openings in the floor shall be sealed to prevent entry of fumes and water into the bus interior. Flooring material at or around access openings shall be flush with the floor and shall be edge-bound with stainless steel or another material that is acceptable to the Agency to prevent the edges from coming loose. Access openings shall be asymmetrical so that reinstalled flooring shall be properly aligned. Fasteners shall tighten flush with the floor.

A driveshaft access panel that is manufactured completely out of polyurethane is APPROVED

The number of special fastener tools required for panel and access door fasteners shall be minimized.

PASSENGER ACCOMMODATIONS

TS 78. Passenger Seating

TS 78.1 Arrangements and Seat Style (Transit Coach)

The passenger seating arrangement in the bus shall be such that seating capacity is maximized and in compliance to the following requirements.

NOTE: The Agency recognizes that ramp location, foot room, hip-to-knee room, doorway type, width, seat construction, floor level type, seat spacing requirements, ramp or lift, number of wheelchair positions, etc. ultimately affect seating capacity and layout.

DEFAULT-----APPROVED

Forward-Facing Seat Configuration

Passenger seats shall be arranged in a transverse, forward-facing configuration, except at the wheel housings and turntable, if applicable, where aisle-facing seats may be arranged as appropriate with due regard for passenger access and comfort. Other areas where aisle-facing seats may be provided are at wheelchair securement areas and platforms (such as for fuel tank battery storage space).

TS 78.2 Rearward Facing Seats (Transit Coach)

DEFAULT-----APPROVED

Rearward facing seats not allowed.

~~TS 78.3 Turntable Seating (Articulated Coach)~~

TS 78.4 Padded Inserts/Cushioned Seats (Transit Coach)

ALTERNATIVE-----APPROVED**Padded Inserts**

The passenger seats shall be equipped with vandal-resistant padded inserts throughout the bus (measure to uncompressed surface).

*The American Seating "InSight" with 980 Gray color, cantilevered without shroud has been **APPROVED** for Configuration #1 and Configuration #3. These seats shall be blue padded vinyl. Final color TBD pre-production.*

*The American seating model 2096 with 3 point seatbelts is **APPROVED** for suburban bus configuration. Seats shall have a vinyl upholstery. Final color TBD pre-production.*

TS 78.5 Drain Hole in Seats**DEFAULT-----APPROVED**

No requirements for drain hole provision in seat inserts.

ALTERNATIVE**Requirement for Drain Hole Provision in Seat Inserts**

Provision, such as a small grommited hole, to allow drainage shall be incorporated into seat insert. (Drain through hole, ¼ in. through hole, bottom seat only, one per seat.)

TS 78.6 Arrangements and Seat Style (Commuter Coach)**TS 78.7 Hip-to-Knee Room**

Hip-to-knee room measured from the center of the seating position, from the front of one seat back horizontally across the highest part of the seat to a vertical surface immediately in front, shall be a minimum of 26 in. At all seating positions in paired transverse seats immediately behind other seating positions, hip-to-knee room shall be no less than 27 in.

TS 78.8 Foot Room

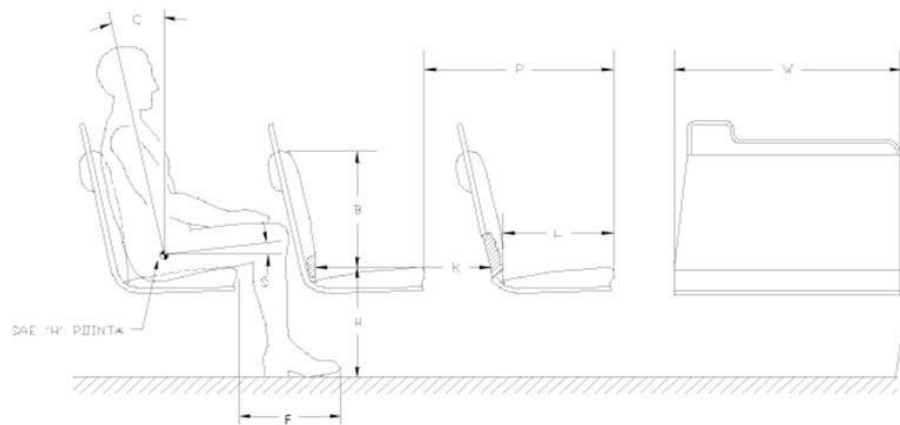
Foot room, measured at the floor forward from a point vertically below the front of the seat cushion, shall be no less than 14 in. Seats immediately behind the wheel housings and modesty panels may have foot room reduced.

TS 78.9 Aisles (Transit Coach)

The aisle between the seats shall be no less than 20 in. wide at seated passenger hip height. Seat backs shall be shaped to increase this dimension to no less than 24 in. at 32 in. above the floor (standing passenger hip height).

TS 78.10 Aisles (Commuter Coach)**TS 78.11 Dimensions (Transit Coach)**

FIGURE 6
Seating Dimensions and Standard Configuration

**DEFAULT-----APPROVED**

Seat dimensions for the various seating arrangements shall have the dimensions as follows (refer to **Figure 6**):

- The width, W, of the two-passenger transverse seat shall be a minimum ~~35~~ **36** in.
- The length, L, shall be 17 in., ± 1 in.
- The seat back height, B, shall be a minimum of 15 in.
- The seat height, H, shall be 17 in., ± 1 in. For the rear lounge (or settee) and longitudinal seats, and seats located above raised areas for storage of under-floor components, a cushion height of up to 18 in., ± 2 in., will be allowed. **This shall also be allowed for limited transverse seats, but only with the expressed approval of the Agency.**
- Foot room = F.
- The seat cushion slope, S, shall be between 5 and 11 deg.
- The seat back slope, C, shall be between 8 and 17 deg.
- Hip to knee room = K.
- The pitch, P, is shown as reference only.

TS 78.12 Structure and Design (Transit Coach)

The passenger seat frame and its supporting structure shall be constructed and mounted so that space under the seat is maximized and is completely free of obstructions to facilitate cleaning.

Seats, structures and restraints around the securement area should not infringe into the mobility device envelope or maneuverability.

The transverse seat structure shall be fully cantilevered from the sidewall with sufficient strength for the intended service. The lowest part of the seat assembly that is within 12 in. of the aisle shall be at least 10 in. above the floor.

In locations at which cantilevered installation is precluded by design and/or structure, other seat mounting may be allowed (pedestal allowed).

All transverse objects—including seat backs, modesty panels, and longitudinal seats—in front of forward-facing seats shall not impart a compressive load in excess of 1000 lbs onto the femur of passengers ranging in size from a 5th-percentile female to a 95th-percentile male during a 10g deceleration of the bus. This deceleration shall peak at 0.05 to 0.015 seconds from initiation. Permanent deformation of the seat resulting from two 95th-percentile males striking the seat back during this 10g deceleration shall not exceed 2 in., measured at the aisle side of the seat frame at height H. The seat back should not deflect more than 14 in., measured at the top of the seat back, in a controlled manner to minimize passenger injury. Structural failure of any part of the seat or sidewall shall not introduce a laceration hazard.

The seat assembly shall withstand static vertical forces of 500 lbs applied to the top of the seat cushion in each seating position with less than ¼ in. permanent deformation in the seat or its mountings. The seat assembly shall withstand static horizontal forces of 500 lbs evenly distributed along the top of the seat back with less than ¼ in. permanent deformation in the seat or its mountings. The seat backs at the aisle position and at the window position shall withstand repeated impacts of two 40-lb sandbags without visible deterioration. One sandbag shall strike the front 40,000 times and the other sandbag shall strike the rear 40,000 times. Each sandbag shall be suspended on a 36 in. pendulum and shall strike the seat back 10,000 times each from distances of 6, 8, 10 and 12 in. Seats at both seating positions shall withstand 4000 vertical drops of a 40-lb sandbag without visible deterioration. The sandbag shall be dropped 1000 times each from heights of 6, 8, 10 and 12 in. Seat cushions shall withstand 100,000 randomly positioned 3½ in. drops of a squirming, 150-lb, smooth-surfaced, buttocks-shaped striker with only minimal wear on the seat covering and no failures to seat structure or cushion suspension components.

The back of each transverse seat shall incorporate a handhold no less than 7⁄8 in. in diameter for standees and seat access/egress. Provide an Energy Absorbing handhold on the back of transverse seats. The handhold shall not be a safety hazard during severe decelerations. The handhold shall extend above the seat back near the aisle so that standees shall have a convenient vertical assist, no less than 4 in. long that may be grasped with the full hand. This handhold shall not cause a standee using this assist to interfere with a seated 50th-percentile male passenger. The handhold shall also be usable by a 5th-percentile female, as well as by larger passengers, to assist with seat access/egress for either transverse seating position. The upper rear portion of the seat back and the seat back handhold immediately forward of transverse seats shall be padded and/or constructed of energy-absorbing materials. During a 10g deceleration of the bus, the HIC number (as defined by SAE Standard J211a) shall not exceed 400 for passengers ranging in size from a 5th percentile female through a 95th percentile male.

The seat back handhold may be deleted from seats that do not have another transverse seat directly behind and where a vertical assist is provided.

Longitudinal seats shall be the same general design as transverse seats but without seat back handholds. Longitudinal seats may be mounted on the wheelhouses. Armrests shall be included on the ends of each set of longitudinal seats except on the forward end of a seat set that is immediately to the rear of a transverse seat, the driver's barrier, or a modesty panel, when these fixtures perform the function of restraining passengers from sliding forward off the seat. Armrests are not required on longitudinal seats located in the wheelchair parking area that fold up when the armrest on the adjacent fixed longitudinal seat is within 3½ in. of the end of the seat cushion. Armrests shall be located from 7 to 9 in. above the seat cushion surface. The area between the armrest and the seat cushion shall be closed by a barrier or panel. The top and sides of the armrests shall have a minimum width of 1 in. and shall be free from sharp protrusions that form a safety hazard.

Seat back handhold and armrests shall withstand static horizontal and vertical forces of 250 lbs applied anywhere along their length with less than ¼ in. permanent deformation. Seat back handhold and armrests shall withstand 25,000 impacts in each direction of a horizontal force of 125 lbs with less than ¼ in. permanent deformation and without visible deterioration.

~~TS 78.13 Structure and Design (Commuter Coach)~~

TS 78.14 Construction and Materials (Transit Coach)

Selected materials shall minimize damage from vandalism and shall reduce cleaning time. The seats shall be attached to the frame with tamper-resistant fasteners. Coloring shall be consistent throughout the seat material, with no visually exposed portion painted. Any exposed metal touching the sides or the floor of the bus shall be stainless steel. The seat, pads and cushions shall be contoured for individuality, lateral support and maximum comfort and shall fit the framework to reduce exposed edges.

The minimum radius of any part of the seat back, handhold or modesty panel in the head or chest impact zone shall be a nominal ¼ in. The seat back and seat back handhold immediately forward of transverse seats shall be constructed of energy-absorbing materials to provide passenger protection and, in a severe crash, to allow the passenger to deform the seating materials in the impact areas. Complete seat assemblies shall be interchangeable to the extent practicable.

A Rear Settee Hinge is required on the 3 center seats (1-3-1) with gas spring props.

~~TS 78.15 Construction and Materials (Commuter Coach)~~

TS 79. Passenger Assists (Transit Coach)

Passenger assists in the form of full grip, vertical stanchions or handholds shall be provided for the safety of standees and for ingress/egress. Passenger assists shall be convenient in location, shape and size for both the 95th-percentile male and the 5th-percentile female standee. Starting from the entrance door and moving anywhere in the bus and out the exit door, a vertical assist shall be provided either as the vertical portion of the seat back assist or as a separate item so that a 5th-percentile female passenger may easily move from one assist to another using one hand and the other without losing support. All handholds and stanchions at the front doorway, around the farebox, and at interior steps for bi-level designs shall be powder-coated in a high-contrast yellow color.

ALTERNATIVE-----APPROVED

The forward-most vertical stanchions on either side of the aisle immediately behind the driver's area shall be powder-coated yellow.

TS 79.1 Assists (Transit Coach)

Excluding those mounted on the seats and doors, the assists shall have a cross-sectional diameter between 1¼ and 1½ in. or shall provide an equivalent gripping surface with no corner radii less than ¼ in. All passenger assists shall permit a full hand grip with no less than 1½ in. of knuckle clearance around the assist. Passenger assists shall be designed to minimize catching or snagging of clothes or personal items and shall be capable of passing the NHTSA Drawstring Test.

Any joints in the assist structure shall be underneath supporting brackets and securely clamped to prevent passengers from moving or twisting the assists. Seat handholds may be of the same construction and finish as the seat frame. Door-mounted passenger assists shall be of anodized aluminum, stainless steel or powder-coated metal. Connecting tees and angles may be powder-coated metal castings. Assists shall withstand a force of 300 lbs applied over a 12 in. lineal dimension in any direction normal to the assist without permanent visible deformation. All passenger assist components, including brackets, clamps, screw heads and other fasteners used on the passenger assists shall be designed to eliminate pinching, snagging and cutting hazards and shall be free from burrs or rough edges.

DEFAULT-----APPROVED**Two Forward-Facing Wheelchair Securement Locations****TS 79.2 Front Doorway**

Front doors, or the entry area, shall be fitted with ADA-compliant assists. Assists shall be as far outward as practicable, but shall be located no farther inboard than 6 in. from the outside edge of the entrance step and shall be easily grasped by a 5th-percentile female boarding from street level. Door assists shall be functionally continuous with the horizontal front passenger assist and the vertical assist and the assists on the wheel housing or on the front modesty panel. Provide yellow powder coated grab rail passenger assists and stanchions.

TS 79.3 Vestibule (Transit Coach)

The aisle side of the driver's barrier, the wheel housings and when applicable the modesty panels shall be fitted with vertical passenger assists that are functionally continuous with the overhead assist and that extend to within 36 in. of the floor. These assists shall have sufficient clearance from the barrier to prevent inadvertent wedging of a passenger's arms.

A horizontal passenger assist shall be located across the front of the bus and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration. Without restricting the vestibule space, the assist shall provide support for a boarding passenger from the front door through the fare collection procedure. The assist shall be no less than 36 in. above the floor. The assists at

the front of the bus shall be arranged to permit a 5th-percentile female passenger to easily reach from the door assist, to the front assist, to vertical assists on the driver’s barrier, wheel housings or front modesty panel. Provide yellow powder coated grab rail passenger assists and stanchions.

TS 79.4 Rear Doorway(s) (Transit Coach)

Vertical assists that are functionally continuous with the overhead assist shall be provided at the aisle side of the transverse seat immediately forward of the rear door and on the aisle side of the rear door modesty panel(s). Passenger assists shall be provided on modesty panels that are functionally continuous with the rear door assists. Rear doors, or the exit area, shall be fitted with assists having a cross-sectional diameter between 1¼ and 1½ in. or providing an equivalent gripping surface with no corner radii less than ¼ in., and shall provide at least 1½ in. of knuckle clearance between the assists and their mounting. The assists shall be designed to permit a 5th-percentile female to easily move from one assist to another during the entire exiting process. The assists shall be located no farther inboard than 6 in. from the outside edge of the rear doorway step.

Paint the door grab rails, modesty panel grab rails and the vertical stanchions forward and to the rear of the rear exit door with yellow powder coated paint.

NOTE: For an articulated bus, passenger assists will be provided to aid in the transition between the front and rear sections of the bus.

TS 79.5 Overhead (Transit Coach)

Except forward of the standee line and at the rear door, a continuous, full-grip, overhead assist shall be provided. This assist shall be located over the center of the aisle seating position of the transverse seats. The assist shall be no less than 70 in. above the floor.

ALTERNATIVE-----APPROVED

Grab straps or other extensions as necessary shall be provided for sections where vertical assists are not available and for use by passengers that cannot reach to 70 in.

ALTERNATIVE-----APPROVED

Grip straps shall be fabric. Provide 9 Black Nylon straps on each side of the isle for a total of 18 straps.
Locations TBD.

Overhead assists shall simultaneously support 150 lbs on any 12 in. length. No more than 5 percent of the full grip feature shall be lost due to assist supports.

TS 79.6 Longitudinal and Transverse Seat Assists (Transit Coach)

Longitudinal and transverse seats shall have vertical assists located between every other designated seating position, except for seats that fold/flip up to accommodate wheelchair securement. Assists shall extend from near the leading edge of the longitudinal seat or the upper corner of the transverse seat, and shall be functionally continuous with the overhead assist. Assists shall be staggered across the aisle from each other where practicable and shall be no more than 52 in. apart or functionally continuous for a 5th percentile female passenger.

TS 79.7 Wheel Housing Barriers/Assists (Transit Coach)

Unless passenger seating is provided on top of wheel housings, passenger assists shall be mounted around

the exposed sides of the wheel housings (and propulsion compartments if applicable), which shall also be designed to prevent passengers from sitting on wheel housings. Such passenger assists shall also effectively retain items, such as bags and luggage, placed on top of wheel housings.

TS 80. Passenger Doors

TS 80.1 Transit Coach

Doorways will be provided in the locations and styles as follows. Passenger doors and doorways shall comply with ADA requirements.

TS 80.1.1 Front door

DEFAULT-----APPROVED

Vapor electric-powered door (or submitted deviation) shall be forward of the front wheels and under direct observation of the driver.

TS 80.1.2 Rear Door(s)

ALTERNATIVE-----APPROVED

Curbside doorway centerline located rearward of the point midway between the front door centerline and the rearmost seat back.

ALTERNATIVE-----APPROVED

Electric-powered doors.

TS 80.2 Commuter Coach

TS 80.2.1 Front door

DEFAULT

Forward of the front wheels and under direct observation of the driver

TS 80.3 Materials and Construction

Structure of the doors, their attachments, inside and outside trim panels and any mechanism exposed to the elements shall be corrosion resistant. Door panel construction shall be of corrosion-resistant metal or reinforced non-metallic composite materials. When fully opened, the doors shall provide a firm support and shall not be damaged if used as an assist by passengers during ingress or egress. Door edges shall be sealed to prevent infiltration of exterior moisture, noise, dirt and air elements from entering the passenger compartment, to the maximum extent possible based on door types.

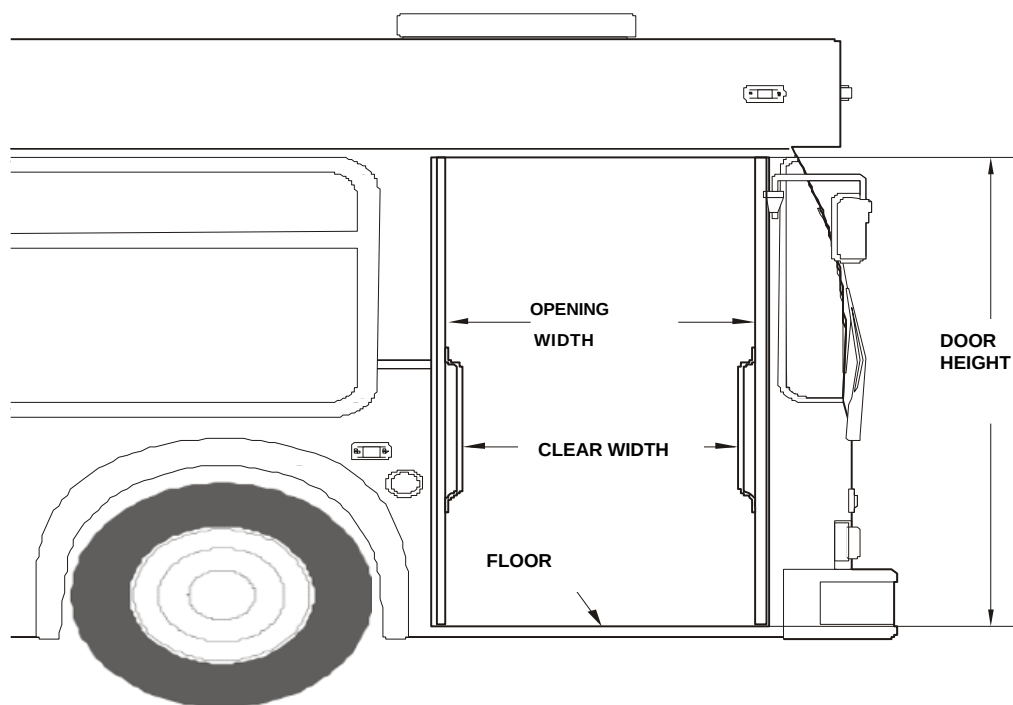
The closing edge of each door panel shall have no less than 2 in. of soft weather stripping. The doors, when closed, shall be effectively sealed, and the hard surfaces of the doors shall be at least 4 in. apart (not applicable to single doors). The combined weather seal and window glazing elements of the front door shall not exceed 10 deg of binocular obstruction of the driver's view through the closed door. When open, the

doors shall leave an opening no less than 75 in. in height.

TS 80.4 Dimensions

TS 80.4.1 Transit Coach

FIGURE 7
Transit Bus Minimum Door Opening



DEFAULT APPROVED DOOR SIZE for TRANSIT BUSES**31¾ in. Minimum Doorway Clear Width**

Front door clear width shall be a minimum of 31¾ in. with the doors fully opened. Rear door opening clear width shall be a minimum of 24 in. with the doors fully opened. If a rear door ramp or lift is provided, then the clear door opening width shall be a minimum of 31¾ in. with door fully opened.

If the Agency requires a minimum rear door clear width of 31¾ in. or greater and an outward opening (swing) door is specified, then the maximum outboard excursion of 13 in. may be exceeded.

~~TS 80.4.2 Commuter Coach~~**TS 80.5 Door Glazing**

The upper section of both front and rear doors shall be glazed for no less than 45 percent of the respective door opening area of each section. The lower section of the front door shall be glazed for no less than 25 percent of the door opening area of the section.

Door glazing shall be easily replaceable.

DEFAULT-----APPROVED

Zip type glazing rubber.

ALTERNATIVE-----APPROVED

The front door panel glazing material shall have a nominal ¼ in. thick tempered glass conforming with the requirements of ANSI Z26.1 Test Grouping 2 and the recommended practices defined in SAE J673.

Glazing material in the rear doorway door panels shall be defined by the Agency.

Provide in the rear exit door: two piece door glass, tempered and of the same color as the side passenger windows.

An entrance door glass that is laminated that meets the ANSI requirements and SAE best practices is Approved.

TS 80.6 Door Projection (Transit Coach)**TS 80.6.1 Exterior**

The exterior projection of the front doors beyond the side of the bus shall be minimized and shall not block the line of sight of the rear exit door via the curb side mirror when the doors are fully open. The exterior projection of both doors shall be minimized and shall not exceed 14 in. during the opening or closing cycles or when doors are fully opened.

If the rear exit door has a hinge, the hinge shall have a rubber seal to help maintain the conditioned air inside the bus.

TS 80.6.2 Interior

Projection inside the bus shall not cause an obstruction of the rear door mirror or cause a hazard for standees.

TS 80.7 Door Height Above Pavement

It shall be possible to open and close either passenger door when the bus loaded to gross vehicle weight rating is not knelt and parked with the tires touching an 8 in. high curb on a street sloping toward the curb so that the street-side wheels are 5 in. higher than the right-side wheels.

TS 80.8 Closing Force

Closing door edge speed shall not exceed 12 in. per second, and opening door speed shall not exceed 19 in. per second. Power doors shall not slam closed under any circumstance, even if the door is obstructed during the closing cycle. If a door is obstructed during the closing cycle, the pressure exerted on the obstruction shall not increase once initial contact has been made.

Doors closed by a return spring or counterweight-type device shall be equipped with an obstruction-sensing device that, at a minimum, alerts the driver if an obstruction is detected between the closing doors. Doors closed by a return spring or counterweight type device, when unlocked, shall be capable of being pushed to the point where the door starts to open with a force not to exceed 25 lbs applied to the center edge of the forward door panel.

Whether or not the obstruction-sensing system is present or functional, it shall be possible to withdraw a 1½ in. diameter cylinder from between the center edges of a closed and locked door with an outward force not greater than 35 lbs.

TS 80.8.1 Rear Door Closing Force (Transit Coach)

The electric style power-close rear doors shall be equipped with a Pneumatic Sensitive Edge and Optical Pressure Switch obstruction-sensing system such that if an obstruction is within the path of the closing doors, the doors will stop and/or reverse direction prior to imparting a 10-lb force on 1 sq in. of that obstruction.

~~Power close rear doors shall be equipped with an obstruction sensing system such that if an obstruction is within the path of the closing doors, the doors will stop and/or reverse direction prior to imparting a 10-lb force on 1 sq in. of that obstruction.~~ If a contactless obstruction sensing system is employed, it shall be capable of discriminating between the normal doorway environment and passengers or other obstructions within the doorway, and of altering the zones of detection based upon the operating state of the door system.

TS 80.9 Actuators

Doors shall open or close completely in not more than 3.5 seconds from the time of control actuation and shall be subject to the closing force requirements.

Door actuators shall be adjustable so that the door opening and closing speeds can be independently adjustable to satisfy the above requirements. Actuators and the complex door mechanism shall be concealed from passengers but shall be easily accessible for servicing. The door actuators shall be rebuildable. If powered by compressed air, exhaust from the door system shall be routed below the floor of the bus to prevent accumulation of any oil that may be present in the air system and to muffle sound.

Door actuators and associated linkages shall maximize door holding forces in the fully open and fully closed positions to provide firm, non-rattling, non-fluttering door panels while minimizing the force exerted by the doors on an obstruction midway between the fully open and closed positions.

The rear door actuator(s) shall be under the complete control of the vehicle operator and shall open and close in response to the position of the driver's door control.

DEFAULT-----APPROVED

Locked doors shall require a force of more than 300 lbs to open manually. When the locked doors are manually forced to open, damage shall be limited to the bending of minor door linkage with no resulting damage to the doors, actuators or complex mechanism.

~~TS 80.9.1 Actuator (Commuter Coach)~~

TS 80.9.2 Rear Door Interlocks (Transit Coach)

See "Hardware Mounting" for door system interlock requirements.

TS 80.10 Emergency Operation

In the event of an emergency, it shall be possible to manually open doors designated as emergency exits from inside the bus using a force of no more than 25 lbs after actuating an unlocking device. The unlocking device shall be clearly marked as an emergency-only device and shall require two distinct actions to actuate. The respective door emergency unlocking device shall be accessible from the doorway area. The unlocking device shall be easily reset by the operator without special tools or opening the door mechanism enclosure. Doors that are required to be classified as "emergency exits" shall meet the requirements of FMVSS 217.

TS 80.11 Door Control

The door control shall be located in the operator's area within the hand reach envelope described in SAE Recommended Practice J287, "Driver Hand Control Reach." The driver's door control shall provide tactile feedback to indicate commanded door position and resist inadvertent door actuation.

Door control located on street side.

DEFAULT-----APPROVED

The front door shall remain in commanded state position even if power is removed or lost.

ALTERNATIVE

As specified by Agency.

TS 80.12 Door Controller

TS 80.12.1 Transit Coach

DEFAULT

Five-Position Driver's Door Controller

The control device shall be protected from moisture. Mounting and location of the door control device handle

shall be designed so that it is within comfortable, easy arm's reach of the seated driver. Locate the door control lever next to the operator's left hand and next to the forward sliding sash of the operator's side window.

The operator needs to have access from outside the bus through the sliding sash to the door lever.

The door control device handle shall be free from interference by other equipment and have adequate clearance so as not to create a pinching hazard.

Position of the door control handle shall result in the following operation of the front and rear doors:

- **Center position:** Front door closed, rear door(s) closed or set to lock.
- **First position forward:** Front door open, rear door(s) closed or set to lock.
- **Second position forward:** Front door open, rear door(s) open or set to open.
- **First position back:** Front door closed, rear door(s) open or set to open.
- **Second position back:** Front door open, rear door(s) open or set to open.

ALTERNATIVE-----APPROVED

A Vapor control handle with built in kneel and ramp controls with fiberoptic backlighting (or submitted deviation) shall be provided. **The Agency requests this be part of the base bus price.**

~~TS 80.12.2 Commuter Coach~~

TS 80.13 Door Open/Close

ALTERNATIVE-----APPROVED

Operator-Controlled Front and Rear Doors (If Applicable)

Operation of, and power to, the passenger doors shall be completely controlled by the operator.

A switch shall be provided to enable the driver to obtain full control of the rear doors.

DEFAULT-----APPROVED

A control or valve in the operator's compartment shall shut off the power to, and/or dump the power from, the front door mechanism to permit manual operation of the front door with the bus shut down. A master door switch, which is not within reach of the seated operator, when set in the "off" position shall close the rear/center doors (if applicable), deactivate the door control system, release the interlocks and permit only manual operation of the rear/center doors.

TS 81. Accessibility Provisions

Space and body structural provisions shall be provided at the front or rear door of the bus to accommodate a wheelchair loading system.

TS 81.1 Loading Systems

There are three options:

- high-floor lift
- low-floor ramp
- platform (boarding bridgeplate) level boarding

TS 81.2 Lift

TS 81.3 Loading System for 30 to 40 ft Low-Floor Bus

An automatically controlled, power-operated ramp system compliant to requirements defined in 49 CFR Part 38, Subpart B, §38.23c shall provide ingress and egress quickly, safely and comfortably, both in forward and rearward directions, for a passenger in a wheelchair from a level street or curb.

DEFAULT-----APPROVED

Front Door Location of Loading System, Flip-Out Design Ramp with 6:1 Slope

The wheelchair loading system shall be located at the front door, with the ramp being of a simple hinged, flip- out type design being capable of deploying to the ground at a maximum 6:1 slope.

A ‘Lift-U’ LU18 Ramp has been APPROVED

~~TS 81.4 Loading System for Level Boarding on a 45 to 60 ft Low-Floor BRT~~

TS 81.5 Wheelchair Accommodations

NOTE: Agency will approve acceptable securement system. The final layout and dimensions of all wheelchair accommodation areas shall be shown in drawings transmitted by the Contractor and approved by the UTA Office of Civil or Rights. Contractor shall not commence with the manufacture of buses until such approval is obtained.

Two forward-facing locations, as close to the wheelchair loading system as practical, shall provide parking space and securement system compliant with ADA requirements for a passenger in a wheelchair.

ALTERNATIVE

Additional (Beyond Two) Number of Wheelchair Securement Locations **[insert number]** forward-facing location(s), as close to the wheelchair loading system as practical, shall provide parking space and securement system compliant with ADA requirements for a passenger in a wheelchair.

**ALTERNATIVE
Non-Forward Facing**

All passenger securement devices must be stowed off the floor and out of the way when not in use.

Provide a securement system using: 3 belts to secure a mobility device, one front belt, 2 rear belts, a timed release mechanism for connecting the 2 rear belts to the mobility device with one hand, and a tensioning lever to tighten the 2 rear belts. Include a tire rub-rail on the floor beneath the flip-up seats or on the underside of the seats, a 14 inch stainless steel horizontal passenger assist (grab rail) on the bottom of the flip-up seats and where space permits, a wall mounted stainless steel horizontal passenger assist.

A Q'Straint Q'Pod is Approved.

TS 81.6 Interior Circulation

Maneuvering room inside the bus shall accommodate easy travel for a passenger in a wheelchair from the loading device and from the designated securement area. It shall be designed so that no portion of the wheelchair protrudes into the aisle of the bus when parked in the designated parking space(s). When the positions are fully utilized, an aisle space of no less than 20 in. shall be maintained. As a guide, no width dimension should be less than 34 in. Areas requiring 90 deg turns of wheelchairs should have a clearance arc dimension no less than 45 in., and in the parking area where 180 deg turns are expected, space should be clear in a full 60 in. diameter circle. A vertical clearance of 12 in. above the floor surface should be provided on the outside of turning areas for wheelchair footrests.

TS 82. Wheelchair Lifts (Commuter Coach)

TS 82.1 Lift

TS 82.2 Lift Door

TS 82.3 Lift Width

TS 82.4 Lighting Requirements Deleted

~~Lighting for the lift areas shall be designed to meet Title 13 and ADA and FMVSS 404 standards. Lighting shall be provided to effectively illuminate the lift area. Light shall be wired through the lift master toggle switch on the driver's dash and shall automatically illuminate when this switch is in the "on" position. The lighting design shall minimize the effect of glare on passengers entering the bus through the wheelchair lift door. During lift operation, the street surface shall be illuminated to a minimum of 6 candlepower a distance of 3 ft beyond the external dimensions of the lift platform once deployed and lowered. Additional lighting shall be provided to ensure illumination of the instruction placard and the manual override pump when it is in use.~~

TS 82.5 Securement System Deleted.

~~The vehicle interior shall permit the securement of two forward-facing wheelchair passengers in which the primary position shall be on the street side of the coach directly across from the lift. Securement areas shall be a minimum 30 × 48 in. as required by the ADA.~~

~~A separate three-point belt securement shall be provided to effectively secure wheelchair passengers. To further secure the passenger during the lift operation, a retractable seat belt strap shall be provided at the ingress/egress area of the lift platform. A minimum 10.5 in. high barrier shall also be provided at the rear of the lift area for additional passenger protection.~~

TS 82.6 Roof Ventilation/Escape Hatches

Two roof ventilators shall be provided and designed to perform as escape hatches. One ventilator/escape hatch shall be located in the roof at the front of the coach, another in the roof at the rear of the coach.

SIGNAGE AND COMMUNICATION

TS 83. Destination Signs

DEFAULT-----APPROVED

A destination sign system shall be furnished on the front and on the right side near the front door.

ALTERNATIVE-----APPROVED

Route sign on the rear of the vehicle. The Agency requests this be a part of the base bus price.

All signs shall be controlled via a single human-machine interface (HMI). In the absence of a single mobile data terminal (MDT), the HMI shall be conveniently located for the bus driver within reach of the seated driver.

Provide a front sign requiring 24 rows x 200 columns with LED's in full color, a curb side destination sign requiring 8 rows x 96 columns with amber LED's and a rear route sign requiring 16 rows x 48 columns with amber LED's. The destination sign shall be capable of being programmed with USB memory sticks.

A Luminator full Color Spectrum 24 Row X 200 Column Titan sign is Approved.

DEFAULT-----APPROVED

The driver shall be able to access the sign while seated.

DEFAULT-----APPROVED

The destination sign compartments shall meet the following minimum requirements:

- Compartments shall be designed to prevent condensation and entry of moisture and dirt.
- Compartments shall be designed to prevent fogging of both compartment window and glazing on the unit itself when the operator's defroster heater is turned on.
- Access shall be provided to allow cleaning of inside compartment window and unit glazing.
- The front window shall have an exterior display area of no less than 8.5 in. high by 56 in. wide.

TS 84. Passenger Information and Advertising (Transit Coach)

TS 84.1 Interior Displays

Provisions shall be made on the rear of the driver's barrier or equipment box located on the wheel well for a frame to retain information such as routes and schedules. Size TBD.

A metal schedule holder shall be installed on the dash, just inside of curbside A-post. This shall be 18" wide, 3/4" thick and 7" high.

Advertising media 11 in. high and 0.09 in. thick shall be retained near the juncture of the bus ceiling and sidewall. The retainers may be concave and shall support the media without adhesives. The media shall be illuminated by the interior light system.

TS 84.2 Exterior Displays

Provisions shall be made to integrate advertising into the exterior design of the bus. Advertising media, frames or supporting structures shall not detract from the readability of destination signs and signal lights, and shall not compromise passenger visibility. Advertising provisions shall not cause pedestrian hazards or foul automatic bus washing equipment, and shall not cover or interfere with doors, air passages, vehicle fittings or in any other manner restrict the operation or serviceability of the bus.

Attach only one advertising sign frame on the front bicycle rack.

A 21" x 44" clear anodized aluminum Yarder advertising frame with solid center backing has been **APPROVED**.

A Sportworks 14" x 44" ad frame is Approved.

TS 85. Passenger Stop Request/Exit Signal

TS 85.1 Transit Coach

ALTERNATIVE-----APPROVED

Pull Cord Passenger Signal

A passenger "stop requested" signal system that complies with applicable ADA requirements defined in 49 CFR, Part 38.37, shall be provided. The system shall consist of a heavy-duty pull cable (yellow in color), chime and interior sign message. The pull cable shall be located the full length of the bus on the sidewalls at the level where the transom is located. If no transom window is required, then the height of the pull cable shall approximate this transom level and shall be no greater than 63 in. as measured from the floor surface. It shall be easily accessible to all passengers, seated or standing. Pull cable(s) shall activate one or more solid state or magnetic proximity switches. Provide a drop down pull cord between each window in the low floor section of the bus. At each wheelchair passenger position and at priority seating positions, additional provisions shall be included to allow a passenger in a mobility aid to easily activate the "stop requested" signal. An auxiliary passenger "stop requested" signal shall be installed at the rear door to provide passengers standing in the rear door/exit area a convenient means of activating the signal system. The signal shall be a heavy-duty push button type located in the rear door vicinity. Button shall be clearly identified as "passenger signal."

In addition to the interior "stop requested" message sign. Provide a 2 line amber LED sign for future use as a next stop display. The sign shall come programmed to also display "stop requested" in the meantime.

A Hanover 144 x 19 Amber LED, Flush Mounted sign is APPROVED

ALTERNATIVE-----APPROVED

Additional "Stop Request" Button on Rear Door Stanchion

A heavy-duty "stop request" signal button shall be installed on the modesty panel stanchion immediately

forward of the rear door and clearly identified as “STOP.”

TS 85.2 Commuter Coach

TS 85.3 Signal Chime

TS 85.3.1 Transit Coach

DEFAULT-----APPROVED

A single “stop requested” chime shall sound when the system is first activated. A double chime shall sound anytime the system is activated from wheelchair passenger areas. Opening the front or rear doors will cancel the “Stop Requested” sign message.

Exit signals located in the wheelchair passenger area shall be no higher than 4 ft above the floor. Instructions shall be provided to clearly indicate function and operation of these signals.

Provide an On/Off toggle switch on the operator’s dash to turn “off” the “Stop Request” chime. See TS 46.5, Table #6.

ALTERNATIVE

Passenger signal system shall be arranged with push-button switches accessible by each seated passenger and on stanchions and at rear door locations for standees.

TS 85.3.2 Commuter Coach

DEFAULT

A single “stop requested” chime shall sound when the system is first activated. A double chime shall sound anytime the system is activated from wheelchair passenger areas.

Exit signals located in the wheelchair passenger area shall be no higher than 4 ft above the floor. Instructions shall be provided to clearly indicate the function and operation of these signals.

ALTERNATIVE

Agency to specify the stop request system for wheelchair seating area

TS 86. Communications

TS 86.1 Camera Surveillance System

DEFAULT

No surveillance system provisions required.

ALTERNATIVE-----APPROVED

~~Provide all~~ Install all Agency provided wiring and mounting locations for a multi-camera surveillance system for the later provision of and installation of cameras, recorder, microphone, etc. Agency to provide specify the camera system cable to be installed and specify the locations for pre-wiring and the quantity.

ALTERNATIVE

Provide all wiring and mounting locations for a multi-camera surveillance system, including the installation of cameras, recorder, microphone, etc.

TS 86.2 Public Address System

A public address system shall be provided on each bus for facilitating radio system and driver-originated announcements to passengers.

Provide a microphoneless (microphone imbedded in PA amplifier housing) PA system. Provide a clam-shell switch on the floor next to the steering column to activate the microphone. Mounting locations TBD. Provide a fully populated and labeled harness from the amplifier (mounted on the dash) to the Electronics/Radio Compartment located on the street-side front wheel housing well. The Auxiliary Microphone Key and Input Harness is part of the fully populated harness. Provide approximately 36 extra inches of circular coiled harness in the Electronic/Radio Compartment.

*The Clever Devices / SpeakEasy-II has been **APPROVED**.*

TS 86.2.1 Speakers**DEFAULT-----APPROVED**

Eight (8) premium interior loudspeakers shall be provided, semi-flush mounted, on alternate sides of the bus passenger compartment, installed with proper phasing. Total impedance seen at the input connecting end shall be 4-8 Ohms. Mounting shall be accomplished with riv-nuts and machine screws.

*A Misco, JC54WP-4A premium interior speaker has been **APPROVED**.*

Exterior PA Speaker

If exterior speaker is exposed to wheelspray from rain/snow off the front wheel, provide an access door with a removable speaker/assembly to allow for easy replacement of Exterior PA speaker.

TS 86.3 Automatic Passenger Counter (APC)**ALTERNATIVE-----APPROVED**

An infrared APC system shall be installed. Agency to provide details of APC system, including installation locations and number of buses to be equipped.

Install a vertically mounted (Hella type sensors), APC at the front and rear exit door(s) of each bus. Location TBD. Mount the CPU in the Electronic/Radio Compartment.

The Agency requests this be a part of the base bus price.

*The Urban Transportation Associates, two door installation (Integrated System RS232) has been **Approved**.*

TS 86.4 Radio Handset and Control System

TS 86.4.1 Drivers Speaker

Each bus shall have a recessed speaker in the ceiling panel above the driver. This speaker shall be the same component used for the speakers in the passenger compartment. It shall have 8 Ohms of impedance.

The contractor will install the Agency's supplied harness from the Electronic/Radio Compartment to the driver's speaker located on the dash unless there is a better location. **Exact location TBD.** The Agency will install the speaker once the bus is delivered.

TS 86.4.2 Handset

Contractor will install the Agency's provided handset harness from the Electronic/Radio Compartment to the dash. **Exact location TBD.** The Agency will install the handset once the bus is delivered. a handset for driver use.

TS 86.4.3 Driver Display Unit (DDU) (or MDC)

~~Contractor shall install a driver display unit as close to the driver's instrument panel as possible.~~
The Contractor will install the Agency provide MDC (DDU) harness from the dash to the Electronic/Radio Compartment. **Exact location TBD.** The Agency will install the MDC once the bus is delivered.

Provide a reinforced mounting pad on the dash to mount these components. **Location TBD.**

TS 86.4.4 Emergency Alarm

Contractor shall install an Agency supplied emergency alarm wiring harness for the foot operated Emergency Alarm Switch from the Electronic/Radio Compartment down to the floor in front of the operator's seat. **Exact location TBD.** emergency alarm that is accessible to the driver but hidden from view.

TS 87. Event Data Recorders (EDR)

DEFAULT-----APPROVED for the installation of harnesses, see TS 86.1. Cameras and EDR to be installed later by the Agency.

No EDR shall be installed.

ALTERNATIVE

EDRs shall be installed on the bus, one at the front and the other at the rear. These units are to be installed as low as possible. The EDRs shall be able to communicate over the J1939 CAN line and shall each be equipped with three-axis accelerometers. Settings are to be finalized with the Agency during pre-production. EDRs shall broadcast via the J1939 data communication link severe impact events to the vehicle monitoring system and also trigger an event in the camera system. The EDR shall also tag an event from a signal received over the J1939 CAN line from the silent alarm switch signal and the camera event button and in turn broadcast these events to the vehicle monitoring system. The EDR shall also record the following operational data: headlights on or off, turn signals and hazard lights on or off, ignition on or off, low air pressure warning, whether moving in forward or reverse or idling, and whether parking brake is on or off.

TS 88. Approved Equals

Table 8 lists products that have been approved for the bus procurement. The list contains products that are of interest to the Agency and is not intended to be a comprehensive listing of every product required for the manufacture of the subject buses. Product categories not listed are left to the discretion of the Contractor so long as the product complies with the specifications. Product specification information is for reference only and may not reflect the latest or future improvements by manufacturers. Any change, revision or substitution of specified products **requires approval of the agency**. To add to or revise this list, Contractor must submit a written request *and performance specifications/test results* per the Specification by the due date found in the RFP for approved equals.

NOTE: Transit agencies are encouraged to list as many suppliers as possible.

TABLE 8
Approved Equals Products

Product	Manufacturer	Product Specification
TS 9. Oil pan drain valve	Fumoto Engineering	Fumoto #F104, N-Series valve
TS 9. HD push button sample valve		Check Fluid #KP18NV
CNG powered engine	Cummins	TS 9. Cummins ISL-G 320 hp, 1000 lbs-ft
CNG powered engine	Cummins	TS 9. Cummins ISB-G, 280 hp, 660 lbs-ft
Diesel powered engine	Cummins	TS 9. Cummins ISL, 330 hp, 1,154 lbs-ft
Diesel powered engine	Cummins	TS 9. Cummins ISB, 280 hp, 660 lbs-ft
Engine block heater	Phillips-Temro	TS 9. Phillips-Temro, 110 volts, 1,000 watts
Electric cooling fans for radiator/CAC	Modine	TS 10. Modine electric fan system
Transmission	Voith	TS 11. Voith, SenseTop programming
Oil cleaner spinner	T.F. Huggins	TS 14. Spinner II 576 HE
Electric drive compartment	Forester Instruments	TS 14. LCD display #7-743-028
Constant torque hose clamps	Oetiker and Breeze Clamps	TS 15. Oetiker and Breeze
Diesel fuel filling components	Emco-Wheaton	TS 18. Posilock 105 Dry Break/Flip Cap
CNG fuel system	Agility	TS 18. Agility CNG System
Shop air couplers	Foster	TS 25. Foster 10-3
Shock Absorbers	Koni	TS 31. Adjustable shock absorbers
Aluminum Bus wheels	Alcoa	TS 32. Cryogenic hardened surfaces and
Flow thru valve stem Caps	Meyers Tire Supply	TS 32. V2B Flow thru Valve Stem Caps, #21534
Valve Stems	Meyers Tire Supply	TS 32. Dill Valve Stems , #VS-554-D
Lug Nut Covers	Alcoa	TS 32. Alcoa Lug Nut Covers, #000185
Electric Steering Assist	TRW	TS 33. Electric steering assistance with

Small diameter steering wheel		TS 33. VIP 16", Soft Touch, 2 spoke steering wheel
Air System Dryer for 100% air compressor duty cycle	SKF	TS 39. Dual Turbo 2000 with double oil and water filtration and heated
Bus AGM Batteries	Odyssey	TS 42. AGM Odyssey 4yr warranty battery, #31-PC2150S-H
UltraCapacitor for bus starting	KBI	TS 42. KBI KAPower #KSM050024
Battery jump start connector	Whitaker	TS 42. Whitaker Jump Start Connector
Electrical Corrosion Preventive Spray	NOCO Chemical in Cleveland	TS 42. Battery Corrosion Preventive Spray, NOCO, NCP-2, Part #A-202
Weatherproof low voltage electrical connectors	Packard Electric	TS 42. Packard Electric Weather Pack Connectors
Sun Shades (Windshield Visors)	Automation Sun Shade	TS 46. Push/Pull scissor action sun shades
Adjustable Throttle and Brake Pedals	Konsberg Pedals	TS 46. Push button adjustable, throttle and brake pedals
2 Garbage cans	Rubbermaid	TS 47. Rubbermaid Garbage Cans, #2952
Operator's Seat	Recaro	TS49. Recaro, Ergo-Metro AM80
Curb-side exterior rear mirrors,	Hadley	TS 49. Part #20-55185V009
Street-side exterior rear mirrors, mirror housing, and arms	Hadley	TS 49. Part #20-55184V192
Rear view camera for backing up	Safety Vision	TS 49. Safety Vision rear view backing camera
Air Conditioning Compressor	Thermo King	TS 54. Thermo King Screw Compressor, #S391

TS 89. Radio Antennas

The Contractor shall install 2 Agency supplied antennas with attached cables in the roof of the bus just over the Electronic/Radio Compartment. Route the antenna cables into the electronic/radio compartment with the extra cable in a round service loop. Do not tie the service loop into a dog-bone shape. **Exact location and details TBD.**

TS 90. Electronic/Radio Compartment

Provide an Electronic/Radio Compartment on top of the street-side front wheel well . Minimum Size: 44 inches high, 2 feet wide, 2 feet deep, 4 sliding shelves that can be latched tight so they don't rattle. The interior of the Electronics/Radio Compartment shall be painted white and have two electric fans controlled by a thermostat to remove hot air from inside the compartment.

Install a 12 volt and 24 volt power cable sized for a maximum of 40 amps directly from a 40 amp fuse located in the battery box to the Electronic/Radio Compartment. Install a ground cable from a battery ground lug in the battery box to the Electronic/Radio Compartment. Provide an Ignition Sense wire into the Electronic/Radio Compartment. Provide all cables and wires with at least a 30 inch service loop. **Wiring shall be approved by the Agency.**

Four (4) aluminum trays 15.31" wide, 19.50" deep with a variation in height accommodation within the SDS enclosure of 32.5", with a base tray of 13.0" wide, 19.5" deep is Approved.

A single electric fan that is controlled by a thermostat is Approved.

A fuse box that is the main power distribution point for the LVDC power on the bus, located directly rearward of the battery enclosure, protected by a 50 amp breaker that is re-settable is Approved.

The radio power battery ground attached to a stainless steel ground bar in the electric drive compartment (with a cable routes from the batter ground lug to this main power cable batter ground bar) is Approved.

TS 91. Spare Power Train and Accessories

The Power Train Assemblies and Accessories consist of the following for a bus: ~~engine, transmission, transmission oil cooler, turbocharger,~~ electric cooling fan, radiator and shroud, surge tank, ~~fuel filters, catalytic converter, DPF, Selective Reduction Catalyst and piping,~~ engine full flow lube oil filter (spin on type), ~~by pass oil spinner,~~ air compressor, ~~transmission filters,~~ starting motor, engine block heater with its electrical cord, all wiring with attaching clips and brackets, power steering hydraulic pump, ~~a/e compressor,~~ bus alternator, and differential 3rd member gear set. Provide all air, water, ~~fuel~~ and oil lines for the above components.

All components may be shipped loose. UTA will require a parts/component list with part numbers.

TS 92. Card (Display) Holder

Mount a Card (Display) Holder on the front dash, centered on the curb-side windshield. Provide a card holder, 18" long x 3/4" thick x 7" high with a base 6" wide. Make out of .080" aluminum, powder coated black. A sample Card Holder will be given to the successful proposer.



TS 93. Hubodometer and Guard

Provide an electronically read hubodometer with the capacity of 999,999 miles, mounted on the curb-side rear axle hub. Provide a stout metal guard around the hubodometer, painted with zinc rich primer and aluminum paint.

The Stemco Data Trac 600-9999 has been **APPROVED**.

TS 94. Schedule Racks, Driver's Defect Booklet Holder, Registration Card Holder

Provide 3 Schedule Holders mounted to the rear but near the operator and accessible to customers.

Dimensions:

3.88" wide x 5" high x 1.62" deep.

Provide 1 Driver's Defect Booklet Holder mounted behind the operator. Dimensions:

6" wide x 6.13" high x 2.16 " deep.

Provide 1 Registration/Permit Holder mounted above the operator. Dimensions:

9" wide x 6" high x .090" deep with clear plastic cover.

TS 95. Real Time Operating and Maintenance Telematics

Provide an onboard telematics system allowing the agency to monitor the vehicle in real-time.

The system shall include tools to assess vehicle health, driver monitoring information, location, conditions and diagnostics. All hardware, software and subscription charges to be included in the base bus price.

New Flyer Connect TM has been **APPROVED**

INTERLOCAL COOPERATION AGREEMENT FOR TRANSIT SYSTEM SERVICES

This Inter-local Cooperation Agreement for Transit System Services ("*Agreement*") is entered into this 10th day of July, 2021 (the "*Effective Date*"), by and among **HIGH VALLEY TRANSIT DISTRICT**, a political subdivision of the State of Utah (hereinafter, "*District*"), **SUMMIT COUNTY**, a political subdivision of the State of Utah (hereinafter, "*County*"), and **PARK CITY MUNICIPAL CORPORATION**, a Utah municipal corporation (hereinafter, "*City*" or "*Park City*"). Each is individually referred to as a "*Party*" and collectively as the "*Parties*."

RECITALS

WHEREAS, the City provides a system of local public transit for its residents, workforce, and visitors ("*Park City Transit*"); and,

WHEREAS, the District, a small public transit district, provides public transit services to its residents, workforce, and visitors within its jurisdictional boundaries and which intends through annexation to expand its jurisdictional boundaries to become a provider of regional transit services; and,

WHEREAS, the City and County entered into that certain Park City Municipal Corporation and Summit County Interlocal Transportation Agreement, dated February 1, 2006, and its First Amendment, dated December 15, 2009, wherein the entities jointly agreed to provide for a system of public transit managed by Park City Transit (together, the "*Transportation Agreement*"); and,

WHEREAS, the City and County entered into that certain Joint Interlocal Agreement for Additional Transit Funding, dated August 24, 2016 (the "*Additional Transit Funding Agreement*"); and,

WHEREAS, the County enacted a county-wide additional mass transit sales and use tax under Utah Code § 59-12-2214 (the "*Additional Mass Transit Tax*" or "*AMT*"), and the City agreed to support the enactment through its Resolution No. 18-2016, to implement the Additional Transit Funding Agreement and further the public financing of joint transit services and projects which benefit the residents of both the County and City; and,

WHEREAS, pursuant to Park City Resolution No. 18-2016 and the Additional Transit Funding Agreement, Park City agreed to support Summit County's ballot initiative to levy the AMT in lieu of seeking voter approval for Park City's own optional sales and use tax, provided the Summit County AMT funds were and continue to be allocated under a mutually agreeable process for transit projects, programs, and services that directly or indirectly benefit Park City residents, workforce, and visitors; and,

WHEREAS, the Parties hereto are willing to enter into this Agreement, wherein the Parties agree to (a) terminate the Transportation Agreement and settle up the affairs contemplated therein; (b) terminate the Additional Transit Funding Agreement and distribute the tax proceeds by point of sale; and (c) formulate a new relationship, which allows for an integrated system of regional transit between the City and District; and,

WHEREAS, the Parties are authorized by the *Utah Interlocal Cooperation Act*, as set forth in Title 11, Chapter 13, Section 202(1)(d), *Utah Code 1953, as amended*, to enter into this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the recitals, mutual covenants and agreements herein set forth, the mutual benefits to the Parties to be derived, and for other valuable consideration, the receipt and sufficiency of which the Parties acknowledge, the Parties agree as follows:

1. Termination of Transportation Agreement.

1.1 Transportation Agreement. The Parties agree that the Park City Municipal Corporation and Summit County Interlocal Transportation Agreement, dated February 1, 2006, and its First Amendment, dated December 15, 2009, wherein the entities jointly agreed to provide for a system of public transit managed by Park City Transit, shall terminate on June 30, 2021, and shall thereafter be of no further legal force or effect. The City shall submit to the County invoices, and County shall remit payment to the City, for transit expenses incurred before July 1, 2021 that are subject to payment under the terms of the Transportation Agreement. In lieu of Section 2.3 of the Transportation Agreement, Disposition of Property Upon Termination of Agreement, the Parties agree as follows:

1.1.1 District Fleet Buses. City hereby transfers all of its right, title, and interest in and to the following transit vehicles, subject only to any required approval by the Utah Department of Transportation (“*UDOT*”) and the Federal Transit Administration (“*FTA*”), which City shall use good faith, best efforts to obtain promptly (the “*District Fleet Buses*”):

- 1.1.1.1 Four (4) 2022 Gillig Electric Transit Buses
- 1.1.1.2 Park City Transit #630, 2016 Gillig Diesel Transit Bus
- 1.1.1.3 Park City Transit #631, 2016 Gillig Diesel Transit Bus
- 1.1.1.4 Park City Transit #632, 2016 Gillig Diesel Transit Bus
- 1.1.1.5 Park City Transit #633, 2016 Gillig Diesel Transit Bus
- 1.1.1.6 Park City Transit #680, 2010 Gillig Diesel Transit Bus

The District Fleet Buses identified in Subsections 1.1.1.2-1.1.1.6 were subject to a pre-inspection by the District to document their condition on June 3, 2021. The buses will be transferred to the District in the condition documented during the pre-inspection. The District Fleet Buses will be transferred to the District together with

maintenance records and any previously agreed upon equipment. The City and District will work together to remove unwanted equipment and to transfer contractual obligations. The City will have no ongoing obligation or liability for contracts, software, equipment, or licenses for the District Fleet Buses.

The District Fleet Buses identified in Subsection 1.1.1.1 are being acquired in concert with the Utah Transit Authority (“UTA”) as part of a larger acquisition of Gillig Electric Transit Buses (“Gillig Electrics”). The terms of the joint procurement are set forth in the Park City and UTA Interlocal Agreement on Electric Bus and Charging Equipment, dated October 2, 2020 (the “UTA/Park City ILA”). If the Gillig Electric Buses are not all received at once, the City will transfer every other Gillig Electric received to the District.

1.1.2 District UTA Buses. Subject to UDOT and FTA grant requirements, upon receipt of any required approval by the FTA, and pursuant to Section 7 of this Agreement, the District shall take ownership of the four (4) Gillig Electric Buses designated by the terms of the UTA/Park City ILA for PC-SLC Connect Service, after the City receives them (the “*District UTA Buses*”). The District UTA Buses are being acquired in concert with UTA in accordance with the UTA/Park City ILA. In the event that the Bus Service Agreement between the Utah Transit Authority, Park City Municipal Corporation, and Summit County, dated August 24, 2011, as amended by Addendum No. 1, Service and Alignment Change 2017, dated December 14, 2017 (together, the “*SLC-SC Transit Agreement*”) is terminated, the District UTA Buses may be utilized according to the UTA/Park City ILA, as amended, and following any required approval by UDOT and the FTA. The City hereby assigns to the District all of its rights and obligations pertaining to the four Gillig Electrics for the PC-SLC Connect Service in the UTA/Park City ILA, upon the District taking ownership.

1.1.3 Electrical Charging Stations. UTA shall install new electrical charging stations at the Kimball Junction Transit Center, pursuant to the UTA/Park City ILA, without cost to the City, the District, or the County. The City hereby assigns to the District all of its rights and obligations pertaining to the Electrical Charging Stations in the UTA/Park City ILA.

1.1.4 City Buses. The City shall have sole ownership, subject to Federal Transit Administration grant requirements, of all other buses and support vehicles, regardless of any contributions by the County from the Additional Mass Transit Tax or other funding sources.

2. **Additional Transit Funding Agreement.**

2.1 Additional Transit Funding Agreement. The Parties agree that the Joint Interlocal Agreement for Additional Transit Funding, dated August 24, 2016, wherein the entities jointly agreed to the uses and distribution of the Additional Mass Transit Tax, shall terminate on June 30, 2021 and shall thereafter be of no further legal force or effect.

2.2 Distribution. Beginning on July 1, 2021, on a pro rata basis, the AMT shall be distributed as follows:

2.2.1 The City, County and District shall work in good faith with the Utah State Tax Commission (the "*Commission*") to determine the correct split of the proceeds from the Additional Mass Transit Tax and shall request direct distribution to each entity as set forth herein, if acceptable to the Commission. If the Commission does not agree to determine distribution based on point of sale, the County will on a monthly basis remit to the City all point of sale proceeds collected by the Commission and received by the County which are designated by location according to the Commission's sales tax location code #22030 (Park City). The Parties agree to review the split of the proceeds from the AMT with the Commission annually.

2.2.2 The City's share of the AMT, which shall be distributed to it by the County, shall be equal to the AMT generated at the point of sale within its incorporated boundaries.

2.2.3 The District's share of the AMT, which shall be distributed to it by the County, shall be equal to the AMT generated at the point of sale within the remaining incorporated areas and all unincorporated area.

2.3 Unallocated Fund Balance. As of December 31, 2020, the unallocated fund balance within the AMT fund was Three Million Ten Thousand Two Hundred and Twenty-Eight Dollars (\$3,010,228.00). The Parties shall submit to the County invoices (the "*AMT Invoices*"), and the County shall remit payment to the Parties, for transit expenses incurred before July 1, 2021 that are subject to payment under the terms of the Additional Transit Funding Agreement. It is anticipated that the Commission will remit to the County the sales tax proceeds of the AMT for the second quarter of 2021 no later than August 31, 2021 (the "*2nd Quarter Proceeds*"). Once all outstanding AMT Invoices are paid and the 2nd Quarter Proceeds are received, the County shall provide the Parties with an accounting of the final AMT unallocated fund balance (the "*Unallocated Fund Balance*"). On September 30, 2021, the County shall remit to the City Fifty and One Tenth Percent (50.1%) of the Unallocated Fund Balance.

2.4 Survival. The Parties agree that the distribution of the AMT in Subsection 2.2 applies during the term of this Agreement and continues as long as proceeds are generated from the AMT and collected by point of sale.

3. **Real Property Transfers.**

3.1 Kimball Junction Transit Center. City represents and warrants that it has not conveyed or encumbered title to the Kimball Junction Transit Center, Summit County, which is located on Tax Identification Parcel No. PCTC-6-X, 6490 N. Landmark Dr., Park City, Utah, approximately 3 acres (the "*Kimball Junction Transit Center*"). City hereby transfers all of its right, title, and interest in and to the Kimball Junction Transit Center,

subject only to that certain deed restriction referenced in the Quit Claim Deed recorded in the Office of the Summit County Recorder at Book 2069, Page 0329, and any required approvals by UDOT and the FTA, which City shall use good faith, best efforts to obtain promptly, and City shall convey the same by quitclaim deed to the District (the “*Kimball Quitclaim Deed*”).

3.2 Kimball Grant Assumption. City hereby assigns and transfers, and the District hereby assumes, all right, title, and interest in and to the FTA grant on the Kimball Junction Transit Center in accordance with all FTA rules and regulations, subject only to any required approval by UDOT and the FTA, which City shall use good faith, best efforts to obtain promptly (the “*Kimball Grant Assumption*”).

3.2.1 Kimball Junction Proterra Charger. The City will continue to own, maintain, and operate the Proterra Charger at the Kimball Junction Transit Center. The City shall have access to the Proterra Charger pursuant to Subsection 8.1. Such access shall not terminate until the District takes over operations of the Electric Xpress pursuant to Section 4 below. At that time, the City may remove the Proterra Charger at its discretion, but no later than one hundred eighty (180) days after the District assumes operations of the Electric Xpress.

3.2.2 UDOT Certification. On June 9, 2021, County requested the City seek a letter from the Utah Department of Transportation (“*UDOT*”) certifying that the City is in good standing and not in default on any FTA Grants pertaining to transit (the “*Certification Letter*”). City and County will request the Certification Letter and will work with UDOT in good faith to timely provide to the County and District the Certification Letter. In the event that City is found in default of any of the FTA Grants, the City shall use good faith, best efforts to cure such default within ninety (90) days of receipt of notice of default by UDOT or the FTA.

4. **Operation of the Park City Electric Xpress**. In order to provide for a seamless system of public transit between the Snyderville Basin and Park City, the Park City Electric Xpress shall be operated as follows:

4.1 Park City as Operator.

4.1.1 The City shall operate the Park City Electric Xpress within the Greater Park City Area as constituted as of July 1, 2021, which includes the Snyderville Basin of Summit County, Utah, until April 30, 2024. Until that date, the City shall be responsible for all operations and expenses of the Electric Xpress service.

4.1.2 Performance Standards. While the City is operating the Electric Xpress it will work in good faith to maintain current levels of service.

4.1.3 Major Changes. Before the City makes major changes to the operation of the Electric Xpress, the City will seek input from the District about the

changes. The City will share any input received from the District with the City Council, which may consider the changes in its sole discretion, and if so, such consideration shall be in an open and public meeting.

4.2 High Valley Transit District as Operator.

4.2.1 The District shall take over operations of the Park City Electric Xpress within the Greater Park City Area, which includes Park City, Utah, on May 1, 2024. After that date, the District shall be responsible for all operations and expenses, including fleet acquisition, of the Electric Xpress service.

4.2.2 Major Changes. Before the District makes major changes to the operation of the Electric Xpress, the District will seek input from the City about the changes. The District will share any input received from the City with the District's Board of Trustees, which may consider the changes in its sole discretion, and if so, such consideration shall be in an open and public meeting.

5. **Bus Rapid Transit.**

5.1 SR 224 BRT. The District shall be responsible for the costs and operations associated with the SR 224 BRT, which is expected to begin service once grant funding is awarded for this express purpose, all authorizations are received, and all necessary construction to implement such has been completed.

5.2 SR 248 EXPRESS. The City shall be responsible for the costs and operations associated with the SR 248 Express, which is expected to begin service no later than September 1, 2024.

6. **FTA 5311 Funds and Pandemic-Related Relief.**

6.1 New FTA 5311 Funds. Beginning July 1, 2021, the City and District shall each be responsible for the application and receipt of FTA 5311 funds to be received and allocated to their systems of public transit.

6.2 Pending FTA 5311 Funds. When received from UDOT, the City shall remit to the District any eligible County operating expenses, incurred prior to July 1, 2021, that the City requested for reimbursement from FTA 5311 funds for years 2019, 2020, and up to June 30, 2021.

6.3 Pandemic. Federal pandemic-related relief for public transit services shall be divided proportionally in a manner similar to the FTA 5311 funds between the City and District for any eligible County operating expenses incurred prior to July 1, 2021.

7. **SLC-SC Transit Agreement.** The Parties agree to send UTA a written notice of termination pursuant to Section 5 of the SLC-SC Transit Agreement (the "*Termination Notice*"), effective three (3) months from the date of receipt by UTA (the "*Transition*"),

Period”). Effective July 1, 2021, the City will have no further financial obligations for this service and the County or the District will assume all financial obligations for the continued operation of the service. During the Transition Period, the District may, but is not obligated to, negotiate a new agreement with UTA to provide the same, similar or different services.

7.1 Each Party agrees to indemnify, reimburse, defend and hold harmless each other Party from and against any and all liability resulting from, arising out of, relating to, or incurred by reason of the conduct of the City or the County with respect to the SLC-SC Transit Agreement.

8. **Consents and Licenses.**

8.1 During the Term of this Agreement or until the Parties have entered into the Franchise Agreement or Access Agreement (defined below), the Parties hereby grant to each other a non-exclusive license authorizing each of the Parties the right, privilege and authority to utilize each other’s Transit Facilities (defined below) without cost, and to utilize rights-of-way within the jurisdictional boundaries of the other Parties, for the provision of transit services to inhabitants of and visitors to Summit County, Utah, and to persons and corporations beyond Summit County. “*Transit Facilities*” means a transit station, depot, Proterra charger, passenger loading or unloading zone, parking lot, or bus shelter.

8.2 The Parties agree to work in good faith in negotiating and executing a three-party franchise agreement or access agreement (the “*Franchise Agreement or Access Agreement*”) no later than one (1) year before the beginning of SR 224 BRT operations identified in Subsection 5.1. Said agreement shall include the substance of Subsection 8.1.

9. **Reports, Maps, and Records.** The City will transfer in good faith reports, maps and records related to the operation of Park City Transit within unincorporated Summit County.

10. **Closing.** The closing of the transfer of the assets referenced herein (the “*Closing*”), will take place on a date and at a time and place mutually agreeable to the Parties, but in no event later than July 1, 2021.

10.1 **City Closing Deliverables.** At the Closing, City shall deliver the following:

10.1.1 Bill of Sale transferring title in the District Fleet Buses to the District. The Parties acknowledge that the Federal Transit Administration retains an ownership interest in grant-funded vehicles and facilities.

10.1.2 Kimball Quitclaim Deed, duly executed by the City, conveying all of its interests in the Kimball Junction Transit Center to the District. The Parties acknowledge that the Federal Transit Administration retains an ownership interest in grant-funded vehicles and facilities.

10.1.3 All documents necessary for the Kimball Grant Assumption.

10.1.4 Bill of Sale transferring title in the District UTA Buses to the District. The Parties acknowledge that the Federal Transit Administration retains an ownership interest in grant-funded vehicles and facilities.

10.2 Lease Agreements. City's delivery of the items in Subsections 10.1.1-10.1.4 is contingent upon receipt of any required approval by UDOT and the FTA. The Parties anticipate that approval may not be received until after June 30, 2021, and agree to immediately enter into separate agreements to allow District's use and control of the District Fleet Buses in Subsections 1.1.1.2-1.1.1.6 as well as the Kimball Junction Transit Center (the "*Lease Agreements*"). The Parties recognize the importance and mutual benefits of working cooperatively to quickly negotiate and enter into the Lease Agreements.

11. Representations and Warranties of the Parties. As an inducement to the Parties to enter into this Agreement, the Parties hereby represent as follows:

11.1 Representations and Warranties of City. City hereby represents and warrants as follows as of the date of this Agreement and remade as of the Closing:

11.1.1 Authority of City. City has full power and authority to enter into this Agreement, to carry out its obligations hereunder, and to consummate the transactions contemplated hereby. The execution and delivery by City of this Agreement, the performance by City of its obligations hereunder, and the consummation by City of the transactions contemplated hereby have been duly authorized by requisite action of its governing board. This Agreement has been, and upon its execution will have been, duly executed and delivered by City; and, assuming due execution and delivery by all Parties hereto, this Agreement constitutes, and upon its execution will constitute, a legal, valid and binding obligation of City enforceable against City in accordance with its terms, except as may be affected by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally or by rules of law governing specific performance, injunctive relief or other equitable principles (regardless of whether such principles are considered in a proceeding at law or in equity).

11.1.2 No Conflicts; Consents. The execution, delivery and performance by City of this Agreement, and the consummation of the transactions contemplated hereby, do not and will not: (a) conflict with or result in a violation or breach of, or default under, any provision of the organizational documents of City; (b) conflict with or result in a violation or breach of any provision of any law, regulation or order applicable to City; and (c) result in any breach of, constitute a default (or an event that, with or without notice or lapse of time or both, would become a default) under any agreement or other instrument to which the City is a party or by which the City may be bound or affected.

11.1.3 No Liabilities. To City's knowledge, City has no liabilities of any nature arising out of the operation of Park City Transit, whether accrued, absolute, contingent or otherwise, whether known or unknown, which would prevent, hinder, modify, delay or challenge the transactions contemplated by this Agreement or cause the District or County to be liable therefor.

11.1.4 No Grants to Third Parties. To City's knowledge, City has not granted any rights to third parties or committed any act or omission that would impair or encumber any of the rights granted to District or County hereunder.

11.1.5 FTA Grants. To City's knowledge, in the exercise of reasonable prudence, City is in good standing and not in default on any FTA Grants pertaining to transit.

11.2 Representations and Warranties of County. County hereby represents and warrants as follows as of the date of this Agreement and remade as of the Closing:

11.2.1 Authority of County. County has full power and authority to enter into this Agreement, to carry out its obligations hereunder, and to consummate the transactions contemplated hereby. The execution and delivery by the County of this Agreement, the performance by the County of its obligations hereunder, and the consummation by the County of the transactions contemplated hereby have been duly authorized by requisite action of its governing board. This Agreement has been, and upon its execution will have been, duly executed and delivered by the County; and, assuming due execution and delivery by all Parties hereto, this Agreement constitutes, and upon its execution will constitute, a legal, valid and binding obligation of the County enforceable against the County in accordance with its terms, except as may be affected by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally or by rules of law governing specific performance, injunctive relief or other equitable principles (regardless of whether such principles are considered in a proceeding at law or in equity).

11.2.2 No Conflicts; Consents. The execution, delivery and performance by the County of this Agreement, and the consummation of the transactions contemplated hereby, do not and will not: (a) conflict with or result in a violation or breach of, or default under, any provision of the organizational documents of the County; (b) conflict with or result in a violation or breach of any provision of any law, regulation or order applicable to the County; and (c) result in any breach of, constitute a default (or an event that, with or without notice or lapse of time or both, would become a default) under any agreement or other instrument to which the County is a party or by which the County may be bound or affected.

11.2.3 No Liabilities. To the County's knowledge, County has no liabilities of any nature arising out of the County's actions and responsibilities related to transit, whether accrued, absolute, contingent or otherwise, whether known or

unknown, which would prevent, hinder, modify, delay or challenge the transactions contemplated by this Agreement or cause the City or District to be liable therefor.

11.2.4 No Grants to Third Parties. To County's knowledge, County has not granted any rights to third parties or committed any act or omission that would impair or encumber any of the rights granted to District or City hereunder.

11.3 Representations and Warranties of District. District hereby represents and warrants as follows as of the date of this Agreement and remade as of the Closing:

11.3.1 Authority of District. District has full power and authority to enter into this Agreement, to carry out its obligations hereunder and to consummate the transactions contemplated hereby. The execution and delivery by the District of this Agreement, the performance by the District of its obligations hereunder and the consummation by the District of the transactions contemplated hereby have been duly authorized by requisite action of its governing board. This Agreement has been, and upon its execution will have been, duly executed and delivered by the District; and, assuming due execution and delivery by all Parties hereto, this Agreement constitutes, and upon its execution will constitute, a legal, valid and binding obligation of the District enforceable against the District in accordance with its terms, except as may be affected by bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting creditors' rights generally or by rules of law governing specific performance, injunctive relief or other equitable principles (regardless of whether such principles are considered in a proceeding at law or in equity).

11.3.2 No Conflicts; Consents. The execution, delivery and performance by the District of this Agreement, and the consummation of the transactions contemplated hereby, do not and will not: (a) conflict with or result in a violation or breach of, or default under, any provision of the organizational documents of the District; (b) conflict with or result in a violation or breach of any provision of any law, regulation or order applicable to the District; and (c) result in any breach of, constitute a default (or an event that, with or without notice or lapse of time or both, would become a default) under any agreement or other instrument to which the District is a party or by which the District may be bound or affected.

11.3.3 No Liabilities. There are no actions pending or, to the District's knowledge, threatened that seek to prevent, hinder, modify, delay or challenge the transactions contemplated by this Agreement.

11.3.4 No Grants to Third Parties. To District's knowledge, District has not granted any rights to third parties or committed any act or omission that would impair or encumber any of the rights granted to City or County hereunder.

12. **Liabilities and Indemnification.**

12.1 Indemnity by City. City shall indemnify, reimburse, defend and hold harmless the County and District, and their officers, directors, trustees, employees, consultants and agents from and against and in respect of any and all demands, claims, actions, causes of action, judgments, assessments, taxes, fines, losses, damages, liabilities, interest, penalties, costs, and expenses, including, without limitation, reasonable legal fees, other professional fees and any disbursements incurred in connection therewith, (collectively "*Losses*"), suffered, incurred or sustained by any of them or to which any of them becomes subject, resulting from any breach of any representation, warranty, covenant, or agreement of the City contained in this Agreement or other instrument or document executed and delivered by the City pursuant hereto or thereto..

12.2 Indemnity by the County. The County shall indemnify, reimburse, defend, and hold harmless City and District, and their officers, directors, trustees, employees, consultants and agents from and against and in respect of any and all Losses suffered, incurred or sustained by any of them or to which any of them becomes subject, resulting from any breach of any representation, warranty, covenant, or agreement of the County contained in this Agreement or other instrument or document executed and delivered by the County pursuant hereto or thereto.

12.3 Indemnity by the District. The District shall indemnify, reimburse, defend, and hold harmless City and County, and their officers, directors, trustees, employees, consultants and agents from and against and in respect of any and all Losses suffered, incurred or sustained by any of them or to which any of them becomes subject, resulting from any breach of any representation, warranty, covenant, or agreement of the District contained in this Agreement or other instrument or document executed and delivered by the District pursuant hereto or thereto.

13. **Governmental Immunity Act.** Because all Parties are governmental entities under the Utah Governmental Immunity Act of Utah, Utah Code § 63G-7-101, *et. seq.*, as amended (the "*Act*"), each Party is responsible and liable for any wrongful acts or negligence committed by its own officers, employees, or agents and no Party waives any defense available to it under the Act.

14. **Relief of Obligation.** This Agreement does not in any way relieve any Party of any obligation or responsibility imposed upon it by law (Utah Code § 11-13-208).

15. **Survivability.** The provisions of this Agreement shall survive Closing.

16. **Term.** This Agreement shall be in effect until December 31, 2031, unless otherwise terminated by the Parties by mutual written agreement.

17. Miscellaneous Provisions.

17.1 No Assignment. No Party may assign its interest in this Agreement without the written consent of the other Parties.

17.2 No Third-Party Beneficiaries. This Agreement shall not confer any rights or remedies upon any person or entity other than the Parties and their respective successors-in-interest.

17.3 Inducement. The making and execution of this Agreement has not been induced by any representation, statement, warranty or agreement other than those herein expressed.

17.4 No Recourse. This Agreement shall not create or be deemed to create or permit any personal liability or obligation on the part of any direct or indirect officer, employee, or representative of the Parties.

17.5 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors and assigns.

17.6 Business Relationship. This Agreement does not acknowledge the existence of or establish a partnership, joint venture, or any other form of business relationship between the Parties other than as expressly set forth herein, and this Agreement is limited solely to the purposes and interests expressed herein.

17.7 Severability. If any term or provision of this Agreement shall, to any extent, be determined by a court of competent jurisdiction to be void, voidable, or unenforceable, such void, voidable or unenforceable term or provision shall not affect the enforceability of any other term or provision of this Agreement; and the Parties agree to attempt in good faith to reform such void or unenforceable provision to the extent necessary to render such provision enforceable and to carry out its original intent.

17.8 Entire Agreement. This Agreement contains the entire agreement between the Parties with respect to the subject matter hereof, and no statements, promises, or inducements made by any Party or agents of any Party that are not contained in this Agreement shall be binding or valid. Alterations, extensions, supplements or modifications to the terms of this Agreement shall be agreed to in writing by the Parties, incorporated as amendments to this Agreement, and made a part hereof. To the extent of any conflict between the provisions of this Agreement and the provisions of any later agreements, the later agreements shall be controlling.

17.9 Construction. As used herein, all words in any gender shall be deemed to include the masculine, feminine or neuter, all singular words shall include the plural, and all plural words shall include the singular, as the context may require.

17.10 Amendment. This Agreement cannot be altered or amended except pursuant to an instrument in writing executed by the Parties.

17.11 Force Majeure. Performance by any Party hereunder shall not be deemed to be in default where delays or defaults are due to war, insurrections, strikes, lock-outs, floods, earthquakes, fires, casualties, acts of God, epidemics, quarantine, restrictions, inability (when the responsible Party is faultless) to secure necessary labor, materials, tools, acts or failure to act of any public or governmental agency or entity, or by any other reason not the fault of the Party delayed in performing work or doing acts required under the terms of this Agreement, and in such event, the performance of such work or the doing of such act shall be excused for the period of the delay and the period of performance for any such work or the doing of any such act shall be extended for a period equivalent to the period of such delay.

17.12 Further Action. The Parties hereby agree to execute and deliver such additional documents and to take such further action as may become necessary or desirable to fully carry out the provisions and intent of this Agreement.

17.13 Disputes.

17.13.1 Negotiation. Upon written notice of any dispute, the Parties shall attempt to resolve it promptly by good faith negotiation between the chief administrative officers of the Parties, who have authority to settle the dispute (the "*Negotiation*"). The Negotiation should be completed within thirty (30) days.

17.13.2 Mediation.

17.13.2.1 If the dispute has not been resolved by Negotiation in accordance with Section 17.13.1, then the Parties shall proceed to mediation unless the Parties at the time of the dispute agree to a different timeframe (the "*Mediation*"). A "Notice of Mediation" shall be served, signifying that the Negotiation was not successful and to commence the mediation process. The Parties shall agree on a mediator; however, if they cannot agree within fourteen (14) days, then each Party shall appoint a mediator, and together those two mediators will appoint a third mediator, who shall serve as the sole mediator of the dispute. The mediation session shall be held within forty-five (45) days of the retention of the mediator, and last for at least one full mediation day, before any Party has the option to withdraw from the process. The Parties may agree to continue the mediation process beyond one day, until there is a settlement agreement, or one Party or the mediator states that there is no reason to continue because of an impasse that cannot be overcome and sends a "Notice of Impasse." All reasonable efforts will be made to complete the Mediation within thirty (30) days of the first mediation session.

17.13.2.2 During the course of the Mediation, no Party can assert the failure to fully comply with Section 17.13.1, as a reason not to proceed or to delay the Mediation. The service of the Notice of Mediation shall stay the running of any applicable statute of limitations regarding the dispute until thirty (30) days after the Parties agree that the Mediation is concluded or the mediator or a Party issues a Notice of Impasse. Each side shall bear an equal share of the Mediation costs unless the Parties agree otherwise.

17.13.2.3 All communications, both written and oral, during the Negotiation and Mediation are confidential and shall be treated as settlement negotiations for purposes of applicable rules of evidence; however, documents generated in the ordinary course of business prior to the dispute, that would otherwise be discoverable, do not become confidential simply because they are used in the Negotiation and/or Mediation process.

17.13.2.4 The Mediation process shall be confidential based on terms acceptable to the mediator and/or mediation service provider.

17.14 Notice. Any notice required or desired to be given pursuant to this Agreement or otherwise relating to this Agreement shall be in writing, addressed to the Party at the address listed below, and shall be deemed effective: (i) upon personal delivery or actual receipt thereof, or (ii) three (3) business days following deposit in the United States Mail, postage prepaid, certified mail, return receipt requested.

To: Summit County
Attn: County Manager
60 N. Main Street
P.O. Box 128
Coalville, Utah 84017

To: High Valley Transit District
Attn: General Manager
1885 W. Ute Blvd.
Park City, Utah 84098

To: Park City Municipal Corporation
Attn: City Manager
445 Marsac Avenue
P.O. Box 1480
Park City, Utah 84060-1480

Any Party hereto may change its address for the purpose of receiving notices as herein provided by serving written notice given in the manner aforesaid.

17.15. Applicable Law; Jurisdiction and Venue. This Agreement shall be governed by and interpreted in accordance with the laws of the State of Utah. The Parties hereby consent to the jurisdiction and venue of the state courts located in Summit County, Utah.

17.16. Counterparts. This Agreement may be executed in counterparts and delivered by electronic transmission. Any signature on this Agreement transmitted by facsimile or electronically in PDF format or other electronic means (e.g., DocuSign) shall be deemed an original signature and may be used in lieu of the original for all purposes.

18. **Cooperation.** The Parties shall each designate a primary representative responsible for implementation of this Agreement. The Parties agree that their staff will confer in good faith and regularly exchange relevant information to continue collaborating on regional transportation and transit services.

19. **Data Feed (Ecker Hill Park and Ride).** Responsibility for the data feed to/from the Ecker Hill Park and Ride Lot shall be transferred to the District.

20. **Interlocal Cooperation Act Requirements.**

In satisfaction of the requirements of the Utah Interlocal Cooperation Act, the Parties agree as follows:

20.1 This Agreement shall be conditioned upon the approval and execution of this Agreement by the Parties pursuant to and in accordance with the provisions of the Utah Interlocal Cooperation Act ("*UICA*"), as set forth in Utah Code Title 11, Chapter 13, including the adoption of resolutions of approval, but only if such resolutions of the legislative bodies of the Parties are required by the UICA.

20.2 In accordance with the provisions of Utah Code § 11-13-202.5(3), this Agreement shall be submitted to the attorney authorized to represent each Party for review as to proper form and compliance with applicable law before this Agreement may take effect. In accordance with the provisions of Utah Code § 11-13-202.5(1)(b) and where applicable, this Agreement shall be submitted to the governing body authorized to approve this Agreement.

20.3 A duly executed copy of this Agreement shall be filed with the keeper of records of each Party, pursuant to Utah Code § 11-13-209.

20.4 No separate legal entity is created by the terms of this Agreement. To the extent that this Agreement requires administration other than as set forth herein, it shall be administered by the Mayor or chief executive officer of each Party.

20.5 No real or personal property shall be acquired jointly by the Parties as a result of this Agreement unless this Agreement has been amended to authorize such acquisition. To the extent that a Party acquires, holds, or disposes of any real or personal property for

use in the joint or cooperative undertaking contemplated by this Agreement, such Party shall do so in the same manner that it deals with other property of such Party.

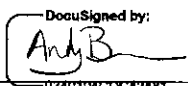
* * *

* * *

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on the dates indicated by the signatures of the respective Parties.

Signed this 12 day of July, 2021.

PARK CITY MUNICIPAL
CORPORATION, a Utah municipal
corporation

DocuSigned by:


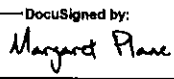
ANDY BEERMAN, Mayor

ATTEST:

DocuSigned by:


City Recorder, Deputy

Reviewed and found to be in proper form and compliance with applicable law:

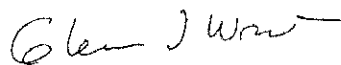
DocuSigned by:


Park City Attorney's Office

* * *

Signed this 10th day of July, 2021.

SUMMIT COUNTY, a political subdivision
of the State of Utah



Glenn Wright
Chair

Reviewed and found to be in proper form and compliance with applicable law:



David L. Thomas
Chief Civil Deputy

* * *

Signed this 10th day of July, 2021.

HIGH VALLEY TRANSIT DISTRICT, a
political subdivision of the State of Utah



Kim Carson
Chair

Reviewed and found to be in proper form and compliance with applicable law:



David L. Thomas
Chief Civil Deputy

Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: John Robertson

Submitting Department: Engineering

Item Type: Staff Report

Agenda Section:

Subject:

Consideration to Authorize the City Manager to Execute a Construction Agreement with Dimensional Innovations, Inc., in a Form Approved by the City Attorney, Not to Exceed \$162,303.00, for the Park Avenue Bus Shelter Project

(A) Public Input (B) Action

Suggested Action:

Attachments:

[Bus Shelter Procurement Contract Staff Report](#)

[Exhibit A: Bid Summary](#)

[Exhibit B: Dimensional Innovations Inc. Bid](#)

[Exhibit C: Draft Construction Agreement](#)

[Exhibit D: Proposed Bus Shelters](#)

[Exhibit E: Park City Bus Shelter Design Goals](#)

City Council Staff Report



Subject: Park Avenue Bus Shelter Procurement Contract
Author: John Robertson, PE, City Engineer
Department: Engineering
Date: January 13, 2022
Type of Item: Legislative

Recommendation

Request to authorize the City Manager to execute a construction agreement with Dimensional Innovations, Inc., in a form approved by the City Attorney, not to exceed the bid amount of one hundred sixty thousand three hundred and four dollars (\$162,303.00).

Executive Summary

The City Council executed a contract with AECOM in May of 2019 that included the design and preparation of construction documents for a standard bus shelter that can be used to replace existing bus shelters throughout the City. The deliverable included a scalable shelter design that will allow the city to use a properly sized replacement for the various sized shelters throughout town. The plan is to replace shelters throughout town over time as funding becomes available. The first two shelters to be replaced are located along Park Avenue in front of Fresh Market. An amendment to the contract was approved in May of 2020 to add in additional sidewalk improvements along Kearns Boulevard and Park Avenue to improve walkability in the area. Additionally, the retaining wall along Kearns Blvd. would be removed and replaced.

The plans and specifications for the procurement of two bus shelters were advertised in various periodicals in the area beginning November 11, 2021. Two bids were received and opened on December 2, 2021. The results of the bid can be found in the Bid Summary (Exhibit A). The lowest responsive and responsible bidder was determined to be Dimensional Innovations, Inc.

Background

- 2018 – Transportation Planning secured 5311 Federal Transit Administration (FTA) grant funds for transit infrastructure improvements.
- May 16, 2019 – City Council approved a contract with AECOM for design and construction document preparation for the replacement of two shelters located on Park Avenue in front of Fresh Market.
- May 21, 2020 – Approve contract amendment for AECOM to add in sidewalk improvements along Park and Kearns Avenues and split the project into two bid packages (bus shelter procurement & sidewalk improvements).
- October 2020 – Presentation of proposed bus shelter design to Joint Transit Advisory Board
- November 11, 2021 - Bus shelter procurement project is advertised.

- December 2, 2021 - Bid opening held where two bids were received and read aloud.

Park City Municipal Corporation (PCMC) in partnership with Summit County Transportation Planning, is phasing bus stop and bus shelter improvements throughout Park City and Summit County. Many existing bus shelters are outdated, may not meet ADA standards, and do not reflect the community's sense of place. The phased approach will address ADA flatwork improvements needed system wide and include bus shelter modifications and other amenities on a site-by-site basis. The deliverable of the project was the creation of final design standards and bid documents for new shelters and amenities that emulate the historic character and small mountain town nature of the area. The scalable design will be used for replacement or installation of bus shelters throughout the city as funding becomes available.

The bus shelter design includes materials that match the mountain town look and feel while providing a tribute to the mining past. The footprint also provides opportunities for public art by including easy to remove panels that could be updated with local artwork.

The shelter designs were created to balance the mountain/mining town feel of Park City and the surrounding region, with the need to have structures that are durable and can withstand extreme weather conditions and snow/salt. Please see Exhibit E for more details on the design considerations, materials, and amenities considered for the shelters. Several design ideations were reviewed and ultimately the package that fit best in our community and could withstand snow loads well was selected. The shelter materials include steel, sustainably harvested wood, polycarbonate panels (more durable and easier to replace than glass), and cast-in-place concrete.

Analysis

The awarding of the shelter procurement contract is the first phase of a two phased project. The second phase of the project will be hard surface improvements around the two shelters, preparation/construction of the shelter foundations, and sidewalk improvements along State Routes 224 (Park Avenue) and 248 (Kearns Boulevard). The 2nd phase is planned to be out to advertised for construction in January of 2022. The bus shelters will be delivered and stored on available City premises until the roadway contractor has completed the structure foundation improvements. The procurement contractor will then come back on site to install the two shelters.

Department Review

This staff report has been reviewed by the City Manager, Community Development, Budget and the Attorney's Office. The construction agreement is subject to review and approval by the City Attorney's office.

Funding Source

The project is funded with 5311 FTA grant funds and County Transportation Sales Tax. The grant fund requires a 20% match. The City match will come from the County Transportation Sales Tax.

Exhibits

Exhibit A: Bid Summary

Exhibit B: Dimensional Innovations Inc. Bid

Exhibit C: Draft Construction Agreement

Exhibit D: Proposed bus shelters

Exhibit E: Park City Bus Shelter Design Goals

Park City Bus Shelters (Shelter Procurement)

Bid Tabulation

Base Bid				LNI Custom Manufacturing, Inc.		Dimensional Innovations	
Item No.	Description	Quantity	Units	Unit Cost	Total	Unit Cost	Total
101	Mobilization	1	LS	\$ 54,750.00	\$ 54,750.00	\$ 13,649.00	\$ 13,649.00
102	Insurance and Bonds	2	LS	\$ 16,000.00	\$ 32,000.00	\$ 15,266.00	\$ 30,532.00
103	Provide and Maintain Traffic Control	2	LS	\$ 72,250.00	\$ 144,500.00	\$ 59,061.00	\$ 118,122.00
Subtotal:				\$ 231,250.00		\$ 162,303.00	
Subcontractors Suppliers				Apres Build Precision Contracting	Shelter install	DI Build	GC, site work, installation
				Kings Powder Coating LLC	Powder coating/paint		
				Crest Steel	steel	T&W Steel Co.	steel
				Interste Plastics	polycarbonate	Metals USA	aluminum
				Real Cedar	lumber		
Notes: Mathematical Error in bid							



DIMENSIONAL INNOVATIONS OVERVIEW

CONNECTING COMMUNITY THROUGH EXPERIENCE DESIGN.

**Dimensional
Innovations**

DIMENSIONAL INNOVATIONS
3421 MERRIAM DR., OVERLAND PARK, KS 66203
PAUL MARTIN, TRANSIT PRACTICE DIRECTOR
PMARTIN@DIMIN.COM | 913.384.3488 | DIMIN.COM

TABLE OF CONTENTS

- 01 FIRM INFORMATION
- 02 PROJECT EXPERIENCE
- 03 YOUR DI TEAM

01

FIRM INFORMATION



WE ARE DIMENSIONAL INNOVATIONS

WE ARE AN EXPERIENCE DESIGN FIRM WITH IN-HOUSE INTERDISCIPLINARY CAPABILITIES.

3421 Merriam Dr, Overland Park, KS 66203 | dimin.com

We help clients tell their story in memorable and engaging ways leveraging digital activations + physical installations and have been doing so for over 28 years.

Our coders, animators, innovators, fabricators, architects, engineers, designers, welders, project managers, painters, UX experts, and creative technologists collaborate within 110,000 sq. feet of innovation + design + build space.

We liberate people from mediocre experiences.

A FEW OF OUR CLIENTS



OUR DISCIPLINES

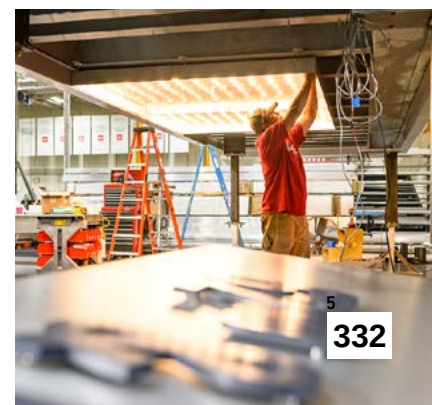
Our disciplines span six categories: Brand, Design, Technology, Build, Launch, and Innovation. We are truly one team under one roof—a team of experts that have been working collaboratively for decades.

There's no better match for experiential design than civic and transit projects. They touch the heart of a community and, if done well, can spark imagination, support community identity, strengthen connections with residents and stimulate growth.

We create environments that are inviting, dynamic, and just plain cool. Whether it's a space or an iconic element, we work hand in hand with our clients to weave design, culture, and services into an unparalleled experience. It's an experience that blends superior design with functional needs, like a pedestrian bridge that embodies the values of a city or a streetcar shelter that doubles as a gallery for local art.

Office Locations:

KC (HQ) + ATL + DEN + LA + MSP + PIT



PRODUCTION

We have a 110,000 square foot facility in Overland Park, KS, with all the necessary labor and equipment required to produce multiple shelters and signs simultaneously for your project.

DI Headquarters:

- > Fabrication Equipment: Shears, Brakes, Rolling Machines, Multiple Welding Units, CNC Routers
- > Paint Booth Area: 4 paint booths
- > Storage: Plenty of available storage to accommodate a project of this scale
- > Installation Equipment
- > Project Management Team
- > Engineering/Construction Documentation
- > Full-service Metal, Wood, and Detail/Finishing Shops
- > Professionally educated Sculpture Artists/ Sculpture Studio & Hard Coat Spray Booth
- > Large-format LSAM 3D printer (first of its kind)
- > Full-Service Large-Format Printing, including Direct Print
- > Full Trucking Fleet for Shipping/Installation
- > Production Art Services



DELIVERY

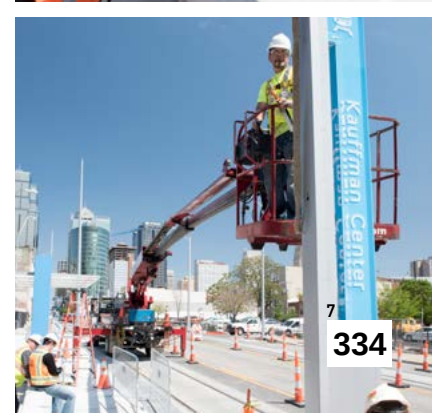
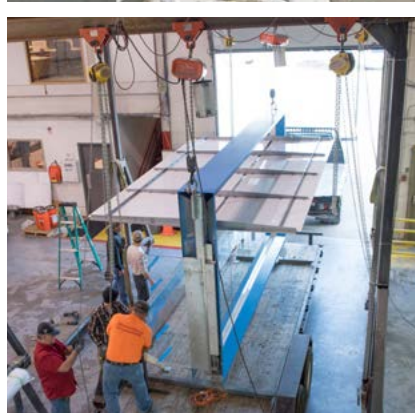
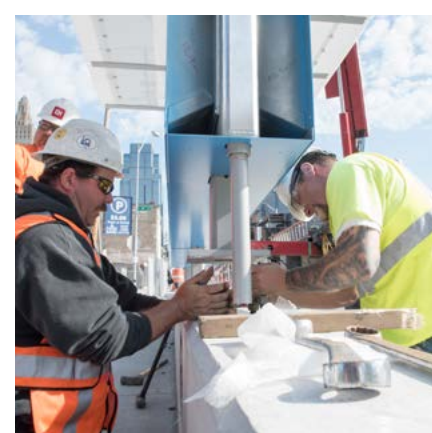
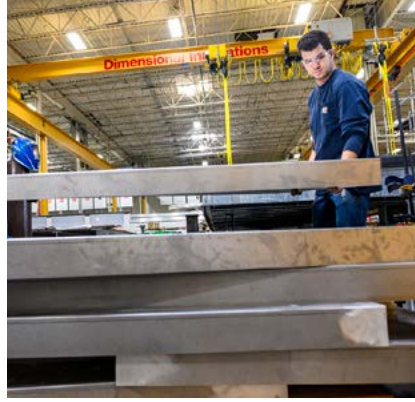
Dimensional Innovations has vast experience with shipping large canopies and signage to the job site and coordinating the process with all parties involved. We have what it takes to organize and load the products for shipments properly. DI has, in the past, for a large BRT project in Omaha, shipped 24 large canopies sized at 37' x 10' and 27' x 8'.

Typically, this process begins with having the freight line company come to our facility to meet with our team to see the product first-hand. Collectively, DI then develops the best way for securing and loading the finished products for shipping to the job site.

A delivery schedule is developed based on the client's requirements. Our driving focus is achieving the milestones in the schedule agreed on for the project.

Since DI can produce multiple canopies in our shop at a time, we will take the lead in all coordination efforts with the client and other necessary parties. We will verify the expected dates the shipments will arrive on-site and what type of equipment we will be using to offload and install—clear, concise communication.

Consider us the “easy” button.



TECHNOLOGY

With hundreds of installations on varying scales, we're fluent in off-the-shelf solutions as well as custom development, and we often help clients embrace new possibilities. Our technology capabilities include:

Programming

- > Immersive AR/VR/MR
- > Touch + Gesture-based Interfaces
- > Front + Back-end Web Stack Development
- > On-premises + Cloud-based CMS
- > Game Engine Development
- > Interactive Lighting Control
- > Embedded Systems Development
- > Projection Mapping
- > Virtual + In-person Visitor Analytics
- > Data Science + Data Visualization
- > Third-party Hardware Integration

Hardware

- > Indoor + Outdoor Direct-view LED Displays
- > AV Over IP Systems + Hardware
- > Single + Multi-projector Installations
- > Distance, Motion + Proximity Sensors
- > DMX Systems + RGB LED Light Hardware

Installation

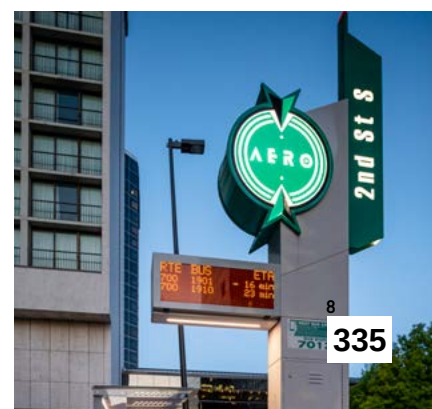
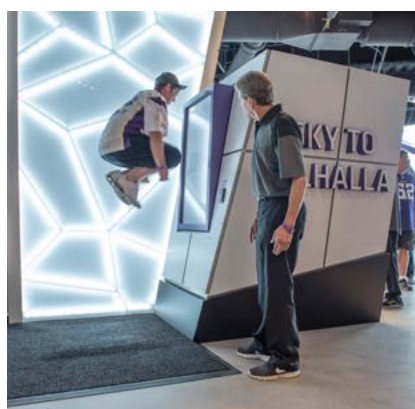
- > Infrastructure Design
- > Rack Integration
- > Commissioning at DI
- > Installation by DI Audio Visual Team

Design: 3D + CG Animation • 3D Modeling

• 3D Environments • Art Direction • Brand Alignment • Client Integration • Interactive Design • Media Design • Media Production

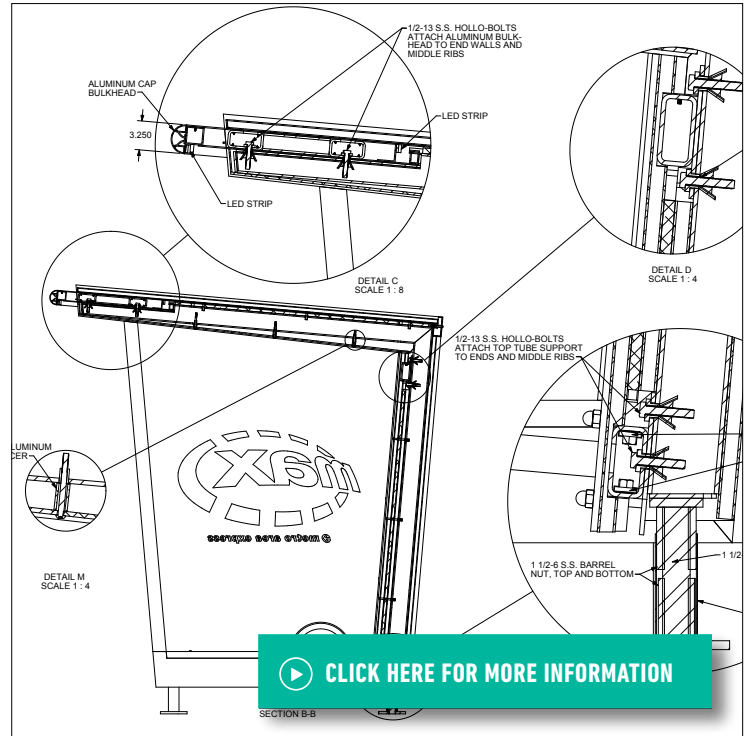
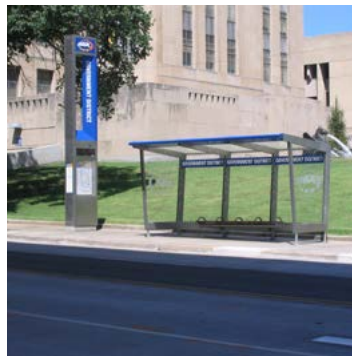
Software: Unreal • Unity • 3DSMax • Maya

• Blender • TouchDesigner • Adobe Suite



02

PROJECT EXPERIENCE



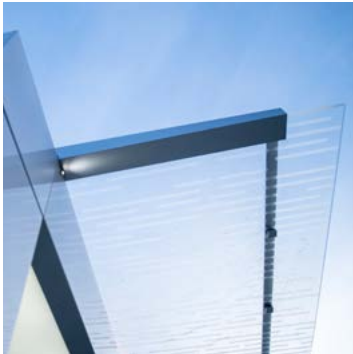
KCATA

DI teamed with the Kansas City Area Transportation Authority and HNTB Architects to successfully implement a new Bus Rapid Transit system in Kansas City. DI played an integral role in detailing the construction documents to meet the unique goals of the job.

DI produced 20 bus shelters using Starfire™ tempered glass and stainless steel on the Main Street shelters and painted steel and plexiglass on the Troost shelters. The real-time kiosks connect to the speed of the bus and alert riders to exact times of arrival. These stainless steel kiosks house LED lights and electronics for easy viewing and user safety.

The MAX bus shelters are now located all around the greater Kansas City area. They have become a focal point of local public transportation.

- > **Project Value:** \$1,466,631
- > **Contract Start + End Dates:** June 2012—January 2014
- > **Reference:** Keith Sanders, P.E. | Kansas City Area Transportation Authority | P: 816.346.0200



August 28, 2015

To Whom It May Concern:

Re: Dimensional Innovations - Letter of Recommendation

This letter is intended to serve as the Kansas City Area Transportation Authority's (KCATA) Letter of Recommendation for Dimensional Innovations, Inc. (DI).

KCATA has worked with DI for many years on several large high profile projects in Kansas City. Most recently, KCATA selected Dimensional Innovations, Inc. to engineer, fabricate and install bus shelters and information kiosks for the State Avenue Transit Corridor Improvements project in Kansas City, Kansas. The project is part of the Kansas City region's Transportation Investment Generating Economic Recovery (TIGER) grant awarded in 2010 by the Federal transit Administration (FTA).

In addition to the shelters and kiosks, DI was asked to undertake the very unique challenge of reconditioning a one hundred year old Seth Thomas Street Clock to be installed on the Downtown KCK transit center.

All of the work for the TIGER projects were challenging and DI was fully capable of meeting the technical, quality and schedule demands. The challenges included adhering to strict federal guidelines, including Buy America requirements of the stimulus program.

Throughout this project and previous ones, Dimensional Innovations' communication, project management and final products have been of the highest quality. Their staff is courteous, knowledgeable and professional and they plan and coordinate their work to fit within required schedules. We believe their problem solving skills and inventiveness are superior and second to none.

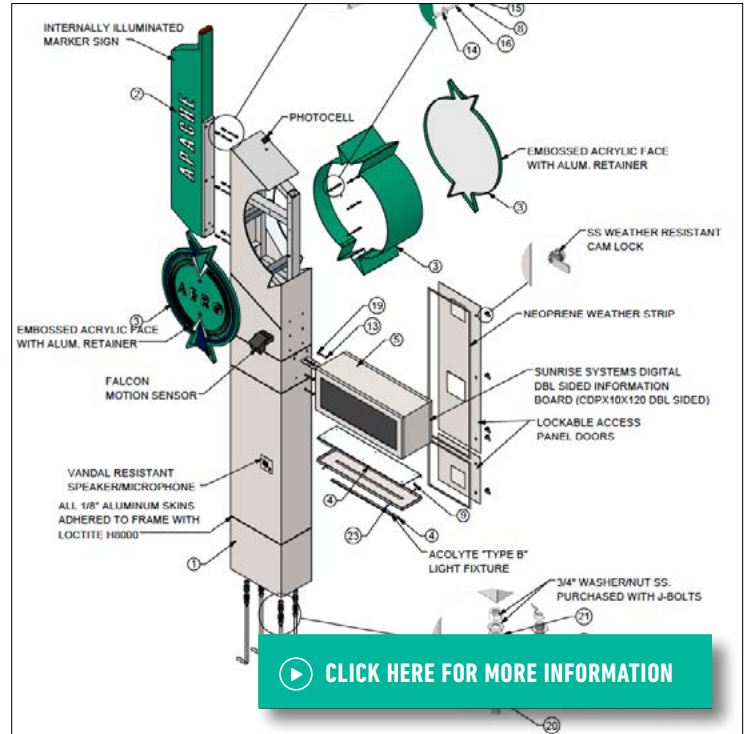
If you have any questions, feel free to contact me at 816-346-0359.

Sincerely,



Keith Sanders, P.E.
Chief Engineer
Regional Planning & Development

816-346-0200 • www.kcata.org
1200 East 18th Street, Kansas City, MO 64108

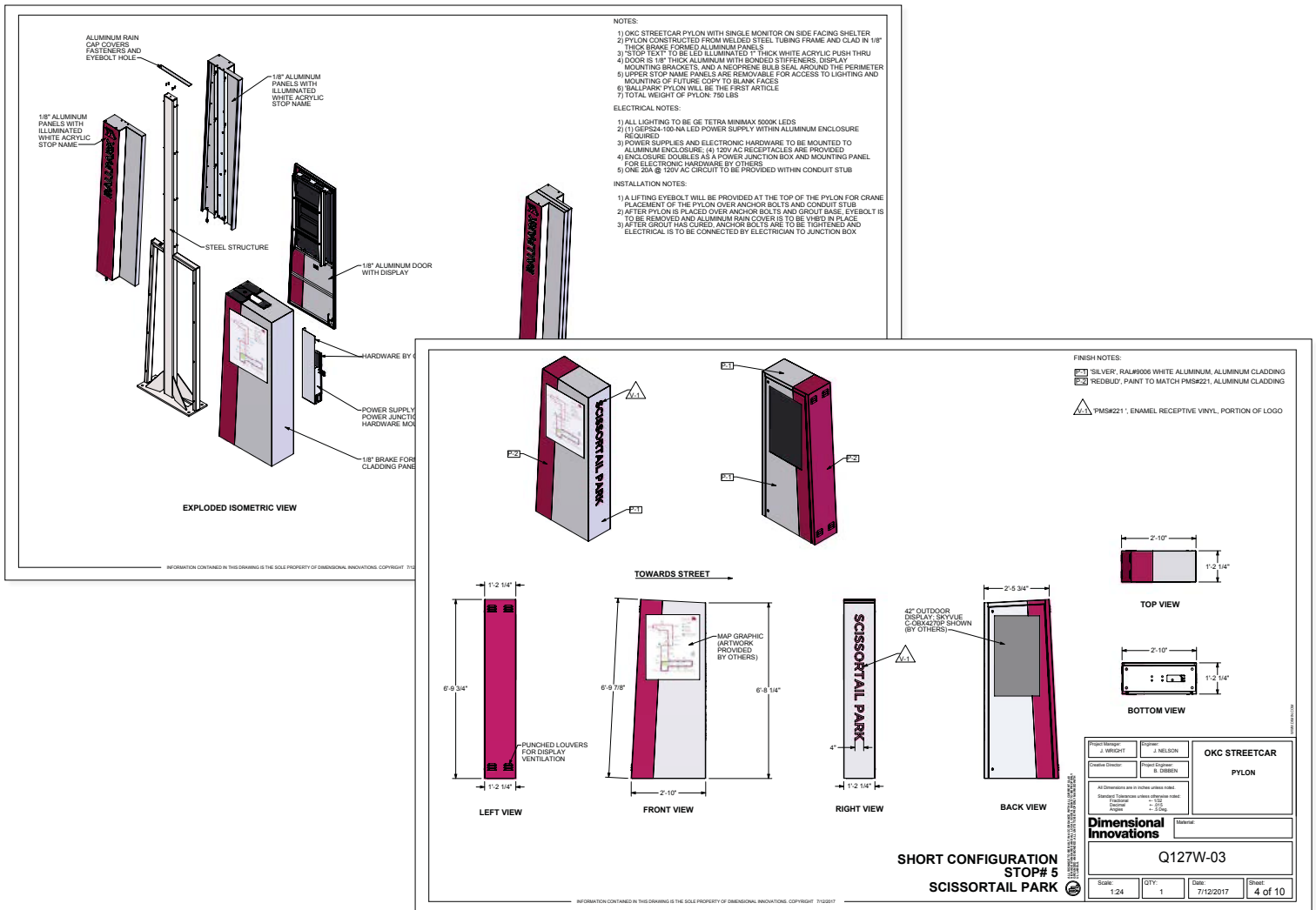


TULSA TRANSIT

In close collaboration with HNTB and Cyntergy, DI helped bring new and modern bus stations to Tulsa's Peoria corridor. The new Aero Bus Rapid Transit stations come in two varieties—a 'Constrained' station, using minimal square-footage to fit along Peoria Avenue, and a 'Standard' station, featuring a larger footprint and more amenities. While waiting for the next bus to arrive, these new platforms offer commuters enhanced amenities like sheltered seating, bicycle racks, and level boarding. Plus, the real-time arrival signs will always keep riders right on schedule. The Aero BRT is playing a vital role in connecting the Tulsa community.

- > **Project Value:** \$4,280,000
- > **Contract Start + End Dates:** December 2018 — January 2020
- > **Reference:** Elliott A. Stiles, P.E., CFM, Construction Manager | City of Tulsa Engineering Services Department
| P: 918.695.2955 | E: estiles@cityoftulsa.org





OKLAHOMA CITY STREETCAR

DI was tasked with designing a branded information pylon that represented the idea of a modern city, a set of diverse neighborhood environments, and EMBARK (the local transportation authority). Starting with a visioning session, DI led a creative and collaborative meeting with all project stakeholders to present three initial concepts, which, through thoughtful design, became the single design path. The design is intended to encourage early adoption rates and continued usage with fit, form, and function that make riding a downtown streetcar easy and pleasurable while setting a high standard of quality that allows for years of low maintenance.

The OKC Streetcar project introduced the modern Streetcar to established and up-and-coming neighborhoods along the planned route when it was completed and ready for public use in 2018.

- > **Project Value:** \$373,142
- > **Contract Start + End Dates:** December 2015—May 2018
- > **Reference:** Richard McCullough, P.E. | Herzog Contracting Corp. | P: 405.246.1750 | E: mccullough@herzog.com



2222 Cuming Street, Omaha, Nebraska 68102-4392
(402) -341-0800 ■ Fax (402)-342-0949 ■ TDD: 4(402)-341-0807

Operated by Transit Authority of the City of Omaha

March 8, 2021

**RE: Transit Authority of the City of Omaha d/b/a Metro
Omaha Rapid Bus Transit (ORBT) Project
Project Reference Check**

To Whom it May Concern,

Metro just completed a \$37 million-dollar rapid bus transit project called ORBT with Dimensional Innovations (DI) as a Contractor. The project included 24 stations locations spread throughout a 10-mile corridor down the busiest Highway in Omaha. The construction project was separated into two packages; a Station Canopy Package, awarded to DI, and a Roadway Package which was constructed by Weitz. The Station Canopy Package included the construction of 24 station canopies and monument markers. There were two sizes of platforms and canopies: Type A = 60'x12' platform with 37'x10' canopy and Type B = 51'x10' platform with 26'x8' canopy. DI was responsible for the manufacturing of the canopies, monument markers, installation of the technology (cameras, speakers, digital kiosk, digital slot signs, and future Ticket Vending Machines. The design team, AECOM, Metro, Weitz and DI developed a great working relationship through the project.

The project faced many hurdles throughout the 18-month construction period including limitations on roadway closures, unknown utility locations, winter conditions, delays in materials and the COVID pandemic. Throughout all those hurdles, all members of the team came together to find the best path forward with DI providing several time and cost saving solutions.

From start to finish, DI was very responsive and innovative in helping to adjust the canopy structures as needed for not only Metro's design changes, but the technology components as well. They also were always keeping Metro informed on the status of manufacturing which helps Metro's Public Outreach Campaign.

Overall, Metro thoroughly enjoyed working with DI on our project. They were aware of schedule and cost impacts, always available when issues arose, open and fair with changes in the field and most importantly, provided a quality product that has provided Metro and the City of Omaha an exceptional new bus service with great customer amenities. We look forward to the opportunity to work with DI again.

Sincerely,

A handwritten signature in black ink, reading 'Joy A. Hottovy Willoughby'.

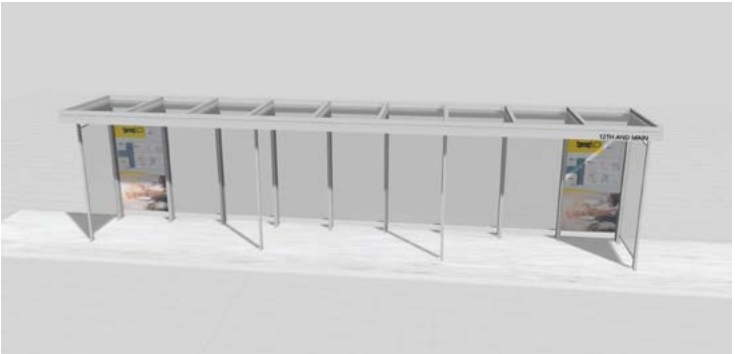
Joy A. Hottovy Willoughby, PE
Senior Project Manager



TRIO - A CONFIGURABLE ADVANCED SHELTER KIT

TRIO is a breakthrough product designed to help Architects and Transit Authorities build their future community, today. With the ability to have all materials on hand and the product engineered in-house, TRIO offers a substantially reduced production time compared to other custom shelters and can be easily assembled by local installers upon delivery. Compared to the competition, our shelters have a longer shelf life, do not require special equipment to be installed, and are customizable. There are a variety of elements to explore, which include: LED lighting strips, a secondary canopy material, branding elements, a digital display, a tonal logo mark, and wayfinding.

- > **Project Value:** Dynamic pricing based on module options
- > **Features:** Pre-engineered / Smart Assembly / Customizable / Durable / Lightweight
- > **Optional Ad-ons:** LED Strip Lighting Cap, Secondary Canopy Material, Branding Elements, Tonal Logo, Symmetrical Platform, Wayfinding Module w/Secondary Panel, Tech/Ad/Brand Module



03

YOUR DI TEAM



PAUL MARTIN

TRANSIT PRACTICE
DIRECTOR



RYAN GREY

SENIOR DESIGNER



DAVERON KENNEDY

ACCOUNT MANAGER



JARED NELSON

SR. DESIGN ENGINEER



ASHLEY ELLIOTT

CLIENT DEVELOPMENT
REPRESENTATIVE



BRANDON WOOD

INNOVATIONS LAB
MANAGER



NICK KING

EXECUTIVE PROJECT
MANAGER



JOHN COOVERT

INTERACTIVE SYSTEMS
ENGINEER

- 1.01 This Bid is submitted to:

Park City Municipal Corporation

Bus Shelters Improvement

(Shelter Procurement)

Engineering Division

445 Marsac Ave.

P.O. Box 1480

Park City, Utah 84060

- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Construction Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
1	November 23, 2021

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of

5.03 Park Avenue Bus Shelters (Shelter Procurement)

<u>Item No.</u>	<u>Description</u>	<u>Unit</u>	<u>Estimate Quantity</u>	<u>Bid Unit Price</u>	<u>Bid Price</u>
Schedule No. 1 - General Requirements					
101	Mobilization	LUMP	1	\$13,649	\$13,649
102	Shelter Installation	LUMP	2	\$15,266	\$30,533
103	Large Shelter	LUMP	2	\$59,061	\$118,122
TOTAL SCHEDULE No. 1 =				\$162,304	

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete as described below:

- A. Bidder agrees that the Work will be substantially complete and operational on or before (August 31, 2022), and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before (September 30, 2022).
- B. Substantial Completion includes the construction, testing, inceptions, and written acceptance of the following major items of work.
 - All finish materials have been approved by Park City or the Resident Engineer overseeing the project.
 - All Welding has been approved.
 - Structure has been installed and in full working order for both large shelters.

Bidder accepts the provisions of the Construction Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents shall be attached to and made a condition of this Bid (Use standard forms per section C-410 M Bid Form Supplemental):
- A. Required Bid security in the form of five percent (5%) (Bid Bond)
 - B. List of Proposed Subcontractors; Complete forms provided per section C-410M: Bid Form Supplemental

ARTICLE 9 – BID SUBMITTAL9.01 This Bid submitted by: An Individual

Name (typed or printed): _____

By: _____

(SEAL)

(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____

(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

A CorporationCorporation Name: Dimensional Innovations, Inc. (SEAL)State of Incorporation: MissouriType (General Business, Professional, Service, Limited Liability): General Business (S Corp)

By: _____

*(Signature – attach evidence of authority to sign)*Name (typed or printed): Tom CollinsTitle: President & CFO

(CORPORATE SEAL)

Attest: _____

(Signature of Corporate Secretary)

ARTICLE 10 – BIDDER STATUS REPORT

10.01 Bidder:

- A. Name: Paul Martin
- B. Signature: 
- C. Address: 3421 Merriam Drive, Overland Park, KS 66203
- D. Telephone: 816-564-4094

10.02 Report:

- A. Number of employees: 230
- B. Bidder's company is (check the following as applicable)
1. ☒ Independently owned and operated
 2. ☐ An affiliate of: _____
 3. ☐ A subsidiary of: _____
 4. ☐ A division of: _____
 5. ☐ A business with gross revenue in excess of: \$ _____
 6. ☐ A business with gross revenue below: \$ _____
- C. Parent Company
1. Name: Dimensional Innovations, Inc.
 2. Address: 3421 Merriam Drive, Overland Park, KS 66203
 3. Telephone: 913-384-3488
 4. Facsimile: 913-384-1074
- D. Number of years as a contractor in construction work of this type: 28
- E. List of current jobs now under construction: (add additional sheets if necessary)

<u>Client</u>	<u>Telephone</u>	<u>Contract Amount</u>	<u>Type of Job</u>
1. Otak Inc: 503-287-6825; \$435,527 - Fabricated windscreen and railing barriers			
2. Kansas City Streetcar: 816-448-2110; \$1,318,705 - VE and fabricate 13 streetcar shelters and 16 markers signs			
3. Omaha Transit (ORBT): 402-951-6509; \$7,600,000 - Fabricated 24 station caopies and pillar signs			
4. _____			

F. List four projects of this size and complexity within the last five years:

	<u>Client</u>	<u>Telephone</u>	<u>Contract Amount</u>	<u>Type of Job</u>
1.	Kansas City Area Transportation Authority: 816-346-0200; \$1,466,631 - Produced 20 bus shelters with real-time kiosks			
2.	Tulsa Transit: 918-695-2955; \$4,280,000 - Developed two station varieties "Constrained" and "Standard" with real-time arrival signs			
3.	Oklahoma City Streetcar: 405-246-1750; \$373,142 - Designing branded information pylon for local transportation authority			
4.	TRIO - Configurable Advanced Shelter Kits - Engineered, fabricated & installed customizable shelters			

G. Has your company ever failed to complete any work awarded you? ___YES X___NO

If so, when, where, and why? _____

ARTICLE 11 – SUBCONTRACTOR AND SUPPLIER REPORT

11.01 Bidder:

- A. Name: Paul Martin
- B. Address: 3421 Merriam Drive, Overland Park, KS 66203
- C. Telephone: 913-384-3488

11.02 Report

- A. Failure of the Bidder to specify a subcontractor for any portion of the work constitutes an agreement by the Bidder that the Bidder is fully qualified to perform that portion, and that Bidder shall perform that portion.
- B. Bidder will be fully responsible to the Owner for the acts and omissions of its subcontractors and suppliers.
- C. Nothing contained in the Contract Documents shall create or imply any contractual relationship between subcontractor(s) and/or supplier(s) and the Owner.
- D. The names and addresses of the subcontractors, suppliers and independent quality control consultants who will work under the terms of the Contract Documents are set forth as follows:

MAIN SUBCONTRACTORS	
Name and Address, Nature and Extent of Work to be Sublet	
1	DI Build - 3421 Merriam Drive, Overland Park, KS 66203 General Contractor, Site Work, and Installation
2	
3	
4	
MAJOR SUPPLIERS	
Name and Address, Nature and Extent of Material to be Provided	
	T&W Steel Co: 1612 SW JEfferson St, Lee's Summit, MO 64081(Steel) Metals USA: 2840 E Heartland Dr, Liberty, MO 64068 (Aluminum)
2	
3	
4	
INDEPENDENT QUALITY CONTROL	
Name and Address, Nature and Extent of Services	
1	
2	
3	
4	

11.03 Effective Date

- A. Bidder executes this Subcontractor & Supplier Report and declares it to be in effect as of
December 9, 20 21.

11.04 Bidder Subscription

- A. Bidder's signature: 
- B. Bidder's printed name: Paul Martin
- C. Title: Director of Advanced Manufacturing + Transit Practice Director

END OF SECTION

AFFIDAVIT OF NON-COLLUSIONSTATE OF: Kansas

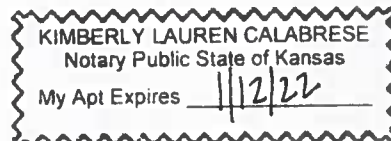
} SS:

COUNTY OF Johnson County

The undersigned, being duly sworn on oath says, that he is the contracting party, or that he is the representative, agent, member, or officer of the contracting party, that he has not, nor has any other member, employee, representative, agent or officer of the firm, company, corporation or partnership represented by him, directly or indirectly, entered into or offered to enter into any combination, collusion or agreement to receive or pay, and that he has not received or paid, any sum of money or other consideration for the execution of the annexed contract other than that which appears upon the face of the contract.

Signature Tom CollinsPrinted name Tom CollinsTitle President & CFOCompany Dimensional Innovations, Inc.

Before me, a Notary Public in and for said County and State personally appeared,
Tom Collins, who acknowledged the truth of the statements in
 the foregoing affidavit on this 7 day of December, 2021.

Signature of Notary Public Kimberly CalabresePrinted or typed name Kimberly CalabreseCounty of residence JohnsonCommission expiration date of Notary Public 11/12/22

CERTIFICATION AND RESTRICTIONS ON LOBBYING

I, Tom Collins hereby certify
(Name and title of official)

On behalf of Dimensional Innovations, Inc. that:
(Name of Bidder/Company Name)

- No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- If any funds other than federal appropriated funds have been paid or will be paid to any person influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

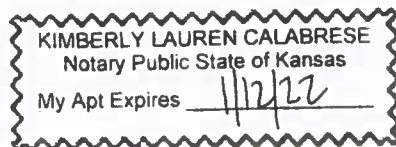
The undersigned certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C. Section 3801, et seq., are applicable thereto.

Name of Bidder/Company Name: Dimensional Innovations, Inc.

Type or print name: Tom Collins

Signature of authorized representative: Tom Collins Date 12 / 7 / 2011

Signature of notary and SEAL: Kimberly Calabrese



GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)

Instructions for Certification: By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below.

- (1) It will comply and facilitate compliance with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 CFR part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," 2 CFR part 180,
- (2) To the best of its knowledge and belief, that its Principals and Subrecipients at the first tier:
- a. Are eligible to participate in covered transactions of any Federal department or agency and are not presently:
 1. Debarred,
 2. Suspended,
 3. Proposed for debarment,
 4. Declared ineligible,
 5. Voluntarily excluded, or
 6. Disqualified,
 - b. Its management has not within a three-year period preceding its latest application or proposal been convicted of or had a civil judgment rendered against any of them for:
 1. Commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction, or contract under a public transaction,
 2. Violation of any Federal or State antitrust statute, or,
 3. Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making any false statement, or receiving stolen property,
 - c. It is not presently indicted for, or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses listed in the preceding subsection 2.b of this Certification,
 - d. It has not had one or more public transactions (Federal, State, or local) terminated for cause or default within a three-year period preceding this Certification,
 - e. If, at a later time, it receives any information that contradicts the statements of subsections 2.a – 2.d above, it will promptly provide that information to FTA,
 - f. It will treat each lower tier contract or lower tier subcontract under its Project as a covered lower tier contract for purposes of 2 CFR part 1200 and 2 CFR part 180 if it:
 1. Equals or exceeds \$25,000,,
 2. Is for audit services, or,
 3. Requires the consent of a Federal official, and
 - g. It will require that each covered lower tier contractor and subcontractor:
 1. Comply and facilitate compliance with the Federal requirements of 2 CFR parts 180 and 1200, and
 2. Assure that each lower tier participant in its Project is not presently declared by any Federal department or agency to be:
 - a. Debarred from participation in its federally funded Project,
 - b. Suspended from participation in its federally funded Project,
 - c. Proposed for debarment from participation in its federally funded Project,
 - d. Declared ineligible to participate in its federally funded Project,
 - e. Voluntarily excluded from participation in its federally funded Project, or
 - f. Disqualified from participation in its federally funded Project, and
 3. It will provide a written explanation as indicated on a page attached in FTA's TrAMS platform or the Signature Page if it or any of its principals, including any of its first tier Subrecipients or its Third-Party Participants at a lower tier, is unable to certify compliance with the preceding statements in this Certification Group.
- (3) It will provide a written explanation as indicated on a page attached in FTA's TrAMS platform or the Signature Page if it or any of its principals, including any of its first tier Subrecipients or its Third-Party Participants at a lower tier, is unable to certify compliance with the preceding statements in this Certification Group.

Certification

Contractor: Dimensional Innovations, Inc.

Signature of Authorized Official: Tom Collins Date 12 / 7 / 2021

Name and Title of Contractor's Authorized Official: Tom Collins, President & CFO

BUY AMERICA CERTIFICATION STEEL OR MANUFACTURED PRODUCTS

General Requirement (as stated in 49 CFR 661.5)

- a. Except as provided in 49 CFR 661.7 and 49 CFR 661.11, no funds may be obligated by FTA for a grantee project unless all iron, steel, and manufactured products used in the project are produced in the United States.
- b. All steel and iron manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.
- c. The steel and iron requirements apply to all construction materials made primarily of steel or iron and used in infrastructure projects such as, transit or maintenance facilities, rail lines, and bridges. These items include, but are not limited to, structural steel or iron, steel or iron beams and columns, running rail and contact rail. These requirements do not apply to steel or iron used as components or subcomponents of other manufactured products or rolling stock, or to bimetallic power rail incorporating steel or iron components.
- d. For a manufactured product to be considered produced in the United States:
 1. All of the manufacturing processes for the product must take place in the United States; and
 2. All of the components of the product must be of U.S. origin. A component is considered of U.S. origin if it is manufactured in the United States, regardless of the origin of its subcomponents.

If steel, iron, or manufactured products (as defined in 49 CFR 661.3 and 661.5) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder or offeror in accordance with the requirement contained in 49 CFR 661.13(b).

Certificate of Compliance with Buy America Requirements

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.

Company Dimensional Innovations, Inc.
 Name Tom Collins Title President & CFO
 Signature *Tom Collins* Date 12/17/2022

Certificate of Non-Compliance with Buy America Steel or Manufactured Products Requirements

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7.

Company _____
 Name _____ Title _____
 Signature _____ Date _____

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address):

Dimensional Innovations, Inc.
3421 Merriam Drive, Overland Park, KS 66203

SURETY (Name and Address of Principal Place of Business):

Western Surety Company
151 N. Franklin St.
Chicago, IL 60606 (312) 822-5000

OWNER (Name and Address):

Park City Municipal Corporation, Engineering Division
445 Marsac Ave.
P.O. Box 1480
Park City, Utah 84060

BID

Bid Due Date: 12/9/2021

Description (Brief Description Including Location):

Contractor shall furnish all labor, materials, and equipment to complete the project of two transit shelters.
Location: Park Ave & Kearns Blvd, Park City, UT 84060

BOND

Bond Number: N/A

Date (Not earlier than Bid due date): December 9, 2021

Penal sum	Five Percent of the Amount Bid	5% of the Amount Bid
	(Words)	(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

Dimensional Innovations, Inc. (Seal)
Bidder's Name and Corporate Seal

By: Tom Coz President & CFO
Signature and Title

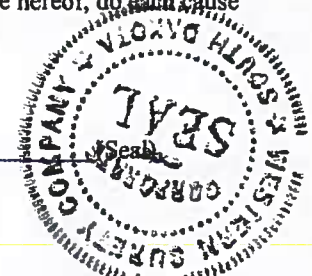
Attest: Paul
Signature and Title

SURETY

Western Surety Company
Surety's Name and Corporate Seal

By: Tahitia M. Fry
Signature and Title Tahitia M. Fry, Attorney-in-Fact
(Attach Power of Attorney)

Attest: Chris Hamner
Signature and Title Witness



Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Construction Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Construction Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Patrick T. Pribyl, Debra J. Scarborough, Evan D. Sizemore, Charles R. Teter III, Jeffrey C. Carey, Rebecca S. Leal, Kellie A. Meyer, Mary T. Flanigan, Christy M. Braile, Charissa D. Lecuyer, C. Stephens Griggs, Tahitia M. Fry, Veronica Lawver, Lauren Scott, Individually

of Kansas City, MO, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 19th day of June, 2021.



WESTERN SURETY COMPANY

Paul T. Bruflat

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 19th day of June, 2021, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

March 2, 2026



M. Bent

M. Bent, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 9th day of December, 2021.



WESTERN SURETY COMPANY

L. Nelson

L. Nelson, Assistant Secretary

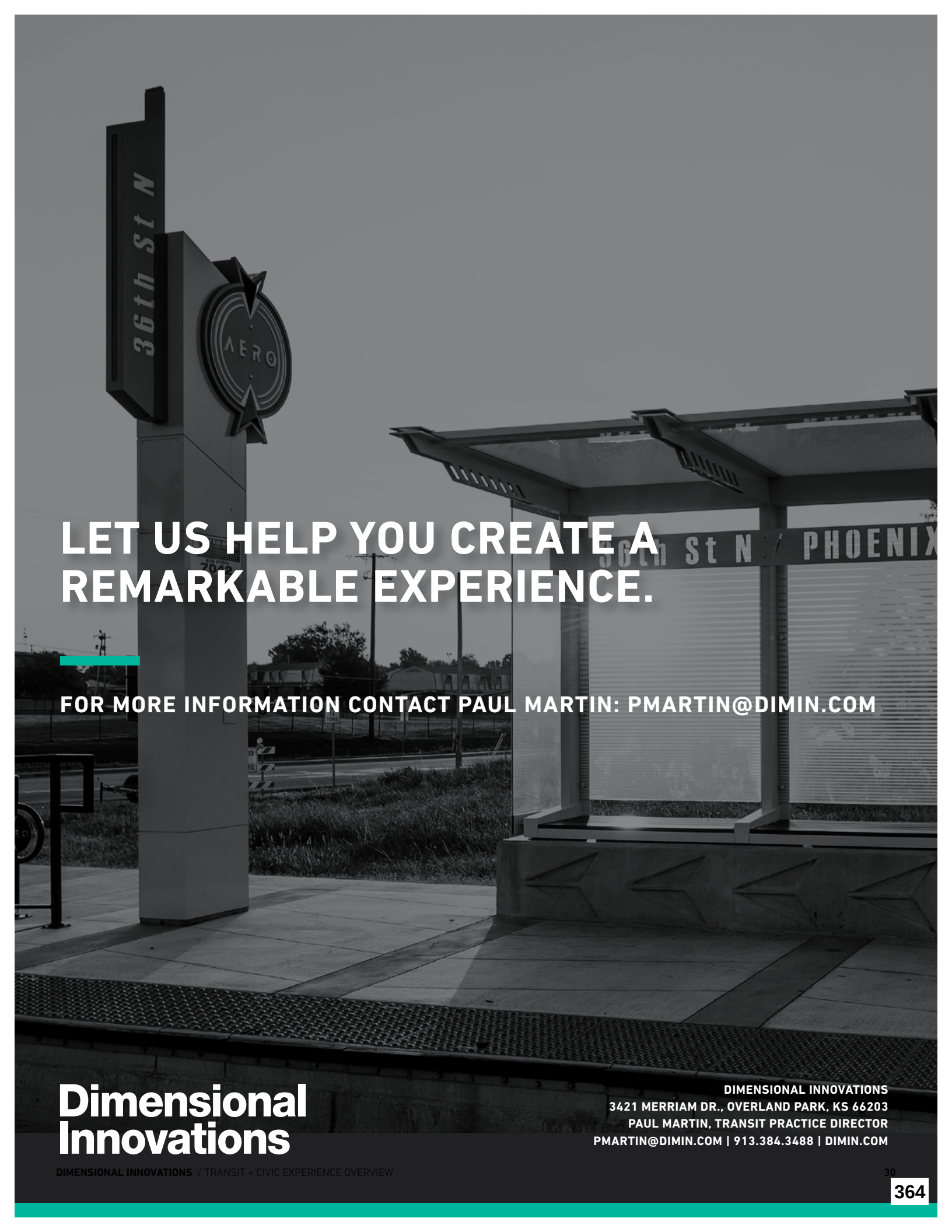
Form F4280-7-2012

Go to www.cnasurety.com > Owner / Obligor Services > Validate Bond Coverage, if you want to verify bond authenticity.

Authorizing By-Law**ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY**

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.



**LET US HELP YOU CREATE A
REMARKABLE EXPERIENCE.**

FOR MORE INFORMATION CONTACT PAUL MARTIN: PMARTIN@DIMIN.COM

**Dimensional
Innovations**

DIMENSIONAL INNOVATIONS / TRANSIT + CIVIC EXPERIENCE OVERVIEW

DIMENSIONAL INNOVATIONS
3421 MERRIAM DR., OVERLAND PARK, KS 66203
PAUL MARTIN, TRANSIT PRACTICE DIRECTOR
PMARTIN@DIMIN.COM | 913.384.3488 | DIMIN.COM

CONSTRUCTION AGREEMENT

THIS AGREEMENT is made and entered into as of this ____ day of _____, 20__, by and between **PARK CITY MUNICIPAL CORPORATION**, a Utah municipal corporation, P.O. Box 1480, Park City, UT 84060, , (hereinafter "City"), and _____, a _____ (Insert state of incorporation) _____ (insert either "corporation" or "limited liability company"), whose post office address is _____, (hereinafter "Contractor").

PURPOSE: For the project known as the (project name) (hereinafter "Project"), which consists of (brief description of work and address).

NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties hereby agree as follows:

SECTION 1. SCOPE OF WORK. Contractor shall furnish all labor, materials and equipment to complete the Project, consisting of the work described in the Information for Bidders as the Basic Bid, and the following additive alternates: _____, as specifically set out in the contract specifications, which is made a part hereof by reference, herein called the "Project."

The Project will be bound by the specifications referenced herein, according to the Advertisement for Bid, the Information for Bidders, the General Project Requirements and Specifications provided by City, the Bid of the Contractor, Bid Bond, Drawings, Notice of Award and Notice to Proceed, (collectively referred to as the "Contract Documents"), all of which are incorporated herein by reference and on file in the _____ Department. To the extent that this Construction Agreement (hereinafter "Contract" or "Agreement") conflicts in any way with a proposed form agreement which may have been submitted as part of the bid specifications, this Agreement shall control.

If any of the work performed by Contractor in any phase of the Project does not meet City standards as outlined in the bid documents and specifications, then Contractor shall immediately repair or correct the work at no additional cost to City.

A. SUBCONTRACTORS. No part of this Contract shall be subcontracted by the Contractor without prior written approval by City through the Project Manager/Engineer. The Contractor shall be fully responsible to the City for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them as it is for the acts and omissions of persons directly employed by it.

If written approval is granted to subcontract a part of this Contract, the Contractor shall require each subcontractor that physically performs services within Utah to

submit an affidavit to the Contractor stating that the subcontractor has used E-Verify, or an equivalent program, to verify the employment status of each new employee.

The Contractor shall, within ten (10) days of submittal of request for final payment, include an affidavit showing satisfactory evidence that all claims of subcontractors, laborers and material men who supplied services or materials to the Project have been fully paid, discharged, or waived. The Contractor shall submit lien waivers for each pay release.

If the City reasonably believes that Contractor has failed to pay Subcontractors, materialmen, or laborers for work on the Project within a reasonable time of when payment is due, then City may, after having notified the Contractor, either pay unpaid bills or withhold from the release of Contractor's payment bond for this Project, a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged and a ten percent (10%) fee for administering such claims.

B. STANDARDS OF WORKMANSHIP. Contractor shall demonstrate workmanship equal to or better than current industry standards for this Project. Where Park City specifications exist, (for example, asphalt, concrete, irrigation, sprinkling system and landscaping), they shall provide the benchmark for determination of acceptability.

C. INSPECTION AND TESTING. All materials and equipment used in the construction shall be subject to inspection by the Project Manager/Engineer. If laws, ordinances, rules or regulations of any public authority having jurisdiction require any work to specifically be inspected, tested, or approved by someone other than Project Manager/Engineer, the Contractor shall give the Project Manager/Engineer timely notice of readiness. Inspections, tests or approvals by the City or appropriate authorities will not relieve the Contractor from obligations to perform the work in accordance with the requirements of the Contract Documents and/or provisions. The Project Manager/Engineer and other designated persons will at all times have access to the work. All work shall ultimately be inspected for final acceptance by the Project Manager/Engineer within a reasonable time upon receipt of notice from the Contractor that work is complete and ready for final inspection.

During construction, the work will be inspected and observed by the Project Manager/Engineer or his designated representative. All work that is deficient or does not meet specifications shall be removed and replaced with proper material at Contractor's expense.

D. WARRANTY. Contractor warrants that all materials and supplies used in the construction of the Project shall be new, except as otherwise agreed to in writing by

the City's Representative. All materials, equipment, parts and labor and any necessary corrections to the Project shall be guaranteed for a period of at least one (1) year following the date of substantial completion of the Project under the terms of the performance bond or as provided in the project specifications and construction documents, whichever is longer.

E. ADOPTED CODES. All work shall be completed at a minimum in accordance with all building, electric and energy codes adopted by Park City.

SECTION 2. PERFORMANCE AND PAYMENT BONDS. Contractor shall furnish to the City payment and performance bonds satisfactory to the City guaranteeing Contractor's payment and performance, in the amount, for each separately, of one hundred percent (100%) of the Contract amount.

SECTION 3. INSURANCE. Unless otherwise specified in the bid documents, the Contractor shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, their agents, representatives, employees, or subcontractors.

The Contractor shall provide Park City Municipal Corporation a Certificate of Insurance evidencing:

- A.** General Liability insurance written on an occurrence basis with limits no less than Two Million Dollars (\$2,000,000) combined single limit per occurrence and Three Million Dollars (\$3,000,000) aggregate for personal injury, bodily injury and property damage. Coverage shall include but not be limited to: blanket contractual; products/completed operations; explosion, collapse and underground (XCU) if specifically requested; and employer's practices.

The Contractor shall increase the limits of such insurance to at least the amount of the Limitation of Judgments described in Section 63G-7-604 of the Governmental Immunity Act of Utah, as calculated by the state risk manager every two years and stated in Utah Admin. Code R37-4-3.

- B.** Automobile Liability insurance with a combined single limit of not less than Two Million Dollars (\$2,000,000) each accident for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of owned, hired, and non-owned motor vehicles. This policy must not contain any exclusion or limitation with respect to loading or unloading of a covered vehicle.
- C.** Workers Compensation and Employers Liability coverage with Workers

Compensation limits complying with statutory requirements, and Employer's Liability Insurance limits of at least One Million Dollars (\$1,000,000) each accident, One Million Dollars (\$1,000,000) for bodily injury by accident, and One Million Dollars (\$1,000,000) each employee for injury by disease.

The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of Park City Municipal Corporation for all work performed by the Contractor, its employees, agents and subcontractors.

D. Builder's Risk Insurance (Course of Construction) (at City's discretion)

Before starting the Work, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions. Such coverage shall name Park City Municipal Corporation as an additional insured.

E. The general liability and auto liability insurance policies are to contain, or be endorsed to contain, the following provisions:

Park City Municipal Corporation, its officers, officials, employees, and volunteers are to be covered as additional insureds on the commercial general liability policy with respect to liability arising out of work or operations and completed operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor.

F. Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions. The City reserves the right to request certified copies of any required policies.

G. The Contractor's insurance shall contain a clause stating that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

H. For any claims related to this Construction Agreement, the Contractor's insurance coverage shall be primary insurance coverage with respect to Park City Municipal Corporation, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by Park City Municipal Corporation, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

SECTION 4. CONTRACT AMOUNT, ACCEPTANCE OF WHOLE, ADDITIONS. City shall pay Contractor a total sum not to exceed **(insert amount, in words) (\$ numerically)** ("Contract Amount") for all work and materials expended to complete this Project, which shall include the cost of all bonds, insurance, and all charges, fees, permits (including water and sewer fees, unless waived), expenses or assessments of whatever kind or character that are or may be necessary to complete this Project, including any additive alternates listed within the scope of work described in Section 1.

SECTION 5. PERMITS AND FEES. As set out in Section 4 above, the Contract Amount includes the price of all normally applicable fees and permits. The City may, at its discretion, arrange for the waiver of certain fees, permits and expenses.

SECTION 6. TERMS OF PAYMENT. The City shall pay for services provided hereunder according to and in an aggregate amount not to exceed the Contract Amount or as detailed in an attached payment schedule (if attached, will be **Attachment A**) and only upon Contractor's request on forms approved by and submitted to the Project Manager. The City shall make payment within thirty (30) days thereafter. Requests for a more rapid payment may be considered if a discount is offered for early payment. At no time shall the aggregate amount of money paid to the Contractor in proportion to the Contract Amount be greater than the proportion of the work performed at that point to the total Project work. No payment shall be made for any service rendered by the Contractor except for services set forth and identified in this Agreement. The City reserves the right to withhold payment in whole or part from the Contractor for non-compliance with the provisions of the Contract Documents.

A. RETAINAGE. The City may, in its sole discretion (1) retain five percent (5%) of the value of all work done and materials or equipment supplied as part security for the fulfillment of the Agreement by the Contractor; or (2) retain the final payment of up to five percent (5%) of the total Project amount. As work nears completion and solely at the City's discretion, the City may reduce the retainage to an amount more in line with the work remaining. The City reserves the right to retain all amounts previously withheld or due, including any liquidated damages, until all services specified herein are complete. Any money withheld pursuant to this section shall be placed in an interest bearing account and the interest shall also be payable to the Contractor upon final payment.

Before final payment is made, the Contractor must submit evidence satisfactory to the City that all payrolls, material bills, subcontracts and all outstanding indebtedness in connection with the Project have been paid for.

The City may withhold a reasonable amount of the payment bond sufficient to cover any outstanding indebtedness or monies owed or claimed by any person who supplied work or materials to the Project plus ten percent (10%) of such

indebtedness as the City's cost of administering such claims until Contractor supplies a release satisfactory to the City, signed by all persons who have supplied labor or materials to the Project or, at the City's option if no claim is made, until one hundred five (105) days after the date on which any person performed the last of the labor or supplied the last of the material for the Project and upon written request from the Contractor.

The Contractor shall supply to the Project Manager/Engineer within a reasonable time after his/her request a signed statement verifying all the suppliers, subcontractors, and other persons who have supplied labor or materials to the Project.

B. FINAL PAYMENT. Acceptance by the Contractor of the final payment from the City shall release the City of all claims, demands and liability of the Contractor, its officers, agents, employees and subcontractors, whether communicated or not by the Contractor, except with respect to those matters referred to in writing delivered to the Contractor and approved in a signed writing by the Project Manager.

SECTION 7. COMPLETION TIME. The work on this Project shall commence within ten (10) days of receipt of the Notice to Proceed and shall be completed **by <<insert date>>.** Work stoppage due to inclement weather conditions and other factors must be approved in writing by the Project Manager. Inclement weather shall not otherwise constitute cause for delay. Unless otherwise agreed by the City by change order, no damages shall become due to Contractor for City caused delay. A change order for delay will generally be accepted for delay so excessive and unreasonable that it is beyond the scope of the Contract or delay attributed to direct, active or willful interference by the City. The change order must be based upon actual damages sustained by the Contractor which are directly attributed to the delay.

In the event that Contractor fails to complete all of the work required herein within the time limit set out above, then for each partial or complete day during which the work remains uncompleted thereafter, the Contractor agrees to pay the City **One Hundred Dollars (\$100.00), _____ (Contractor Initials)** which the parties believe, due to the difficulty of actually assessing the damages the City will suffer in the event of such a delay, is a fair estimate of the loss the City will suffer. The parties agree that the daily liquidated damages provided for herein is reasonable and fair, and is not a penalty. **TIME IS OF THE ESSENCE IN THIS AGREEMENT.**

SECTION 8. ADDITIONAL WORK/CHANGE ORDERS. The City may enlarge or reduce the work to be performed by Contractor hereunder by written notification to Contractor, including changes to the plans and specifications. The City shall pay Contractor for any additional work so requested, and shall reduce the payment to the Contractor for any reduction in labor, materials, overhead and profit margin resulting from the reduction in the

work. Except as the City shall so notify the Contractor in writing, it is understood and agreed by the parties hereto that no money will be paid to the Contractor for any new or additional labor or materials furnished unless a written modification is agreed to in a document signed by both parties.

The value of any work covered by a change order or of any claim for increase or decrease in the Contract price shall be determined by one (1) or more of the following methods in order of precedence listed below:

- A. An agreed lump sum; or in the event the parties cannot agree; then
- B. The unit rate for the work bid by the Contractor, if applicable, or in the event there was no such rate bid; then
- C. The actual cost for: (1) labor; (2) materials; (3) supplies; (4) equipment; (5) direct overhead (not to exceed 5% of the sum total of items 1-4, unless approved by the City); and (6) other services necessary and approved by the City to complete the work. In the event of a net increase in the Contract Amount for a change order as a whole, the City shall allow a payment to the Contractor of an additional ten percent (10%) of the actual cost of the work, not including direct overhead or bond costs, to cover the cost of general overhead and profit. The Contractor may also charge the City for actual cost of the net increase in bond costs as a result of the overall change to the Contract Amount. The City specifically reserves the right to request documentation, including, but not limited to, payroll stubs, bond bills, and invoices, to validate the Contractor's calculations.

SECTION 9. DISPUTES. Except as otherwise provided in this Agreement, any disputes concerning a question of fact arising under this Agreement which are not disposed of by agreement shall be decided by the City. The decision of the City shall be final and conclusive unless, within thirty (30) days from the date of receipt of such decision, the Contractor shall mail or otherwise furnish the City a written signed appeal addressed to the Project Manager/Engineer. In connection with any appeal proceeding under this clause, the Contractor will be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor will proceed diligently with the performance of the Contract and in accordance with the City's decision. The decision of the City shall be final and conclusive, but shall not be arbitrary or unreasonable. Although this Contract has been drafted by the City, the Contractor expressly agrees that any ambiguity herein shall be resolved in favor of the City.

SECTION 10. DEFAULT, REMEDY AND TERMINATION. The City may terminate this Agreement upon the occurrence of one or more of the following events:

- A.** If Contractor or any subcontractor should substantially violate any of the provisions of this Agreement;
- B.** If Contractor substantially fails to perform any part of this Agreement;
- C.** If Contractor repeatedly fails or becomes unable to perform the services under this Agreement as required herein, or substantially fails to provide services under this Agreement for a period of seventy two (72) hours;
- D.** If Contractor (1) shall become insolvent in a bankruptcy case; (2) shall be generally not paying its debts as they become due, or within a reasonable time thereafter; (3) shall suffer, voluntarily or involuntarily, the entry of an order by any court or governmental authority authorizing the appointment of or appointing of a custodian (as that term is defined in 11 U.S.C. §101(11)), receiver, trustee, or other officer with similar powers with respect to it or any portion of its property which remains undismissed for a period of ninety (90) days; (4) shall suffer, voluntarily or involuntarily, with or without judicial or governmental authorization, any such custodian, receiver, trustee, or other officer with similar powers to take possession of any part of its property which third party remains in possession for an excess of ninety (90) days; (5) shall suffer, voluntarily or involuntarily, the filing of a petition respecting an assignment for the benefit of creditors which is not dismissed for a period of ninety (90) days; (6) shall be dissolved; (7) shall become the subject of any proceeding, suit, or action at law or in equity under or relating to any bankruptcy, reorganization or arrangement of debt, insolvency, readjustment of debt, receivership, liquidation, or dissolution law or statute or amendments thereto to be commenced by or against it or against any of its property which remains undismissed for a period of ninety (90) days; (8) shall voluntarily suspend substantially all of its business operations; (9) shall be merged with, acquired by, or otherwise absorbed by any individual, corporation, or other business entity or organization of any kind except for any individual corporation or other business entity or organization which is controlled by, controlling, or under common control with the Contractor; or (10) shall take action for the purpose of any of the foregoing.

After serving ten (10) days written notice on the Contractor and its surety of its intention to terminate the services of Contractor, and if within ten (10) days after serving such notice, the violation is not corrected to City's reasonable satisfaction, the City then may take over the work and prosecute it to completion by contract or by any other method it may deem advisable at the expense of the Contractor. The Contractor and the bonding company shall be liable to the City for any reasonable cost occasioned by the City in excess of the amount agreed to for the service herein.

The Contractor shall be entitled to a hearing before a City hearing officer upon the issue of termination if it submits a written request therefore within seven (7) days of the service of

the notice of the City's intent to terminate. The Contractor shall be entitled to be heard at such hearing on the issue of termination. The Contractor shall not bring an action against the City, its officers, agents or employees arising out of or relating to the termination of this Agreement before the decision is issued by the City's hearing officer(s).

Waiver of any default shall not be deemed to be a waiver of any subsequent default. Waiver of any provision of this Agreement shall not be construed to be modification of the terms of this Agreement, unless stated to be such in writing, signed by the City's authorized representative.

The Contractor shall continue the performance of this Agreement to the extent not terminated under the provisions of this section.

The rights and remedies of the City provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

SECTION 11. HOLD HARMLESS INDEMNIFICATION. The Contractor clearly and unequivocally agrees to indemnify and to hold the City and its agents, employees, and officers, harmless from and shall process and defend at its own expense any and all claims, demands, suits, at law or equity, actions, penalties, losses, damages, or costs, of whatsoever kind or nature, brought against the City arising out of, in connection with, or incident to the execution of this Agreement and/or the Contractor's performance or failure to perform any aspect of this Agreement; provided, however, that if such claims are caused by or result from the concurrent negligence of the City, its agents, employees, and officers, this indemnity provision shall be valid and enforceable only to the extent of the negligence of the Contractor or others; and provided further, that nothing herein shall require the Contractor to hold harmless or defend the City, its agents, employees and/or officers from any claims arising from the sole negligence of the City, its agents, employees, and/or officers. The Contractor expressly agrees that the indemnification provided herein constitutes the contractor's waiver of immunity under Utah Code Section 34A-2-105 for the purposes of this Agreement. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement. No liability shall attach to the City by reason of entering into this Agreement except as expressly provided herein.

SECTION 12. CONTROLLING LAW AND ATTORNEY FEES AND COSTS. These general conditions shall be construed in accordance with and enforced under the laws of the State of Utah. Any action of law, suit in equity, or judicial proceeding for the enforcement of the Agreement, or any provisions thereof, shall be instituted and maintained only in any of the courts of competent jurisdiction in Summit County, Utah. If any legal proceeding is brought for the enforcement of this Agreement, or because of a dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the prevailing party shall be entitled to recover from the other party, in addition

to any other relief to which such party may be entitled, reasonable attorney's fees and other costs incurred in connection with that action or proceeding.

SECTION 13. ASSIGNMENT. The Contractor shall not assign nor transfer any interest in this Agreement without the prior written consent of the City, provided however, that claims for compensation due or to become due the Contractor from the City under this Agreement may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment shall be promptly furnished to City.

SECTION 14. SAFETY AND TRAFFIC CONTROL. Contractor shall take all reasonable precautions to protect the safety of pedestrians, school children, motorists, and others who may use or come near to the Project site, including, but not limited to, compliance with the Manual of Uniform Traffic Control Devices.

SECTION 15. SAFETY AND PROTECTION OF THE WORK. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project work. Contractor shall provide reasonable protection to prevent damage, injury or loss to employees on the Project work and all other persons who may be affected thereby, materials and equipment, whether on or off the site, and other property at the work site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. In addition, the Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

The Contractor shall erect and maintain, as required by the existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, setting safety regulations, and notifying owners and user of adjacent utilities.

The Contractor shall promptly remedy all damage or loss to any property referred to in this section caused in whole or in part by the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible, except for acts or omissions by the City or anyone directly or indirectly employed by it, or by anyone for whose acts it may be liable, and not attributable to the fault or negligence of the Contractor. Contractor shall remove from the site all cuttings, debris, equipment and unused material.

SECTION 16. UNENFORCEABLE CONTRACT, WAIVERS. In the event that any provision of this Agreement shall be ruled invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party

of any provision, term, or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same provision by the other party.

SECTION 17. ENTIRE AGREEMENT. This Agreement represents the entire integrated agreement between City and Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written modification signed by both parties.

SECTION 18. COMMENCEMENT OF WORK. Contractor will commence work as required by the specifications within ten (10) calendar days after receiving the Notice To Proceed.

SECTION 19. UTILITIES. The right is reserved to the owners of public utilities and franchises to enter upon the street or work site for the purpose of making repairs or changes of their property that may become necessary by the work. The City shall also have the privilege of entering upon the street or work site for the purpose of repairing culverts, storm drains, water system repairs or adjustments, and any and all other necessary City work.

The Contractor takes the whole risk, responsibility and expense with respect to the location of utilities, and in working with utility owners about locating, moving, repairing, and modifying utilities. All utility locations shown on the plans and specifications are approximate and are marked on the plans, if at all, only for convenience. The City makes no representation about the location of any such utilities, and Contractor is encouraged to contact utility companies and owners about the location of all utilities that may be impacted by or impact the Project work.

SECTION 20. HOURS AND DAYS OF WORK. All work performed by the Contractor, its subcontractors, materialmen, agents and employees shall be performed during work hours of 7:00 a.m. to 9:00 p.m. Monday through Saturday unless otherwise specified in a Conditional Use Permit or Construction Mitigation Plan. In individual Construction Mitigation Plans, the Building Official may further reduce the hours or days of work for special events or as other circumstances may reasonably warrant. When work is prohibited, no exterior construction, excavation or delivery of supplies and concrete are allowed. Interior work, however, may be allowed Monday through Sunday, with no limitation on hours for the following types of construction:

- A.** Interior work on individual single-family home construction or addition projects not involving materials or supply deliveries.
- B.** Construction of decks, patios, landscape walls less than four feet (4') in height, and fences on individual single-family lots.

- C. Non-mechanized exterior painting on individual single-family residences.
- D. Non-mechanized landscaping on individual single-family residences.
- E. Survey work not involving grading or use of power equipment to cut vegetation.

Extended Hours Special Permit. The Building Official may authorize extended hours for construction operations or procedures which, by their nature, require continuous operation, or modify or waive the hours of work on projects in generally isolated areas where the extended hours do not impact upon adjoining property occupants. In such cases, the Building Official shall issue a special permit identifying the extended hours. Contractor shall display the special permit on site.

Special Event Regulations. The Building Official and/or Police Chief may, at their discretion, restrict construction activity, including governmental or special improvement agencies, in order to assure the public safety during special events within the City. Special events shall include, but not be limited to, the Art Festival, Film Festival, ski events, and holiday events.

SECTION 21. CONSTRUCTION PLANS. Contractor shall submit a Construction Mitigation Plan to be approved by the City Engineer or his/her designee, for all building permits. The Community Development Department may waive this requirement for minor remodels, additions and interior construction where the impact on adjacent property is minimal. This plan shall be written and shall address, to the satisfaction of the City Engineer or his/her designee:

A. Hours and Days of Operation. The Construction Mitigation Plan shall specify the daily construction start and finish times. Construction activity occurring outside of the times specified in Section 11-14-6 of the Park City Municipal Code may only be allowed by special permit issued by the Building Official or the City Engineer.

B. Parking. The Construction Mitigation Plan shall include a parking plan. Construction vehicle parking may be restricted at construction sites so as to not block reasonable public and safety vehicle access along streets and sidewalks. Construction parking in paid or permit only parking areas require the Public Works Department to review and approve a parking plan. The plan shall also include anticipated temporary parking, e.g., delivery vehicles, and large equipment parking.

C. Deliveries. The Construction Mitigation Plan shall identify proposed delivery locations and routes. Deliveries of construction materials and supplies including concrete may be regulated as to time and routing if such deliveries will cause

unreasonable noise, parking, or access issues. In order to reduce the number of delivery trips to construction sites, the stockpiling of materials on or near the site may be required. In the case of multiple construction sites in close proximity, a common materials storage and staging site may be required.

D. Construction Phasing. Due to the narrow streets, small lot configuration, topography, traffic circulation, weather, construction parking and material staging problems, projects in the Historic District and other areas of the City may be required to be phased if more than one project is under construction in close enough proximity to create public safety or nuisance problems. In cases where phasing is deemed necessary by the City Engineer or his/her designee, the first project to receive a building permit shall have priority, however, the Building Official shall have the authority to phase projects as necessary to assure efficient, timely and safe construction.

E. Trash Management and Recycling. Construction sites shall provide adequate storage and a program for trash removal.

F. Control of Dust and Mud on Streets. A program for the control of dust or other airborne debris shall be required. Provision must be made to eliminate the tracking of mud on streets and a program shall be required to remove any such mud daily.

G. Noise. Construction activity shall not exceed the noise standards as specified in Section 6-3-9 of the Park City Municipal Code.

H. Grading and Excavation. Because of the truck hauling involved in grading and excavation, restrictions on trucking routes as well as the hours of operation may be necessary to mitigate the adverse impacts from such operations. Destination and total cubic yards of excavated material shall be noted.

I. Construction Sign Requirements. A sign indicating the name of the party responsible for the Project shall be posted in a location where such sign is readable from the street or driveway to the construction site. The sign shall not exceed twelve (12) square feet in size, six (6') feet in height and shall not exceed a letter type of four inches (4"). Information on the sign shall include, at a minimum:

1. Name, address and phone number of Contractor;
2. Name, address, and phone number of person responsible for the project; and
3. Phone number of party to call in case of emergency.

No additional fee is required for this sign.

SECTION 22. TOILET FACILITIES AND CONTAINERIZED TRASH SERVICE REQUIRED.

A. The Contractor shall obtain and maintain on the site a container of suitable size and design to hold and confine trash, scraps, and other construction related refuse created or accumulated on the site. All such construction refuse shall be maintained in a closed container at all times, until transferred to the landfill. Containers may be placed in setback areas, provided that the placement of the container does not obstruct the view of motorists on adjoining streets and thereby create traffic hazards. Contractor shall not permit accumulated debris, litter, or trash on the construction site to blow or scatter onto adjoining properties, including the public street, or to accumulate on the site outside of the container, or in transit to the landfill or dump. The owner or Contractor shall service the container as frequently as needed to prevent trash from over-flowing.

B. The Project site shall have permanent toilets, or an approved temporary toilet facility positioned in a location approved by the Building Department, at the rate of one toilet per fifteen on-site employees (1-15 employees = one toilet, 16-30 employees= two toilets and so on).

SECTION 23. OBEY LAWS.

- A. The Contractor shall obey all laws, ordinances and regulations of the United States, the State of Utah, and Park City in performing this Agreement.
- B. The Contractor shall register and participate in E-Verify, or an equivalent program. The Contractor agrees to verify employment eligibility through E-Verify, or an equivalent program, for each new employee that is employed within Utah, unless exempted by Utah Code § 63G-12-302.

SECTION 24. NONDISCRIMINATION.

Any Contractor that enters into an agreement for goods or services with Park City Municipal Corporation or any of its boards, agencies, or departments shall:

- A. Implement an employment nondiscrimination policy prohibiting discrimination in hiring, discharging, promoting or demoting, matters of compensation, or any other employment- related decision or benefit against a person otherwise qualified, because of actual or perceived race; color; sex;

pregnancy, childbirth, or pregnancy-related conditions; age, if the individual is 40 years of age or older; religion; national origin; disability; sexual orientation; gender identity; genetic information; or military status.

- B. In the performance of this Agreement, Contractor shall not discriminate on account of actual or perceived race; color; sex; pregnancy, childbirth, or pregnancy-related conditions; age, if the individual is 40 years of age or older; religion; national origin; disability; sexual orientation; gender identity; genetic information; or military status.
- C. Incorporate the foregoing provisions in all subcontracts or assignments hereunder and take such actions as may be required to ensure full compliance with the provisions of this policy.

SECTION 25. THIRD PARTY RIGHTS. Nothing herein is intended to confer rights of any kind in any third party. No member, officer, or employee of the City shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

SECTION 26. PROJECT MANAGER/ENGINEER. The Project Manager/Engineer for this Project is [REDACTED], or such other person designated by the City Engineer or Public Works Director to the Contractor orally or in writing.

SECTION 27. PARTIES' REPRESENTATIVES. For purposes of notice required or desired by the parties or communication involving the services under this Agreement, such notice or communication shall be deemed to have been given when personally delivered or mailed certified mail, postage pre-paid, or sent by facsimile transmission, to the parties at the following addresses:

Contractor: [REDACTED], or such other person designated in writing by the Contractor's chief administrative officer, at the Contractor's address set out first above.

Park City: Project Manager/Engineer, at the address set out first above for the City, or when given to such other person as either of the above representatives shall designate in writing. The designation of any address may be changed by notice given in the same manner as provided in this section.

SECTION 28. SEVERABILITY. Should any part of this Agreement for any reason be declared invalid, such decision shall not affect the validity of any remaining provisions, which remaining provisions shall remain in force and effect as if this Agreement had been executed with the invalid portion thereof eliminated, and it is hereby declared the intention

of the parties that they would have executed the remaining portion of this Agreement without including any such part, parts, or portions which may, for any reason, be hereafter declared invalid. If any provision of this Agreement is held invalid or unenforceable with respect to particular circumstances, such provision shall nevertheless remain in full force and effect in all other circumstances.

SECTION 29. COUNTERPARTS. This Agreement may be executed in counterparts, each of which will be deemed an original and all of which together will constitute one and the same instrument.

SECTION 30. ELECTRONIC SIGNATURES. Each party agrees that the signatures of the parties included in this Agreement, whether affixed on an original document manually and later electronically transmitted or whether affixed by an electronic signature through an electronic signature system such as DocuSign, are intended to authenticate this writing and to create a legal and enforceable agreement between the parties hereto.

IN WITNESS WHEREOF, the parties have entered into this Agreement on the day and year set out at the top of this Agreement.

PARK CITY MUNICIPAL CORPORATION, a Utah
municipal corporation

Matt Dias, City Manager

ATTEST:

City Recorder's Office

APPROVED AS TO FORM:

City Attorney's Office

INSERT CONTRACTOR NAME

Address:

Address:

City, State, Zip:

Utah Contractor License No.

Tax ID#:

Signature

Printed name

Title

THE CITY REQUIRES THE CONTRACTOR TO COMPLETE EITHER THE NOTARY
BLOCK OR THE UNSWORN DECLARATION, WHICH ARE BELOW.

STATE OF UTAH)
) ss.
COUNTY OF SUMMIT)

On this ____ day of _____, 20__, personally appeared before me _____, whose identity is personally known to me/or proved to me on the basis of satisfactory evidence and who by me duly sworn/affirmed, did say that he/she is the _____ (title or office) of _____, a _____ corporation (or limited liability company), by authority of its Bylaws/Resolution of the Board of Directors (if as to a corporation) or Operating Agreement/Member Resolution (if as to a limited liability company), and acknowledged that he/she signed it voluntarily for its stated purpose as _____ (title) for _____, a _____ corporation (or limited liability company).

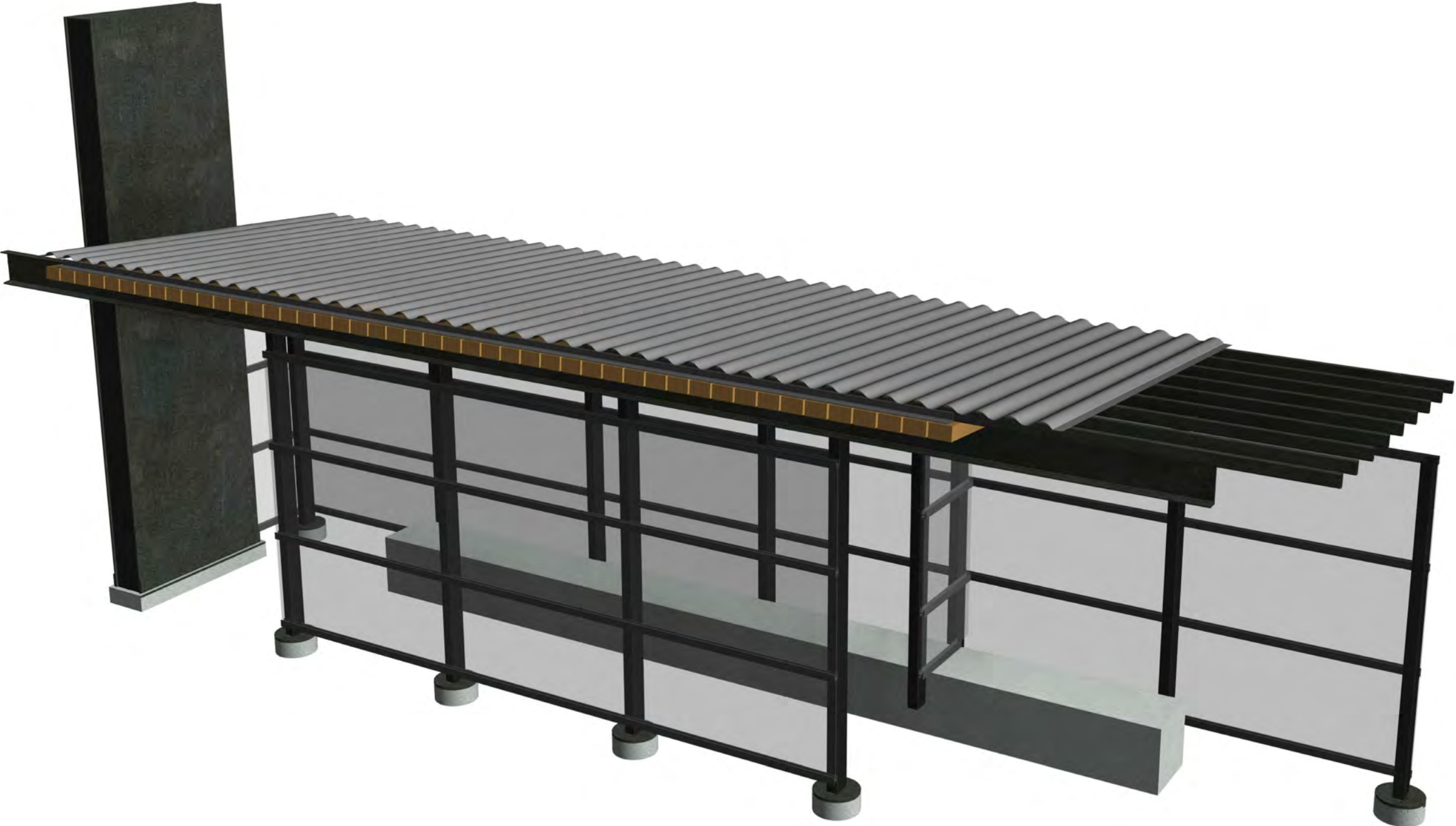
Notary Public

I declare under criminal penalty under the law of Utah that the foregoing is true and correct. Signed on the ____ day of _____, 20____, at _____ (insert State and County here).

Printed name _____

Signature: _____

PARK CITY BUS SHELTER IMPROVEMENTS



384			SEAL	CONSULTANT 756 East Winchester Street Suite 400 Salt Lake City, UT 84107 Phone: (801) 904-4000 Fax: (801) 904-4100	CLIENT	Designed By: S. HEIMSTEAD	PARK CITY BUS SHELTER IMPROVEMENTS	Submittal Date: 03/26/2021	
						Drawn By: S. HEIMSTEAD / B. OLSON		Contract No: 60605663	
						Checked By: J. DOYLE		COVER PAGE	
	DATE	DESCRIPTION				Approved By: J. JACOBSON		Alignment:	Sheet No: G-001

PARK CITY BUS SHELTER DESIGN GOALS:

- 1. EMPHASIZE AND CONNECT TO THE MINING HISTORY OF PARK CITY.
- 2. USE NATURALISTIC MATERIALS TO REPRESENT THE SURROUNDING LANDSCAPE.
- 3. CREATE A (SMALL, MEDIUM, AND LARGE) SHELTER DESIGN THAT PROMOTES AND ATTRACTS RIDERSHIP.

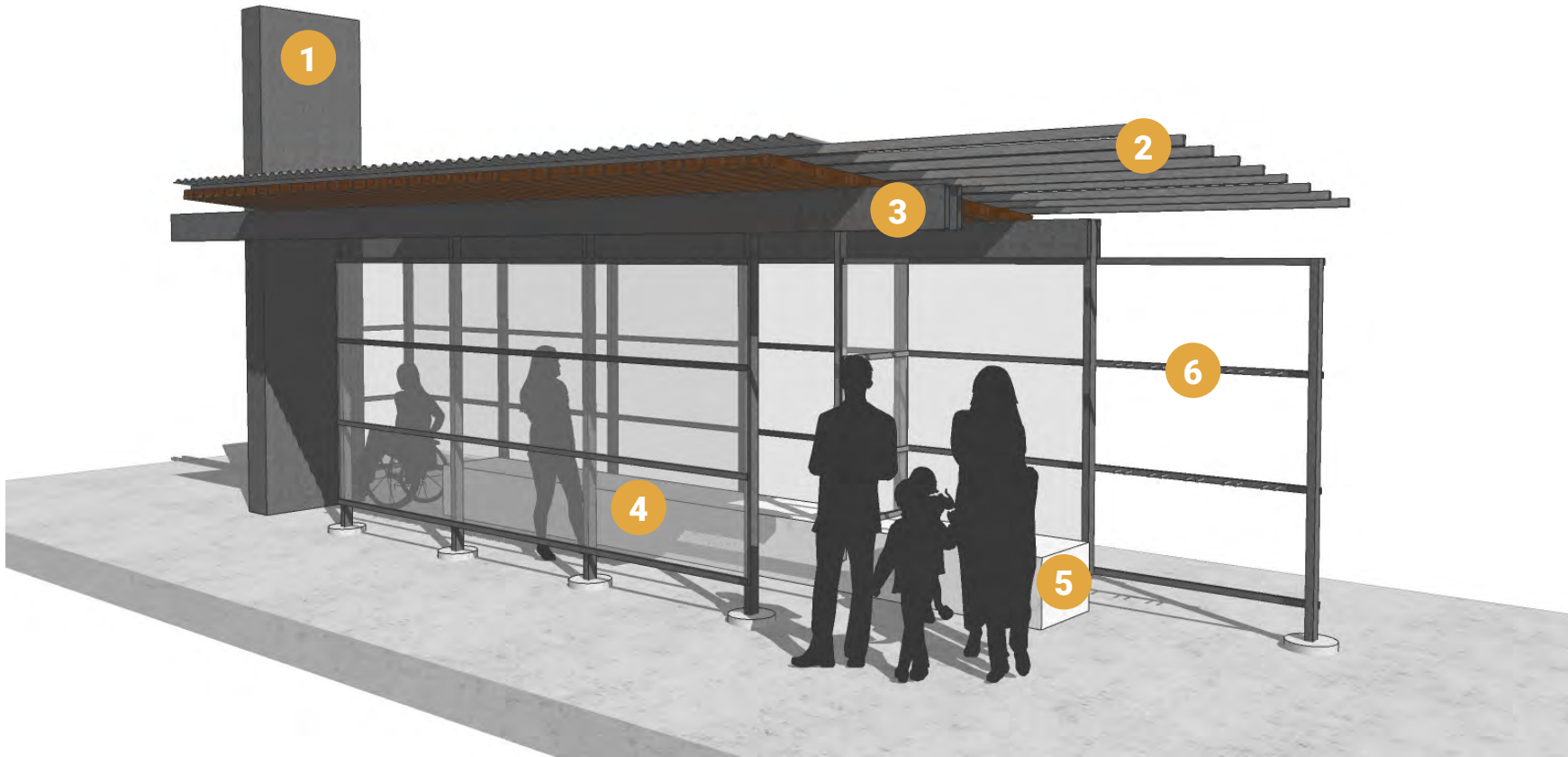
PRECEDENT RELATING TO ALL THREE GOALS:

PETER ZUMTHOR'S MINING MUSEUM



PETER ZUMTHOR'S MINING MUSEUM WAS THE BASIS OF OUR DESIGN. HE USES NATURALISTIC MATERIALS TO CONNECT WITH THE SURROUNDING LANDSCAPE WHILE USING EXPRESSIVE STRUCTURAL ELEMENTS TO ATTRACT ATTENTION TO THE SHELTERS. WHEN VIEWING THIS DESIGN ONE IMMEDIATELY NOTICES THE **LAYERING OF THE STRUCTURAL ELEMENTS**, WHILE AT THE SAME TIME THE SHELTER READS COHESIVELY WITH THE SURROUNDING LANDSCAPE.

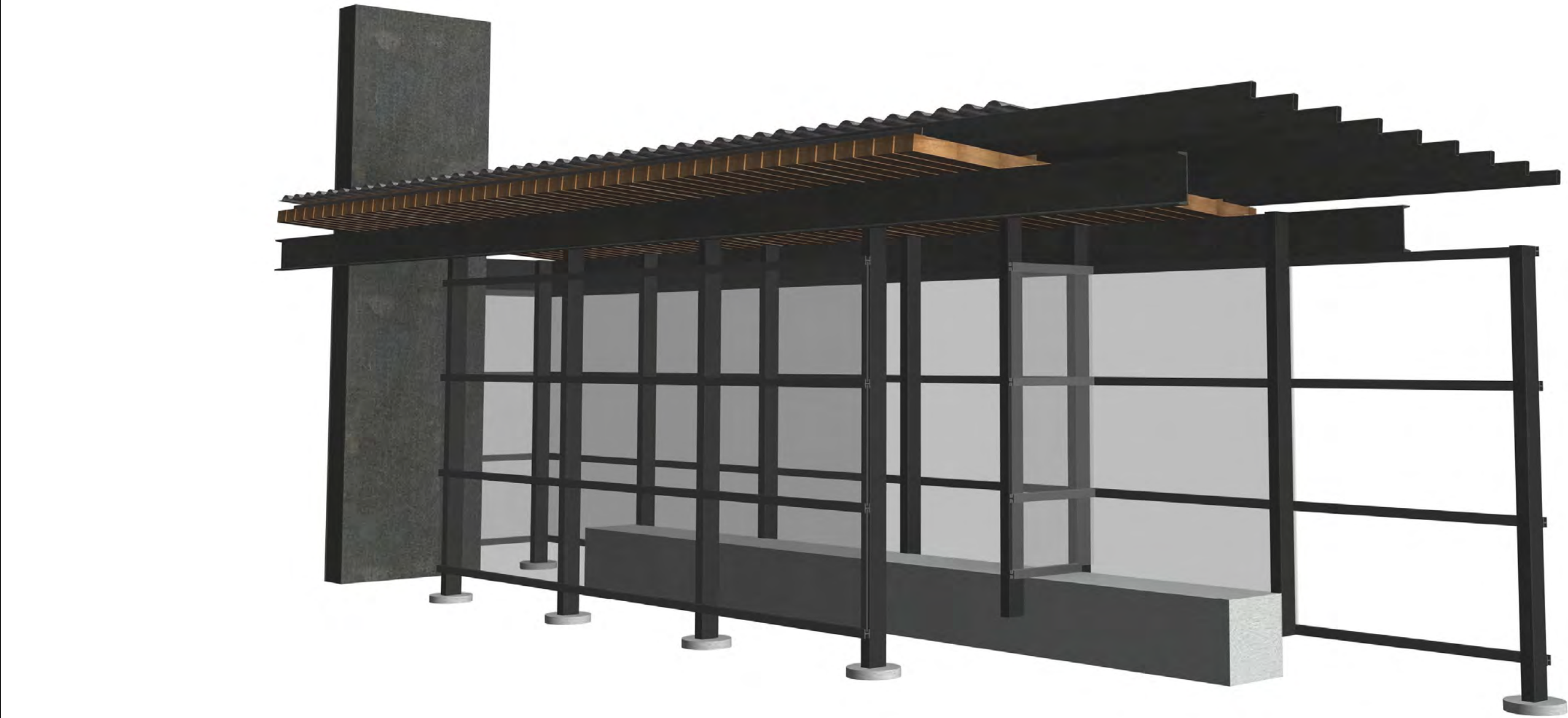
HOW THIS TRANSLATES INTO THE BUS SHELTER:



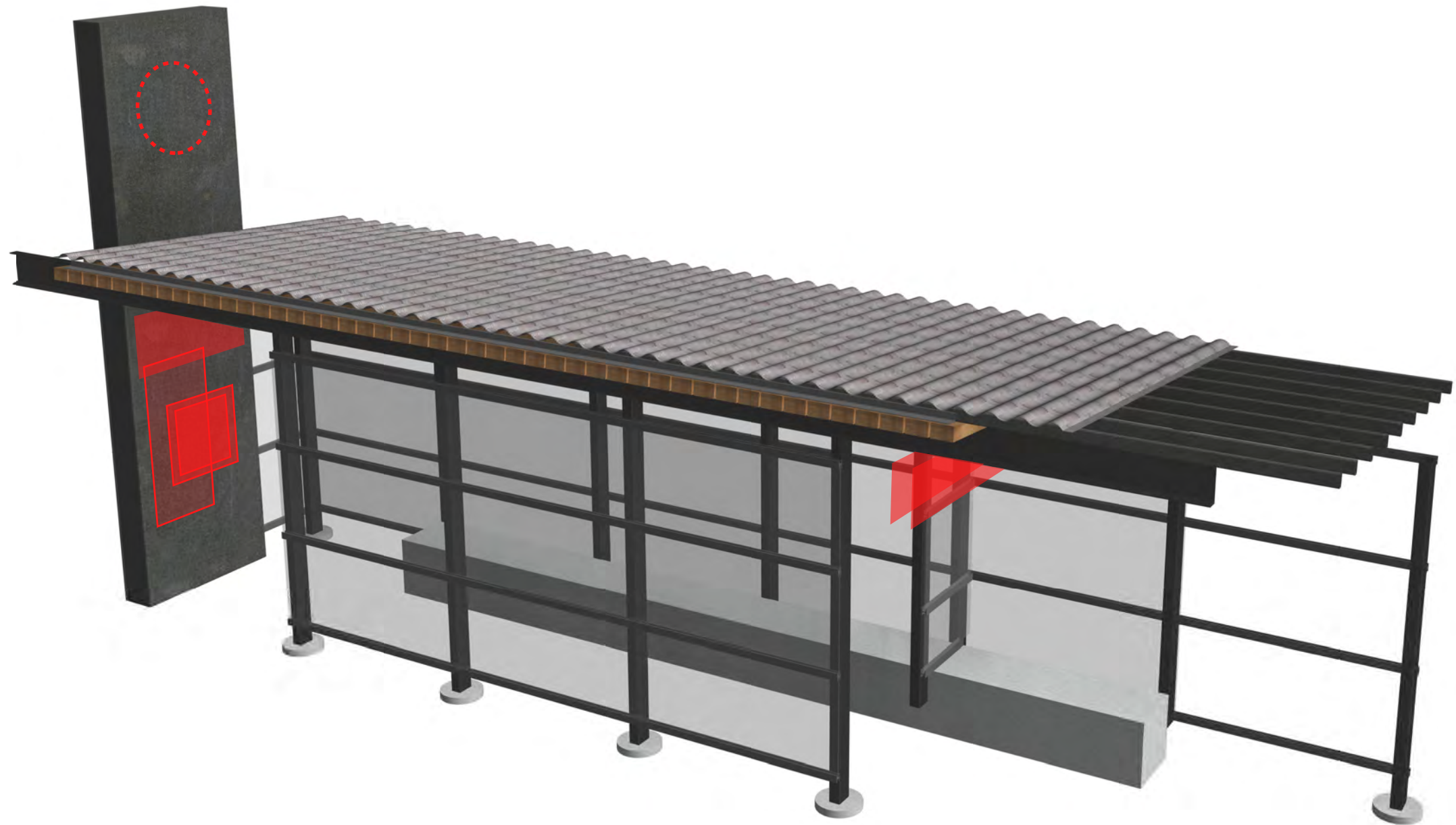
- 1 STOP MARKER
- 2 PURLINS
- 3 GIRDERS
- 4 INDOOR SEATING
- 5 OUTDOOR SEATING
- 6 SKI RACKS

PETER ZUMTHOR'S USE OF LAYERING STRUCTURAL ELEMENTS AND NATURALISTIC MATERIALS WAS TRANSLATED INTO THE PARK CITY BUS SHELTER IN THREE WAYS.

- 1. WE USED THE LAYERING OF STRUCTURAL ELEMENTS IN THE ROOF DESIGN TO ASSIST WITH DEFINING THE DIFFERENT SPACES WITHIN THE SHELTER. THE WOOD DEFINES THE SEATING INSIDE THE SHELTER, WHILE THE EXTENSION OF THE PURLINS AND GIRDERS DEFINE THE OUTDOOR SEATING AND SKI RACKS. WITHOUT THIS EXTENSION OF ELEMENTS, THE OUTDOOR SEATING AND SKI RACKS WOULDN'T BE CONNECTED TO THE SHELTER AND WOULD READ AS IT'S OWN ENTITY.
- 2. WE USED MOSTLY STEEL AND WOOD TO EMPHASIZE THE "MINING THEME" WHILE INCLUDING THE IDEA OF NATURALISTIC MATERIALS.
- 3. LASTLY, THERE WERE MANY COMMENTS OF WANTING A STOP MARKER TO HELP PROMOTE AND DRAW ATTENTION TO PARK CITY'S PUBLIC TRANSPORTATION. THE VERTICAL ELEMENT WILL HAVE PARK CITY'S LOGO MOUNTED AT THE TOP WHILE BELOW WILL HAVE THE TRANSPORTATION MAP (ON BOTH SIDES).



			SUBMITTAL	SEAL	CONSULTANT AECOM 756 East Winchester Street Suite 400 Salt Lake City, UT 84107 Phone: (801) 904-4000 Fax: (801) 904-4100	CLIENT 	Designed By: S. HEIMSTEAD	PARK CITY BUS SHELTER IMPROVEMENTS	Submittal Date: 8/21/2020	
							Drawn By: S. HEIMSTEAD / B. OLSON		Contract No: 60605663	
							Checked By: J. DOYLE		PERSPECTIVES	
							Approved By: J. JACOBSON		Alignment:	Sheet No:
REV	DATE	DESCRIPTION					A-50386			
			90% SUBMITTAL							



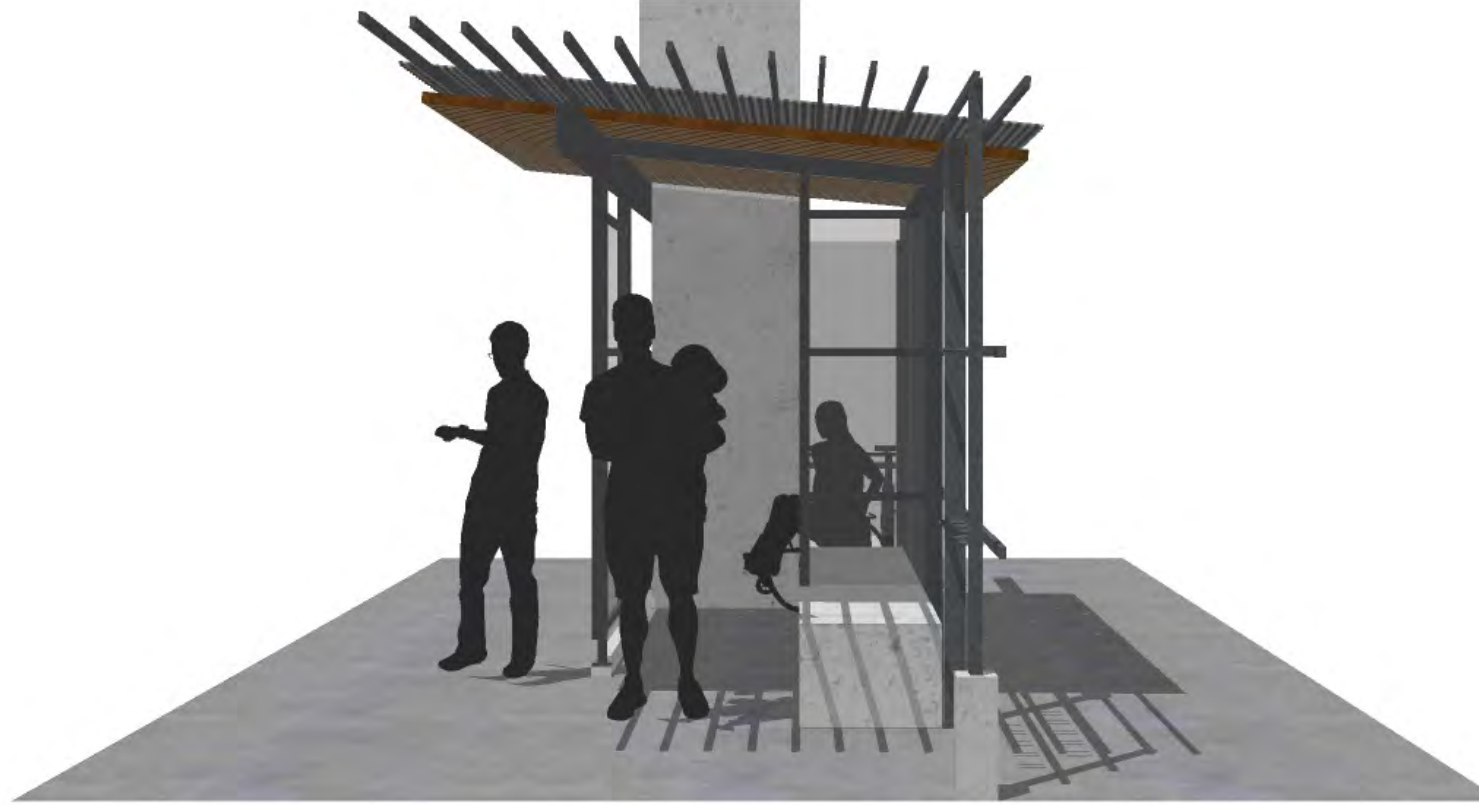
1 AERIAL VIEW

			SUBMITTAL	SEAL	CONSULTANT AECOM 756 East Winchester Street Suite 400 Salt Lake City, UT 84107 Phone: (801) 904-4000 Fax: (801) 904-4100	CLIENT 	Designed By: S. HEIMSTEAD	PARK CITY BUS SHELTER IMPROVEMENTS	Submittal Date: 8/21/2020	
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							Approved By: J. JACOBSON		Alignment:	Sheet No:
REV	DATE	DESCRIPTION					90% SUBMITTAL		A-50387	

IDEATION A: SLOPED ROOF
MINOR STOP



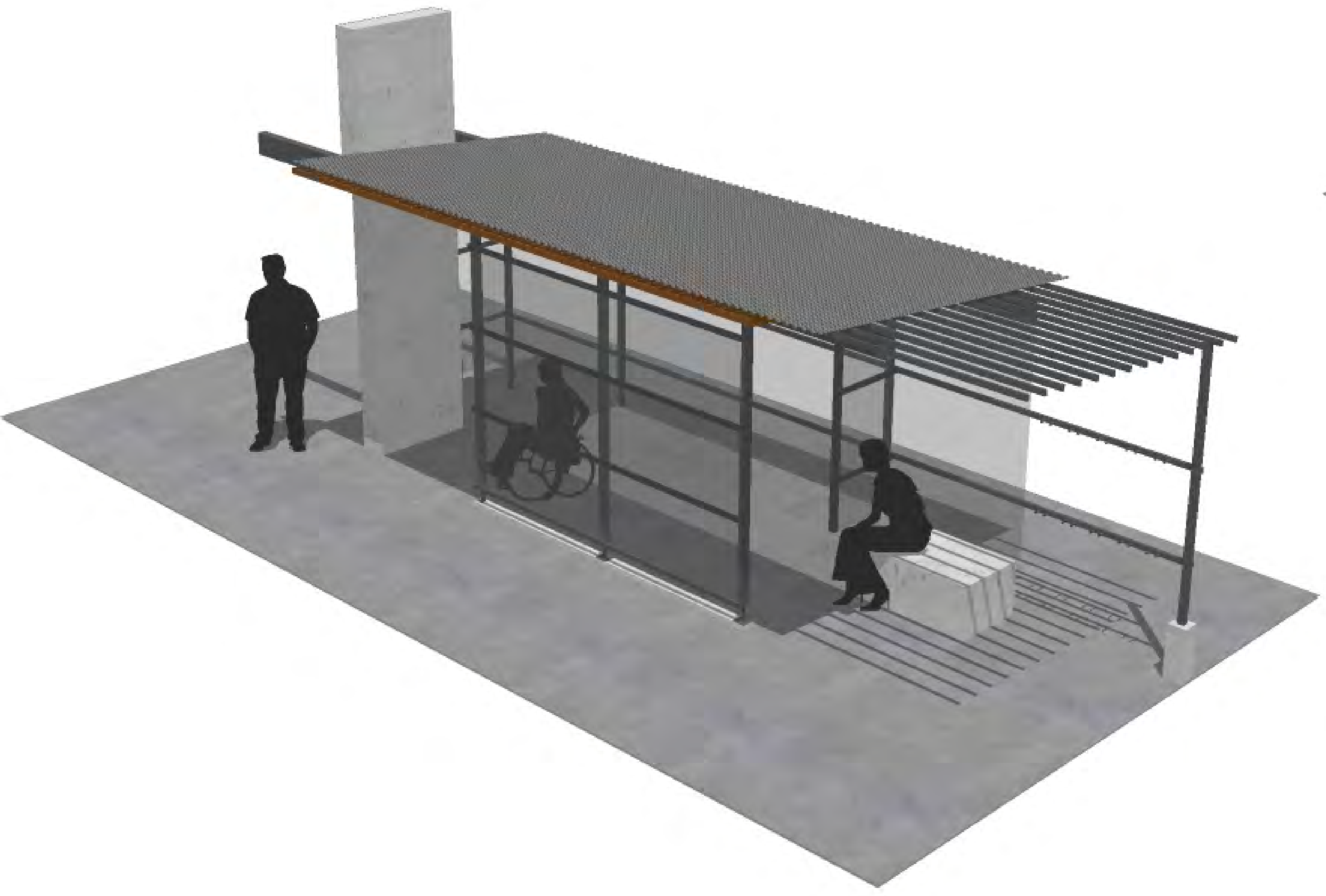
- Small: 6x10 Shelter with Benches
Illuminated Station Sign
 - Opportunity for sun panels and heaters
 - Integrated free standing art
- Space in bench to accommodate wheelchairs
- Illuminated Transit Logo Stop Marker
 - LCD Info Touchscreen
 - USB Recharging
 - Bus Line Status
- Bike Share Machine
Personal Bike Storage
Ski + Snowboard Rack
Trash / Recycling



STOP MARKER MATERIAL OPTIONS



IDEATION A: SLOPED ROOF
INTERMEDIATE STOP



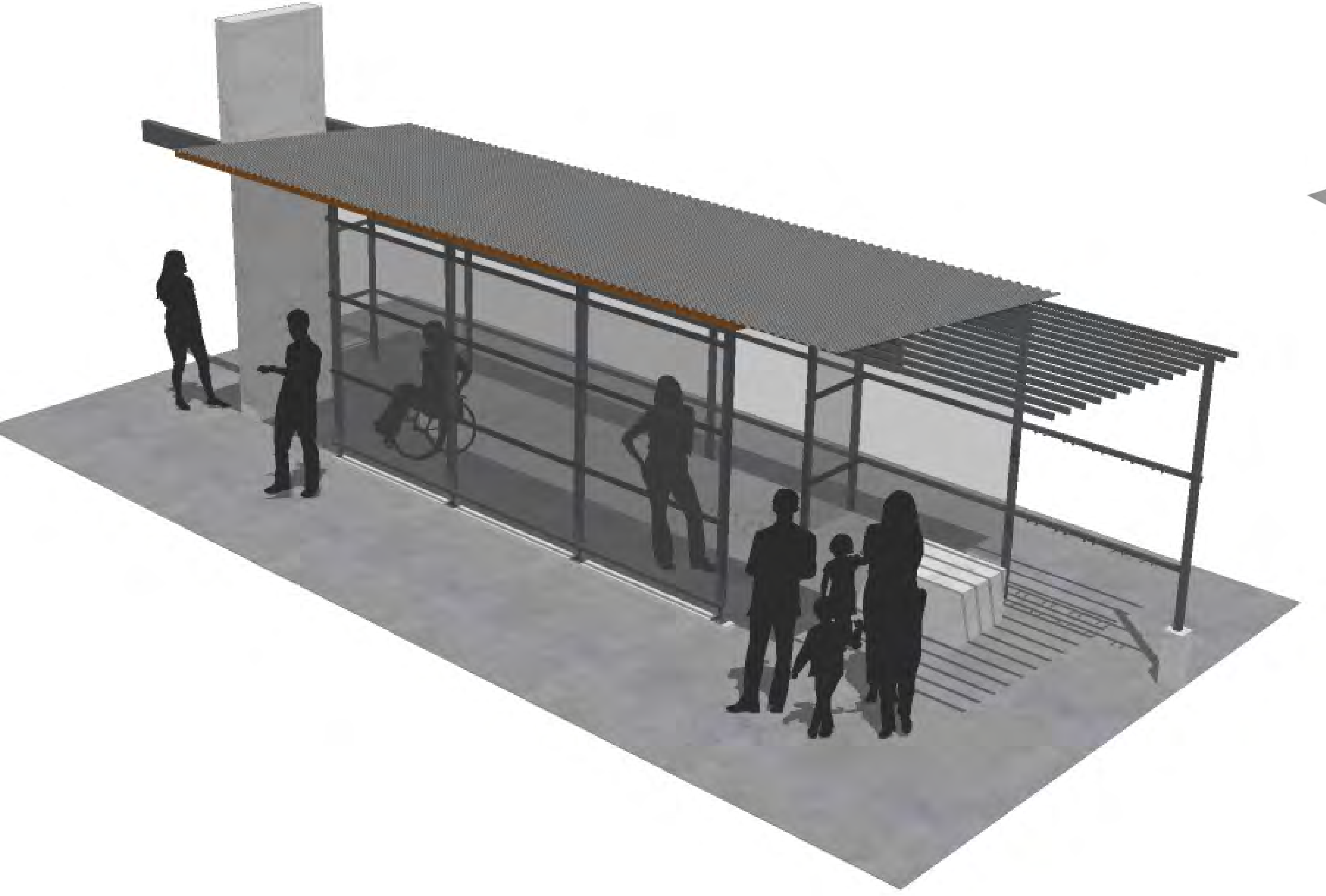
- Medium: 6x15 Shelter with Benches
Illuminated Station Sign
 - Opportunity for sun panels and heaters
 - Integrated free standing art
- Space in bench to accommodate wheelchairs
- Illuminated Transit Logo Stop Marker
 - LCD Info Touchscreen
 - USB Recharging
 - Bus Line Status
- Bike Share Machine
Personal Bike Storage
Ski + Snowboard Rack
Trash / Recycling



SEATING MATERIAL OPTIONS



IDEATION A: SLOPED ROOF
MAJOR STOP



- Large: 6x20 Shelter with Benches
Illuminated Station Sign
 - Opportunity for sun panels and heaters
 - Integrated free standing art
- Space in bench to accommodate wheelchairs
- Illuminated Transit Logo Stop Marker
 - LCD Info Touchscreen
 - USB Recharging
 - Bus Line Status
- Bike Share Machine
Personal Bike Storage
Ski + Snowboard Rack
Trash / Recycling



SHELTER ENCLOSURE MATERIAL OPTIONS



MATERIALS



ART



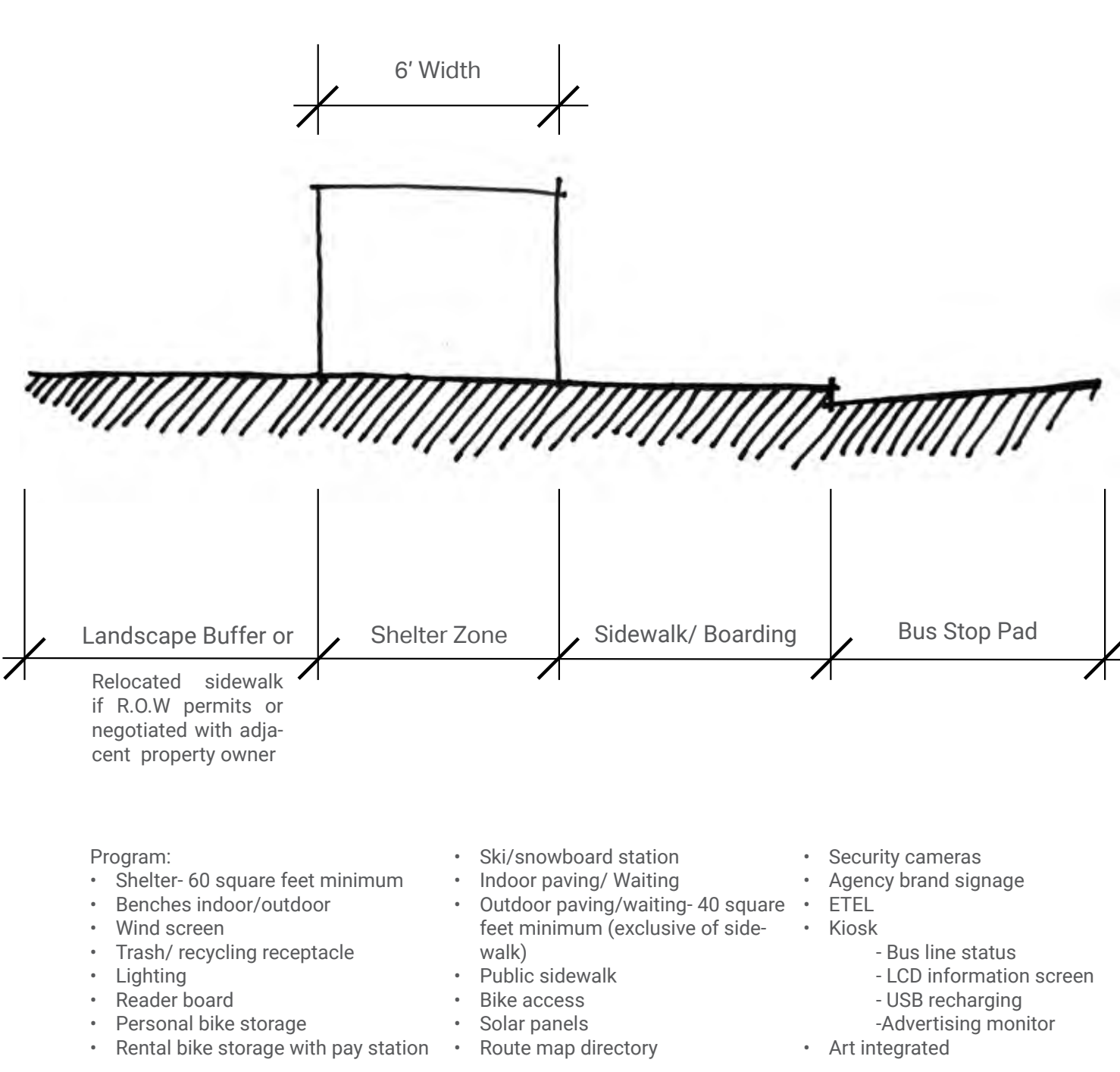
SHELTER DESIGN



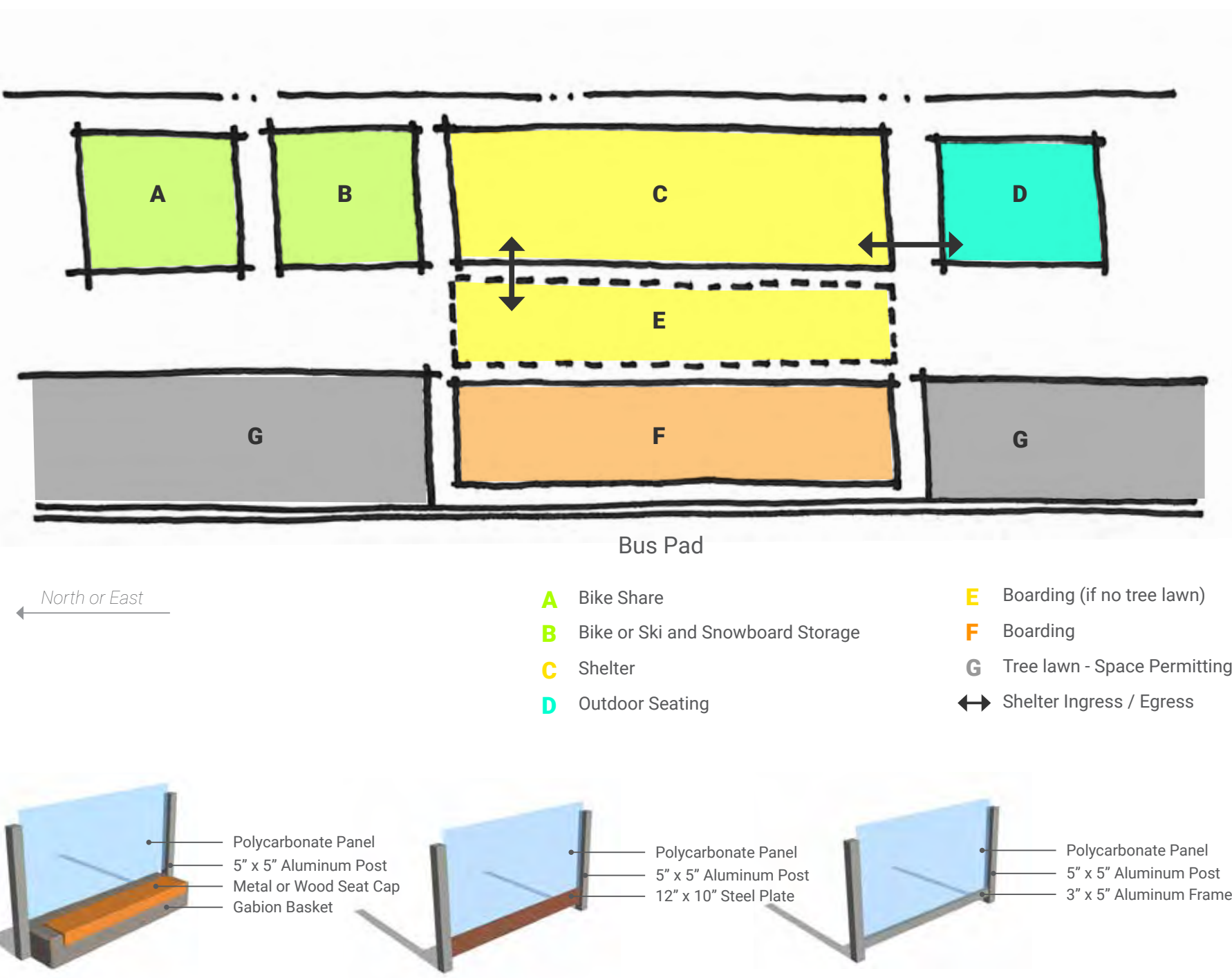
STRUCTURE



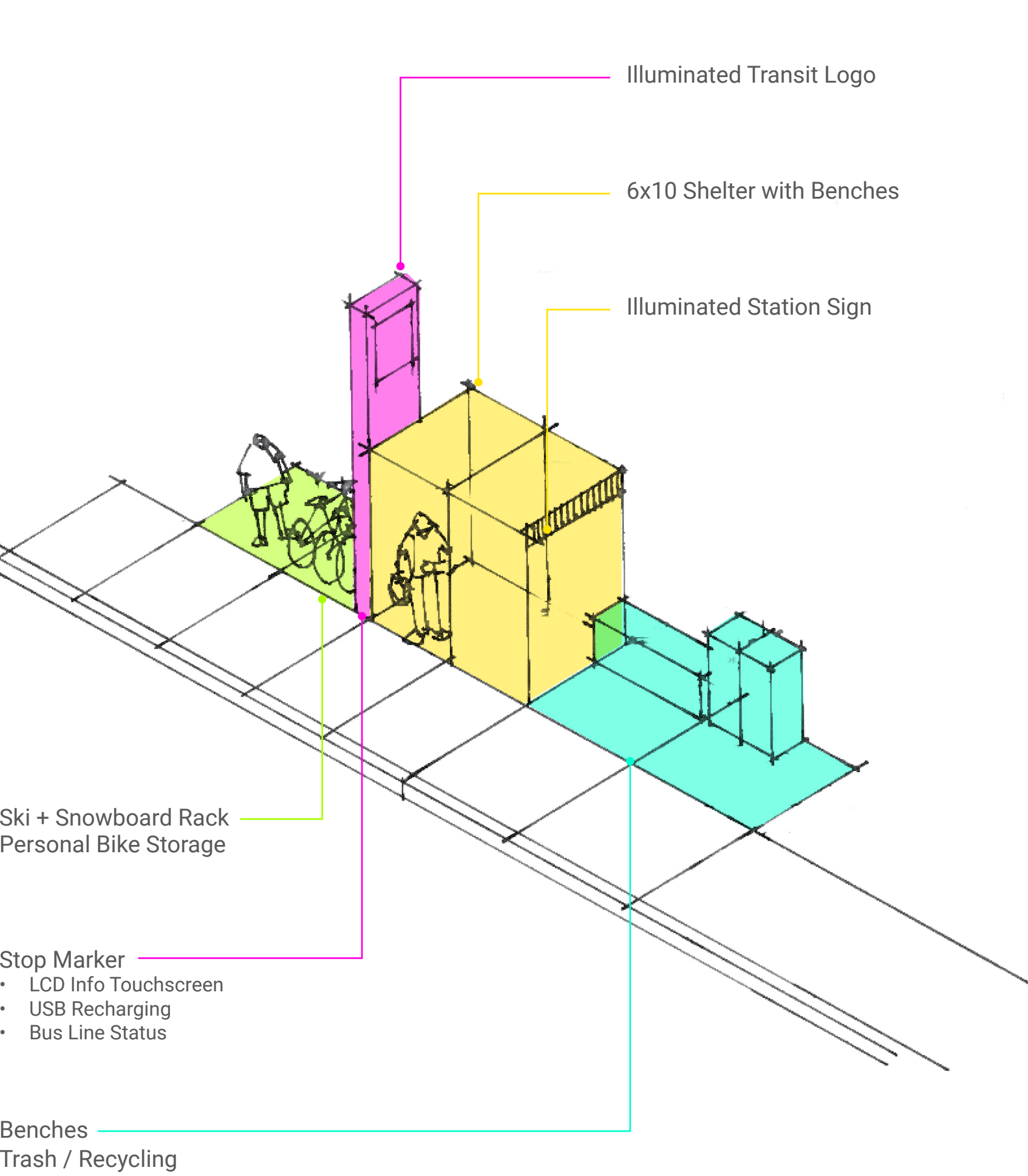
BUS SHELTER PROGRAM



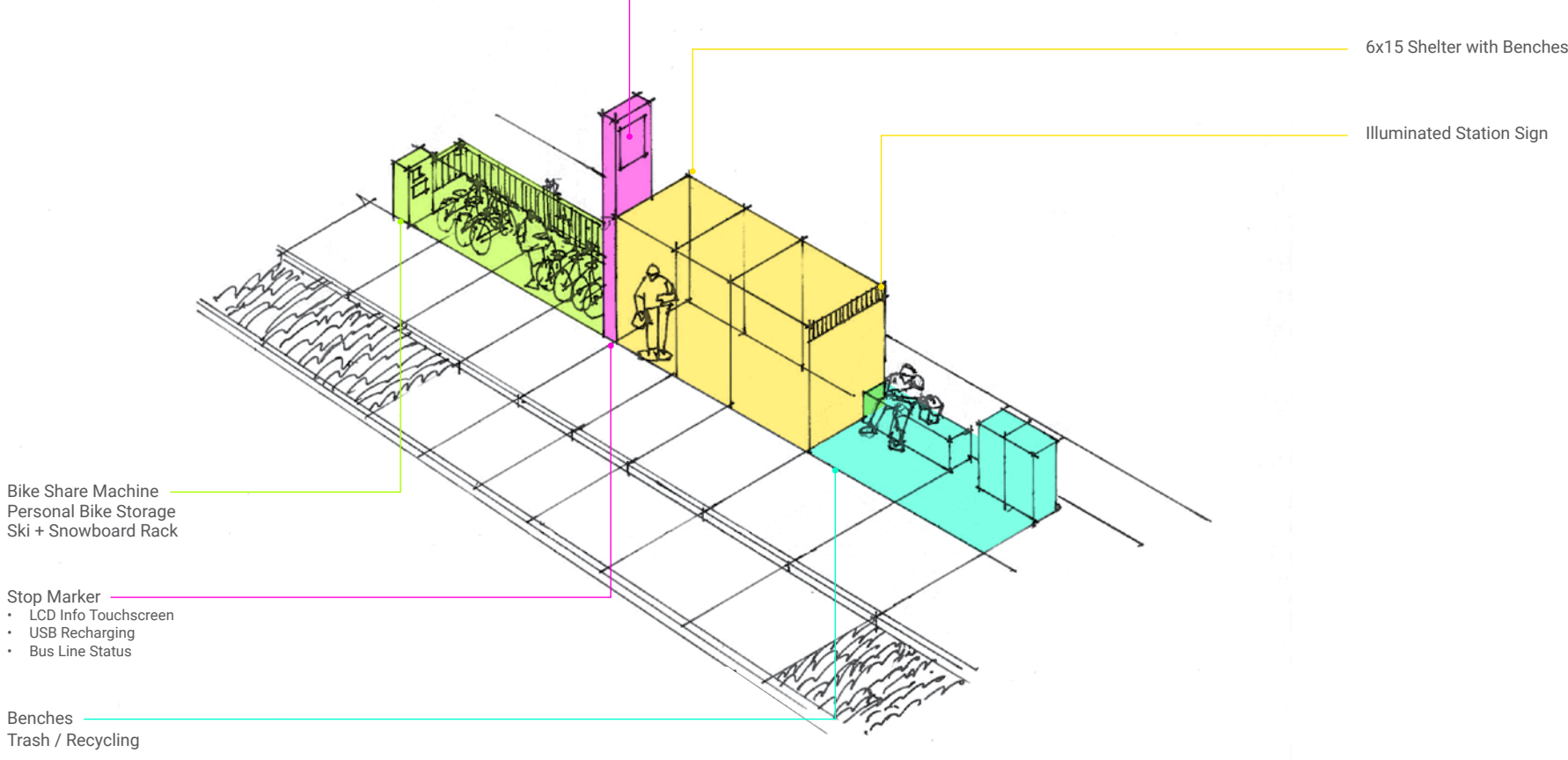
BUS SHELTER CIRCULATION



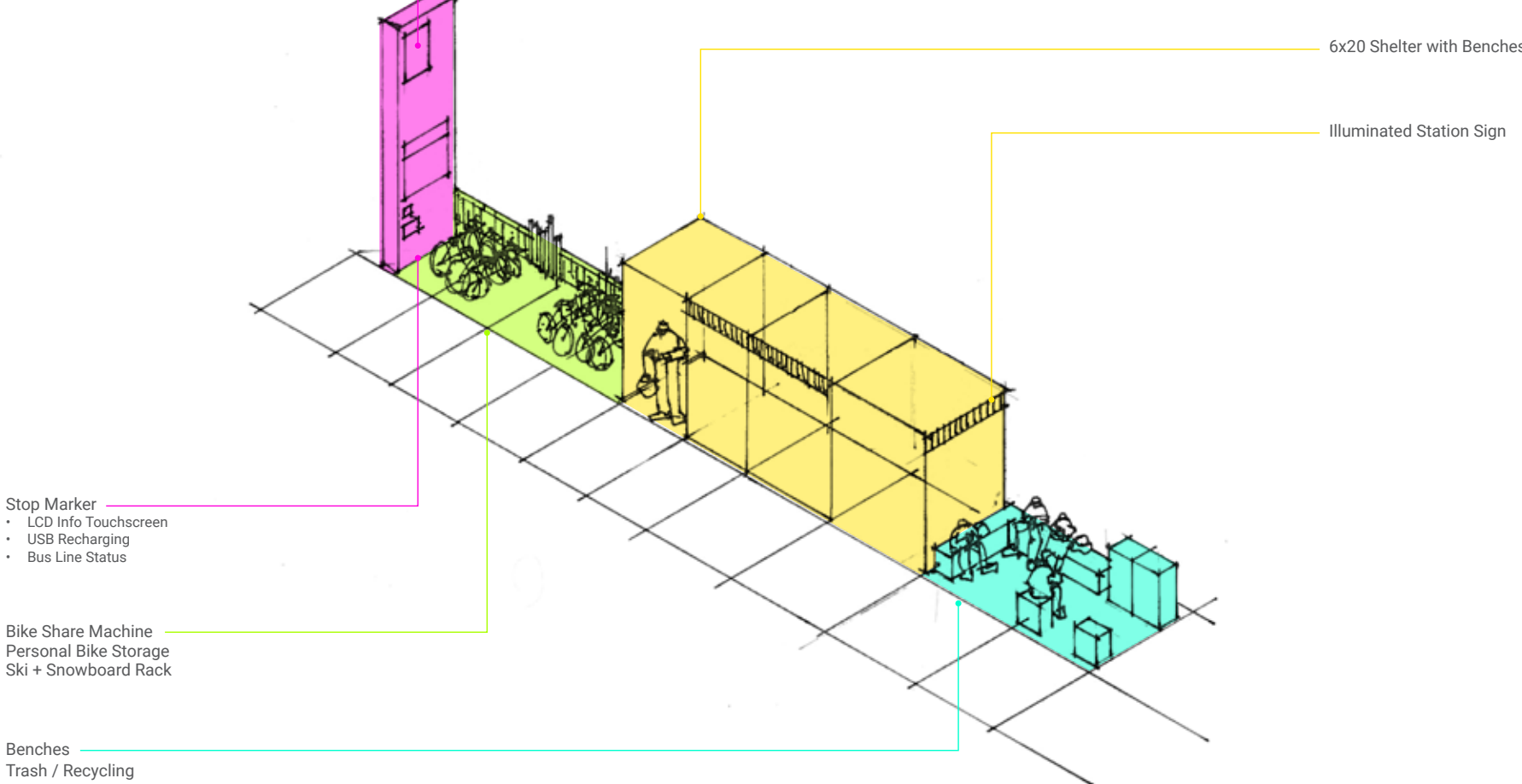
MINOR STOP PROGRAM



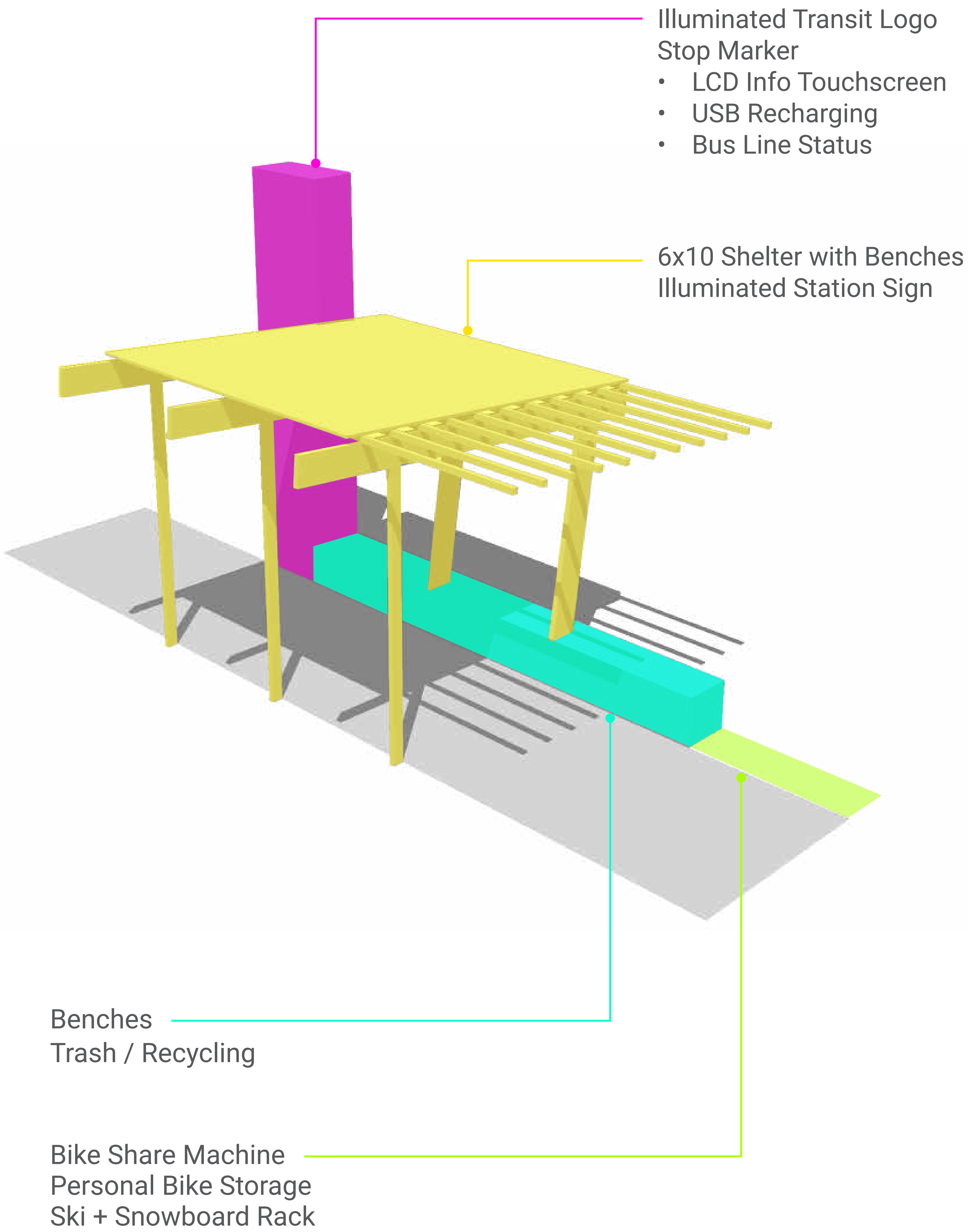
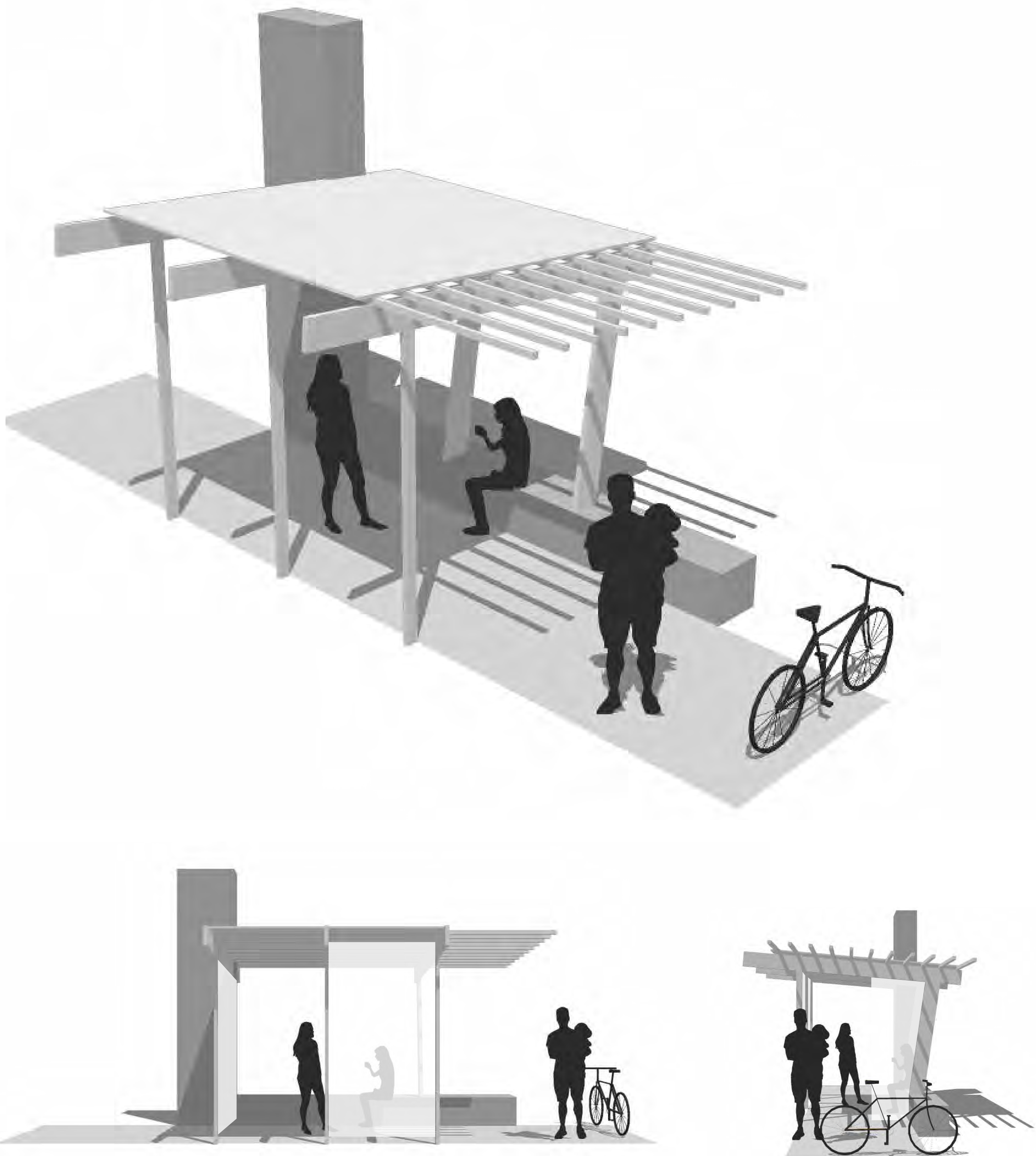
INTERMEDIATE STOP PROGRAM



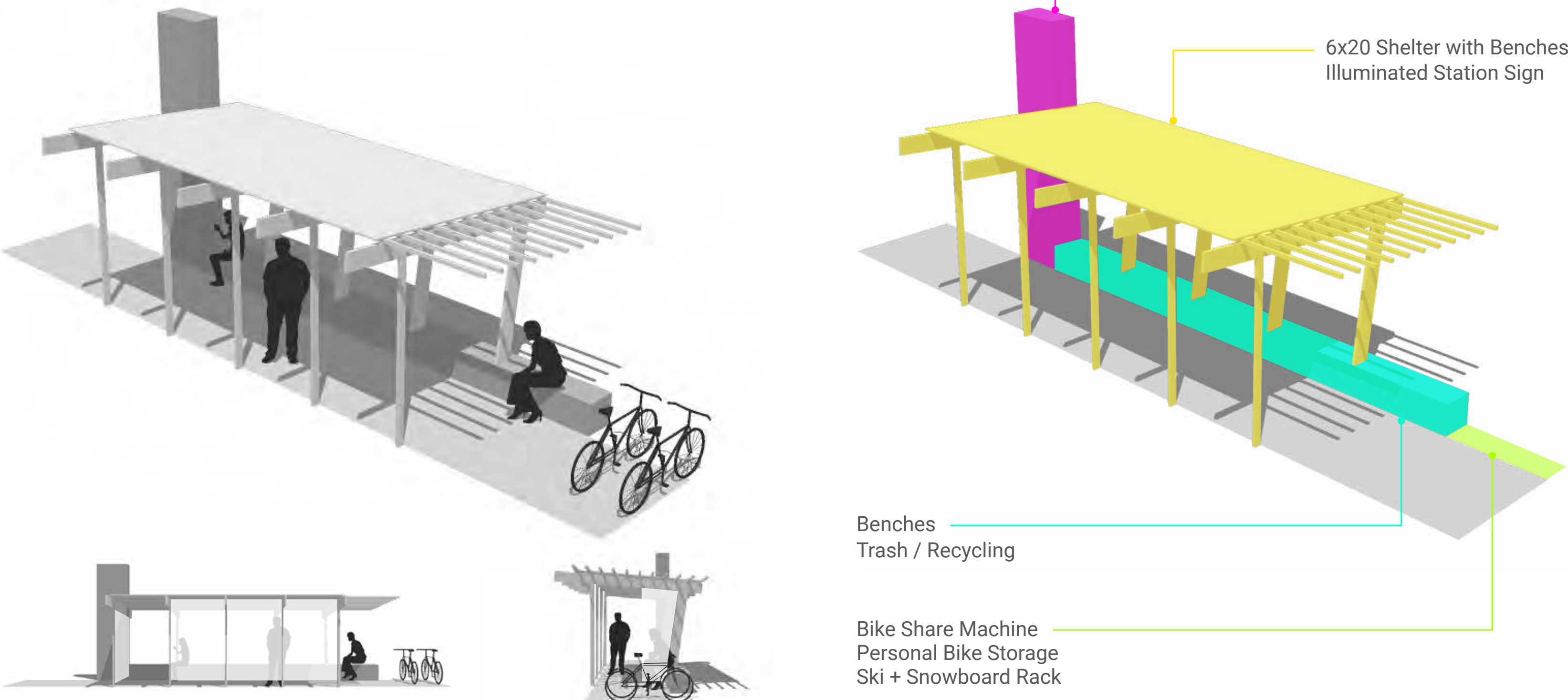
MAJOR STOP PROGRAM



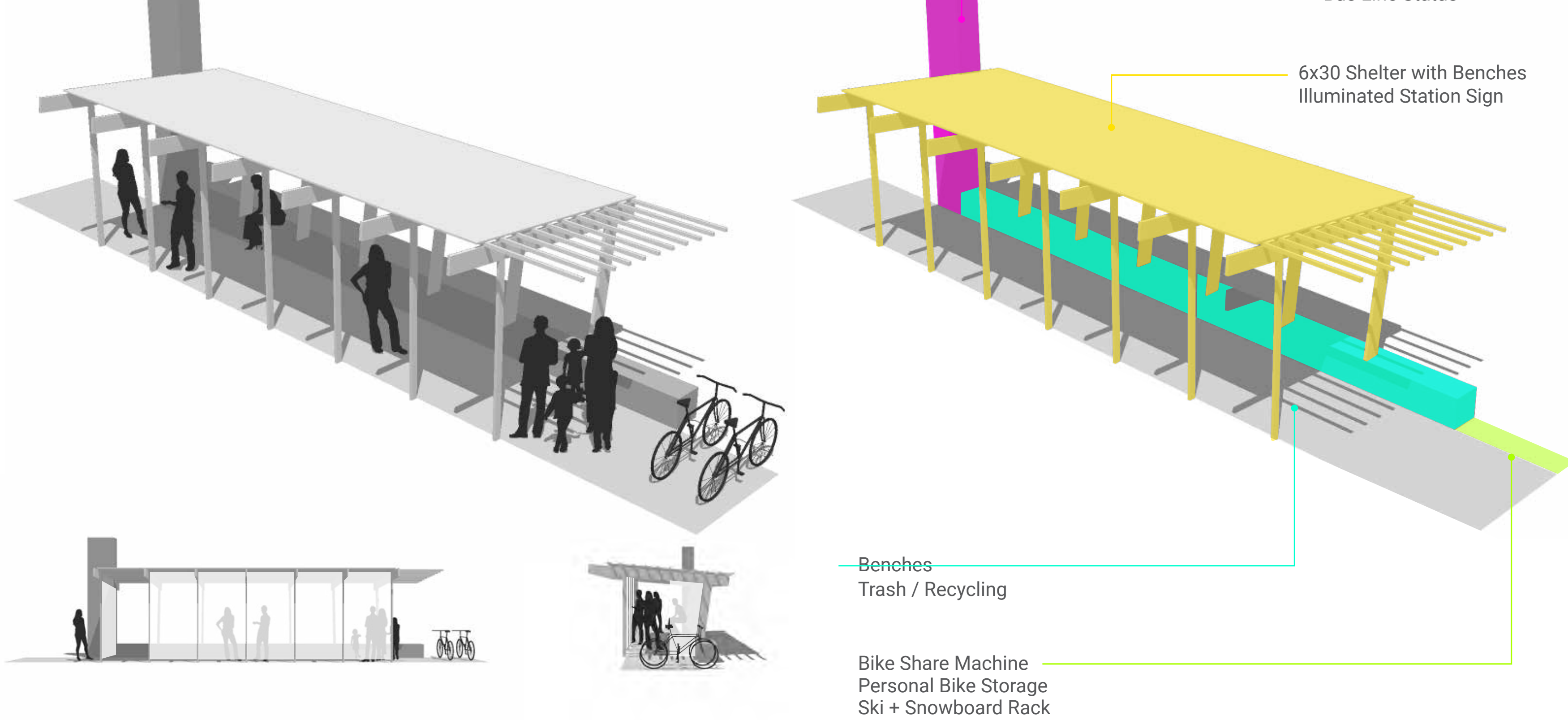
IDEATION A: SLOPPED ROOF PROGRAM
MINOR STOP



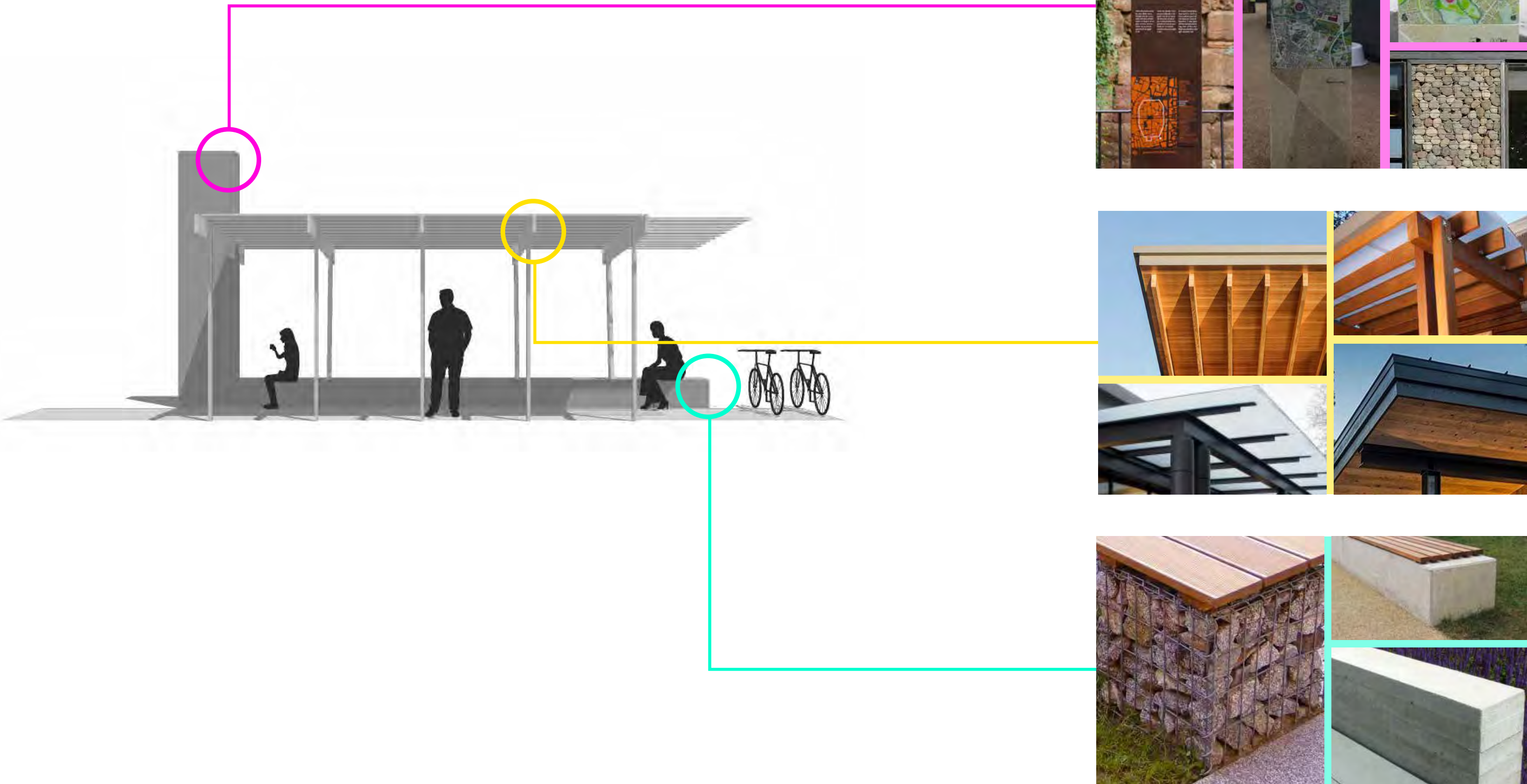
IDEATION A: SLOPPED ROOF PROGRAM
INTERMEDIATE STOP



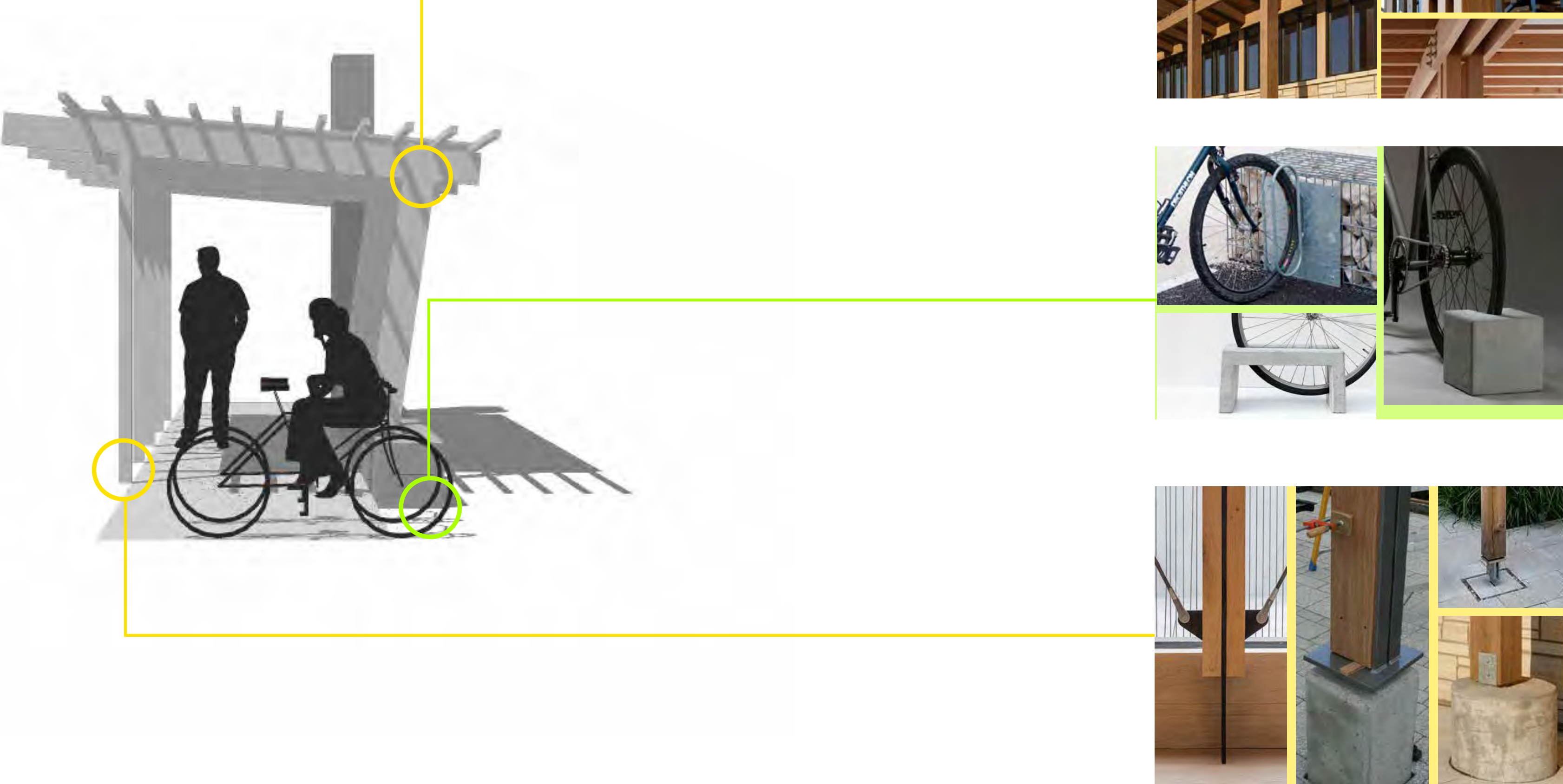
IDEATION A: SLOPPED ROOF PROGRAM
MAJOR STOP



IDEATION A: SLOPPED ROOF MATERIALS



IDEATION A: SLOPPED ROOF DETAILS



Council Agenda Item Report

Meeting Date: January 13, 2022

Submitted by: Michelle Kellogg

Submitting Department: Executive

Item Type: Staff Report

Agenda Section:

Subject:

Appointment of New City Council Member to Fill the Seat Vacated by Nann Worel

(A) Public Input (B) Approve

Suggested Action:

Attachments: