



MEETING AGENDA

TIME/DATE: 9:30 a.m. / Wednesday, December 13, 2023

LOCATION: BOARD ROOM
County of Riverside Administrative Center
4080 Lemon Street, First Floor, Riverside

COMMISSIONERS

Chair – Bob Magee

Vice Chair – Lloyd White

Second Vice Chair – Karen Spiegel

Kevin Jeffries, County of Riverside, District 1
Karen Spiegel, County of Riverside, District 2
Chuck Washington, County of Riverside, District 3
V. Manuel Perez, County of Riverside, District 4
Yxstian Gutierrez, County of Riverside, District 5
Sheri Flynn / Rick Minjares, City of Banning
Lloyd White / Julio Martinez, City of Beaumont
Joseph DeConinck / Johnny Rodriguez, City of Blythe
Linda Molina / Wendy Hewitt, City of Calimesa
Jeremy Smith / Jennifer Dain, City of Canyon Lake
Raymond Gregory / Mark Carnevale, City of Cathedral City
Steven Hernandez / Stephanie Virgen, City of Coachella
Wes Speake / Jim Steiner, City of Corona
Scott Matas / Russell Betts, City of Desert Hot Springs
Clint Lorimore / Todd Rigby, City of Eastvale
Linda Krupa / Malcolm Lilienthal, City of Hemet
Dana Reed / Ty Peabody, City of Indian Wells

Waymond Fermon / Oscar Ortiz, City of Indio
Brian Berkson / Armando Carmona, City of Jurupa Valley
Kathleen Fitzpatrick / Deborah McGarrey, City of La Quinta
Bob Magee / Natasha Johnson, City of Lake Elsinore
Bill Zimmerman / Dean Deines, City of Menifee
Ulises Cabrera / Edward Delgado, City of Moreno Valley
Cindy Warren / Ron Holliday, City of Murrieta
Berwin Hanna / Katherine Aleman, City of Norco
Jan Harnik / Kathleen Kelly, City of Palm Desert
Lisa Middleton / To Be Appointed, City of Palm Springs
Michael M. Vargas / Rita Rogers, City of Perris
Meg Marker / Lynn Mallotto, City of Rancho Mirage
Chuck Conder / Patricia Lock Dawson, City of Riverside
Alonso Ledezma / Valerie Vandever, City of San Jacinto
James Stewart / Jessica Alexander, City of Temecula
Joseph Morabito / Ashlee DePhillippo, City of Wildomar
Catalino Pining, Governor's Appointee Caltrans District 8

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

www.rctc.org

MEETING AGENDA*

***Actions may be taken on any item listed on the agenda**

9:30 a.m.

Wednesday, December 13, 2023

Board Room

County of Riverside Administrative Center

4080 Lemon Street, First Floor, Riverside, CA

This meeting is being conducted in person as well as via teleconference. Please visit <https://rivco.org/constituent-speaking-request> to complete a speaker slip and receive further instructions to participate via teleconference. For members of the public wishing to submit written comments, please email comments to the Clerk of the Board at lmobley@rctc.org prior to December 12, 2023, and your comments will be made part of the official record of proceedings.

In compliance with the Brown Act and Government Code Section 54957.5, agenda materials distributed 72 hours prior to the meeting, which are public records relating to open session agenda items, will be available for inspection by members of the public prior to the meeting at the Commission office, 4080 Lemon Street, Third Floor, Riverside, CA, and on the Commission's website, www.rctc.org.

In compliance with the Americans with Disabilities Act, Government Code Section 54954.2, and the Federal Transit Administration Title VI, please contact the Clerk of the Board at (951) 787-7141 if special assistance is needed to participate in a Commission meeting, including accessibility and translation services. Assistance is provided free of charge. Notification of at least 48 hours prior to the meeting time will assist staff in assuring reasonable arrangements can be made to provide assistance at the meeting.

1. CALL TO ORDER

2. ROLL CALL

3. PLEDGE OF ALLEGIANCE

4. PUBLIC COMMENTS – *Each individual speaker is limited to speak three (3) continuous minutes or less. The Commission may, either at the direction of the Chair or by majority vote of the Commission, waive this three-minute time limitation. Depending on the number of items on the Agenda and the number of speakers, the Chair may, at his/her discretion, reduce the time of each speaker to two (2) continuous minutes. In addition, the maximum time for public comment for any individual item or topic is thirty (30) minutes. Also, the Commission may terminate public comments if such comments become repetitious. Speakers may not yield their time to others without the consent of the Chair. Any written documents to be distributed or presented to the Commission shall be submitted to the Clerk of the Board. This policy applies to Public Comments and comments on Agenda Items.*

Under the Brown Act, the Commission should not take action on or discuss matters raised during public comment portion of the agenda that are not listed on the agenda. Commission members may refer such matters to staff for factual information or to be placed on the subsequent agenda for consideration.

5. ADDITIONS / REVISIONS – *The Commission may add an item to the Agenda after making a finding that there is a need to take immediate action on the item and that the item came to the attention of the Commission subsequent to the posting of the agenda. An action adding an item to the agenda requires 2/3 vote of the Commission. If there are less than 2/3 of the Commission members present, adding an item to the agenda requires a unanimous vote. Added items will be placed for discussion at the end of the agenda.*

6. CONSENT CALENDAR – *All matters on the Consent Calendar will be approved in a single motion unless a Commissioner(s) requests separate action on specific item(s). Items pulled from the Consent Calendar will be placed for discussion at the end of the agenda.*

6A. APPROVAL OF MINUTES – NOVEMBER 8, 2023

Page 1

6B. PROPOSED 2024 COMMISSION/COMMITTEE MEETING SCHEDULE

Page 8

Overview

This item is for the Commission to:

- 1) Adopt its 2024 Commission/Committee Meeting Schedule.

6C. MONTHLY INVESTMENT REPORT

Page 11

Overview

This item is for the Commission to:

- 1) Receive and file the Monthly Investment Report for the month ended October 31, 2023.

6D. AMENDMENT TO PROJECT AND CONSTRUCTION MANAGER SERVICES FOR THE INTERSTATE 15/STATE ROUTE 91 EXPRESS LANES CONNECTOR PROJECT

Page 14

Overview

This item is for the Commission to:

- 1) Approve Agreement No. 15-31-001-14, Amendment No. 14 to Agreement No. 15-31-001-00, with Parsons Transportation Group, Inc. (Parsons) to provide additional project and construction management (PCM) services for the Interstate 15 (I-15)/State Route 91 (SR-91) Express Lanes project (15/91 ELC) in the amount of \$2,330,533, plus a contingency of \$233,053, for an additional amount of \$2,563,586; and extend the term to June 30, 2027;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission; and
- 3) Authorize the Executive Director or designee to approve contingency work up to the total not to exceed amount as required for the Project.

6E. AGREEMENT FOR JANITORIAL SERVICES FOR THE COMMUTER RAIL STATIONS AND TOLL FACILITIES

Page 26

Overview

This item is for the Commission to:

- 1) Award Agreement No. 24-24-005-00 to Ultimate Maintenance Services, Inc. to provide janitorial services for the Commuter Rail stations and toll facilities for a three-year term, and one, two-year option to extend the agreement, in the amount of \$1,057,345, plus a contingency amount of \$105,735, for a total amount not to exceed \$1,163,080;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission; and
- 3) Authorize the Executive Director, or designee, to approve the use of the contingency amount as may be required for these services.

6F. AMENDMENT NO. 4 WITH WSP USA INC., FOR PROFESSIONAL SERVICES, AND OPERATIONS AND MAINTENANCE AGREEMENT WITH CALTRANS FOR THE INTERSTATE 15 SMART FREEWAY PILOT PROJECT

Page 82

Overview

This item is for the Commission to:

- 1) Approve Agreement No. 21-31-063-04, Amendment No. 4, to Agreement No. 21-31-063-00 with WSP USA Inc., (WSP) to provide professional services for the Interstate 15 SMART Freeway Pilot Project (Project), in the amount of \$698,102 plus a contingency amount of \$69,810 for an additional amount of \$767,912, and a total amount not to exceed \$4,767,912;
- 2) Approve Agreement No. 23-31-063-00 with Caltrans for the draft operations and maintenance (O&M) of the Project;
- 3) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreements on behalf of the Commission;
- 4) Authorize the Executive Director, or designee, to approve contingency work as may be required for the Project; and
- 5) Authorize the Executive Director or designee, pursuant to legal counsel review, to execute non-funding amendments to the agreements on behalf of the Commission.

6G. QUARTERLY REPORTING OF CONTRACT CHANGE ORDERS FOR CONSTRUCTION CONTRACTS

Page 132

Overview

This item is for the Commission to:

- 1) Receive and file the Quarterly Report of Contract Change Orders for Construction Contracts for the three months ended September 30, 2023.

6H. TRAFFIC RELIEF PLAN PUBLIC ENGAGEMENT PROGRAM

Page 134

Overview

This item is for the Commission to:

- 1) Award Agreement No. 24-15-032-00 to AlphaVu for Public Engagement Program services for an eight-month term, in an amount not to exceed \$986,034; and
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission.

6I. STATE AND FEDERAL LEGISLATIVE UPDATE

Page 172

Overview

This item is for the Commission to:

- 1) Adopt the Commission's 2024 State and Federal Legislative Platform; and
- 2) Receive and file a state and federal legislative update.

6J. QUARTERLY PUBLIC ENGAGEMENT METRICS REPORT, JULY - SEPTEMBER 2023

Page 191

Overview

This item is for the Commission to:

- 1) Receive and file the Quarterly Public Engagement Metrics Report for July - September 2023.

6K. RIVERSIDE COUNTY ZERO-EMISSION BUS ROLLOUT PLANS AND FUNDING AND IMPLEMENTATION STRATEGY

Page 197

Overview

This item is for the Commission to:

- 1) Receive and file an update on the Riverside County Zero-Emission Bus (ZEB) Rollout Plans and Funding and Implementation Strategy (Project);
- 2) Direct staff to review existing transit funding policies and continue to work with the transit operators to strategize and leverage revenue sources to support the transition to zero-emission; and
- 3) Award sole source Agreement No. 24-62-042-00 with Center for Transportation and the Environment (CTE) for ongoing plan updates and zero-emission technical assistance for a three-year term in the amount of 150,000, plus a contingency of \$15,000, for a total amount not to exceed \$165,000.

7. CITY OF DESERT HOT SPRINGS REQUEST FOR A LOAN FOR STORM DAMAGED ROAD REPAIRS PROJECT

Page 427

Overview

This item is for the Commission to:

- 1) Approve Agreement No. 24-31-052-00 to loan the city of Desert Hot Springs (City) 2009 Measure A funds in the amount of \$7,500,000 for Storm Damaged Road Repairs Project (Project) with the City's repayment of the loan anticipated from federal Emergency Relief (ER) Program funds; and
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to develop, finalize and execute the agreement, on behalf of the Commission.

8. AGREEMENT FOR PROJECT AND CONSTRUCTION MANAGEMENT SERVICES FOR THE INTERSTATE 15 EXPRESS LANES PROJECT SOUTHERN EXTENSION

Page 431

Overview

This item is for the Commission to:

- 1) Award Agreement No. 24-31-004-00 with Parsons Transportation Group Inc. to provide project and construction management (PCM) Services for the Interstate 15 Express Lanes Project Southern Extension (ELPSE) for an eight-year term in the amount of \$78,702,500, plus a contingency amount of \$7,870,250, for a total amount not to exceed \$86,572,750;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to finalize and execute the agreement, on behalf of the Commission;

- 3) Authorize the Executive Director, or designee, to approve contingency work up to the total not to exceed amount as required for these services; and
- 4) Approve an increase in the Fiscal Year 2023/24 Budget from \$2,000,000 to \$5,364,161.

9. AMENDMENT NO. 11 WITH MICHAEL BAKER INTERNATIONAL FOR THE SANTA ANA RIVER TRAIL PROJECT 2 – PHASE 6 AND ADDITIONAL CONTINGENCY

Page 537

Overview

This item is for the Commission to:

- 1) Approve Agreement No. 17-67-027-11, Amendment No. 11 to Agreement No. 17-67-027-00, with Michael Baker International (MBI) for additional scope of services, as part of planned construction of the Santa Ana River Trail Project (SART) 2 through Green River Golf Course (Project) in the amount of \$222,980, plus a contingency amount of \$236,667, for an additional amount of \$459,647, and a total contract amount not to exceed \$2,609,259;
- 2) Authorize the Executive Director or designee to approve contingency work as may be required for the Project; and
- 3) Authorize the Chair or Executive Director, pursuant to legal counsel review, to finalize and execute the agreement on behalf of the Commission.

10. SENATE BILL 125 FORMULA-BASED FUNDING FOR THE TRANSIT AND INTERCITY RAIL CAPITAL PROGRAM AND ZERO EMISSION TRANSIT CAPITAL PROGRAM

Page 562

Overview

This item is for the Commission to:

- 1) Approve the funding recommendations in Attachment 1 for the Senate Bill 125 (SB 125) Formula-Based Funding for the Transit and Intercity Rail Capital Program (TIRCP) and Zero Emission Transit Capital Program (ZETCP) for Fiscal Year 2023/24;
- 2) Direct staff to prepare and execute funding agreements with the project sponsors to outline the project schedule and local funding commitments
- 3) Authorize the Executive Director to execute the funding agreements with the project sponsors, pursuant to legal counsel review;
- 4) Approve an amendment to the FY 2023/24 budget to receive the first-year allocations of TIRCP and ZETCP formula funds in the amounts of \$123,382,700 and \$14,828,290, respectively; and
- 5) Approve a FY 2023/24 budget adjustment of \$791,214 for expenses related to the TIRCP and ZETCP formula funds.

11. SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS CORRECTIVE ACTION FOR FEDERAL FORMULA FUNDS

Page 571

Overview

This item is for the Commission to:

- 1) Approve the RCTC Procedures for the Southern California Association of Governments (SCAG) 2024 Call for Project Nominations (nomination procedures);
- 2) Authorize the Executive Director to submit to SCAG the project nomination list based on the nomination procedures;
- 3) Approve Agreement No. 24-66-041-00, a Memorandum of Understanding (MOU) with SCAG; and
- 4) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission.

12. ELECTION OF RIVERSIDE COUNTY TRANSPORTATION COMMISSION OFFICERS

Page 603

Overview

This item is for the Commission to:

- 1) Conduct an election of officers for 2024 – Chair, Vice Chair, and Second Vice Chair.

13. ITEM(S) PULLED FROM CONSENT CALENDAR AGENDA

14. EXECUTIVE DIRECTOR REPORT

15. COMMISSIONER COMMENTS

Overview

This item provides the opportunity for brief announcements or comments on items or matters of general interest.

16. CLOSED SESSION

16A. CONFERENCE WITH LEGAL COUNSEL: EXISTING LITIGATION

Pursuant to Government Code Section 54956.9 (d)(1)

Case No(s). CVRI2205120

17. ADJOURNMENT

The next Commission meeting is scheduled to be held at 9:30 a.m. on **Wednesday, January 10, 2024.**

AGENDA ITEM 6A

MINUTES

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

MEETING MINUTES

Wednesday, November 8, 2023

1. CALL TO ORDER

The Riverside County Transportation Commission was called to order by Chair Bob Magee at 9:34 a.m. in the Board Room at the County of Riverside Administrative Center, 4080 Lemon Street, First Floor, Riverside, California, 92501. For public comment visit <https://rivco.org/constituent-speaking-request> to complete a speaker slip.

2. ROLL CALL

Commissioners/Alternates Present

Brian Berkson
Ulises Cabrera
Joseph DeConinck
Waymond Fermon
Kathleen Fitzpatrick
Sheri Flynn
Raymond Gregory
Yxstian Gutierrez
Berwin Hanna
Jan Harnik
Steven Hernandez
Kevin Jeffries
Linda Krupa
Clint Lorimore*
Bob Magee
Meg Marker
Scott Matas

Lisa Middleton
Linda Molina
Joseph Morabito
V. Manuel Perez*
Catalino Pining
Dana Reed
Jeremy Smith
Karen Spiegel
Wes Speake
Michael M. Vargas
Valerie Vandever
Cindy Warren
Chuck Washington
Lloyd White
Bill Zimmerman

Commissioners Absent

Chuck Conder
James Stewart

*Arrived after the meeting was called to order.

3. PLEDGE OF ALLEGIANCE

Commissioner Kevin Jeffries led the Commission in a flag salute.

4. PUBLIC COMMENTS

There were no requests to speak from the public.

5. ADDITIONS / REVISIONS

There were no additions or revisions to the agenda.

At this time, Commissioner Clint Lorimore joined the meeting.

6. CONSENT CALENDAR

M/S/C (Reed/Washington) to approve the following Consent Calendar items.

6A. APPROVAL OF MINUTES – OCTOBER 11, 2023

6B. SINGLE SIGNATURE AUTHORITY REPORT

- 1) Receive and file the Single Signature Authority report for the first quarter ended September 30, 2023.

6C. QUARTERLY SALES TAX ANALYSIS

- 1) Receive and file the sales tax analysis for the Quarter 2, 2023 (2Q 2023).

6D. MONTHLY INVESTMENT REPORT

- 1) Receive and file the Monthly Investment Report for the month ended August 31, 2023.

6E. MONTHLY INVESTMENT REPORT

- 1) Receive and file the Monthly Investment Report for the month ended September 30, 2023.

6F. 15 EXPRESS LANES MONTHLY STATUS REPORTS

- 1) Receive and file the 15 Express Lanes Monthly Reports for the six months from January to June 2023.

6G. 91 EXPRESS LANES MONTHLY STATUS REPORTS

- 1) Receive and file the 91 Express Lanes Monthly Reports for the six months from January to June 2023.

6H. AGREEMENT FOR ADVANCED TRAFFIC MANAGEMENT SYSTEM FOR 91 EXPRESS LANES

- 1) Award Agreement No. 23-31-048-00 to Parsons Transportation Group Inc. for Advanced Traffic Management System (ATMS) for the 91 Express Lanes for a one-year term for implementation; five-year term for maintenance, and five one-year options to extend the agreement for additional maintenance in the amount of \$3,149,192; plus a contingency amount of \$472,379 for a total amount not to exceed \$3,621,571;
- 2) Approve Agreement No. 17-31-020-04, Amendment No. 4, to Agreement No. 17-31-020-00 with Parsons Transportation Group Inc. for maintenance services for an additional amount of \$125,894, and a total amount not to exceed \$976,828;
- 3) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreements, including options, on behalf of the Commission; and
- 4) Authorize the Executive Director, or designee, to approve contingency work as may be required.

6I. STATE AND FEDERAL LEGISLATIVE UPDATE

- 1) Receive and file a state and federal legislative update.

At this time, Commissioner V. Manuel Perez joined the meeting.

7. SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS PRESENTATION

Anne Mayer welcomed and introduced Kome Ajise, Southern California Association of Governments (SCAG) Executive Director to present the Connect SoCal 2024 Draft Plan.

Kome Ajise presented the Connect SoCal 2024 Draft Plan update, highlighting the following areas:

- The SCAG region – Los Angeles, Ventura, Imperial, Orange, Riverside and San Bernardino Counties
- Our role in the region – Vision and goals
- What is Connect SoCal – A meeting together of a six County region
- Connect SoCal is:
 - A Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)
 - A plan to meet federal and state requirements, which is critical for projects in the region to receive transportation funding or approval
 - A 20+ year plan with \$750 billion in transportation investments, a regional development pattern and many supportive programs and strategies

- Plan elements – Regional planning policies, project list, forecasted regional development pattern, regional strategic investments, and implementation strategies
- How do we develop the plan – The plan is built based on a continuing, cooperative and comprehensive approach
- Who are we planning for – Equity and resilience as a lens
 - Mobility, communities, environment, and economy
- The region in 2050
- What comes next – Draft and final plan timeline
- Currently taking public comments until January 12, 2024

Chair Magee expressed appreciation to Kome Ajise for the presentation.

M/S/C to receive a presentation on the Connect SoCal 2024 Draft Plan.

8. ITEM(S) PULLED FROM CONSENT CALENDAR FOR DISCUSSION

There were no items pulled from the Consent Calendar.

At this time, Commissioner Jeffries left the meeting.

9. EXECUTIVE DIRECTOR'S REPORT

Anne Mayer announced:

- The Draft Traffic Relief Plan is out for public review. An email went to the Commissioners with a link to the trafficroeliefplan.org website that shows the draft plan where people can look at it and provide comments. She will be sending the same link and information to each of the city managers and the County Administrative Office later today and she will be encouraging them to look at the plan and to communicate with their commissioner on their feedback regarding each of their communities. RCTC will be offering meetings and there are already a couple of cities that have requested a presentation.
- Within the next two weeks the 15/91 Express Lanes Connector will be open to the public. The Ribbon Cutting Event will be held on December 6 at 10:00 a.m. at the North Main Corona Metrolink station. That connector was the missing piece on the 91 connections of the express lanes between the 91 express lanes and the I-15 express lanes. It will provide eastbound 91 to northbound 15 travelers and southbound 15 to westbound 91 travelers a direct connection between the two express lane system. The goal there is to smooth those commutes and allow people to get to their job on time and get home on time. At the same time, RCTC will be converting both the 91 Express Lanes and the 15 Express Lanes and their connectors to dynamic pricing the Commissioners had approved. Express lane

customers have been receiving emails and alerts as to the upcoming changes, RCTC will be starting a social media campaign for the public, and there will be signs out on the corridor.

10. COMMISSIONER COMMENTS

10A. Commissioner Joseph Morabito stated that based on Anne Mayer's report he has seen many YouTube ads promoting that.

10B. Commissioner Bill Zimmerman asked if Orange County Transportation Authority (OCTA) is interested in doing something similar to the dynamic system that RCTC is putting into place so there are not two different styles that people must understand.

Anne Mayer stated that OCTA is not planning on making any changes on the 91 system in the near future to dynamic. It has long been a conversation and before staff brought the dynamic pricing on the 91 to this Commission to consider they did talk to OCTA about it they do not see any conflict or confusion she thinks OCTA is interested to see how it works. OCTA is opening by December 1st the 405 Express Lanes so the first major expansion of express lanes in Orange County beyond the 91 and the TCA facilities will be the 405. She believes OCTA are opening with time-of-day pricing system, but they are also closely paying attention to what happens from a dynamic pricing standpoint. As was seen on I-15 dynamic pricing can provide a real opportunity to make sure that customers are not paying for a level of congestion that existed three months before that they are paying what level of congestion is there now.

10C. Commissioner Cindy Warren noted that she has been asked by many constituents if their current transponders through FasTrak if they will need new ones.

Anne Mayer replied that all FasTrak transponders issued in the state of California work on any facility in the state of California there is interoperability, so people do not need to get a new one. If someone wants a transponder Riverside Express is open and available at RCTC's Customer Service Center.

Commissioner Warren stated she thought she was correct but wanted to clarify. She announced on November 11 @ 10:00 a.m. there is a Veterans' Parade and right after the parade the city of Murrieta is unveiling their Vietnam Veteran Memorial.

10D. Commissioner Speake clarified regarding Anne Mayer's comment about the dynamic price is based on congestion and one of his issues has been there needs to be some truth in tolling. He stated that people need to understand the price is the congestion in the toll lane because most folks do not understand that price

under dynamic pricing is the toll lanes are busy. He is still pushing for a legislative fix that people should know how much time they are buying but he wanted to make sure the Commission continues the education piece that they are educating people what that number really means. Anne Mayer replied staff can certainly adapt their frequently asked questions to reflect that. Commissioner Speake expressed appreciation for doing that.

- 10E.** Commissioner Karen Spiegel expressed one of a more heartwarming holiday they serve is Veterans' Day and she is certain the Commissioners have an event, and she hopes they are promoting it because they deserve their appreciation. She reminded the Commissioners that Veterans' Day is not Memorial Day it is to honor their veterans that are here and to thank them. For the freedoms they have here and for all the opportunities they have is because they have people who protected their rights and their freedoms. She would like to visit if anybody has a big Veterans' Day Memorial because right now the city of Norco has the best veteran's memorial as it is an incredible dedication, she described the memorial, and suggested to go see it.

At this time, Commissioner Yxstian Gutierrez left the meeting.

- 10F.** Commissioner Berwin Hanna expressed appreciation to Commissioner Spiegel and announced the city of Norco is celebrating Veterans' Day on November 11 @ 10:00 a.m. at the George A. Ingalls Veterans Memorial Plaza and noted it is the best one in the country. On November 5 Commissioner Spiegel was there but they dedicated a new part of that, and it is called the Kathy Azevedo Spirit of Norco Award and each year they will add a new resident to that to honor somebody that has done great things like Kathy Azevedo did.
- 10G.** Commissioner Kathleen Fitzpatrick expressed appreciation to all the veterans and invited Commissioner Spiegel to the city of La Quinta's Civic Center Park where they have several monuments for their veterans, they also have a 911 memorial in the same area in the park. It is a beautiful place to sit, think, and reflect and their Veterans' Celebration is on November 11 @ 9:00 a.m. and there will be a flyover from the Air Museum. She then thanked all the veterans. She also invited everyone to their On Core Art Celebration November 16-19 also at Civic Center Park it is a beautiful event, and the campus has turned into a virtual art fare.
- 10H.** Commissioner Brian Berkson announced on November 11 the city of Jurupa Valley will have a parade along Mission in the Rubidoux area followed immediately by an all-day celebration at the Flabob Airport. There will be an old-fashioned car show and all kinds of planes on display in recognition of their veterans.
- 10I.** Commissioner Reed reported that the League of Cities has announced the chairman and vice chairman of the various policy committees, the city of Banning's

Mayor Pro Tem Colleen Wallace is the chairman of the Transportation Policy Committee and Commissioner Wes Speake is vice chair of Housing. There are other Riverside County people on board, but they are not here today, but Riverside County did quite well with the League of Cities in terms of getting representation on policy committees.

- 10J.** Commissioner Spiegel stated she wanted to acknowledge the veterans that are in the board room and asked them to stand so everyone can applaud.
- 10K.** Commissioner Lisa Middleton announced inviting everyone to the city of Palm Springs on November 11 @ 3:30 p.m. they will have their 35th Annual Veterans' Day Parade and on December 2 @ 5:00 p.m. will be the Festival of Lights in Palm Springs.
- 10L.** Commissioner Michael Vargas announced the city of Perris celebrated Veterans' Day last weekend.

Commissioner Spiegel clarified that Commissioner Vargas was supposed to make the Metrolink announcement.

Commissioner Vargas announced on November 25 @ 10:00 a.m. at the Perris South station there will be the Metrolink Holiday Express Train where they will run a series of trains. Tickets are \$25 each and there will be a Toy Drive.

- 10M.** Commissioner Berkson announced that Metrolink is closing all its service December 26-29 so they can upgrade the signals in Union Station and additional improvements. There is lots of advertisement coming to warn and forewarn people about the four-day Metrolink shut down in December.

11. ADJOURNMENT

There being no further business for consideration by the Riverside County Transportation Commission, Chair Magee adjourned the meeting at 10:11 a.m. The next Commission meeting is scheduled to be held at 9:30 a.m. on Wednesday, December 13, 2023.

Respectfully submitted,



Lisa Mobley
Administrative Services Director /
Clerk of the Board

AGENDA ITEM 6B

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Lisa Mobley, Administrative Services Director/Clerk of the Board
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Proposed 2024 Commission/Committee Meeting Schedule

STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Adopt its 2024 Commission/Committee Meeting Schedule.

BACKGROUND INFORMATION:

The Commission is scheduled to meet on the second Wednesday of each month at 9:30 a.m. The Executive Committee is scheduled at 9:00 a.m. on the same day.

The Commission's Budget and Implementation and Western Riverside County Programs and Projects Committees meet on the fourth Monday of each month at 9:30 a.m. and 1:30 p.m., respectively, except when the fourth Monday falls on a holiday. Due to the May Committee meetings falling on a holiday, they are not being scheduled.

There are times when a committee meeting may be cancelled due to lack of substantive agenda items. When this occurs, the Commissioners will be notified, and items are forwarded directly to the Commission for final action.

Attachment: Proposed 2024 Commission/Committee Meetings Schedule



**RIVERSIDE
COUNTY
TRANSPORTATION
COMMISSION**

2024 MEETING SCHEDULE

Meeting Date (Wednesday)	Commission	Location	Executive Committee	Location
January 10	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
January 25-26	1:30 p.m. (Thursday)* 8:30 a.m. (Friday)*	Renaissance Palm Springs Hotel	N/A	N/A
February 14	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
March 13	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
April 10	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
May 8	9:30 a.m.	Coachella Valley*	9:00 a.m.	Coachella Valley*
June 12	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
July 10	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
August 14	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
September 11	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
October 9	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
November 13	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*
December 11	9:30 a.m.	County Board Room*	9:00 a.m.	RCTC March Field Conf. Rm.*

The Commission and the Executive Committee meetings are held on the second Wednesday of each month.

*Locations and times are tentative, subject to change.

Meeting Date (Monday)	Budget and Implementation Committee	Western Riverside County Programs and Projects Committee	Location
January 22	9:30 a.m.	1:30 p.m.	County Board Room*
February 26	9:30 a.m.	1:30 p.m.	County Board Room*
March 25	9:30 a.m.	1:30 p.m.	County Board Room*
April 22	9:30 a.m.	1:30 p.m.	County Board Room*
June 24	9:30 a.m.	1:30 p.m.	County Board Room*
July 22	9:30 a.m.	1:30 p.m.	County Board Room*
August 26	9:30 a.m.	1:30 p.m.	County Board Room*
September 23	9:30 a.m.	1:30 p.m.	County Board Room*
October 28	9:30 a.m.	1:30 p.m.	County Board Room*
November 25	9:30 a.m.	1:30 p.m.	County Board Room*
December 23	9:30 a.m.	1:30 p.m.	County Board Room*
The meetings of the Budget and Implementation Committee and the Western Riverside County Programs and Projects Committee are held on the fourth Monday of each month, except on holidays. *Additional satellite locations will be listed on each agenda.			

AGENDA ITEM 6C

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Megan Kavand, Senior Financial Analyst Sergio Vidal, Chief Financial Officer
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Monthly Investment Report

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Receive and file the Monthly Investment Report for the month ended October 31, 2023.

BACKGROUND INFORMATION:

The Commission’s investment reports have generally reflected investments primarily concentrated in the Riverside County Pooled Investment Fund as well as investments in mutual funds for sales tax revenue bonds debt service payments.

As a result of significant project financings such as the State Route 91 Corridor Improvement Project (91 Project or 91 CIP) and the Interstate 15 Express Lanes Project (I-15 ELP), the Commission engaged MetLife Investment Management, LLC, formerly Logan Circle Partners, L.P. (MetLife), as the investment manager for the bond proceeds and other required funds. Additionally, the Commission engaged Payden & Rygel Investment Management (Payden & Rygel) to make specific investments for Commission operating funds. The Commission approved initial agreements with the investment managers in May 2013 following a competitive procurement and has extended the agreements through the annual recurring contracts process.

MetLife invested the debt proceeds and subsequent other required contributions for the 91 Project and I-15 ELP in separate accounts of the Short-Term Actively Managed Program (STAMP). The Commission completed the 91 Project financing in 2013, the I-15 ELP and 91 Project completion financing (2017 Financing) in July 2017 and the 2021 91 Project refinancing (2021 Financing) in October 2021. Consistent with financing expectations, the Commission expended all 91 Project debt proceeds and equity contributions, except for the toll revenue bonds debt service reserve, and subsequent to commencement of operations, established other required accounts. The Commission continues to expend the 2017 Financing bond proceeds on the I-15 ELP and funded required reserve accounts.

The monthly investment report for October 2023, as required by state law and Commission policy, reflects the investment activities resulting from the 91 Project, 2017 Financing, 2021 Financing and available operating cash. As of October 31, 2023, the Commission’s cash and investments were comprised of the following:

CASH AND INVESTMENTS PORTFOLIO	AMOUNTS ¹
Operating	\$ 866,839,317
Trust	294,720,208
Commission-managed	222,512,149
STAMP for 91 CIP	58,216,672
STAMP for 2017 Financing	29,689,188
Total	\$ 1,471,977,534
Note: ¹ Unreconciled and unaudited	

As of October 31, 2023, the Commission’s cash and investments are in compliance with both the Commission’s investment policy adopted on October 11, 2023, and permitted investments described in the indenture for the Commission’s sales tax revenue bonds and the master indentures for the Commission’s toll revenue bonds. Additionally, the Commission has adequate cash flows for the next six months.

FISCAL IMPACT:

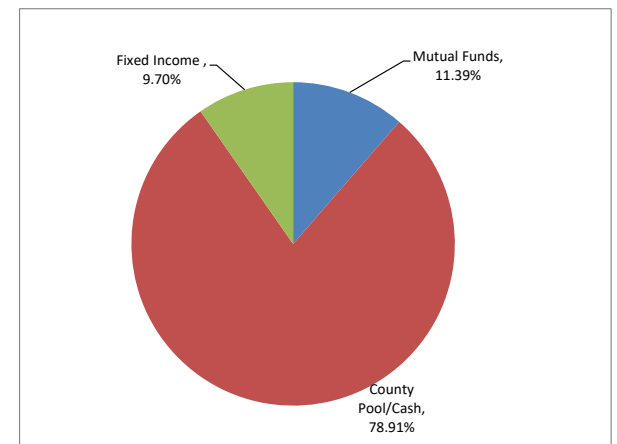
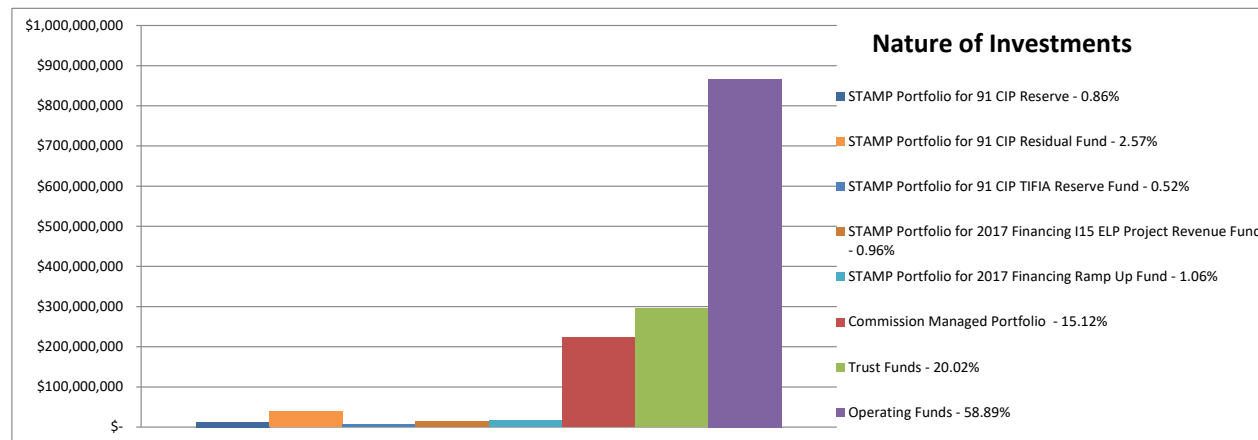
This is an information item. There is no fiscal impact.

Attachment: Investment Portfolio Report

Riverside County Transportation Commission
Investment Portfolio Report
Period Ended: October 31, 2023

	STATEMENT BALANCE ¹	FINANCIAL INSTITUTION	STATEMENTS	RATING MOODY'S / S&P	COUPON RATE	PAR VALUE	PURCHASE DATE	MATURITY DATE	YIELD TO MATURITY	PURCHASE COST	MARKET VALUE	UNREALIZED GAIN (LOSS)
OPERATING FUNDS												
City National Bank Deposits	12,374,042	City National Bank	Available upon request	A3/BBB+	N/A				N/A			
County Treasurer's Pooled Investment Fund	854,465,275	County Treasurer	Available upon request					Available upon request				
Subtotal Operating Funds	866,839,317											
FUNDS HELD IN TRUST												
County Treasurer's Pooled Investment Fund: Local Transportation Fund	294,720,208	County Treasurer	Available upon request					Available upon request				
Subtotal Funds Held in Trust	294,720,208											
COMMISSION MANAGED PORTFOLIO												
US Bank Payden & Rygel Operating	54,891,665	US Bank	Available upon request					Available upon request				
First American Government Obligation Fund	167,620,484	US Bank	Available upon request	N/A	N/A				N/A			
Subtotal Commission Managed Portfolio	222,512,149											
STAMP PORTFOLIO for 91 CIP												
2013 Series A & Series B Reserve Fund	12,698,841	US Bank	Available upon request					Available upon request				
2021 Series B Reserve Fund	37,877,707	US Bank	Available upon request					Available upon request				
2021 Series C Reserve Fund	7,640,124	US Bank	Available upon request					Available upon request				
Subtotal STAMP Portfolio - 91 CIP	58,216,672											
STAMP PORTFOLIO for 2017 Financing												
Sales Tax I15 ELP Project Revenue Fund	14,070,486	US Bank	Available upon request					Available upon request				
Ramp Up Fund	15,618,701	US Bank	Available upon request					Available upon request				
Subtotal STAMP Portfolio - 2017 Financing	29,689,188											
TOTAL All Cash and Investments	\$ 1,471,977,534											

Notes:
¹ Unreconciled and unaudited



AGENDA ITEM 6D

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Western Riverside County Programs and Projects and Committee Sri Srirajan, Senior Capital Projects Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Amendment to Project and Construction Manager Services for the Interstate 15/State Route 91 Express Lanes Connector Project

WESTERN RIVERSIDE COUNTY PROGRAMS AND PROJECTS COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve Agreement No. 15-31-001-14, Amendment No. 14 to Agreement No. 15-31-001-00, with Parsons Transportation Group, Inc. (Parsons) to provide additional project and construction management (PCM) services for the Interstate 15 (I-15)/State Route 91 (SR-91) Express Lanes project (15/91 ELC) in the amount of \$2,330,533, plus a contingency of \$233,053, for an additional amount of \$2,563,586; and extend the term to June 30, 2027;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission; and
- 3) Authorize the Executive Director or designee to approve contingency work up to the total not to exceed amount as required for the Project.

BACKGROUND INFORMATION:

15/91 ELC

The 15/91 ELC will provide tolled express lane connectors between the existing 91 Express Lanes and I-15 Express Lanes to the north of SR-91 (Figure 1 Vicinity Map). The 15/91 ELC was originally part of the SR-91 Corridor Improvement Project (CIP), which opened in March 2017 in the city of Corona. Due to the recession and budget constraints during the planning for the 91 Project, the 15/91 ELC and other project elements were deferred as future phases.

In April 2017 Governor Brown signed Senate Bill 132 (SB 132) which appropriated \$427 million to the Riverside County Transportation Efficiency Corridor (RCTEC) for five projects. SB 132 allocated \$180 million to the 15/91 ELC allowing that deferred project element to be constructed much sooner than expected. In October 2017, the Commission approved an overall procurement strategy for the 15/91 ELC to secure all the services and construction

needed to deliver the project. The approved strategy consisted of a series of contract amendments to existing 91 CIP and I-15 Express Lanes Project (ELP) contracts with engineering companies, contractors, toll vendors, legal, and financial advisors.

The 15/91 ELC Project adds the following:

- 1) A single-lane tolled express lane connector from the eastbound 91 Express Lanes to the northbound 15 Express lanes; and
- 2) A single-lane tolled express lane connector from the southbound 15 Express Lanes to the westbound 91 Express Lanes.



Figure 1: 15/91 Express Lanes Connector Project Vicinity Map

Parsons and PCM Services

In April 2015, after a competitive procurement process, the Commission entered into an agreement with Parsons to provide PCM services for the I-15 Express Lanes Project. PCM services for this design-build project included procurement services, project financing support, toll system and operations planning, engineering, design review/oversight, construction management/oversight, agency agreement support, and other necessary services.

DISCUSSION:

In January 2018, the Commission approved an amendment to the Parsons agreement to add additional PCM services for the 15/91 ELC project. The scope of work included support to staff in its efforts to negotiate with the I-15 ELP Design-Build contractor to amend the I-15 ELP contract to include the 15/91 ELC work, as well as continuing the I-15 ELP construction management/oversight for the 15/91 ELC in the amount of \$14,787,573, plus a contingency amount of \$1,462,427, for a total amount not to exceed \$16,250,000. Negotiations with the I-15 ELP contractor pursued however were unsuccessful and the Commission elected to take the “offramp” which require procuring a new Design-Build contractor. This additional effort and time extension required further amendment to the Parsons’ PCM services contract.

At its March 2020 meeting, the Commission approved an amendment to the Parsons agreement to provide PCM services for the 15/91 ELC under a new contract in the amount of \$14,825,000, plus a contingency amount of \$1,482,000, for a total amount not to exceed \$16,307,000, and extend the term to June 30, 2024.

Summary of PCM Services Contingencies

Commission Date	Authorized Contingency
1/10/2018	\$1,462,427
3/11/2020	\$1,482,000
Total Authorized Contingency for PCM Services	\$2,944,427

Consistent with the October 2017 Commission approved procurement strategy, several amendments to the Parsons’ agreement have been made to ensure that the 15/91 ELC project had the needed PCM resources to support the Commission’s delivery of this project within the stipulated SB 132 timelines.

As the 15/91 ELC progressed, additional construction scope and changes were made to the project. Two amendments were issued to Parsons using the Commission authorized contingency funds for the following construction scope changes:

Eastbound Express Lane addition on SR-91 (EB 2.0): As originally scoped, the 91 Express Lanes eastbound diverge point at the connectors splits to the northbound and southbound I-15 express lanes connectors, and a single lane extends eastbound through the interchange terminating west of the Promenade Avenue overcrossing. An amendment was issued to the PCM and Design-Builder to extend a second express lane approximately half a mile from the diverge point east to near Promenade Avenue overcrossing. This modification will improve the operations in the eastbound 91 Express Lanes by alleviating the bottleneck at the 15/91 ELC diverge point.

Railroad Flagging Services: When working within or near railroad property, the railroad operators require flaggers to be on site to ensure safe train operations. Historically these services were provided by the railroad, Burlington Northern and Santa Fe (BNSF), and

reimbursed by the project. During the national railroad strike negotiations in the summer of 2022, BNSF advised staff that they would no longer be providing flagging services and that the local agency would be responsible for contracting directly for these services. An amendment was issued to the PCM to provide these services.

Summary of Previous Amendments

Scope of Work	Amendment	Authorized Contingency Balance
Eastbound Express Lane addition on SR-91 (EB 2.0)	\$1,742,202	\$1,202,225
Railroad Flagging Services	\$1,000,000	\$202,225

Due to the additional scope for the Eastbound Express Lane addition as well as other impacts, the project substantial completion (opening) was extended from June 2023 to November 2023. This time extension requires additional resources for the PCM services to complete the project. Accordingly, an amendment to Parson’s agreement is required for continued PCM services. Staff has reviewed and negotiated the revised budget including the appropriate level of labor hours and cost to complete the delivery of the project. An amendment for an additional \$2,532,758 is required to provide the necessary support through the end of the project. The remaining contingency amount of \$202,225 will be utilized to reduce the additional Commission authorization amount to \$2,330,533. Staff is requesting that an additional contingency of 10 percent, or \$233,053, be allocated to account for any additional unforeseen issues that may arise.


The project requires a three-year plant establishment period that shall commence upon RCTC’s issuance of a certification of initial acceptance for all replacement plantings and irrigation installation work. Staff requests extension of the contract term to June 30, 2027, to provide support services through the plant establishment period.

STAFF RECOMMENDATION:

Staff recommends approval of Amendment No. 14 to Agreement No. 15-31-001-00 with Parsons to fund PCM services for the Project in the amount of \$2,330,533, plus a contingency of \$233,053, for an additional amount of \$2,563,586 and to extend the term of the contract to June 30, 2027. Additionally, staff recommends authorization for the Chair or Executive Director to execute the amendment on behalf of the Commission, pursuant to legal counsel review and for the Executive Director or designee to approve contingency work that may be required to complete the Project.

FISCAL IMPACT:

Costs for this Amendment are funded as follows:

Financial Information					
In Fiscal Year Budget:	Yes	Year:	FY 2023/24 FY 2025+	Amount:	\$2,358,536 \$205,050
Source of Funds:	91 Toll Revenue			Budget Adjustment:	No N/A
GLA No.:	003039 81601 00000 0000 605 31 81601				
Fiscal Procedures Approved:				Date:	11/14/2023

Attachment: Amendment No. 14 to Agreement No. 15-31-001-00 with Exhibits for Work Scope, Schedule, and summary of Cost

<i>Approved by the Western Riverside County Programs and Projects Committee on November 27, 2023</i>					
In Favor:	12	Abstain:	0	No:	0

**AMENDMENT NO. 14 TO PROFESSIONAL SERVICES
AGREEMENT FOR PROJECT AND CONSTRUCTION
MANAGEMENT SERVICES FOR THE 1-15 CORRIDOR
IMPROVEMENT PROJECT**

1. PARTIES AND DATE

This Amendment No. 14 to the Agreement for project and construction management services is made and entered into as of this ____ day of _____, 2023, by and between the RIVERSIDE COUNTY TRANSPORTATION COMMISSION ("Commission") and PARSONS TRANSPORTATION GROUP INC., an Illinois corporation ("Consultant").

2. RECITALS

- 2.1 The Commission and the Consultant entered into an agreement, dated April 8, 2015, for the purpose of providing project and construction management services for the Interstate 15 Corridor Improvement Project (the "Master Agreement") for a maximum not to exceed ("NTE") amount of \$50,625,807.
- 2.2 Senate Bill 132 was enacted on April 28, 2017, and provides, among other things, \$180 million for new tolled express lanes connectors from the 91 Express Lanes to the northern portion of the 1-15 (15/91 ELC). Funds under SB132 are available for encumbrance and liquidation only until June 30, 2023.
- 2.3 AB 115 was enacted on June 27, 2017, and provides additional project delivery authority to Commission to ensure cost-effective and timely delivery of the 15/91 ELC. Additional project delivery authority includes, but is not limited to, amendments to any existing 1-15 Express Lanes Project or 91 Express Lanes Project contract. This amendment is authorized pursuant to AB 115.
- 2.4 The Commission and the Consultant entered into Agreement No. 15-31- 001-02-A, an amendment to the Master Agreement, dated November 1, 2017, in order to provide additional engineering and environmental services to complete the Caltrans supplemental Project Report and Environmental Document revalidation for the 15/91 ELC.
- 2.5 The Commission and the Consultant entered into Amendment No. 3 to the Master Agreement, dated March 28, 2018, ("Amendment No. 3") in order to extend the term, to provide project and construction management services for the 15/91

ELC, to update the indemnification provision pursuant to SB 496, and to include certain additional standard federal provisions.

- 2.6 The Commission and the Consultant entered into Amendment No. 4 to the Master Agreement, dated January 29, 2019, to provide design refinement, including geometrical and structural changes, and additional soundwall studies and revisions mandated by Caltrans District 8 Noise Group to obtain environmental approval of the 15/91 ELC, and to provide additional funding therefor.
- 2.7 The Commission and the Consultant entered into Amendment No. 5 to the Master Agreement, dated June 26, 2019, to provide additional services required to obtain environmental approval of the 15/91 ELC, primarily related to unanticipated additional noise study work, and to provide additional funding for such services.
- 2.8 The Commission and the Consultant entered into Amendment No. 6 to the Master Agreement, dated July 26, 2019, to provide public information services and additional compensation for such services related to the 1-15 Express Lanes Project (1-15 ELP).
- 2.9 The Commission and the Consultant entered into Amendment No. 7 to the Master Agreement, dated October 9, 2020, to extend the term and provide additional project and construction management services required for the 15/91 ELC, and to provide additional funding for such services.
- 2.10 The Commission and the Consultant entered into Amendment No. 8 to the Master Agreement, dated February 28, 2022, to provide additional environmental studies, final design, and construction management services required for the 1-15 Interim Corridor Operations Project (1-15 ICOP), and to provide additional funding for such services.
- 2.11 The Commission and the Consultant entered into Amendment No. 9 to the Master Agreement, dated June 2, 2022, to update the cost for environmental services, to provide supplemental public outreach services, and to provide additional funding for construction support services required for the 1-15 ICOP.
- 2.12 The Commission and the Consultant entered into Amendment No. 10 to the Master Agreement, dated August

22, 2022, to provide planning and general oversight of the extension of the I-15 Express Lanes to the San Bernardino County Line.

- 2.13 The Commission and the Consultant entered into Amendment No. 11 to the Master Agreement, dated March 14, 2023, to provide closeout services for the I-15 ELP and to provide additional funding for such services.
- 2.14 The Commission and the Consultant entered into Amendment No. 12 to the Master Agreement, dated April 5, 2023, to provide railroad flagging services and to provide additional funding for such services.
- 2.15 The Commission and the Consultant entered into Amendment No. 13 to the Master Agreement, dated September 13, 2023, to provide additional services for the addition of the eastbound express lane between Main Street and Promenade Avenue on State Route 91 Express Lanes, hereinafter referred to as "EB 2.0".
- 2.16 The Commission and the Consultant now desire to amend the Master Agreement in order to provide continued project and construction management services for the extended duration of the 15/91 ELC, to extend the term of the Master Agreement to June 30, 2027 to provide support through the plant establishment period for the 15/91 ELC, and to provide additional funding for such services.

3. TERMS

- 3.1 The Services, as that term is defined in the Master Agreement, shall be amended to include the additional project and construction management services required for the 15/91 ELC, as further described in Exhibit "A" attached to this Amendment No. 14 and incorporated herein by reference.
- 3.2 The term of the Master Agreement, as set forth in Section 3.3 of the Master Agreement, is hereby extended through June 30, 2027.
- 3.3 Services under this Amendment No. 14 shall be compensated in accordance with the cost details included in Exhibit "B" attached to this Amendment No. 14 and incorporated herein by reference. An additional not exceed sum of Two Million, Five Hundred

Thirty Two Thousand, Seven Hundred Fifty Eight Dollars (\$2,532,758) shall be allocated under this Amendment No. 14 for such Services, as follows:

A. Two Hundred Two Thousand, Two Hundred Twenty Five Dollars (\$202,225) of remaining contingency funds previously authorized by the Commission is hereby allocated under this Amendment No. 14.

B. Two Million, Three Hundred Thirty Thousand, Five Hundred Thirty Three Dollars (\$2,330,533) of additional funding is hereby authorized by the Commission and allocated under this Amendment No. 14.

- 3.4 Except as previously amended and as amended by this Amendment No. 14, all provisions of the Master Agreement, including without limitation the indemnity and insurance provisions, shall remain in full force and effect and shall govern the actions of the parties under this Amendment No. 14.
- 3.5 This Amendment No. 14 shall be governed by the laws of the State of California. Venue shall be in Riverside County.
- 3.6 This Amendment No. 14 may be signed in counterparts, each of which shall constitute an original.
- 3.7 A manually signed copy of this Amendment No. 14 which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Amendment No. 14 for all purposes. This Amendment No. 14 may be signed using an electronic signature.

[Signatures on following page]

**SIGNATURE PAGE TO AMENDMENT NO. 14
AGREEMENT NO. 15-31-001-14**

IN WITNESS WHEREOF, the parties hereto have executed this Amendment on the date first herein above written.

**RIVERSIDE COUNTY
TRANSPORTATION COMMISSION**

**PARSONS TRANSPORTATION
GROUP INC.**

By: _____
Anne Mayer, Executive Director

By: _____
Signature

Name

Title

APPROVED AS TO FORM:

ATTEST:

By: _____
Best Best & Krieger LLP
Counsel to the Riverside County
Transportation Commission

By: _____
Its: _____

* A corporation requires the signatures of two corporate officers.

One signature shall be that of the chairman of board, the president or any vice president and the second signature (on the attest line) shall be that of the secretary, any assistant secretary, the chief financial officer or any assistant treasurer of such corporation.

If the above persons are not the intended signators, evidence of signature authority shall be provided to the Commission.

EXHIBIT "A"

SCOPE OF WORK

Additional time was granted to the Design-Build contractor on the 15/91 ELC for various reasons including, but not limited to, weather and other impacts, extending the Design Build contract duration by 174 calendar days. As a result, additional Consultant project and construction management services are required for such extended period.

Consultant shall continue to furnish all Services, as that term is defined in the Master Agreement, as previously amended for the 15/91 ELC, including, but not limited to, all technical and professional services, labor, material, equipment, transportation, supervision and expertise, and incidental and customary work necessary to fully and adequately supply the professional project and construction management services necessary to oversee completion of the 15/91 ELC including, but not limited to, oversight of the 15/91 ELC plant establishment period.

EXHIBIT "B"
COMPENSATION

[attached behind this page]

AGENDA ITEM 6E

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Western Riverside County Programs and Projects Committee Gary Ratliff, Facilities Administrator Erik Galloway, Project Delivery Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Agreement for Janitorial Services for the Commuter Rail Stations and Toll Facilities

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Award Agreement No. 24-24-005-00 to Ultimate Maintenance Services, Inc. to provide janitorial services for the Commuter Rail stations and toll facilities for a three-year term, and one, two-year option to extend the agreement, in the amount of \$1,057,345, plus a contingency amount of \$105,735, for a total amount not to exceed \$1,163,080;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission; and
- 3) Authorize the Executive Director, or designee, to approve the use of the contingency amount as may be required for these services.

BACKGROUND INFORMATION:

The Riverside County Transportation Commission (RCTC) possesses ownership and operational oversight of nine Commuter Rail stations and one central operations control center. These facilities include Riverside Downtown, Riverside-La Sierra, North Main Corona, Jurupa Valley/Pedley, West Corona, Riverside-Hunter Park, Moreno Valley/March Field, Perris Downtown, South Perris, and the Riverside Downtown Operation Control Center. The provision of station cleaning and grounds maintenance services assumes a significant role in both attracting Metrolink commuters and safeguarding the Commission's real estate investments.

In its capacity as a toll operator, RCTC presides over the management of the RCTC 91 Express Lanes, inaugurated in March 2017, and the Interstate 15 Express Lanes, which commenced operation in 2020. Within these facilities, RCTC administers three structures, including a storage and maintenance (SAM) building, as well as two adjacent office buildings, one of which functions as the Regional Operations Center (ROC), while the other is occupied by a toll tenant. Additionally, two toll utility buildings (TUBs) are situated within the RCTC 91 Express Lanes.

Janitorial services at these toll facilities necessitate varying intervals, including daily, weekly, and monthly, contingent on the specific facility in question. The ROC and the additional office building necessitate daily janitorial services, while the TUBs located within the existing freeway median require biweekly or monthly maintenance. The SAM building, on the other hand, receives service on an as-needed basis. These janitorial services are crucial for upholding a pleasing aesthetic appearance for customers, fulfilling the operational demands of staff, and preserving the Commission's valuable property assets.

Procurement Process

Staff determined the weighted factor method of source selection to be the most appropriate for this procurement, as it allows the Commission to identify the most advantageous proposal with price and other factors considered. Non-price factors include elements such as qualifications of firm, personnel, and the ability to respond to the Commission's needs for janitorial services for the Commuter Rail stations and toll facilities as set forth under the terms of the Request for Proposals (RFP) No. 24-24-005-00.

RFP No. 24-24-005-00 for janitorial services for the Commuter Rail stations and toll facilities was released by staff on July 27, 2023. The RFP was posted on the Commission's PlanetBids website, which is accessible through the Commission's website. Through the PlanetBids site, 34 firms downloaded the RFP; two of these firms are in Riverside County. A pre-proposal conference was held on August 8, 2023, and attended by five firms. Staff responded to all questions submitted by potential proposers prior to the August 17, 2023, clarification date. Three firms – Base Hill, Inc. (Santa Fe Springs); Premier Property Preservation (West Hills); and Ultimate Maintenance Services, Inc. (Lawndale) – submitted a proposal prior to the 2:00 p.m. submittal deadline on August 31, 2023. Utilizing the evaluation criteria set forth in the RFP, the proposal was evaluated and scored by an evaluation committee comprised of Commission and Bechtel staff.

As a result of the evaluation committee's assessment of the written proposals, the evaluation committee recommends contract award to Ultimate Maintenance Services, Inc. to perform janitorial services for a three-year term, with one, two-year option to extend the agreement, in the amount of \$1,057,345, plus a 10 percent contingency amount of \$105,735, for a total amount not to exceed \$1,163,080, as this firm earned the highest total evaluation score. Contingency work, which will be subject to Executive Director or designee approval, includes additional janitorial service needs and as a need to support any special events or programs the Commission participates in and has executive director's approval.

The overall evaluation ranking, based on highest to lowest total evaluation score, and the total price are presented in the following table.

Firm	Price	Overall Ranking
Ultimate Maintenance Services, Inc.	\$ 907,345*	1
Base Hill, Inc.	1,209,384	2
Premier Property Preservation	41,860,652	3


*\$150,000 is being added to cover supplies/materials for a total amount of \$1,057,345

Due to the wide disparity in proposal prices, staff contacted the second and third place bidders to gain an understanding of their proposal prices. Factors that contributed to their prices were unfamiliarity with the stations and toll facilities, amount of labor perceived to perform the work, pricing based on acreage of stations instead of actual work to be performed.

In addition, staff analyzed the proposals closely, to make sure the scope of work was clear in the RFP, and that the proposal results are valid. The following factors contribute to the recommendation to award the contract as proposed to the No. 1 ranked firm:

- The same information was available to all proposers;
- A pre-proposal meeting was held to answer any questions the proposers had, at which all potential proposers were urged to visit the rail stations and were told to review the site map of the toll facilities in the RFP;
- Questions submitted by potential proposers during the proposal process did not indicate that the RFP was confusing or misunderstood; and
- The prices submitted by the low offeror are comparable to current prices the Commission pays for those services.

The Commission’s model professional services agreement will be entered into with Ultimate Maintenance Services, Inc. subject to any changes approved by the Executive Director, and pursuant to legal counsel review. Staff oversight of the contract will maximize the effectiveness of the firm and minimize costs to the Commission.

Financial Information					
In Fiscal Year Budget:	Yes	Year:	FY 2023/24 FY 2024/25+	Amount:	\$232,616 \$930,464
Source of Funds:	Measure A, Toll Revenues, Grants			Budget Adjustment:	No
GL/Project Accounting No.:	244XXX 73317 00000 0000 265 24 73301 009199 73317 00000 0000 591 31 73301				
Fiscal Procedures Approved:				Date:	11/14/2023

Attachment: Draft On-Call Janitorial Services Agreement No. 24-24-005-00

*Approved by the Western Riverside County Programs and Projects Committee on
November 27, 2023*

In Favor: 11 Abstain: 0 No: 0

**RIVERSIDE COUNTY TRANSPORTATION COMMISSION
ROUTINE AND ON-CALL
JANITORIAL SERVICES AGREEMENT**

1. PARTIES AND DATE.

This Agreement is made and entered into this ____ day of _____, 2023 by and between the Riverside County Transportation Commission (“Commission”) and Ultimate Maintenance Services, a Corporation with its principal place of business at 4237 Redondo Beach Blvd, Lawndale, CA 90260 (“Contractor”). Commission and Contractor are sometimes individually referred to as “Party” and collectively as “Parties” in this Agreement.

2. RECITALS.

2.1 Commission is the Transportation Commission for the County of Riverside and organized under the laws of the State of California with the power to contract for services necessary to achieve its purpose.

2.2 Commission owns and operates nine (9) commuter rail stations and one transit center serving Riverside County, the addresses and descriptions of which are set forth in Exhibit “A”, attached hereto and incorporated herein by reference (“Commuter Rail Stations”).

2.3 On or about July 27, 2023, Commission issued a Request for Proposals No. 24-24-005-00 (“RFP”), pursuant to which Commission sought proposals from contractors to provide routine and on-call janitorial services.

2.4 Contractor desires to perform and assume responsibility for the provision of certain routine and on-call janitorial services required by Commission on the terms and conditions set forth in this Agreement.

2.5 The work generally includes janitorial services for the Commission owned commuter rail stations and toll facilities. Contractor represents that it is a professional Contractor, experienced in providing routine and on-call janitorial services to public clients, is familiar with the plans of Commission and is licensed in the State of California.

2.6 On-call janitorial services shall be provided on the terms and conditions set forth in this Agreement and in the task order(s) to be authorized by Commission as further described in this Agreement (“Task Order”).

2.7 Commission desires to engage Contractor to render such services on a routine and an on-call basis as further detailed in this Agreement. Routine janitorial services shall be as set forth in Exhibit "A", attached hereto and incorporated herein by reference. On-call janitorial services shall be ordered by Task Order(s) to be issued pursuant to this Agreement for future projects as set forth herein. The routine services set forth in Exhibit "A" and each individual project ordered under a Task Order shall be referred to, herein, collectively, as the "Project".

3. TERMS.

3.1 Scope of Services and Term.

3.1.1 General Scope of Services. Contractor promises and agrees to furnish to Commission all labor materials, tools, equipment, services, and incidental and customary work, as necessary, to fully and adequately provide the routine janitorial services as set forth in Exhibit "A" and any on-call janitorial services required by Commission, as shall be set forth in a Task Order, collectively referred to herein as the "Services". On-call Services shall be more particularly described in the individual Task Orders issued by the Commission's Executive Director or designee. No on-call Services shall be performed unless authorized by a fully executed Task Order in the form attached hereto as Exhibit "D". All Services shall be subject to, and performed in accordance with this Agreement, the relevant Task Order, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

3.1.2 Term. The term of this Agreement shall be from December 1, 2023 to November 30, 2026, unless earlier terminated as provided herein. Contractor shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary to complete the Services.

3.2 Responsibilities of Contractor.

3.2.1 Control and Payment of Subordinates; Independent Contractor. The Services shall be performed by Contractor or under its supervision. Contractor will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. Commission retains Contractor on an independent contractor basis and not as an employee. Contractor retains the right to perform similar or different services for others during the term of this Agreement. Any additional personnel performing the Services under this Agreement on behalf of Contractor shall also not be employees of Commission and shall at all times be under Contractor's exclusive direction and control. Contractor shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Contractor shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, disability insurance, and workers' compensation insurance.

3.2.2 Schedule of Services.

(A) Routine Services. Contractor shall perform the routine janitorial Services expeditiously, within the term of this Agreement.

(B) Task Orders; Commencement of Services; Schedule of Services. On-call Services under this Agreement shall be requested by the Commission pursuant to Task Order requests. If Commission accepts Consultant's Task Order proposal, Commission shall issue a purchase order or executed task order for the Services ("Commission's Task Order Authorization"). Consultant's agreement to the final terms of a proposed Task Order, Commission's Task Order Authorization and Consultant's commencement of the Services shall indicate the Parties' agreement to the terms of the relevant Task Order.

Consultant shall commence Services under a Task Order within five (5) days of receiving Commission's Task Order Authorization.

Consultant shall perform the on-call Services expeditiously, in accordance with the Schedule of Services set forth in a Task Order.

(C) Conformance to Schedule. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with the conditions detailed herein. In order to facilitate Consultant's conformance with the Schedule, Commission shall respond to Consultant's submittals in a timely manner. Upon request of the Commission, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.2.3 Conformance to Applicable Requirements. All work prepared by Contractor shall be subject to the approval of Commission.

3.2.4 Commission's Representative. The Commission hereby designates Executive Director, or his or her designee, to act as its representative for the performance of this Agreement ("Commission's Representative"). Commission's Representative shall have the power to act on behalf of the Commission for all purposes under this Agreement. Contractor shall not accept direction or orders from any person other than the Commission's Representative or his or her designee.

3.2.5 Contractor's Representative. Contractor hereby designates Claudia Salomon, or his or her designee, to act as its representative for the performance of this Agreement ("Contractor's Representative"). Contractor's Representative shall have full authority to represent and act on behalf of the Contractor for all purposes under this Agreement. The Contractor's Representative shall supervise and direct the Services, using his best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.2.6 Coordination of Services. Contractor agrees to work closely with Commission staff in the performance of Services and shall be available to Commission's staff, consultants and other staff at all reasonable times.

3.2.7 Standard of Care; Performance of Employees. Contractor shall perform all Services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Contractor represents and maintains that it is skilled in the professional calling necessary to perform the Services. Contractor warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Contractor represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Contractor shall perform, at its own cost and expense and without reimbursement from the Commission, any services necessary to correct errors or omissions which are caused by the Contractor's failure to comply with the standard of care provided for herein. Any employee of the Contractor or its sub-contractors who is determined by the Commission to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the Commission, shall be promptly removed from the Project by the Contractor and shall not be re-employed to perform any of the Services or to work on the Project.

3.2.8 Period of Performance. Contractor shall perform and complete all Services under this Agreement within the term set forth in Section 3.1.2 above ("Performance Time"). Contractor shall perform the Services in strict accordance with any completion schedule or Project milestones described in Exhibit "A" attached hereto, or which may be provided separately in writing to the Contractor. Contractor agrees that if the Services are not completed within the aforementioned Performance Time and/or pursuant to any such completion schedule or Project milestones developed pursuant to provisions of this Agreement, it is understood, acknowledged and agreed that the Commission will suffer damage.

3.2.9 Disputes. Should any dispute arise respecting the true value of any work done, of any work omitted, or of any extra work which Contractor may be required to do, or respecting the size of any payment to Contractor during the performance of this Contract, Contractor shall continue to perform the Work while said dispute is decided by the Commission. If Contractor disputes the Commission's decision, Contractor shall have such remedies as may be provided by law.

3.2.10 Laws and Regulations; Employee/Labor Certifications. Contractor shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. Contractor shall be liable for all violations of such laws and regulations in connection with Services. If the Contractor performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the Commission, Contractor shall be solely responsible for all costs arising therefrom. Commission is a public entity of the State of California subject to, among other rules and regulations, the Public Utilities Code, Public Contract Code, and Labor Code of the State. It is stipulated and agreed that all provisions of the law applicable to the public contracts of a county transportation commissions are a part of this Agreement to the same extent as though set forth herein and will be complied with. These include but are not limited to the payment of prevailing

wages, the stipulation that eight (8) hours' labor shall constitute a legal day's work and that no worker shall be permitted to work in excess of eight (8) hours during any one calendar day except as permitted by law. Contractor shall defend, indemnify and hold Commission, its officials, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

3.2.10.1 Employment Eligibility; Contractor. By executing this Agreement, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Agreement, and shall not violate any such law at any time during the term of the Agreement. Contractor shall avoid any violation of any such law during the term of this Agreement by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the Commission or its representatives for inspection and copy at any time during normal business hours. The Commission shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for in Section 3.2.10 or any of its sub-sections.

3.2.10.2 Employment Eligibility; Subcontractors, Sub-subcontractors and consultants. To the same extent and under the same conditions as Contractor, Contractor shall require all of its subcontractors, sub-subcontractors and consultants performing any work relating to the Project or this Agreement to make the same verifications and comply with all requirements and restrictions provided for in Section 3.2.10.1.

3.2.10.3 Employment Eligibility; Failure to Comply. Each person executing this Agreement on behalf of Contractor verifies that they are a duly authorized officer of Contractor, and understands that any of the following shall be grounds for the Commission to terminate the Agreement for cause: (1) failure of Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for in Sections 3.2.10.1 or 3.2.10.2; (2) any misrepresentation or material omission concerning compliance with such requirements (including in those verifications provided to the Contractor under Section 3.2.10.2); or (3) failure to immediately remove from the Project any person found not to be in compliance with such requirements.

3.2.10.4 Labor Certification. By its signature hereunder, Contractor certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.2.10.5 Equal Opportunity Employment. Contractor represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, handicap, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. Contractor shall also comply with all relevant provisions of Commission's Disadvantaged Business Enterprise program, Affirmative Action Plan or other related programs or guidelines currently in effect or hereinafter enacted.

3.2.10.6 Air Quality. Contractor must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the California Air Resources Board (CARB). Contractor shall specifically be aware of the CARB limits and requirements' application to "portable equipment", which definition is considered by CARB to include any item of equipment with a fuel-powered engine. Contractor shall indemnify Commission against any fines or penalties imposed by CARB or any other governmental or regulatory agency for violations of applicable laws, rules and/or regulations by Contractor, its subcontractors, or others for whom Contractor is responsible under its indemnity obligations provided for in this Agreement.

3.2.10.7 Water Quality.

(A) Management and Compliance. To the extent applicable, Contractor's Services must account for, and fully comply with, all local, state and federal laws, rules and regulations that may impact water quality compliance, including, without limitation, all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §§ 1300); the California Porter-Cologne Water Quality Control Act (Cal Water Code §§ 13000-14950); laws, rules and regulations of the Environmental Protection Agency and the State Water Resources Control Board; the Commission's rules regarding discharges of storm water; and any and all regulations, policies, or permits issued pursuant to any such authority regulating the discharge of pollutants, as that term is used in the Porter-Cologne Water Quality Control Act, to any ground or surface water in the State.

(B) Liability for Non-Compliance. Failure to comply with the laws, regulations and policies described in this Section is a violation of law that may subject Contractor or Commission to penalties, fines, or additional regulatory requirements. Contractor shall defend, indemnify and hold the Commission, its officials, officers, employees, volunteers and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from and against any and all fines, penalties, claims or other regulatory requirements imposed as a result of Contractor's non-compliance with the laws, regulations and policies described in this Section, unless such non-compliance is the result of the sole established negligence, willful misconduct or active negligence of the Commission, its officials, officers, agents, employees or authorized volunteers.

(C) Training. In addition to any other standard of care requirements set forth in this Agreement, Contractor warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them

without impacting water quality in violation of the laws, regulations and policies described in this Section. Contractor further warrants that it, its employees and subcontractors will receive adequate training, as determined by Commission, regarding the requirements of the laws, regulations and policies described in this Section as they may relate to the Services provided under this Agreement. Upon request, Commission will provide Contractor with a list of training programs that meet the requirements of this paragraph.

3.2.11 Insurance.

3.2.11.1 Time for Compliance. Contractor shall not commence work under this Agreement until it has provided evidence satisfactory to the Commission that it has secured all insurance required under this section, in a form and with insurance companies acceptable to the Commission. In addition, Contractor shall not allow any subcontractor to commence work on any subcontract until it has secured all insurance required under this section.

3.2.11.2 Minimum Requirements. Contractor shall, at its expense, procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Agreement by the Contractor, its agents, representatives, employees or subcontractors. Contractor shall also require all of its subcontractors to procure and maintain the same insurance for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(A) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001 or exact equivalent); (2) *Automobile Liability*: Insurance Services Office Business Auto Coverage (form CA 0001, code 1 (any auto) or exact equivalent); and (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

(B) Minimum Limits of Insurance. Contractor shall maintain limits no less than: (1) *General Liability*: \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability*: \$2,000,000 per accident for bodily injury and property damage; and (3) *if Contractor has an employees, Workers' Compensation and Employer's Liability*: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Practices Liability limits of \$1,000,000 per accident.

3.2.11.3 Insurance Endorsements. The insurance policies shall contain the following provisions, or Contractor shall provide endorsements on forms approved by the Commission to add the following provisions to the insurance policies:

(A) General Liability.

(i) Commercial General Liability Insurance must include coverage for (1) bodily Injury and property damage; (2) personal Injury/advertising Injury; (3) premises/operations liability; (4) products/completed operations liability; (5) aggregate limits that apply per Project; (6) explosion, collapse and underground (UCX) exclusion deleted; (7) contractual liability with respect to this Agreement; (8) broad form property damage; and (9) independent contractors coverage.

(ii) The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to this Agreement.

(iii) The policy shall give the Commission, its directors, officials, officers, employees, and agents insured status using ISO endorsement forms 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage.

(iv) The additional insured coverage under the policy shall be “primary and non-contributory” and will not seek contribution from the Commission’s insurance or self-insurance and shall be at least as broad as CG 20 01 04 13, or endorsements providing the exact same coverage.

(B) Automobile Liability. The automobile liability policy shall be endorsed to state that: (1) the Commission, its directors, officials, officers, employees and agents shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Contractor or for which the Contractor is responsible; and (2) the insurance coverage shall be primary insurance as respects the Commission, its directors, officials, officers, employees and agents, or if excess, shall stand in an unbroken chain of coverage excess of the Contractor’s scheduled underlying coverage. Any insurance or self-insurance maintained by the Commission, its directors, officials, officers, employees and agents shall be excess of the Contractor’s insurance and shall not be called upon to contribute with it in any way.

(C) Workers’ Compensation and Employers Liability Coverage.

(i) Contractor certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing work under this Agreement.

(ii) The insurer shall agree to waive all rights of subrogation against the Commission, its directors, officials, officers, employees and agents for losses paid under the terms of the insurance policy which arise from work performed by the Contractor. The Contractor hereby waives any such rights of subrogation that the Contractor may have, and shall obtain a similar waiver from any subcontractors.

(D) Reserved.

(E) All Coverages.

(i) Defense costs shall be payable in addition to the limits set forth hereunder.

(ii) Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits set forth herein shall be available to the Commission, its directors, officials, officers, employees and agents as additional insureds under said policies. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater.

(iii) The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the Commission (if agreed to in a written contract or agreement) before the Commission's own insurance or self-insurance shall be called upon to protect it as a named insured. The umbrella/excess policy shall be provided on a "following form" basis with coverage at least as broad as provided on the underlying policy(ies).

(iv) Contractor shall provide the Commission at least thirty (30) days prior written notice of cancellation of any policy required by this Agreement, except that the Contractor shall provide at least ten (10) days prior written notice of cancellation of any such policy due to non-payment of premium. If any of the required coverage is cancelled or expires during the term of this Agreement, the Contractor shall deliver renewal certificate(s) including the General Liability Additional Insured Endorsement to the Commission at least ten (10) days prior to the effective date of cancellation or expiration.

(v) The retroactive date (if any) of each policy is to be no later than the effective date of this Agreement. Contractor shall maintain such coverage continuously for a period of at least three years after the completion of the work under this Agreement. Contractor shall purchase a one (1) year extended reporting period A) if the retroactive date is advanced past the effective date of this Agreement; B) if the policy is cancelled or not renewed; or C) if the policy is replaced by another claims-made policy with a retroactive date subsequent to the effective date of this Agreement.

(vi) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Contractor, and any approval of said insurance by the Commission, is not intended to and shall not in any manner limit or qualify the liabilities and

obligations otherwise assumed by the Contractor pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(vii) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, Commission has the right but not the duty to obtain the insurance it deems necessary and any premium paid by Commission will be promptly reimbursed by Contractor or Commission will withhold amounts sufficient to pay premium from Contractor payments. In the alternative, Commission may cancel this Agreement. The Commission may require the Contractor to provide complete copies of all insurance policies in effect for the duration of the Project.

(viii) Neither the Commission nor any of its directors, officials, officers, employees or agents shall be personally responsible for any liability arising under or by virtue of this Agreement.

Each insurance policy required by this Agreement shall be endorsed to state that:

3.2.11.4 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the Commission. If the Commission does not approve the deductibles or self-insured retentions as presented, Contractor shall guarantee that, at the option of the Commission, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Commission, its directors, officials, officers, employees and agents; or, (2) the Contractor shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

3.2.11.5 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VIII, licensed to do business in California, and satisfactory to the Commission.

3.2.11.6 Verification of Coverage. Contractor shall furnish Commission with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the Commission. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements must be received and approved by the Commission before work commences. The Commission reserves the right to require complete, certified copies of all required insurance policies, at any time.

3.2.11.7 Subcontractor Insurance Requirements. Contractor shall not allow any subcontractors or subcontractors to commence work on any subcontract until they have provided evidence satisfactory to the Commission that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subcontractors shall be endorsed to name the Commission as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If

requested by Contractor, the Commission may approve different scopes or minimum limits of insurance for particular subcontractors or subcontractors.

3.2.12 Safety. Contractor shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Contractor shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (A) adequate life protection and life saving equipment and procedures; (B) instructions in accident prevention for all employees and subcontractors, such as safe walkways, scaffolds, fall protection ladders, bridges, gang planks, confined space procedures, trenching and shoring, equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (C) adequate facilities for the proper inspection and maintenance of all safety measures.

3.2.13 Accounting Records. Contractor shall maintain complete and accurate records with respect to all costs and expenses incurred under this Agreement. All such records shall be clearly identifiable. Contractor shall allow a representative of Commission during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Contractor shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

3.2.14 Additional State Law Requirements.

Displaced Janitor Opportunity Act. If applicable, Contractor agrees to retain, for a 60-day transition employment period, employees who have been employed by the terminated Contractor or its subcontractor as required in Sections 1060 and 1061 of the California Labor Code pertaining to the Displaced Janitor Opportunity Act.

Property Service Workers Protection Act. Contractor agrees to comply with the provisions of the Property Service Workers Protection Act set forth in Labor Code §§ 1420 et seq. to the extent applicable.

3.3 Fees and Payments; Labor Code Requirements.

3.3.1 Compensation. Contractor shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "B" attached hereto and incorporated herein by reference. The total compensation to be provided under this Agreement, including all Task Orders issued pursuant to this Agreement shall not exceed One Million, Fifty-Seven Thousand, Three Hundred Forty-Five Dollars (\$1,057,345). The total compensation per Task Order shall be set forth in the relevant Task Order, and shall not exceed said amount without the written approval of the Commissioner's Executive Director. Extra Work may be authorized, as described below, and if authorized, will be compensated at the rates and manner set forth in this Agreement.

3.3.2 Payment of Compensation. Contractor shall submit to Commission a monthly itemized statement which indicates work completed and hours of Services rendered by Contractor. The statement shall describe the amount of Services and supplies provided since the initial commencement date, or since the start of the subsequent billing periods, as appropriate, through the date of the statement. Commission shall, within 45 days of receiving such statement, review the statement and pay all approved charges thereon.

3.3.3 Reimbursement for Expenses. Contractor shall not be reimbursed for any expenses unless authorized in writing by Commission.

3.3.4 Extra Work. At any time during the term of this Agreement, Commission may request that Contractor perform Extra Work. As used herein, "Extra Work" means any work which is determined by Commission to be necessary for the proper completion of the Project, but which the parties did not reasonably anticipate would be necessary at the execution of this Agreement. Contractor shall not perform, nor be compensated for, Extra Work without written authorization from Commission's Representative.

3.3.5 Prevailing Wages. Contractor is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. Commission shall provide Contractor with a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the project site. Contractor shall defend, indemnify and hold the Commission, its officials, officers, employees and agents free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.3.6 Payroll Records. In accordance with the requirements of California Labor Code Section 1776, Contractor shall keep accurate payroll records which are either on forms provided by the Division of Labor Standards Enforcement or which contain the same information

required by such forms. Responsibility for compliance with California Labor Code Section 1776 shall rest solely with Contractor, and Contractor shall make all such records available for inspection at all reasonable hours.

3.3.7 Registration. If the Services are being performed as part of an applicable “public works” or “maintenance” project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Contractor and all subcontractors must be registered with the Department of Industrial Relations. Contractor shall maintain registration for the duration of the Project and require the same of any subcontractor. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Contractor’s sole responsibility to comply with all applicable registration and labor compliance requirements.

3.3.8 Employment of Apprentices. This Agreement shall not prevent the employment of properly indentured apprentices in accordance with the California Labor Code, and no employer or labor union shall refuse to accept otherwise qualified employees as indentured apprentices on the work performed hereunder solely on the ground of race, creed, national origin, ancestry, color or sex. Every qualified apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade in which he or she is employed and shall be employed only in the craft or trade to which he or she is registered.

If California Labor Code Section 1777.5 applies to the Services, Contractor and any subcontractor hereunder who employs workers in any apprenticeable craft or trade shall apply to the joint apprenticeship council administering applicable standards for a certificate approving Contractor or any sub-contractor for the employment and training of apprentices. Upon issuance of this certificate, Contractor and any sub-contractor shall employ the number of apprentices provided for therein, as well as contribute to the fund to administer the apprenticeship program in each craft or trade in the area of the work hereunder.

The parties expressly understand that the responsibility for compliance with provisions of this Section and with Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code in regard to all apprenticeable occupations lies with Contractor.

3.3.9 Eight-Hour Law. Pursuant to the provisions of the California Labor Code, eight hours of labor shall constitute a legal day's work, and the time of service of any worker employed on the work shall be limited and restricted to eight hours during any one calendar day, and forty hours in any one calendar week, except when payment for overtime is made at not less than one and one-half the basic rate for all hours worked in excess of eight hours per day ("Eight-Hour Law"), unless Contractor or the Services are not subject to the Eight-Hour Law. Contractor shall forfeit to Commission as a penalty, \$50.00 for each worker employed in the execution of this Agreement by him, or by any sub-contractor under him, for each calendar day during which such workman is required or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week without such compensation for overtime violation of the provisions of the California Labor Code, unless Contractor or the Services are not subject to the Eight-Hour Law.

3.4 Termination of Agreement.

3.4.1 Grounds for Termination. Commission may, by written notice to Contractor, terminate the whole or any part of this Agreement at any time and without cause by giving written notice to Contractor of such termination, and specifying the effective date thereof, at least seven (7) days before the effective date of such termination. Upon termination, Contractor shall be compensated only for those services which have been adequately rendered to Commission, and Contractor shall be entitled to no further compensation. Contractor may not terminate this Agreement except for cause.

3.4.2 Effect of Termination. If this Agreement is terminated as provided herein, Commission may require Contractor to provide all finished or unfinished Documents and Data and other information of any kind prepared by Contractor in connection with the performance of Services under this Agreement. Contractor shall be required to provide such document and other information within fifteen (15) days of the request.

3.4.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, Commission may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.5 General Provisions.

3.5.1 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

CONSULTANT:
Ultimate Maintenance Services

4237 Redondo Beach Blvd
Lawndale, CA 90260
Attn: Claudia Salomon

COMMISSION:
Riverside County
Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92501
Attn: Executive Director

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.5.2 Indemnification.

3.5.2.1 Scope of Indemnity. To the fullest extent permitted by law, Contractor shall defend, indemnify and hold the Commission, its officials, officers, employees, volunteers and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or incident to any alleged acts, errors or omissions of Contractor, its officials, officers, employees, subcontractors, contractors or agents in connection with the performance of the Services, the Project, this

Agreement or any Task Order, including without limitation the payment of all consequential damages, expert witness fees and attorneys' fees and other related costs and expenses. Notwithstanding the foregoing, to the extent Contractor's Services are subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Contractor.

3.5.2.2 Additional Indemnity Obligations. Contractor shall defend, with Counsel of Commission's choosing and at Contractor's own cost, expense and risk, any and all claims, suits, actions or other proceedings of every kind covered by Section 3.5.2.1 that may be brought or instituted against Commission or its officials, officers, employees, volunteers and agents. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against Commission or its officials, officers, employees, volunteers and agents as part of any such claim, suit, action or other proceeding. Contractor shall also reimburse Commission for the cost of any settlement paid by Commission or its officials, officers, employees, agents or volunteers as part of any such claim, suit, action or other proceeding. Such reimbursement shall include payment for Commission's attorneys' fees and costs, including expert witness fees. Contractor shall reimburse Commission and its officials, officers, employees, agents, and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Contractor's obligation to indemnify shall survive expiration or termination of this Agreement, and shall not be restricted to insurance proceeds, if any, received by the Commission, its officials officers, employees, agents, or volunteers.

3.5.3 Governing Law; Government Code Claim Compliance. This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County. In addition to any and all contract requirements pertaining to notices of and requests for compensation or payment for extra work, disputed work, claims and/or changed conditions, Contractor must comply with the claim procedures set forth in Government Code sections 900 et seq. prior to filing any lawsuit against the Commission. Such Government Code claims and any subsequent lawsuit based upon the Government Code claims shall be limited to those matters that remain unresolved after all procedures pertaining to extra work, disputed work, claims, and/or changed conditions have been followed by Contractor. If no such Government Code claim is submitted, or if any prerequisite contractual requirements are not otherwise satisfied as specified herein, Contractor shall be barred from bringing and maintaining a valid lawsuit against the Commission.

3.5.4 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.5.5 Commission's Right to Employ Other Contractors. Commission reserves right to employ other contractors in connection with this Project.

3.5.6 Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties.

3.5.7 Assignment or Transfer. Contractor shall not assign, hypothecate or transfer, either directly or by operation of law, this Agreement or any interest herein without the prior written consent of the Commission. Any attempt to do so shall be null and void, and any

assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.5.8 Construction; References; Captions. Since the Parties or their agents have participated fully in the preparation of this Agreement, the language of this Agreement shall be construed simply, according to its fair meaning, and not strictly for or against any Party. Any term referencing time, days or period for performance shall be deemed calendar days and not work days. All references to Contractor include all personnel, employees, agents, and subcontractors of Contractor, except as otherwise specified in this Agreement. All references to Commission include its officials, officers, employees, agents, and volunteers except as otherwise specified in this Agreement. The captions of the various articles and paragraphs are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content or intent of this Agreement.

3.5.9 Amendment; Modification. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

3.5.10 Waiver. No waiver of any default shall constitute a waiver of any other default or breach, whether of the same or other covenant or condition. No waiver, benefit, privilege, or service voluntarily given or performed by a Party shall give the other Party any contractual rights by custom, estoppel or otherwise.

3.5.11 No Third Party Beneficiaries. Except to the extent expressly provided for in Section 3.5.7, there are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.5.12 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.5.13 Prohibited Interests. Contractor maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure this Agreement. Further, Contractor warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Contractor, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. Contractor further agrees to file, or shall cause its employees or subcontractors to file, a Statement of Economic Interest with the Commission's Filing Officer as required under state law in the performance of the Services. For breach or violation of this warranty, Commission shall have the right to rescind this Agreement without liability. For the term of this Agreement, no member, officer or employee of Commission, during the term of his or her service with Commission, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.5.14 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.5.15 Authority to Enter Agreement. Contractor has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.5.16 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

3.5.17 Entire Agreement. This Agreement contains the entire Agreement of the parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both parties.

3.5.18 Federal Provisions. If funding for the Services is provided, in whole or in part, by the Federal Transportation Administration (“FTA”) Contractor shall also fully and adequately comply with the provisions included in Exhibit “C” (Federal Requirements) attached hereto and incorporated herein by reference (“Federal Requirements”). With respect to any conflict between such Federal Requirements and the terms of this Agreement and/or the provisions of state law, the more stringent requirement shall control.

3.5.19 Electronically Transmitted Signatures; Electronic Signatures. A manually signed copy of this Agreement which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes. This Agreement may be signed using an electronic signature.

**SIGNATURE PAGE FOR ROUTINE AND ON-CALL JANITORIAL SERVICES
AGREEMENT**

IN WITNESS WHEREOF, the Parties have entered into this Agreement as of the date first set forth above.

**RIVERSIDE COUNTY
TRANSPORTATION COMMISSION**

ULTIMATE MAINTENANCE SERVICES

Anne Mayer, Executive Director

Signature

Name

Title

Approved as to form:

Contractor's License
Number: _____
Classification: _____

Best Best & Krieger LLP

ATTEST:

General Counsel

Signature

Name

Title

A corporation requires the signatures of two corporate officers. One signature shall be that of the chairman of board, the president or any vice president and the second signature (on the attest line) shall be that of the secretary, any assistant secretary, the chief financial officer or any assistant treasurer of such corporation.

If the above referenced persons are not the intended signators, evidence of signature authority shall be provided to RCTC.

EXHIBIT "A" - SCOPE OF SERVICES

DRAFT

STATEMENT OF WORK

Commuter Rail Stations

The Contractor shall provide complete cleaning, grounds cleaning, and janitorial services of the Metrolink station properties owned and managed by the Riverside County Transportation Commission (Commission), including the Riverside Downtown Station and Eastside Parking lot, the Pedley/Jurupa Valley Station, the La Sierra Station, the West Corona Station, North Main Corona Station, Hunter Park Station, Moreno Valley Station, Perris Multimodal Station, South Perris Station, and the Riverside Downtown Control Center.

Property information for commuter rail stations are as follows:

Location	In Service Date	Size
Riverside Downtown 4066 Vine Street, Riverside	June 1993	26.5 acres
Pedley/Jurupa Valley 6001 Pedley Road, Jurupa Valley	June 1993	4.5 acres
La Sierra Metrolink and RTA Bus Depot Lots A&B 10901 Indiana Avenue, Riverside	October 1995	24.69 acres
West Corona 155 South Auto Center Drive, Corona	October 1995	5.49 acres
North Main Corona 250 East Blaine Street, Corona	November 2022	6.72 acres
Perris Multimodal 121 South C Street,	June 2016 (bus transit center opened 2010)	5.5 acres

Perris		
Riverside-Hunter Park/UCR 1101 Marlborough Avenue, Riverside	June 2016	9.35 acres
Moreno Valley/March Field 14160 Meridian Parkway, Riverside	June 2016	14.47 acres
Perris South 1304 Case Road, Perris	June 2016	40.57 acres
Riverside Downtown Operations Control Center 4344 Vine Street, Riverside	April 2016	3,000 square feet

Contractor is required to maintain the work sites in a safe, attractive and usable condition.

The Contractor shall be responsible for providing all necessary equipment, materials, tools, transportation, supplies, cleaning chemicals and other items needed to do the cleaning and grounds maintenance as directed herein.

The Contractor shall use only cleaning chemicals and equipment that will not damage paint or other surfaces and the Contractor shall be fully responsible for repairing or replacing all property damaged by such cleaning activities. A wet floor sign and other appropriate signs shall be placed on the platform, walkways and bridges during wet mopping, steam cleaning and other hazardous activities and shall remain until the hazard condition is removed.

Services for the Commuter Rail Stations

A. SCHEDULING OF WORK

1. The Contractor shall accomplish all routine cleaning and janitorial services required under this contract between the hours of 6:00 a.m. and 6:00 P.M., Monday through Friday. The Property Manager may grant, on an individual basis, permission to perform cleaning and janitorial services at other hours. The Contractor shall establish a schedule of routine work to be followed in the performance of this contract. A copy of this schedule shall be provided to and approved by the Property Manager.

The Contractor shall conduct the work at all times in a manner which will not interfere with pedestrian traffic on adjacent sidewalks or bridges or vehicular traffic on adjacent streets.

B. WORK FORCE

1. The Contractor is expected to improve upon the appearance of the station grounds.
2. The Contractor shall insure that all work is supervised by Contractor employed supervisory personnel who are technically qualified and possess management skills.
3. The Contractor shall insure that all work is performed by fully qualified, experienced personnel, directly employed by the Contractor.
4. The Contractor shall be responsible for the skills, methods, appearance and action of Contractor's employees and for all work done. The Contractor's employees shall be U.S. Citizens or legal residents.
5. The Contractor shall provide appropriate clothing for employees including shirts identifying the name of contractor in a visible location.
6. The Contractor shall perform the work provided for in this contract under the direction of the Property Manager or his or her designated representative. The Property Manager or his or her representative may make inspections at any time and may request that the Contractor perform additional work or services to bring Contractor's performance to the level required by the agreement.
7. The Contractor shall correct discrepancies and deficiencies in the work immediately as determined by the Property Manager.

C. SAFETY

1. Contractor shall execute and maintain its work so as to avoid injury or damage to any person or property.
2. Contractor shall submit to RCTC their company Safety Plan prior to work.
3. Contractor shall ensure that their employees are provided with and utilize the proper Personal Protective Equipment (PPE) while performing the work.
4. Contractor shall designate at least one (1) Safety Representative acceptable to RCTC, provided that acceptance may be withdrawn at any time, who shall be

responsible for ensuring that the Work is performed in accordance with the requirements set forth in the Agreement, the Contractor's Safety Plan, and all applicable laws and regulations.

5. Contractor shall have at least one individual on site who is First Aid and CPR trained. The individual shall be identified, and the contractor will provide copies of their safety training certifications.
6. The Contractor shall post and ensure all employees are aware of the name, location, phone numbers of local doctors, hospitals, ambulance services, and emergency services that they contact in the event of an on-site emergency.
7. Contractor shall ensure that all employees have received Blood borne Pathogens Training: Preventing Disease Transmission.
8. Contractor shall comply with the requirements of the specifications relating to safety measures applicable in particular operations or kinds of work.
9. In carrying out its Work, the Contractor shall at all times follow all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the Work and the conditions under which the Work is to be performed.

D. STORM WATER POLLUTION PREVENTION PROGRAM (SWPPP)

1. Contractor shall ensure that all employees are trained and are aware of the following Site-Specific Storm Water Pollution Prevention Requirements:
 - a. No discharge of fertilizers, pesticide, and wastes into street or storm drains;
 - b. No blowing or sweeping debris into street or storm drains;
 - c. No hosing down of the parking lot;
 - d. No vehicle washing or maintenance on site;
 - e. Close dumpster lids at all times;
 - f. No disposing of wash water into street or storm drains.
 - g. Remove all foreign objects (leaves, cans, cigarette butts, paper etc. from in front of drainage inlets and gutter areas.
2. The Contractor must provide annual refresher training on the Site-Specific Storm Water Pollution Prevention Requirements.
3. The Contractor shall document the training on the attached Site-Specific Storm Water Pollution Prevention Training Log and provide it annually to RCTC. Form included in Attachment A.

E. CLEANING PRODUCTS/CHEMICALS

1. Contractor shall provide a list of all cleaning products/chemicals that are proposed to be used on the project. This list will need to be submitted to RCTC for review and approval, prior to use of the cleaning products/chemicals.
2. Contractor shall provide Material Safety Data Sheets (MSDS) for all cleaning products and chemicals that are to be used on the project.

3. Contractor shall ensure the field crews carry copies of the MSDS for all cleaning products or chemicals they have while on-site.
4. Contractor is encouraged to use Bio-degradable or environmentally friendly cleaning product/chemicals
5. Contractor shall ensure that all employees are properly trained in the use and handling of the approved cleaning products/chemicals.
6. Contractor shall ensure that all employees utilize the proper Personnel Protective Equipment (PPE) as specified by the cleaning product/chemical or the Contractor's safety plan, whichever is most stringent.

Routine Cleaning Services

All routine cleaning shall be performed to the satisfaction of the Property Manager. Routine cleaning shall include but not be limited to the following services at the Metrolink Stations:

A. STATION CLEANING (per schedule cleaning)

1. All ticket vending machines, validates, kiosks, benches, trash receptacles, pole structures, security tower offices, signs, drinking fountains and soda vending machines shall be thoroughly dusted and cleaned.
2. Trash receptacles shall be emptied and re-lined. In the event that the Property Manager determines that the trash receptacles require emptying on more than a weekly basis, Contractor shall provide mid-week emptying and re-lining of trash receptacles at no extra cost to the Commission. Contractor to dispose of the collected trash at each Station's dumpster.
3. All recycle bins shall be emptied and re-lined. Contractor is responsible for disposing recycled products appropriately.
4. All station platform floors, including walkway ramps, pedestrian bridges, elevators and stairways, shall be swept to remove trash and other spillage. These areas shall be wet mopped when necessary.
5. All walls, partitions, windows and doors shall be spot cleaned.
6. All handrails on walkways, stairways and handicap ramps shall be dusted and wiped clean.
7. All walkways shall be spot cleaned and shall have grease and other residue removed.
8. All litter and debris shall be removed from platforms, parking lots and planter areas.
9. Areas shall be cleared of birds' nests and bird droppings.
10. Contractor shall be prepared to clean up and disinfect platform floors, walkway ramps, pedestrian bridges, elevators, walls, windows, handrails, handicap ramps, and stairways due to human and animal urination or defecation.
11. Contractor shall be prepared to clean up and disinfect areas due to biological spills (blood) and properly dispose of any materials used in the cleaning process.
12. Clean bicycle enclosure, buildings, storage, lids, etc.

13. Clean all guard sheds and storage buildings at each station including trash enclosure areas.
 14. Pick up trash in parking lots and landscape areas (Commerce Street is considered part of the Riverside Downtown station)
 15. Clean port-a-potties at each station.
- ***** Commerce Street Lot is part of the Riverside Downtown station work

B. STATION CLEANING SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Stations							On Call
Riverside Downtown	x		x		x		On Call
Operations Control Center	x		x		x		On Call
Pedley/Jurupa Valley		x		x		x	On Call
La Sierra -A	x		x		x		On Call
La Sierra-B RTA Bus Depot	x		x		x		On Call
North Main Corona	x		x		x		On Call
West Corona	x		x		x		On Call
Hunter Park UCR		x		x		x	On Call
Moreno Valley/March Field		x		x		x	On Call
Perris Downtown		x		x		x	On Call
South Perris		x		x		x	On Call

C. ADDITIONAL WEEKLY CLEANING AT RIVERSIDE DOWNTOWN STATION, PERRIS MULTIMODAL, RIVERSIDE DOWNTOWN OPERATIONS CENTER AND NORTH MAIN CORONA STATION

1. Clean restroom including sink, toilet, fixtures and walls.
2. Mop floor.
3. Empty trash receptacle.
4. Replenish paper products including toilet paper and paper towels.

D. ADDITIONAL WEEKLY CLEANING AT RIVERSIDE DOWNTOWN STATION, RIVERSIDE LA SIERRA STATION, NORTH MAIN CORONA STATION, AND WEST CORONA STATION

1. Clean elevator floors, walls, doors and control panels.
2. Sweep and clear debris from stairways and pedestrian bridge.
3. Clean inside surfaces of bridge windows.

4. Clean/wipe down inside of bridge windows
5. Ceiling bridge cleaning. The bridge ceiling surface shall be wiped down along with the light fixtures and its cover.

On-Call Services

On-Call Services include but are not limited to:

Respond to emergency cleaning needs within 2-hours
 (Example: Human and animal waste removal, broken glass, debris removal, and Holiday cleanings, carpet cleaning in Operational Control Center, wax floors)

Extraordinary and New Cleaning Services

Extraordinary cleaning may be required pursuant to the terms of the contract for cleaning and grounds maintenance services.

Additional routine cleaning may be required as set forth in the contract. Payment for add-on cleaning shall be based on the square footage of added area.

Toll Operations Facilities

The Contractor shall provide complete janitorial services of the Commission properties owned and managed by the Commission, including two Toll Utility Buildings (TUB's), Storage and Maintenance Facility (SAM), 291 Corporate Terrace Circle Facility, and the 301 Corporate Terrace Circle Facility. Contractor is required to maintain the work sites in a safe, attractive and usable condition. Start dates for facilities to be determined.

Square footage for each toll facility is as follows:

Toll Utility Building (TUB) 1:	416 square feet
Toll Utility Building (TUB) 2:	416 square feet
Storage and Maintenance Facility (SAM):	
Office Area:	3,462 square feet
Warehouse/Loft Area:	7,956 square feet
291 Corporate Terrace Circle Facility:	9,382 square feet
301 Corporate Terrace Circle Facility:	6,579 square feet

Services for the Toll Operations Facilities

TUB 1 & TUB 2 are located within the 91 Express Lanes East of the 71 Interchange. Access to these facilities require entry at Express Lanes entrances, SR-91 WB from McKinley, I-15 NB from Ontario, and SR-91 EB from Gypsum Canyon.

TUB 1

This building is 400 sqft and has one restroom.

Contractor shall provide complete janitorial service for the cleaning of **TUB 1 once per month**. Crew/team must have knowledge and ability to enter and exit highway areas of construction and medians safely. Service vehicle to and from TUB'S shall possess advance warning detection of emergency lights or rotator.

Work to include:

1. Empty all trash receptacles and replace trash liners
2. Dust and wipe down all surfaces
3. Clean windows
4. Sweep and mop floors
5. Clean restroom including sink, toilet, and fixtures
6. Spot clean walls, partitions and doors, clean/sanitize door handles
7. Sweep entrance
8. Wipe down all rails
9. Remove debris around building area

TUB 2

This building is 400 sqft and has one restroom.

Contractor shall provide complete janitorial service for the cleaning of **TUB 2 twice per month**. Crew/team must have knowledge and ability to enter and exit highway areas of construction and medians safely. Service vehicle to and from TUB'S shall possess advance warning detection of emergency lights or rotator.

Work to include:

1. Empty all trash receptacles and replace trash liners
2. Dust and wipe down all surfaces, light fixtures, vents
3. Clean windows- Monthly

4. Sweep and mop floors/ Vacuum areas
5. Clean restroom including sink, toilet and fixtures, also supplies, (toilet paper, paper towels, etc. Store extra supplies
6. Spot clean walls, partitions and doors
7. Sweep entrance
8. Wipe down all rails and clean/sanitize door handles
9. Remove debris around building area

Storage and Maintenance (SAM) Facility

120 North Joy Street, Corona CA

The facility consists of a warehouse area of 7,956 sqft, which has four office spaces. The building office area is 3,462 sqft and has eight office spaces, two commons areas, and three restrooms (each with one stall each). These areas are subject to change, but the overall square footage will remain.

Provide complete janitorial service for the cleaning of SAM Facility **office area twice a week** and **warehouse area once a week**.

Work to include:

1. Empty all trash receptacles and replace trash liners
2. Dust and wipe down all surfaces, light fixtures, vents, and doors, internal and external
3. Clean windows- Monthly
4. Sweep and mop floors/ Vacuum carpet and rug areas
5. Clean restroom including sink, toilet and fixtures
6. Spot clean walls, partitions and doors
7. Sweep entrance and walkways
8. Wipe down all rails and door handles
9. Remove debris around building area
10. Replenish all paper products
11. Clean kitchen area including sink and fixtures

12. Outside windows- Quarterly
13. Pressure wash all walkways- Quarterly

291/301 Corporate Terrace Facilities

Corporate Terrace Circle, Corona CA

291 Regional Operations Center (ROC) and 301

Provide complete janitorial service for the cleaning of 291 and 301 Facility daily.

The regional operations center (291 facility) includes two separate areas of the building. One side for the Riverside County Transportation Commission staff, which includes 4 office spaces, 2 cubicles, 1 common area, and 1 conference room. The other side is for the tenant Kapsch, which includes, 1 server room, 3 conference rooms, 12 office spaces, 1 storage room, 1 kitchen, 2 restrooms (3 stalls in each), and 1 shared area with 30 cubicles. These areas are subject to change, but the overall square footage will remain.

The customer service center (301 facility) includes two separate areas of the building. One side for the Customer Service area which includes, one restroom (1 stall) and a storage room, reception and waiting room area, customer service desk area for around eight workers. The other side is for the tenant CUSA, which includes, 1 server room, 1 storage room, 1 conference room, 1 training room, 5 office spaces, 1 kitchen, 2 restrooms (3 stalls in the women's and 2 in the Men's), and 1 shared area with 30 cubicles. These areas are subject to change, but the overall square footage will remain.

Work to include:

Entrance and Lobby Areas

Daily

1. Remove trash from receptacles, replace liner, spot clean receptacle
2. Vacuum carpeting and matting also vacuum behind the counter and under the desks
3. Clean both sides of glass doors and adjacent windows, wipe frames
4. Spot clean walls, light switches and partition glass
5. Dust mop / wet mop hard surface flooring
6. Clean and sanitize countertops
7. Sanitize door handles
8. Wipe down plastic partitions

Weekly

1. Clean door jambs and polish thresholds
2. Dust HVAC ventilation grills
3. Vacuum upholstered furniture

Monthly

1. Dust all walls, doors, window frames above six feet
2. Dust HVAC ventilation grills
3. Vacuum/dust window coverings

All Office Areas, Meeting/Conference Rooms and Hallways

Daily

1. Remove trash, replace liner, and spot clean receptacle
2. Remove recycle trash per company schedule
3. Vacuum carpeting wall to wall
4. Dust mop / wet mop hard surface flooring
5. Dust all accessible baseboards
6. Dust all furniture and fixtures
7. Dust all walls, light switches, window frames above six feet
8. Spot clean walls, light switches, doors, and window frames
9. Spot clean carpeting when needed
10. Clean and polish drinking fountains, coffee machine area
11. Clean and sanitize conference table and credenzas
12. Sanitize door handles

Weekly

1. Clean and sanitize call center cubicle surfaces

2. Clean and sanitize office desks

Monthly

1. Dust /vacuum window coverings
2. Dust HVAC ventilation grills
3. Vacuum upholstered furniture
4. Clean the windows from the inside

Break and Kitchen Areas

Daily

1. Remove trash, replace liners, and spot clean receptacles
2. Dust mop / wet mop all hard surface flooring
3. Vacuum and dust mop/wet mop all hard surface flooring,
4. Dust furniture, fixtures
5. Clean and sanitize counter tops, cabinets, tables and chairs
6. Clean table bases and chair legs
7. Spot clean walls, light switches and doors
8. Dust and clean vending machines

Monthly

1. Clean the windows from the inside
2. Dust/vacuum window coverings

Restrooms

Daily

1. Remove trash, replace liner and spot clean receptacle
2. Vacuum sweep, and mop with germicidal disinfectant
3. Replenish paper products, hand soap, and feminine napkins
4. Clean and sanitize all toilets, urinals and adjacent wall surfaces
5. Clean and sanitize walls and doors

6. Clean all mirrors, sinks and countertops
7. Clean and sanitize stall partitions, shelves, fixtures / dispensers
8. Dust HVAC ventilation grills
9. Clean, sanitize and polish all metal bright work
10. Pour water in floor drains, add enzymes as needed
11. Clean and sanitize shower areas where applicable
12. Sanitize door handles

Server Room

Monthly

1. Sweep/dry mop floor; must be coordinated and scheduled with tenant.

The contractor must provide a supplies and materials original invoice receipt with the following markup % for any materials/supplies procured for the areas being maintained and cleaned:

Markup Amount (%)	5%
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Extraordinary and New Cleaning Services

Extraordinary cleaning may be required pursuant to the terms of the contract for cleaning and grounds maintenance services.

Additional routine cleaning may be required as set forth in the contract. Payment for add-on cleaning shall be based on the square footage of added area.

End of Statement of Work

EXHIBIT “B” – COMPENSATION

DRAFT

EXHIBIT "B"

COMPENSATION SUMMARY¹

FIRM	PROJECT TASKS/ROLE	COST
<i>Prime Consultant:</i>		
Ultimate Maintenance Services	Janitorial Services	\$ 1,057,345.00
<i>Sub Consultants:</i>		
TOTAL COSTS		\$ 1,057,345.00

¹ Commission authorization pertains to total contract award amount. Compensation adjustments between consultants may occur; however, the maximum total compensation authorized may not be exceeded.

EXHIBIT “C” – FTA FUNDING REQUIREMENTS

DRAFT

FTA FUNDING REQUIREMENTS (Non-construction/maintenance work)

As used herein, "RCTC" shall have the same meaning as the "Commission." The term "contract" or "Contract" shall have the same meaning as the "Agreement."

1. No Obligation by the Federal Government

a. RCTC and Consultant acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Consultant, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

b. The Consultant agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subconsultant who will be subject to its provisions.

2. Program Fraud and False or Fraudulent Statements or Related Acts

a. The Consultant acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Consultant certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Consultant further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Consultant to the extent the Federal Government deems appropriate.

b. The Consultant also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Consultant, to the extent the Federal Government deems appropriate.

c. The Consultant agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subconsultant who will be subject to the provisions.

3. Access to Records

The Consultant agrees to the following access to records requirements:

- a. To provide RCTC, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Consultant which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Consultant also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Consultant access to Consultant's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
- b. To make available in the case of a contract for a capital project or improvement, as defined above and awarded by other than competitive bidding in accordance with 49 U.S.C. 5325(a), records related to the contract to RCTC, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
- c. To maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Consultant agrees to maintain same until RCTC, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).
- d. To permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

4. Federal Changes

The Consultant shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between RCTC and FTA, as they may be amended or promulgated from time to time during the term of this contract. Consultant's failure to so comply shall constitute a material breach of this contract.

5. Civil Rights

The following requirements apply to the underlying contract:

(1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332 and 49 CFR part 21, the Consultant agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed,

national origin, sex, age, or disability. In addition, the Consultant agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Consultant agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Consultant agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. 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. In addition, the Consultant agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623, Federal transit law at 49 U.S.C. § 5332, the Equal Employment Opportunity Commission (U.S. EEOC) regulations, "Age Discrimination in Employment Act," 29 C.F.R. part 1625, the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 *et seq.*, U.S. Health and Human Services regulations, "Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance," 45 C.F.R. part 90, the Consultant agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Consultant agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 *et seq.*, the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 *et seq.*, and Federal transit law at 49 U.S.C. § 5332, the Consultant agrees that it will not discriminate against individuals on the basis of disability, and that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Consultant agrees to comply with any implementing requirements FTA may issue.

(3) The Consultant also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

6. FTA Disadvantaged Business Enterprise (DBE) Requirements

A. General DBE Requirements: In accordance with Federal financial assistance agreements with the U.S. Department of Transportation (U.S. DOT), Commission has adopted a Disadvantaged Business Enterprise (DBE) Policy and Program, in conformance with Title 49 CFR Part 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Programs" (the "Regulations"). This RFP is subject to these stipulated regulations. In order to ensure that Commission achieves its overall DBE Program goals and objectives, Commission encourages the participation of DBEs as defined in 49 CFR 26 in the performance of contracts financed in whole or in part with U.S. DOT funds.

It is the policy of the Commission to:

1. Ensure nondiscrimination in the award and administration of DOT-assisted contracts;
2. Create a level playing field on which DBE's can compete fairly for DOT-assisted contracts;
3. Ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. Ensure that only firms that fully meet 49 C.F.R. part 26 eligibility standards are permitted to participate as DBE's;
5. Help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To promote the use of DBEs in all types of federally assisted contracts and procurement activities; and
7. Assist in the development of firms that can compete successfully in the marketplace outside the DBE program.

B. Discrimination: Consultant shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts. Any terms used herein that are defined in 49 CFR Part 26, or elsewhere in the Regulations, shall have the meaning set forth in the Regulations.

C. Commission's Race-Neutral DBE Program: A Race-Neutral DBE Program is one that, while benefiting DBEs, is not solely focused on DBE firms. Therefore, under a Race-Neutral DBE Program, Commission does not establish numeric race-conscious DBE participation goals on its DOT-assisted contracts. There is no FTA DBE goal on this Project.

Consultant shall not be required to achieve a specific level of DBE participation as a condition of contract compliance in the performance of this DOT-assisted contract. However, Consultant shall adhere to race-neutral DBE participation commitment(s) made at the time of award.

D. Race-Neutral DBE Submissions and Ongoing Reporting Requirements (Post-Award): At termination of the Contract, the successful Consultant shall complete and submit to Commission a “DBE Race-Neutral Participation Listing” in the form provided by Commission. In the event DBE(s) are utilized in the performance of the Agreement, Consultant shall comply with applicable reporting requirements.

E. Performance of DBE Subconsultants: DBE subconsultants listed by Consultant in its “DBE Race-Neutral Participation Listing” submitted at the time of proposal shall perform the work and supply the materials for which they are listed, unless Consultant has received prior written authorization from Commission to perform the work with other forces or to obtain the materials from other sources. Consultant shall provide written notification to Commission in a timely manner of any changes to its anticipated DBE participation. This notice should be provided prior to the commencement of that portion of the work.

F. DBE Certification Status: If a listed DBE subconsultant is decertified during the life of this Agreement, the decertified subconsultant shall notify Consultant in writing with the date of decertification. If a non-DBE subconsultant becomes a certified DBE during the life of this Agreement, the DBE subconsultant shall notify Consultant in writing with the date of certification. Consultant shall furnish the written documentation to Commission in a timely manner. Consultant shall include this requirement in all subcontracts.

G. Consultant’s Assurance Clause Regarding Non-Discrimination: In compliance with State and Federal anti-discrimination laws, Consultant shall affirm that it will not exclude or discriminate on the basis of race, color, national origin, or sex in consideration of contract award opportunities. Further, Consultant shall affirm that they will consider, and utilize subconsultants and vendors, in a manner consistent with non-discrimination objectives.

H. Violations: Failure by the selected Consultant(s) to carry out these requirements shall be a material breach of the contract to be awarded pursuant to this RFP, which may result in the termination of the contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the Consultant from future bidding as non-responsible. 49 C.F.R. § 26.13(b).

I. Prompt Payment: Consultant shall pay its subconsultants for satisfactory performance of their contracts no later than 30 days from receipt of each payment Commission makes to the Consultant. 49 C.F.R. § 26.29(a), unless a shorter period is provided in the contract.

J. Compliance with DBE Requirements Contained in FTA Provisions: Consultant shall comply with all DBE reporting and other requirements contained in this Agreement.

7. Incorporation of Federal Transit Administration (FTA) Terms

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Consultant shall not perform any act, fail to perform any act, or refuse to comply with any RCTC requests which would cause RCTC to be in violation of the FTA terms and conditions.

8. Debarment and Suspension.

The Consultant agrees to the following:

(1) It will comply with the following requirements of 2 CFR Part 180, subpart C, as adopted and supplemented by U.S. DOT regulations at 2 CFR Part 1200.

(2) It will not enter into any “covered transaction” (as that phrase is defined at 2 CFR §§ 180.220 and 1200.220) with any subconsultant whose principal is, suspended, debarred, or otherwise excluded from participating in covered transactions, except as authorized by— (i) U.S. DOT regulations, “Nonprocurement Suspension and Debarment,” 2 CFR Part 1200; (ii) U.S. OMB regulatory guidance, “Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement),” 2 CFR Part 180; and (iii) Other applicable federal laws, regulations, or requirements regarding participation with debarred or suspended recipients or third party participants.

(3) It will review the U.S. GSA “System for Award Management – Lists of Parties Excluded from Federal Procurement and Nonprocurement Programs,” if required by U.S. DOT regulations, 2 CFR Part 1200.

9. ADA Access Requirements

The Consultant shall comply with all applicable requirements of the Americans with Disabilities Act of 1990 (ADA), 42 USC Section 12101 et seq; Section 504 of the Rehabilitation Act of 1973, as amended, 29 USC Section 794; 49 USC Section 5301(d).

10. Fly America

To the extent applicable to the Services, the Consultant agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and sub recipients of Federal funds and their

consultants are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Consultant shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Consultant agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

11. Cargo Preference - Use of United States-Flag Vessels

To the extent applicable to the Services, the Consultant agrees:

1. To use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels;
2. To furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the Consultant in the case of a subconsultant's bill-of-lading.)
3. To include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

11. Buy America – Not applicable.

12. Employment Provisions

To the extent applicable to the Services, Consultant shall comply with the following:

- A. Equal Employment Opportunity — Not applicable.
- B. Copeland “Anti-Kickback” Act (18 U.S.C. 874 and 40 U.S.C. 276c) — Not applicable.
- C. Contact Work Hours and Safety Standards Act (40 U.S.C. 327–333) —Not applicable.
- D. Release of Retainage**

No retainage will be withheld by the RCTC from progress payments due Consultant. Retainage by Consultant or subconsultants is prohibited, and no retainage will be held by the prime consultant from progress due subconsultants. Any violation of this provision shall subject the violating Consultant or subconsultants to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies, otherwise available to Consultant or subconsultant in the event of a dispute involving late payment or nonpayment by Consultant or deficient subconsultant performance, or noncompliance by a subconsultant.

13. Termination for Convenience

RCTC may terminate the Agreement for convenience in accordance with the terms of the Agreement.

After such termination, the Consultant shall submit a final termination settlement proposal to RCTC as directed. If the Consultant fails to submit a proposal within the time allowed, RCTC may determine, on the basis of information available, the amount, if any due the Consultant because of the termination and shall pay the amount determined. After the Consultant's proposal is received, RCTC and Consultant shall negotiate a fair and equitable settlement and the contract will be modified to reflect the negotiated agreement. If agreement cannot be reached, RCTC may issue a final determination and pay the amount determined. If the Consultant does not agree with this final determination or the determination resulting from the lack of timely submission of a proposal, the Consultant may appeal under the Disputes clause.

14. Administrative and Contractual Remedies on Breach; Termination for Cause

a. The Consultant may be declared in breach of this Agreement ("Breach") if the Consultant fails to make delivery of the supplies or to perform the services within the time specified herein or any extension thereof; or if the Consultant fails to perform any of the other provisions of the contract, or so fails to make progress as to endanger performance of this contract in accordance with its terms. In case of any of the foregoing, RCTC shall notify the Consultant of the Breach, and the Consultant shall have a period of ten (10) days (or such longer period as RCTC may authorize in writing) after receipt of notice from RCTC to cure the Breach.

b. RCTC may, by written notice of termination to the Consultant specifying the effective date thereof, terminate the whole or any part of this contract, in the case of a Breach that is not cured within the timeframe set forth in (a) above ("Uncured Breach").

c. If the contract is terminated in whole or in part for an Uncured Breach, RCTC may procure upon such terms and in such manner as RCTC may deem appropriate, supplies or services similar to those so terminated, or may complete the services with its own forces. The Consultant shall be liable to RCTC for any excess costs for such similar supplies or services, and for any other costs incurred by RCTC as a result of the Uncured Breach. The Consultant shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

d. Except with respect to defaults of Subconsultants, the Consultant shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the Consultant. If the failure to perform is caused by the default of a Subconsultant, and if such default arises out of causes beyond the control of both the Consultant and the Subconsultant, and without the fault or negligence of either of them, the Consultant shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the Subconsultant were obtainable from other sources in sufficient time to permit the Consultant to meet the required project completion schedule.

e. Payment for completed services or supplies delivered to and accepted by RCTC shall be at the contract price. RCTC may withhold from amounts otherwise due the Consultant for such completed services or supplies such sum as RCTC determines to be necessary to protect RCTC against loss because of outstanding liens of claims of former lien holders, or to reimburse RCTC for any other costs related to the Uncured Breach.

f. If, after notice of termination of this contract for cause, it is determined for any reason that an Uncured Breach did not exist, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the provisions for termination for convenience of RCTC.

g. The rights and remedies of RCTC provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law, equity or under this contract including, but not limited to, the right to specific performance.

h. Notwithstanding the above, RCTC may, without providing an opportunity to cure, terminate the contract in accordance with the timeframe set forth in Section 17 of the contract, if RCTC determines such action is in its best interest based on the nature of the Breach. Such actions shall not limit any of RCTC's remedies set forth above.

16. Disputes

a. Except as otherwise provided in this Agreement, any dispute concerning a question of fact arising under this Agreement which is not disposed of by supplemental agreement shall be decided by RCTC's Deputy Executive Director, who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Consultant. The decision of the RCTC Deputy Executive Director shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, Consultant mails or otherwise furnishes to the RCTC Deputy Executive Director a written appeal addressed to RCTC's Executive Director. The decision of RCTC Executive Director or duly authorized representative for the determination of such appeals shall be final and conclusive.

b. The provisions of this Paragraph shall not be pleaded in any suit involving a question of fact arising under this Agreement as limiting judicial review of any such decision to cases where fraud by such official or his representative or board is alleged, provided, however, that any such decision shall be final and conclusive unless the same is fraudulent or capricious or arbitrary or so

grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this Paragraph, the Consultant shall be afforded an opportunity to be heard and to offer evidence in support of its appeal.

c. Pending final decision of a dispute hereunder, Consultant shall proceed diligently with the performance of this Agreement and in accordance with the decision of RCTC's Deputy Executive Director. This "Disputes" clause does not preclude consideration of questions of law in connection with decisions provided for above. Nothing in this Agreement, however, shall be construed as making final the decision of any RCTC official or representative on a question of law, which questions shall be settled in accordance with the laws of the State of California.

17. Lobbying

See the Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] - Consultants who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient. The Offeror shall complete and submit with its bid/proposal the attached Certification Regarding Lobbying, and if applicable, the Standard Form-LLL, "Disclosure Form to Report Lobbying."

18. Energy Conservation

The Consultant agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

19. Clean Water

a. The Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Consultant agrees to report each violation to RCTC and understands and agrees that RCTC will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

d. The Consultant further agrees that:

(1) It will not use any violating facilities;

- (2) It will report the use of facilities placed on or likely to be placed on the U.S. EPA “List of Violating Facilities;”
- (3) It will report violations of use of prohibited facilities to FTA; and
- (4) It will comply with the inspection and other requirements of the Clean Air Act, as amended, (42 U.S.C. §§ 7401 – 7671q); and the Federal Water Pollution Control Act as amended, (33 U.S.C. §§ 1251-1387).

The Consultant also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

20. Clean Air

a. The Consultant agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Consultant agrees to report each violation to RCTC and understands and agrees that RCTC will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

b. The Consultant further agrees that:

- (1) It will not use any violating facilities;
- (2) It will report the use of facilities placed on or likely to be placed on the U.S. EPA “List of Violating Facilities;”
- (3) It will report violations of use of prohibited facilities to FTA; and
- (4) It will comply with the inspection and other requirements of the Clean Air Act, as amended, (42 U.S.C. §§ 7401 – 7671q); and the Federal Water Pollution Control Act as amended, (33 U.S.C. §§ 1251-1387).

c. The Consultant also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

21. Recycled Products

Recovered Materials - The Consultant agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

21. SPECIAL PROVISION FOR PROMOTING COVID-19 SAFETY

Section 49. Centers for Disease Control and Prevention Order on Requirements for Persons to Wear Masks While on Conveyances and at Transportation Hubs.

(a) Compliance with CDC Mask Order. The Centers for Disease Control and Prevention (“CDC”) Order of January 29, 2021, titled Requirement for Persons to Wear Masks While on Conveyances and at Transportation Hubs (“CDC Mask Order”), applies to this Agreement. One of the objectives of the CDC Mask Order is “[m]aintaining a safe and operating transportation system.” Consultant agrees that it will comply, and will require all subconsultants to comply, with the CDC Mask Order, to the extent the CDC Mask Order remains in effect.

(b) Enforcement for non-compliance. Consultant agrees that FTA and RCTC may take enforcement action for non-compliance with the CDC Mask Order, to the extent the CDC Mask Order remains in effect, including: (1) enforcement actions authorized by 49 U.S.C. § 5329(g); (2) referring Consultant to the CDC or other Federal authority for enforcement action; (3) enforcement actions authorized by 2 CFR §§ 200.339 – .340; and (4) any other enforcement action authorized by Federal law or regulation.

22. Safe Operation of Motor Vehicles

Pursuant to Federal Executive Order No. 13043, “Increasing Seat Belt Use in the United States,” April 16, 1997, 23 U.S.C. Section 402 note, FTA encourages each third party consultant to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company owned, rented, or personally operated vehicles, and to include this provision in each third party subcontract involving the project.

- a. The Consultant is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company-rented vehicles, or personally operated vehicles. The terms “company-owned” and “company-leased” refer to vehicles owned or leased either by the Consultant or RCTC.
- b. The Consultant agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this contract.

23. Notification to FTA.

- a. If a current or prospective legal matter that may affect the Federal Government emerges, the Consultant must promptly notify the FTA Chief Counsel and FTA Regional Counsel for the Region in which this Agreement is being performed. The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason.
- b. Matters that may affect the Federal Government include, but are not limited to, the Federal Government’s interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal Government’s administration or enforcement of federal laws, regulations, and requirements.

c. *Additional Notice to U.S. DOT Inspector General.* The Consultant must promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which the Commission located, if Consultant has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729, et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bid rigging, misappropriation or embezzlement, bribery, gratuity, or similar misconduct involving federal assistance. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the Consultant. In this paragraph, “promptly” means to refer information without delay and without change.

24. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

Consultant shall not contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system funded under this Contract. As described in [Public Law 115-232](#), section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

a. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

b. Telecommunications or video surveillance services provided by such entities or using such equipment.

c. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

EXHIBIT “D” – CALTRANS FUNDING REQUIREMENTS

DRAFT

CALTRANS FUNDING REQUIREMENTS

1. Invoices & Payments.

Invoices shall be mailed to Commission's Contract Administrator at the following address, unless otherwise directed in writing by the Commission:

Riverside County Transportation Commission
Attention: Accounts Payable
P.O. 12008
Riverside, CA 92502

Payment shall be made for costs incurred by Contractor in performance of the Services. No advance payment or payment for work not actually performed shall be made under this Agreement.

2. Cost Principles and Administrative Requirements.

Contractor agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., shall be used to determine the cost allowability of individual items.

Contractor also agrees to comply with federal procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

Any costs for which payment has been made to Contractor that are determined by subsequent audit to be unallowable under 2 CFR, Part 200 and 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., are subject to repayment by Contractor to Commission.

All subcontracts in excess of \$25,000 shall contain the above provisions.

3. Retention of Records/Audit. For the purpose of determining compliance with Public Contract Code 10115, et seq. and Title 21, California Code of Regulations, Chapter 21, Section 2500 et seq., when applicable and other matters connected with the performance of this Agreement pursuant to Government Code 8546.7; Contractor, subcontractors, and Commission shall maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of this Agreement, including but not limited to, the costs of administering this Agreement. All parties shall make such materials available at their respective offices at all reasonable times during the Agreement period and for three years from the date of final payment under this Agreement. The State, State Auditor, Commission, or any duly authorized representative of the State Government shall have access to any books, records, and documents of Contractor and its certified public accountants (CPA) work papers that are pertinent to this Agreement for audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested. Subcontracts in excess of \$25,000 shall contain this provision.

4. Accounting System. Contractor and its subcontractors shall establish and maintain an accounting system and records that properly accumulate and segregate expenditures by line item

for the Services. The accounting system of Contractor and its subcontractors shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices.

5. Travel & Subsistence. Reimbursement for transportation and subsistence costs shall not exceed the rates specified in the Agreement, as may be applicable. In addition, any payments to Contractor for travel and subsistence expenses claimed for reimbursement or applied as local match credit shall not exceed rates authorized to be paid exempt non-represented State employees under current State Department of Personnel Administration (DPA) rules, unless otherwise authorized by Commission. If the rates invoiced are in excess of those authorized DPA rates, and Commission has not otherwise approved said rates, then Contractor is responsible for the cost difference and any overpayments shall be reimbursed to the Commission on demand.

6. Equipment Purchase

Prior authorization, in writing, by Commission's Contract Administrator shall be required before Contractor enters into any unbudgeted purchase order, or subcontract for supplies, equipment, or services. Contractor shall provide an evaluation of the necessity or desirability of incurring such costs.

For purchase of any item, service or consulting work not covered in the Cost Proposal and exceeding \$5,000 prior authorization, in writing, by Commission's Contract Administrator is required. Three competitive quotations must be submitted with the request for such purchase, or the absence of bidding must be adequately justified.

Any equipment purchased as a result of this Agreement is subject to the following: Contractor shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of \$5,000 or more. If the purchased equipment needs replacement and is sold or traded in, Commission shall receive a proper refund or credit at the conclusion of this Agreement, or if this Agreement is terminated, Contractor may either keep the equipment and credit Commission in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale, in accordance with established Commission procedures; and credit Commission in an amount equal to the sales price. If Contractor elects to keep the equipment, fair market value shall be determined at Contractor's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to by Commission and Contractor. If Contractor determines to sell the equipment, the terms and conditions of such sale must be approved in advance by Commission. 2 CFR, Part 200 requires a credit to Federal funds when participating equipment with a fair market value greater than \$5,000 is credited to the Project.

All subcontracts in excess \$25,000 shall contain the above provisions.

7. National Labor Relations Board Certification.

In accordance with Public Contract Code Section 10296, and by signing this Agreement, Contractor certifies under penalty of perjury that no more than one final unappealable finding of contempt of court by a federal court has been issued against Contractor within the immediately preceding two-year period, because of Contractor's failure to comply with an order of a federal court that orders Contractor to comply with an order of the National Labor Relations Board.

8. Nondiscrimination; Statement of Compliance.

Contractor's signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State of California that Contractor has, unless exempt, complied with, the nondiscrimination program requirements of Government Code Section 12990 and Title 2, California Administrative Code, Section 8103.

During the performance of this Agreement, Contractor and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (e.g., cancer), age (over 40), marital status, and denial of family care leave. Contractor and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 (a-f) et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Contract by reference and made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

AGENDA ITEM 6F

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Western Riverside County Programs and Projects Committee David Lewis, Capital Projects Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Amendment No. 4 with WSP USA Inc., for Professional Services, and Operations and Maintenance Agreement with Caltrans for the Interstate 15 SMART Freeway Pilot Project

WESTERN RIVERSIDE COUNTY PROGRAMS AND PROJECTS COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve Agreement No. 21-31-063-04, Amendment No. 4, to Agreement No. 21-31-063-00 with WSP USA Inc., (WSP) to provide professional services for the Interstate 15 SMART Freeway Pilot Project (Project), in the amount of \$698,102 plus a contingency amount of \$69,810 for an additional amount of \$767,912, and a total amount not to exceed \$4,767,912;
- 2) Approve Agreement No. 23-31-063-00 with Caltrans for the draft operations and maintenance (O&M) of the Project;
- 3) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreements on behalf of the Commission;
- 4) Authorize the Executive Director, or designee, to approve contingency work as may be required for the Project; and
- 5) Authorize the Executive Director or designee, pursuant to legal counsel review, to execute non-funding amendments to the agreements on behalf of the Commission.

BACKGROUND INFORMATION:

At its Annual Commission Workshop held on January 31, 2020, a presentation was provided about technology-based traffic management strategies, referred to as “SMART Freeways”. This meeting launched a feasibility study for a pilot project along I-15 from the San Diego County line to Winchester Road in Temecula. The proposed pilot project would control traffic using software called STREAMS, developed by an Australian company called Transmax.

Subsequently on September 28, 2020, Interstate 15 Corridor Ad Hoc Committee received an update on the project status which outlined the framework for the next steps after completion of the feasibility study.

At the May 12, 2021, Commission meeting, the Commission awarded Agreement No. 21-31-063-00 to WSP, to provide professional services for preliminary engineering, environmental documents, final design, construction support, and operation support services for the Project. In addition, the Committee approved Agreement No. 21-31-059-00 with Caltrans to obtain State Highway Operation and Protection Program (SHOPP) Minor Funds contribution of \$1.2 million towards the Project's construction.

At its November 9, 2022, Commission meeting the Commission approved the award of Agreement No. 22-31-098-00 to Anser Advisory for construction management services, materials testing, and construction surveying for the Project.

At its September 13, 2023, Commission meeting the Commission was provided an update on the project status and awarded Agreement Nos. 23-031-034-00 and 23-031-035-00 with Transmax Pty Ltd (Transmax) for the software license agreement and professional services. The Commission was also informed of the challenges experienced with obtaining approval of this first-of-a-kind project and the additional effort that will be addressed in this agenda item.

Project Scope

The scope of the Project is to add active traffic management strategies to the northbound direction of I-15 from the San Diego County line to Winchester Road. The system was developed by the Victoria Department of Transport (VDOT) and implemented by Transmax in Australia. This will be a first-of-kind approach in the state of California. The system has been extensively used in Melbourne's Managed Motorway system and extends over 100 miles of freeway. The system and software to be utilized have been piloted in the United States between 2021 to 2022 on I-25 in Colorado as part of Colorado Department of Transportation (CDOT) SMART 25 project. In addition, Contra Costa Transportation Authority (CCTA) is developing a similar project on the I-680 called the Innovate 680 Program. CCTA's program will utilize STREAMs software as well as other ITS Systems and elements utilized in Melbourne's Managed Motorway system.

The Project to be implemented on I-15 will include the following elements:

- Improvements to the northbound entrance ramps at Temecula Parkway and Rancho California Road, including pavement widening, barriers, and miscellaneous improvements (civil improvements);
- Installation of an Intelligent Transportation System, which includes enhanced traffic detection devices consisting of traditional loop detectors, TIRTLs (The Infra-Red Traffic Logger) and Coordinated Adaptive Ramp Metering (CARM) at northbound Temecula Parkway, Rancho California Road, and Winchester Parkway (ITS improvements); and
- Implementation of the STREAMs software platform provided by Transmax to monitor and operate the CARM system.

The pilot Project will construct the improvements and operate the system for two years. Regular monitoring reports will be prepared during the operations phase and presented to the Commission and Caltrans; the reports will compare the performance of the system to established criteria. Criteria that will be used in this assessment include travel time, travel time savings, average speeds, traffic flow during peak periods, decrease in congestion time, ramp meter queue length and duration. At the end of the pilot period, the Commission, in partnership with Caltrans, will assess the data and reports to decide whether to continue operating the system. During the pilot period, discussions will be held with Caltrans to identify funding and the necessary agreements to allow for the continued operation of the SMART freeway system if the results are positive and it is determined to continue the systems operation under Caltrans management.

Project Status

After the May 12, 2021 Commission meeting, RCTC staff and the consultant team developed the environmental and design documents for the project. As of September 12, 2023, the 100 percent design has been approved. The Caltrans encroachment permit was approved on November 9, 2023. It is anticipated that all necessary documents, approvals, and funding authorizations will allow for advertisement for construction by January 2024.

DISCUSSION:

Over the past two years of the Project's development, several challenges have presented themselves resulting in out-of-scope work. This work has resulted in an increase in the effort required by WSP and an increase in the total project cost. The following is a list of what was encountered and the measures that will be taken to ensure project success:

- Adjacent Projects – During the Projects development, multiple projects were identified as being within and adjacent to its limits. To mitigate the risk of impacts to the Projects construction and pilot program operations, coordination between the projects will be conducted. The following is a list of projects that have been identified as requiring coordination:
 - Caltrans Auxiliary Lane Project (1K400) is in the PS&E phase and overlaps the Project at the Rancho California Direct On-Ramp.
 - City of Temecula I-15 Auxiliary Lane Project (1K402) is in the construction phase and overlaps the Project between the I-15 Temecula and Rancho California Interchanges.
 - City of Temecula French Valley Phase II (FVP) project was in design and will be in the construction phase at the same time as the Project. The projects overlap from the Winchester interchange to the Project's northerly limits.
 - Caltrans District 11, I-15 Pavement Rehabilitation project is in the construction phase and limits begin just outside of the Project's southerly boundary.

- Post-Design Revisions at Winchester - FVP overlaps the Project from the Winchester interchange to the project limits to the north. Project design changes will be conducted to address overlapping work and integrate the ITS system into the completed FVP project.
- Hazardous Waste Analysis – Soil sampling for hazardous waste analysis was not anticipated to be required due to recent disturbance in the project area. Caltrans requested additional analysis be performed to determine if soil sampling would be required prior to construction.
- Contract Extensions and Rate Adjustment – The WSP contract for the Project had a completion date of March 31, 2025. Due to the need for additional technical studies beyond the original project scope, the project was delayed. These delays resulted in the need for a contract extension through the conclusion of the pilot period in Early 2027. The contract term date will be extended from March 2025 to 2027 and the costs are adjusted accordingly.
- Surveys – It was determined post execution of the WSP contract that the project schedule would benefit from surveys being performed by WSP. To facilitate this additional scope, budget from future activities was shifted to permit WSP to perform the work.
- Public Outreach – At the time that the contract scope for WSP was being developed, the pandemic required that public outreach be performed virtually. Now that restrictions have been lifted, the addition of public meetings, interactive tools, and animations are needed.

WSP Agreement – Amendment No. 4

At the May 12, 2021, Commission meeting, the Commission awarded Agreement No. 21-31-063-00 to WSP, to provide professional services for preliminary engineering/environmental documents, final design, construction support, and operation support services for the Project. As noted earlier in this item, several unforeseen and complex issues arose during the design development that resulted in unanticipated out of scope work.

To address the additional effort and to ensure the project maintained the schedule, budget adjustments were made to reallocate funds from tasks no longer required or future tasks, including design support during construction and operations support during the 2-year pilot period. Amendment No. 2 was issued to WSP and included a budget reallocation to cover some of this out-of-scope work, additional budget is required to replenish the future tasks and address potential risks during the pilot period.

Staff has negotiated the revised scope of work (including the appropriate level of effort, labor categories/mix, etc.), cost, and schedule received from WSP for the Project services, and has established a fair and reasonable price. The proposed cost for Amendment No. 4 is \$698,102 plus a contingency of \$69,810 for a total amount not to exceed \$767,912.

Caltrans Draft Operations & Maintenance Agreement

During the 2-year pilot period, RCTC will operate the CARM system, monitor its operations and make any necessary repairs or maintenance to ensure the system is operational 24 hours a day / 7 days a week. An O&M agreement between Caltrans and RCTC is required for RCTC to perform this task on Caltrans right of way. This agreement outlines the roles and responsibilities of both parties and details the project requirements. This is a no cost agreement, but it must be executed to allow the project to proceed to the construction and operations phase. The draft agreement is in the final stages of legal review and approval. Only minor revisions are anticipated. Attachment 1 is the draft O&M agreement with Caltrans.

Staff is seeking authorization for the Chair or Executive Director to execute, on behalf of the Commission, the above referenced draft O&M agreement, pursuant to legal counsel review.


FISCAL IMPACT:

Funding Source Breakdown

	Item	Dollar Amount	Fund Source
1	WSP	\$767,912	CMAQ
2	Caltrans O&M	N/A	N/A
	Total	\$767,912	

Expenditure Schedule

	Item	FY 2023/24+	GL/Project Accounting No.
1	WSP	\$767,912	003051 811100000000/261 31 81110
2	Caltrans O&M	N/A	N/A
	Total	\$698,102	

Financial Information					
In Fiscal Year Budget:	Yes	Year:	FY 2024/2025 FY 2025/2026	Amount:	\$230,374 \$537,538
Source of Funds:	CMAQ			Budget Adjustment:	No
GL/Project Accounting No.:	003051 81110 00000 0000/261 31 81110				
Fiscal Procedures Approved:				Date:	11/14/2023

Attachment: Caltrans O&M Draft Agreement No. 23-31-063-00

*Approved by the Western Riverside County Programs and Projects Committee on
November 27, 2023*

In Favor: 11 Abstain: 1 No: 0

**CALTRANS/RCTC
I-15 SMART FREEWAYS PILOT PROJECT
OPERATIONS AND MAINTENANCE AGREEMENT**

1. **Parties and Date.** This I-15 Smart Freeways Pilot Project Operations and Maintenance Agreement (“Agreement”) entered on _____, 2023 (“Effective Date”) is between the STATE OF CALIFORNIA, acting by and through its Department of Transportation, referred to herein as “Caltrans,” and the RIVERSIDE COUNTY TRANSPORTATION COMMISSION, referred to herein as “RCTC.” Caltrans and RCTC are sometimes referred to herein, individually, as “Party” and, collectively, as “Parties”.

2. **Recitals.**

2.1 RCTC intends to undertake a I-15 Smart Freeways Pilot Project (“Project”) in Riverside County, on Interstate 15 (I-15), northbound (NB) from the San Diego County line, to Murrieta Hot Springs Road north of the I-15/I-215 split in the between Post Miles 0 and 9.8, 9.9.

2.2 The Project will be implemented by RCTC, in cooperation with Caltrans and the City of Temecula, patterned after the Managed Motorway system developed by the Victoria Department of Transport in Australia.

2.3 RCTC will install, operate, and maintain, for the pilot period, systems to collect real-time traffic data and operate active traffic management devices intended to reduce collisions, improve traffic flow, maximize the use of existing freeway capacity, and react to incidents that cause delay.

2.4 The Project is expected to improve traffic flow through use of Intelligent Transportation Systems (“ITS”), which include Coordinated Adaptive Ramp Metering (CARM) for three NB onramps, STREAMS Software System, vehicle detection and variable speed limit signs. Coordinated ramp meters are located at the NB entrance ramps at Temecula Parkway, Rancho California Road, and Winchester Parkway.

2.5 The Design Engineering Evaluation Report (DEER) and Pilot Project Decision Document were completed and finalized on October 6, 2023. RCTC will obtain Project Encroachment Permit EA IL900 from Caltrans prior to construction.

2.6 ITS improvements include cloud-based STREAMS Software (to be operated by RCTC through Amazon Web Service), hardware (including ramp metering, sensors, and signs) and conduit (including fiber optic cables and wires) to be installed within the State Highway System (SHS) and connected to the TIRTL and Caltrans fiber optic backbone system (“FO Backbone”).

2.7 Concept Drawings of the ITS system are attached to this Agreement as Exhibit “A” and incorporated herein by reference. A Detailed Diagram of the ITS system indicating which Party will be responsible for maintaining equipment identified in the diagram is attached to this Agreement as Exhibit “B” and incorporated herein by reference.

2.8 RCTC obtained approval of a Public Interest Finding (PIF) from FHWA/Caltrans on {insert date} for sole source services from WSP and equipment from STREAMS.

2.9 RCTC prepared the Project Concept of Operations (finalized on February 2, 2023), and design of civil improvements (including, modifications to the NB on-ramps, ramp widening, and consolidation of tangent ramps) and ITS elements (including, installation of TIRTL vehicle detectors, new ramp metering, closed circuit televisions and variable speed limit signs). RCTC will also provide design support during construction of the civil and ITS elements; provision of hardware and software; system integration work; and operation, maintenance and support of the traffic management system.

If the Project performs satisfactorily, according to project approved Key Performance Indicators (KPI), as determined by Caltrans and RCTC, it is the intent of RCTC for Caltrans to continue operation of the Project following termination of this Agreement subject to funding availability.

3. **Term.**

3.1 This Agreement shall be effective as of the last of the dates each Party's authorized representative has executed this Agreement.

3.2 The operations and maintenance period under this Agreement shall extend for a period of two (2) years commencing on the first day of operation for use by the public (the "Term").

3.3 This Agreement shall expire at the end of the two (2) year period set forth in Section 3.2 above unless the Term is extended upon written mutual agreement of the Parties.

4. **Encroachment Permits.**

4.1 RCTC must obtain the necessary Encroachment Permits from Caltrans's District 8 Encroachment Permit Office prior to entering Caltrans right of way to perform RCTC's operation and maintenance responsibilities.

4.2 RCTC will submit the final form of the Project's Plans, Specifications and Estimates ("PS&E"), prepared, stamped and signed by a licensed civil engineer, to Caltrans's District Permit Engineer for review and approval and will obtain and have in place a valid necessary encroachment permit prior to the start of any work within Caltrans right of way. Project must meet Caltrans's applicable standards.

4.3 RCTC contractors will be required to obtain an Encroachment Permit prior to the start of any work within Caltrans right of way.

4.4 An Encroachment Permit rider may be required for any changes to the scope of work allowed by this Agreement prior to the start of any work within Caltrans's right of way

4.5 Caltrans shall issue encroachment permits to RCTC and its contractors at no cost to them.

4.6 Operation and maintenance of the ITS shall be completed in accordance with the Encroachment Permit, and with the Project plans and specifications completed during the PS&E phase of the Project and approved by Caltrans.

5. General Responsibilities

5.1 RCTC Responsibilities.

(a) RCTC shall be the implementing agency for the Project, including project design and construction.

(b) RCTC shall be responsible for addressing any public inquiries, complaints or requests for information related to the Project.

(c) RCTC shall be responsible for operation, management and maintenance of the ITS including, but not limited to, performing or causing to be performed traffic management activities associated with the operation of the Project, as further detailed in this Agreement.

(d) RCTC shall provide reports to Caltrans on performance of the Project, as further detailed in Section 7 below.

(e) RCTC shall ensure that data from the Caltrans ITS system in operation as of the Effective Date shall continue to be available during the Term, and that data generated by the Project shall be integrated into the Caltrans ITS system.

(f) RCTC shall make all reasonable efforts to keep the ITS operational at all times but does not warrant or otherwise guarantee its availability. If the ITS becomes non-operational, it will immediately revert to Caltrans default ramp metering system until ITS is restored within 24 hours by RCTC.

(g) RCTC shall transfer to Caltrans all records pertaining to material maintenance, operations, safety, and modifications of the ITS generated during the Term of this Agreement.

(h) RCTC shall apply for an Encroachment Permit from Caltrans for the Project Contractor to access and complete work in Caltrans Right-of-Way

(i) RCTC shall maintain the Project civil improvements. . RCTC shall apply for Relief of Maintenance prior to Caltrans maintaining Project Civil improvements.

(J) RCTC will operate and maintain the Project during the pilot period in cooperation with Caltrans, and RCTC will fund 100% the Project with a mix of local funds, Congestion Mitigation and Air Quality Improvement (CMAQ) funds from Federal Highway Administration (“FHWA”), and State Highway Operation and Protection Program (SHOPP) funds

5.2 Caltrans Responsibilities.

(a) Caltrans shall provide oversight for the Project per Caltrans Standards and Procedures. Oversight does not include any efforts necessary to develop or deliver Project or any validation by verifying or rechecking Project. When Caltrans performs oversight, it does so for its own benefit and is not subject to liability for its performance of oversight.

(b) Caltrans shall make all reasonable efforts to keep the FO Backbone operational at all times but does not warrant or otherwise guarantee its availability.

(c) Caltrans shall make all reasonable efforts to keep the electrical power within Project area operational at all times but does not warrant or otherwise guarantee its availability.

(d) Caltrans shall review and approve, as deemed appropriate, a no cost Encroachment Permit for the Project Contractor to access and complete work in Caltrans Right-of-Way.

5.3 Joint Responsibilities.

(a) The Parties shall cooperate and coordinate during the Term on ongoing traffic management and operation of the Project, and for sharing, use and protection of Project Data (defined below).

6. **Coordination Related to Operation of ITS.**

6.1 Unless otherwise agreed upon by the Parties, the ITS installed by RCTC during the Term of this Agreement shall not unreasonably interfere with or adversely affect the operation of any Caltrans' equipment existing at the time RCTC installs its equipment.

6.2 Unless otherwise agreed upon by the Parties, any projects or equipment installed by Caltrans during the Term of this Agreement shall not unreasonably interfere with or adversely affect the operation of the ITS or any other equipment installed by RCTC.

6.3 All networking equipment and cloud services procured by RCTC will meet the ISO27001 security standard. In addition, RCTC shall require that its ITS software vendor make reasonable effort to ensure that the networking equipment and cloud services meet Caltrans IT Standards and are configured to meet existing Caltrans security requirements.

7. **Project Operations.**

7.1 Use of Project Data. During the Term of this Agreement, Caltrans will allow RCTC to collect, analyze and use data generated from the ITS installed within the SHS ("Project Data"), and to use the Project Data to implement traffic management.

7.2 Performance Standards.

(a) Key Performance Indicators (KPI) were developed as performance metrics for the Project. These performance metrics will serve as the basis for evaluating the success of the Project.

(b) During the operations period, RCTC will provide regular reports using the agreed upon performance metrics and present them to Caltrans for review and input on operations decisions.

(c) RCTC shall, prior to the end of the Term, provide a final report to Caltrans on Project performance. Caltrans shall have the ultimate authority to approve or reject the final report.

7.3 General Access to FO Backbone and ITS.

(a) Except as set forth below, any access by RCTC to the FO Backbone shall be requested through the Caltrans Representative and Caltrans staff shall accompany RCTC staff to troubleshoot and repair/alter the ITS. Any work requiring Caltrans assistance shall be conducted in such a manner so as to minimize impacts to Caltrans. Caltrans recognizes the potential time-sensitivity of access needed to resolve network connection problems, and will, take all reasonable steps to facilitate expedited access to the FO Backbone.

(b) Any access by Caltrans to the ITS shall be requested through the RCTC Representative and RCTC staff will accompany Caltrans staff to troubleshoot. Any work requiring RCTC assistance shall be conducted in such a manner so as to minimize impacts to Project ITS. RCTC recognizes the potential time-sensitivity of access needed to resolve network connection problems, and will, take all reasonable steps to facilitate expedited access to the ITS fiber network when such access impacts the ITS.

(c) Access for operations and/or maintenance purposes within Project area shall be through notice and coordination.

(d) Caltrans will allow RCTC access to live video images from freeway cameras for the sole purpose of assessing and managing the operation of the Project.

8. **Ownership of Project Improvements; Post-Pilot Operations.**

8.1 Ownership During Term.

(a) During the Term, RCTC shall own the ITS installed in the SHS, required for the Project.

(b) Caltrans shall own and maintain all civil improvements to the SHS completed as part of the Project upon {insert either Project acceptance (the closing of the encroachment permit)? *or* termination or expiration of the Term of this Agreement?} thereof by Caltrans.

8.2 Post Pilot Period ITS Operations; Ownership. Prior to the end of the Term of this Agreement, a report will provide recommendations regarding post-pilot period operations.

Following review of the report and a determination of funding availability, the Parties shall agree to evaluate an approach for the continued operation and maintenance of the ITS. If following the end of the Term, the ITS will remain in operation, RCTC shall transfer ownership of the ITS to Caltrans, subject to the terms and conditions outlined in a future agreement (“Post-Pilot Operations Agreement”). The Post-Pilot Operations Agreement shall address responsibility over ITS as mutually agreed upon by both Parties and have no effect until executed by both Parties.

8.3 Removal of ITS and Temporary Civil Improvements. Upon termination or expiration of this Agreement RCTC shall remove the ITS and other temporary civil improvements, if any, or portions thereof, from the SHS. RCTC shall coordinate with Caltrans and timely complete the work to remove the ITS. If RCTC fails to remove the ITS, Caltrans shall remove for RCTC at RCTC’s sole expense. The remaining ramp meters shall be left in the standard Caltrans configuration as shown in the Caltrans Highway Design Manual. The provisions in this section are expressly subject to any Post-Pilot Operations Agreement entered into by the Parties, and shall not apply if the ITS will remain in operation.

8.4 Budget Contingency. Notwithstanding the foregoing, the Parties recognize that Caltrans’ continued operation of the Project post-pilot period, even if the Project is deemed to have been successful, remains contingent upon the Legislature appropriating sufficient funds under the Budget Act, the encumbrance of funding to Caltrans’s District 8 and the availability of funding therefor.

9. **Legal Relations and Responsibilities**

9.1 Nothing within the provisions of this Agreement is intended to create duties or obligations to or rights in third parties not Parties to this Agreement or to affect the legal liability of a party to the Agreement by imposing any standard of care with respect to the operation and maintenance of Caltrans highways and local facilities different from the standard of care imposed by law.

9.2 Neither RCTC nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by Caltrans, under or in connection with any work, authority or jurisdiction conferred upon Caltrans and arising under this Agreement. It is understood and agreed that Caltrans shall fully defend, indemnify and save harmless RCTC and all of its officers and employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation and other theories or assertions of liability occurring by reason of anything done or omitted to be done by Caltrans under this Agreement with the exception of those non-negligent actions of Caltrans necessary to cure a noticed default on the part of RCTC

9.3 Neither Caltrans nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by RCTC under or in connection with any work, authority or jurisdiction conferred upon RCTC and arising under this Agreement. It is understood and agreed that RCTC shall fully defend, indemnify, and save harmless Caltrans and all of its officers and employees from all claims, suits or actions of every

name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by RCTC under this Agreement.

10. **Default/Remedies.**

10.1 **RCTC Default.** If during the term of this Agreement, RCTC should cease to operate or maintain the Project in accordance with the material terms of as provided by this Agreement, Caltrans may either undertake to perform operation and/or maintenance on behalf of RCTC, at RCTC's sole expense, or direct RCTC to remove or itself remove Project at RCTC's sole expense and restore Caltrans's right of way to its prior or a safe operable condition. RCTC hereby agrees to pay said Caltrans expenses, within thirty (30) days of receipt of billing by Caltrans. However, prior to Caltrans performing any operation and/or maintenance or removing or requiring removal of the Project, Caltrans will provide written notice to RCTC to cure the default and RCTC will have thirty (30) days to commence cure and ninety (90) days within which to affect that cure, or such longer period as reasonably agreed upon by the Parties if cure cannot be completed within ninety (90) days, and RCTC commences and diligently pursues completion of such cure.

10.2 **Caltrans Default.** If during the term of this Agreement, Caltrans fails or delays to perform any material term of this Agreement, RCTC shall provide written notice to Caltrans of breach. In the event that Caltrans fails to commence to cure, correct or remedy such breach within thirty (30) calendar days following receipt of written notice, or thereafter fails to diligently complete such cure, correction or remedy, a default of this Agreement shall be deemed to have occurred. In the event of a Caltrans default, RCTC may exercise the right to seek damages, specific performance or other injunctive or equitable relief.

11. **Termination.** If either Party determines that continued operation of the Project is financially infeasible, poses unacceptable risk, or results in increased congestion or accidents on the SHS, the Party desiring to terminate shall inform the other Party of its intent, and the Parties shall engage in the same process set forth in Sections 12.1 and 12.2 below for disputes. If following such process, the Party desiring to terminate this Agreement is unable to resolve its concerns, such Party shall have the right to issue a written notice of termination, which shall set forth the effective date of termination.

12. **Dispute Resolution.**

12.1 If the Parties are unable to reach agreement on a particular issue, the Parties agree to promptly elevate the issue to the Level I Field Representatives, listed on the Issue Escalation Ladder shown in Exhibit "D" and incorporated herein by reference. If Level I Representatives are unable to resolve the issue, Parties agree they are to promptly elevate the issue up to the Level II Project Managers so on and so forth through Level III Project Sponsors. If Level III Sponsors are unable to resolve the issue, Parties agree to promptly elevate the issue to Level IV Executives. The primary objective of the issue resolution process is timely decision making.

12.2 The Parties will form an Executive Oversight Committee (EOC) composed of the two executives appearing as Level IV, EOC members in Exhibit D as part of the issue resolution

process. The EOC will be available to provide direction to the Project team when issues are elevated to the EOC. The EOC will be the final step in the Project level dispute resolution process. The primary objective of the EOC will be to ensure that issues are resolved in a timely manner. The EOC will meet on an as-needed basis to resolve issues that otherwise threaten or impact the overall success of the Project.

13. Other Miscellaneous Standard Provisions.

13.1 Approvals.

(a) Caltrans' Approvals. Whenever Caltrans' comment, approval or consent is required under this Agreement, such comment, approval, or consent shall not be unreasonably withheld or delayed and, unless otherwise expressly provided herein, Caltrans' consent, comments or approval shall be provided within a reasonable period, provided that such time may be extended by mutual agreement.

(b) RCTC Approvals. Whenever RCTC's comment, approval or consent is required under this Agreement, such comment, approval, or consent shall not be unreasonably withheld or delayed and, unless otherwise expressly provided herein, RCTC's consent or approval shall be deemed given after such request is received, provided that such time may be extended by mutual agreement.

13.2 Subcontracting. RCTC may, in its sole discretion and in compliance with all applicable legal requirements, enter subcontracts with third party contractors or consultants for performance of any of its obligations hereunder. Such rights of RCTC include the right of RCTC to subcontract for operation and/or maintenance of the ITS and, except as expressly set forth herein, for performance of any other obligations of RCTC under this Agreement.

13.3 Designation of Representatives. Caltrans shall designate Caltrans operations and maintenance representatives to represent Caltrans and RCTC shall designate RCTC operations and maintenance representatives to represent RCTC. All communications between the two agencies shall be channeled through the designated representatives listed as Level I contacts on the Issue Resolution Ladder attached as Exhibit D.

13.4 Notice. Any notice provided pursuant to or required by this Agreement shall be in writing and shall be deemed sufficiently provided when sent by U.S. Mail, to the Parties at the following addresses:

RCTC:

Riverside County Transportation Commission
PO Box 12008
Riverside, CA, 92502-2208
Erik Galloway

CALTRANS:

California Department of Transportation
464 West Fourth Street
San Bernardino, California 92401 Attn.:
Attn.: Deputy District Director,
Traffic Operations

Any notice so given shall be considered received by the other Party three (3) days after deposit in the U.S. Mail, first class postage prepaid, addressed to the Party at the above address. Actual notice

shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

13.5 **Amendments.** This Agreement may be amended at any time by the mutual consent of the Parties by an instrument in writing; however, no amendments or other modifications of this Agreement shall be binding unless executed in writing by both Parties hereto.

14. **Insurance.**

14.1 RCTC and its contractors to perform work under this agreement (term, insurance, bodily injury, damage liability, insured amount, certificate of insurance). Certificate of insurance is provided in Exhibit C.

15. PARTIES are empowered by Streets and Highways Code Section 114 and 130 to enter into this Agreement and have delegated to the undersigned the authority to execute this Agreement on behalf of the respective agencies and covenants to have followed all the necessary legal requirements to validly execute this Agreement.

**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

**RIVERSIDE COUNTY
TRANSPORTATION COMMISSION**

By: _____
Catalino A. Pinning III, District 8 Director

By: _____
Anne Mayer, Executive Director

Date: _____

Date: _____

APPROVED AS TO FORM:

By: _____
Legal Counsel
Best, Best & Krieger LLP

Date: _____

Exhibit “A”

Concept Drawings

[attached behind this page]

DRAFT

APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

DATE SIGNED

LICENSE Exp DATE

REGISTRATION No.

CALTRANS DESIGN OVERSIGHT APPROVAL

CONSULTANT DESIGN MANAGER
MERIDETH CANN

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-7	TYPICAL CROSS SECTIONS
8-9	KEY MAP AND LINE INDEX
10	PROJECT CONTROL
11-18	LAYOUT
19-21	PROFILE AND SUPERELEVATION DIAGRAMS
22-43	CONSTRUCTION DETAILS
44-52	DRAINAGE PLAN AND QUANTITIES
53-60	UTILITY PLAN
61-62	CONSTRUCTION AREA SIGNS
63-66	MOTORIST INFORMATION PLAN
67-91	STAGE CONSTRUCTION AND TRAFFIC HANDLING INDEX OR PLAN
92-104	PAVEMENT DELINEATION PLAN AND QUANTITIES
105-117	SIGN PLAN, DETAILS AND QUANTITIES
118-120	SUMMARY OF QUANTITIES
121-170	ELECTRICAL SYSTEMS PLAN

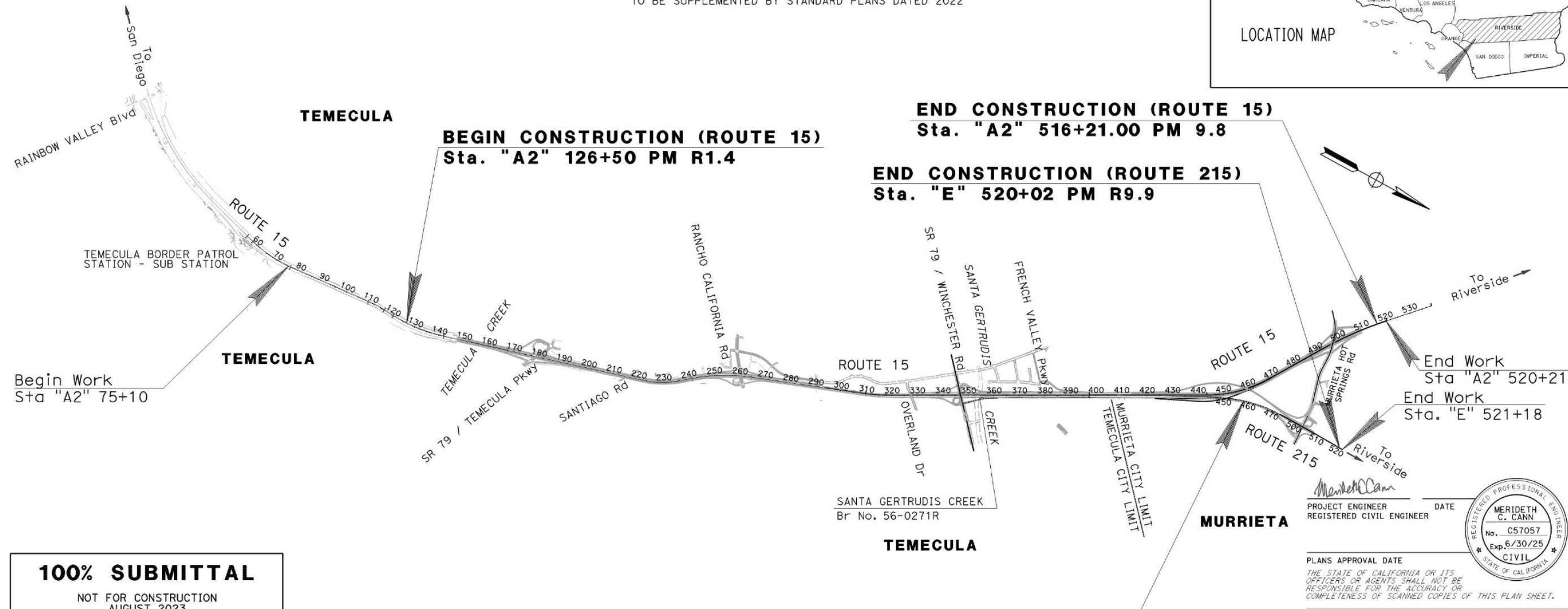
**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

**PROJECT PLANS FOR CONSTRUCTION
STATE HIGHWAY
IN RIVERSIDE COUNTY IN TEMECULA
ON INTERSTATE 15, NORTHBOUND
FROM THE SAN DIEGO COUNTY LINE TO 0.3 MILE
NORTH OF THE MURIETTA HOT SPRINGS OVERCROSSING
AND IN MURRIETA ON INTERSTATE 215 NORTHBOUND
FROM THE 15/215 CONNECTOR OVERCROSSING TO 0.4 MILE
NORTH OF THE MURRIETTA HOT SPRINGS OVERCROSSING**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2022

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	1	170

LOCATION MAP



100% SUBMITTAL
NOT FOR CONSTRUCTION
AUGUST 2023

NOTE:
1. THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS"

**BEGIN CONSTRUCTION (ROUTE 215 CONNECTOR)
Sta. "E" 459+07.00 PM R8.9**

PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
DATE

Merideth Cann

REGISTERED PROFESSIONAL ENGINEER
MERIDETH C. CANN
No. C57057
Exp. 6/30/25
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

SOMMER ENGINEERING INC 334 WALNUT STREET NEWPORT BEACH, CA 92663	
RCTC 4080 LEMON STREET RIVERSIDE, CA 92501	
CONTRACT No.	08-1L9004
PROJECT ID	0821000012

NO SCALE

LAST REVISION DATE PLOTTED => 31-AUG-2023 TIME PLOTTED => 14:05

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEETS E-5 AND E-23 FOR MORE INFORMATION.

LEGEND:

- 11 INSTALL POE CCTV IP CAMERA SYSTEM ON TOP OF TYPE CCTV 35 POLE. SEE SHEET ED-16 AND CALTRANS STANDARD PLAN ES-16B FOR DETAILS.
- 25 INSTALL 1-CAT6 CABLE (CCTV) IN CONDUIT, CONNECTED TO SWITCH LOCATED INSIDE CABINET. SEE SHEET E-5 FOR CONDUIT INSTALLATION.
- 27 SHOWN FOR REFERENCE ONLY.

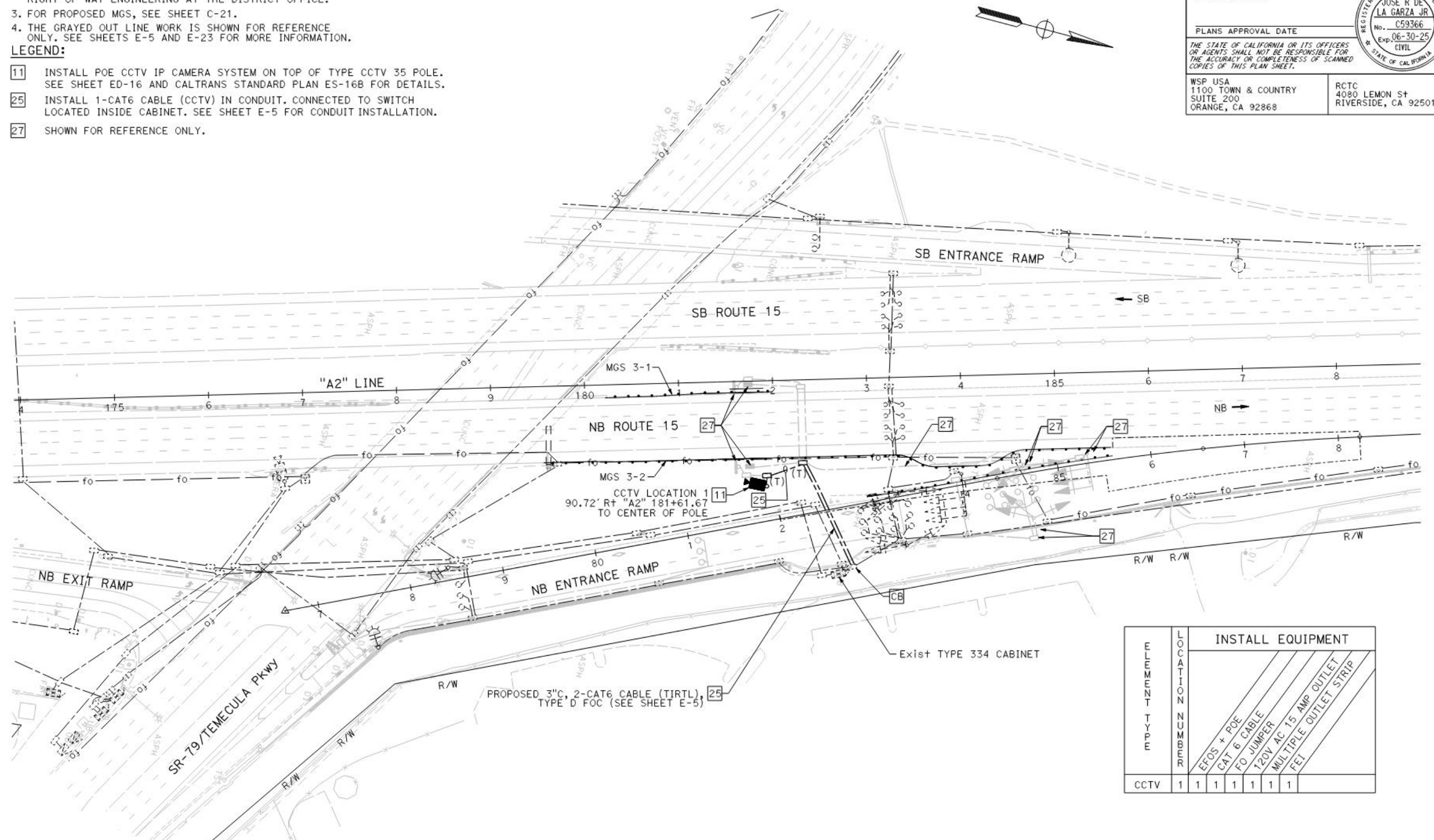
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	122	170

REGISTERED PROFESSIONAL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

WSP USA
 1100 TOWN & COUNTRY SUITE 200
 ORANGE, CA 92868

RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CHECKED BY
 MARLO MAYNIGO
 DESIGNED BY
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED



ELEMENT TYPE	LOCATION NUMBER	INSTALL EQUIPMENT						
		EFOS + POE	CAT 6 CABLE	FO JUMPER	120V AC 15 AMP OUTLET	MULTIPLE OUTLET STRIP	FEI	
CCTV	1	1	1	1	1	1	1	1

100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

CAMERA SYSTEMS
 SCALE: 1" = 50'
E-2

APPROVED FOR ELECTRICAL WORK ONLY

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:47
 LAST REVISION 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

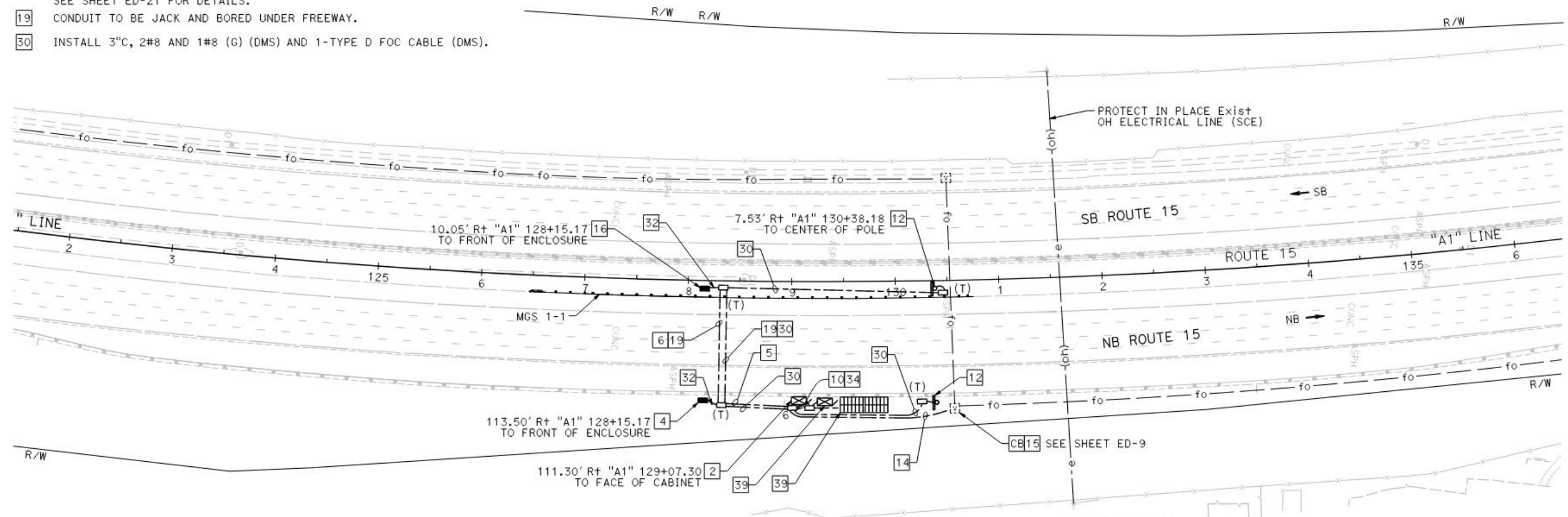
- | | |
|--|--|
| <ul style="list-style-type: none"> 2 FURNISH AND INSTALL MODEL 342 LX CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-17 FOR EQUIPMENT LAYOUT. 4 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. 5 INSTALL 3" C AND 2-CAT6 CABLE (TIRTL). 6 INSTALL 3" C AND 1-CAT6 CABLE (TIRTL). 10 INSTALL 2-3" C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. 12 INSTALL 2-DMS SIGN (4'X4') ON TYPE 1-B (12') POLE. 14 INSTALL 3" C AND 1-TYPE D FOC. 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-9 FOR SPLICE DETAILS. 16 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. 30 INSTALL 3" C, 2#8 AND 1#8 (G) (DMS) AND 1-TYPE D FOC CABLE (DMS). | <ul style="list-style-type: none"> 32 INSTALL 1" C PVC, 1-CAT6 CABLE (TIRTL). 34 INSTALL 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS) IN CONDUIT. 39 INSTALL SOLAR UNIT ARRAY AND ASSOCIATED BATTERY CABINET AND CONDUIT AND WIRES. FOR DETAILS SEE SHEET ED-17, ED-23 AND ED-24. |
|--|--|



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	123	170

REGISTERED CIVIL ENGINEER: *Jose R. De La Garza Jr.* DATE: 08-04-23
 REGISTERED PROFESSIONAL ENGINEER: JOSE R DE LA GARZA JR. No. C59366 Exp. 06-30-25 CIVIL STATE OF CALIFORNIA
 PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868 RCTC 4080 LEMON ST RIVERSIDE, CA 92501

REVISOR: MARLO MAYNIGO, JOE DE LA GARZA
 CHECKED BY: MELISSA BRADY
 SUPERVISOR: MELISSA BRADY
 TRANSPORTATION: DEPARTMENT OF TRANSPORTATION
 STATE OF CALIFORNIA - *St. Gobans*



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**DMS SYSTEM - LOCATION 1
 TIRTL SYSTEM - LOCATION 1
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-3

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:45
 LAST REVISION 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- | | |
|--|---|
| <ul style="list-style-type: none"> 2 FURNISH AND INSTALL MODEL 342 LX CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-17 FOR EQUIPMENT LAYOUT. 4 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. 12 INSTALL 2-DMS SIGN (4'X4') ON TYPE 1-B (12') POLE. 14 INSTALL 3"C AND 1-TYPE D FOC. 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-9 FOR SPLICE DETAILS. 16 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. | <ul style="list-style-type: none"> 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. 30 INSTALL 3"C, 2#8 AND 1#8 (G) (DMS) AND 1-TYPE D FOC CABLE (DMS). 31 INSTALL 3"C, 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS). 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). 34 INSTALL 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS) IN CONDUIT. 39 INSTALL SOLAR UNIT ARRAY AND ASSOCIATED BATTERY CABINET AND CONDUIT AND WIRES. FOR DETAILS SEE SHEET ED-17, ED-23 AND ED-24. |
|--|---|



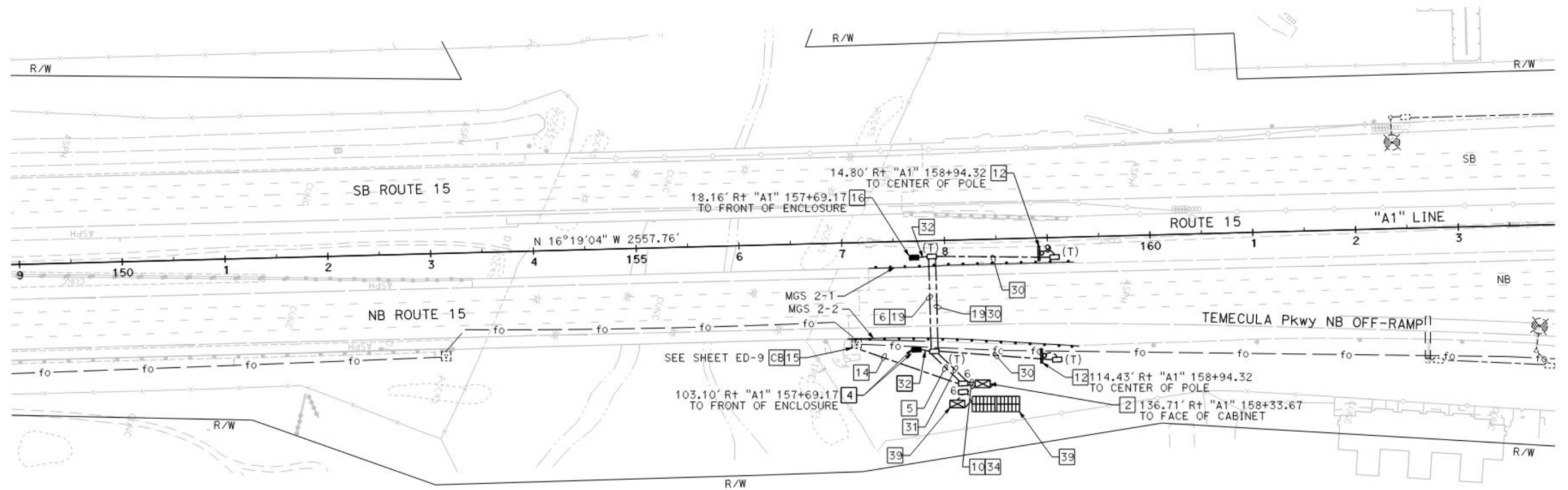
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	124	170

REGISTERED CIVIL ENGINEER: *Joe R. De La Garza Jr.*
 DATE: 08-04-23
 REGISTERED PROFESSIONAL ENGINEER: JOSE R DE LA GARZA JR.
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868	RCTC 4080 LEMON ST RIVERSIDE, CA 92501
---	--

REVISOR: MARLO MAYNIGO
 CHECKED BY: JOE DE LA GARZA
 CALCULATED-DESIGNED BY: MELISSA BRADY
 CONSULTANT FUNCTIONAL SUPERVISOR: MELISSA BRADY
 DEPARTMENT OF TRANSPORTATION: **St. Gobans**



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**DMS SYSTEM - LOCATION 2
 TIRTL SYSTEM - LOCATION 2
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-4

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:46
 LAST REVISION 00-00-00

NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. FOR PROPOSED MGS, SEE SHEET C-21.
4. THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEETS E-2 AND E-23 FOR MORE INFORMATION.

LEGEND:

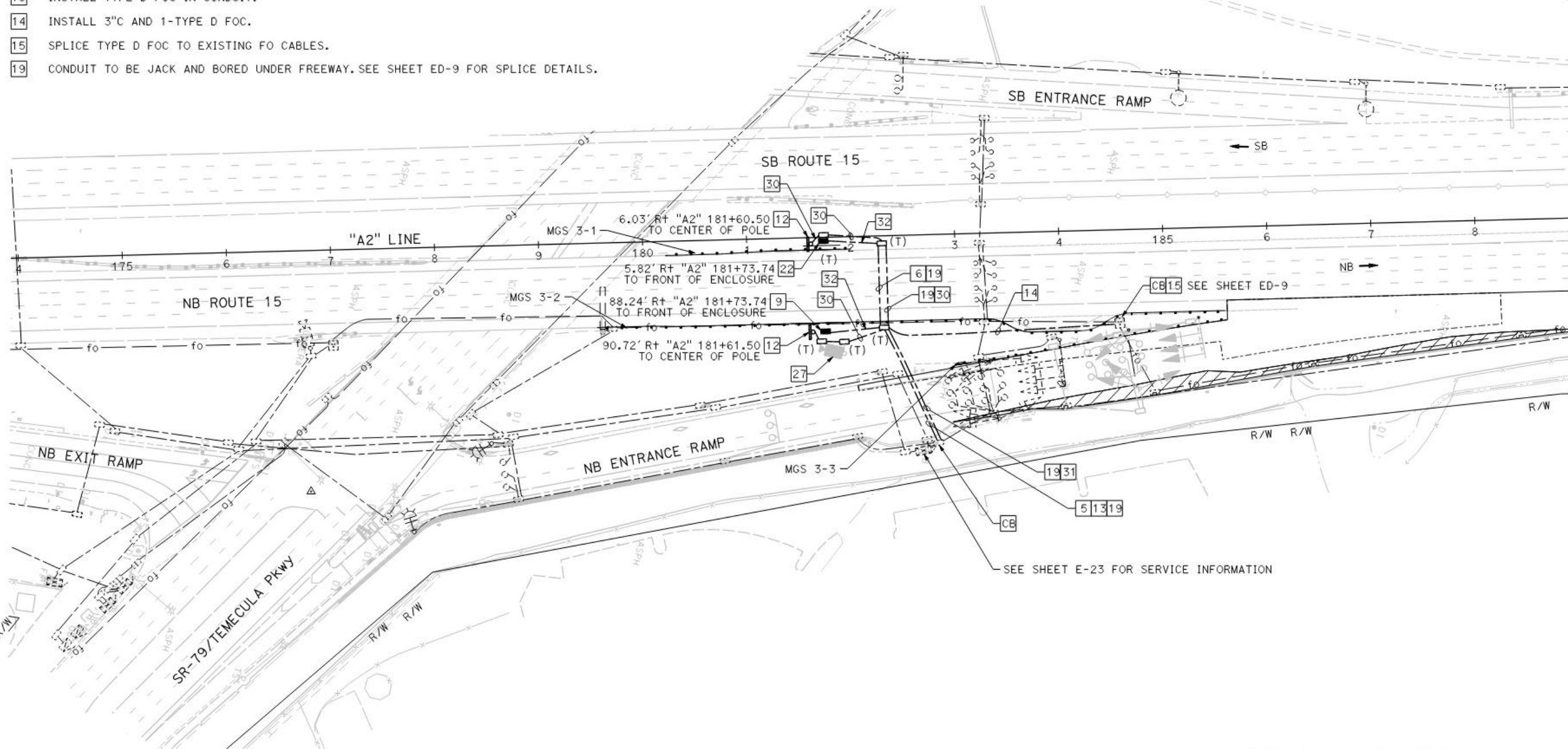
- 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- 9 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- 12 INSTALL 2-DMS SIGN (4'X4') ON TYPE 1-B (12') POLE.
- 13 INSTALL TYPE D FOC IN CONDUIT.
- 14 INSTALL 3"C AND 1-TYPE D FOC.
- 15 SPLICE TYPE D FOC TO EXISTING FO CABLES.
- 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. SEE SHEET ED-9 FOR SPLICE DETAILS.
- 22 INSTALL TIRTL TRANSMITTER INSIDE TIRTL CABINET ENCLOSURE.
- 27 SHOWN FOR REFERENCE ONLY.
- 30 INSTALL 3"C, 2#8 AND 1#8 (G) (DMS) AND 1-TYPE D FOC CABLE (DMS).
- 31 INSTALL 3"C, 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS).
- 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	125	170

Joe R. De La Garza Jr.
 REGISTERED CIVIL ENGINEER
 DATE 08-04-23
 REGISTERED PROFESSIONAL ENGINEER
 JOSE R DE LA GARZA JR.
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868
 RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

DMS SYSTEM - LOCATION 3
TIRTL SYSTEM - LOCATION 3
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED-DESIGNED BY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:45

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Stantec
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED-DESIGNED BY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- INSTALL 3"C AND 1-TYPE D FOC.
- SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-9 FOR SPLICE DETAILS.
- INSTALL 2"C, 4-DLC.
- EXISTING 2"C. INSTALL 2#8 AND 1#8 (G).
- INSTALL 2-3"C, 4-DLC.
- INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- CONNECT POWER CABLE TO EXISTING POLE MOUNTED SERVICE CABINET. ADD 30A CIRCUIT BREAKER.

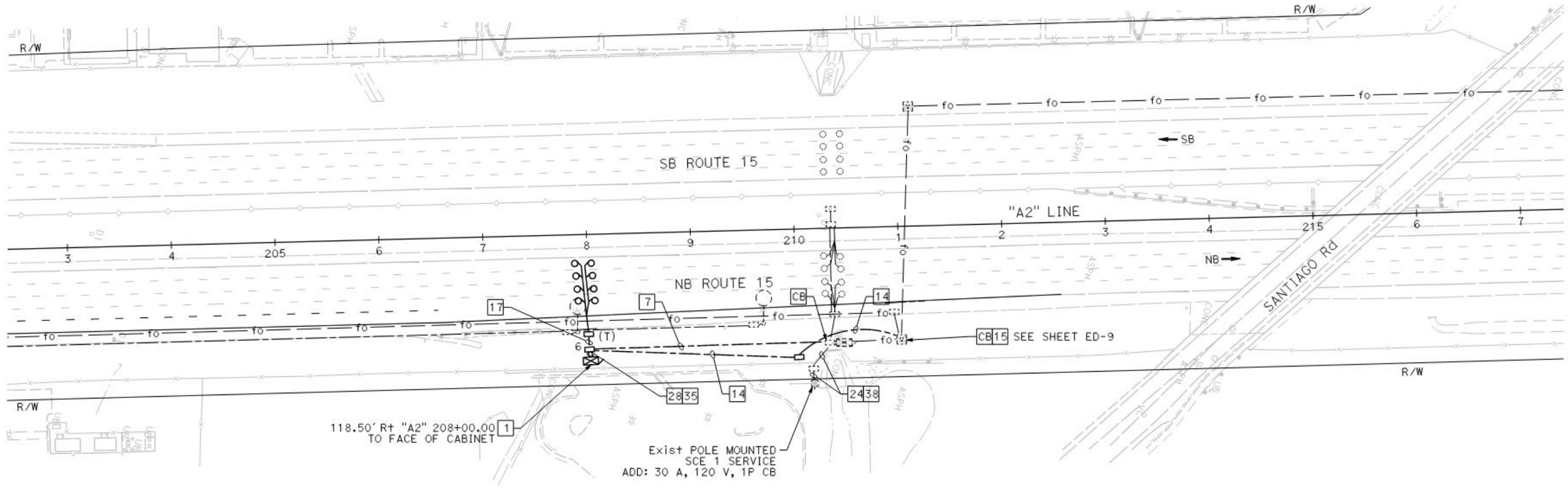


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	126	170

REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868	RCTC 4080 LEMON ST RIVERSIDE, CA 92501
---	--



100% SUBMITTAL

NOT FOR CONSTRUCTION
 AUGUST 2023

**TIRTL SYSTEM - LOCATION 4
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-6

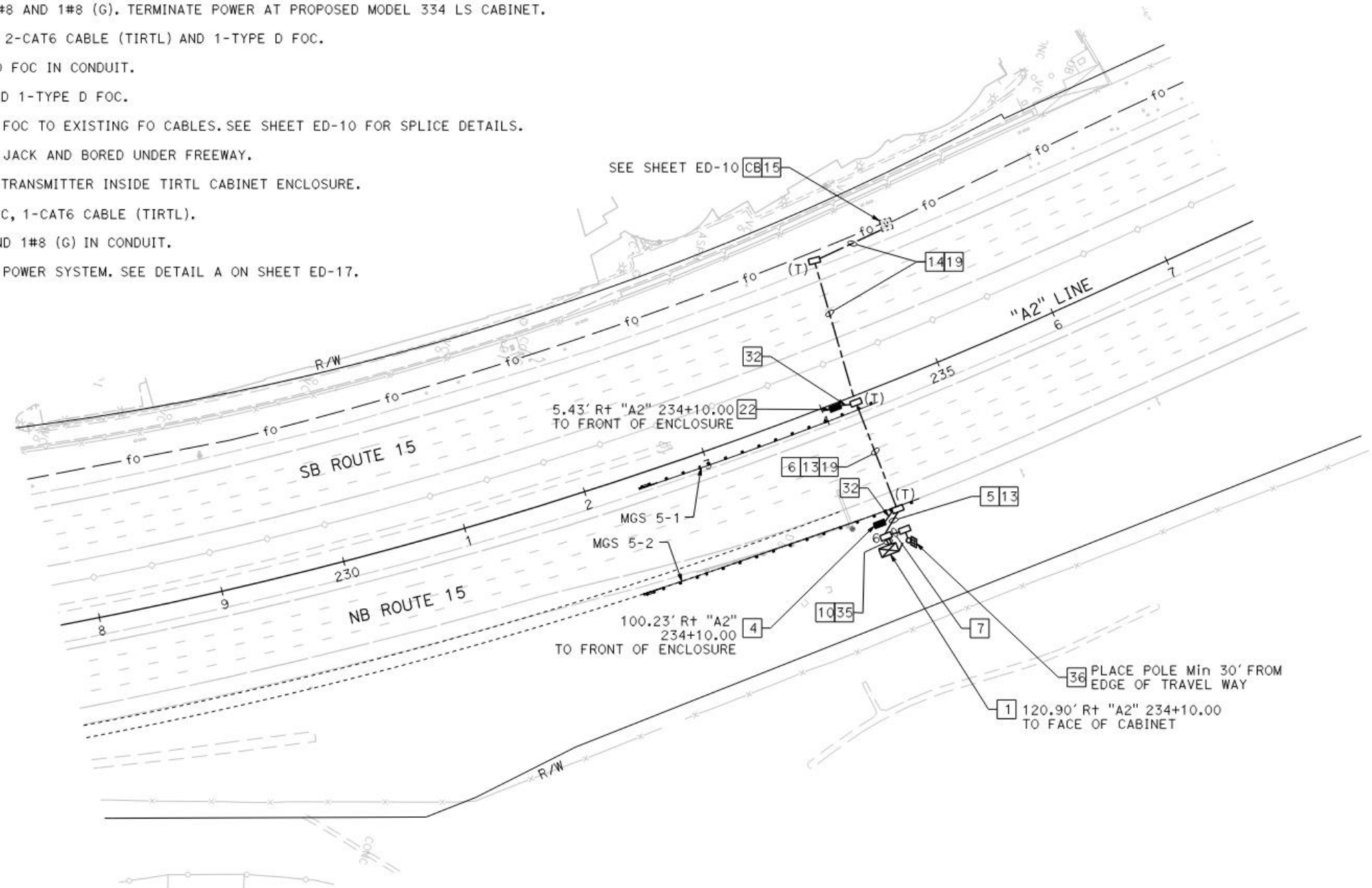
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED-D
 DESIGNED BY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS.
- INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- INSTALL TYPE D FOC IN CONDUIT.
- INSTALL 3"C AND 1-TYPE D FOC.
- SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-10 FOR SPLICE DETAILS.
- CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- INSTALL TIRTL TRANSMITTER INSIDE TIRTL CABINET ENCLOSURE.
- INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	127	170

Joe R. De La Garza, Jr.
 REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868
 RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501

100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

TIRTL SYSTEM - LOCATION 5
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-7

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:45
 LAST REVISION 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEET E-24 FOR MORE INFORMATION.

LEGEND:

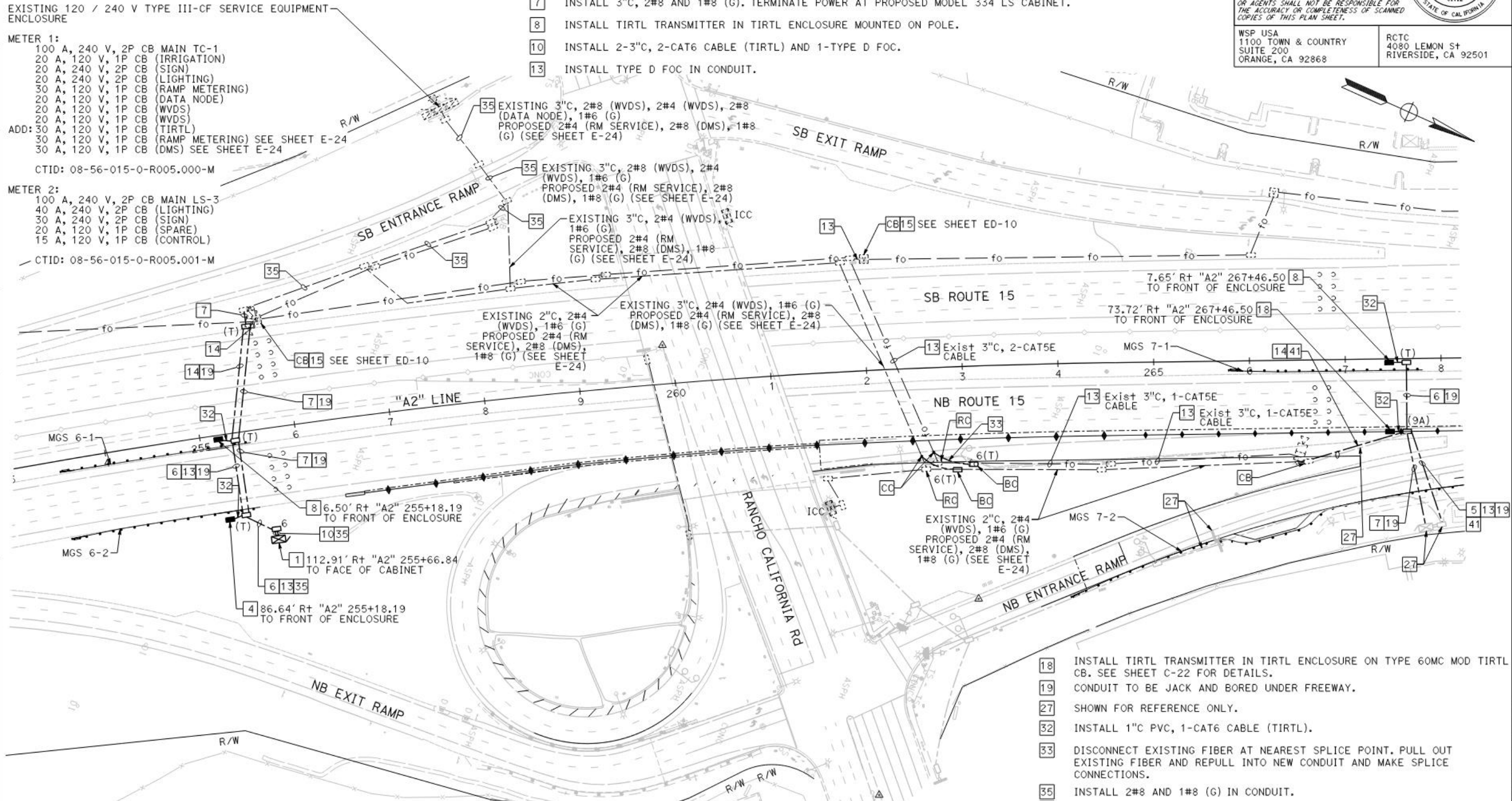
- FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS.
- INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- INSTALL TYPE D FOC IN CONDUIT.
- INSTALL 3"C, 2#8 (WVDS), 2#4 (WVDS), 2#8 (DATA NODE), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- EXISTING 3"C, 2#8 (WVDS), 2#4 (WVDS), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- EXISTING 3"C, 2#4 (WVDS), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- EXISTING 2"C, 2#4 (WVDS), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- EXISTING 3"C, 2#4 (WVDS), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- EXIST 3"C, 2-CAT5E CABLE
- EXIST 3"C, 1-CAT5E CABLE
- EXIST 3"C, 1-CAT5E CABLE
- EXISTING 2"C, 2#4 (WVDS), 1#6 (G) PROPOSED 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G) (SEE SHEET E-24)
- INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON TYPE 60MC MOD TIRTL CB. SEE SHEET C-22 FOR DETAILS.
- CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- SHOWN FOR REFERENCE ONLY.
- INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- DISCONNECT EXISTING FIBER AT NEAREST SPLICE POINT. PULL OUT EXISTING FIBER AND REPULL INTO NEW CONDUIT AND MAKE SPLICE CONNECTIONS.
- INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- INSTALL 1" INNERDUCT TO ENCLOSE PROPOSED FOC.
- INSTALL 3"C AND 1-TYPE D FOC.
- SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-10 FOR SPLICE DETAILS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	128	170

REGISTERED PROFESSIONAL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868

RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**TIRTL SYSTEM - LOCATION 6
 TIRTL SYSTEM - LOCATION 7
 MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY**

TIRTL SYSTEM
 SCALE: 1" = 50'
E-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 CONSULTANT FUNCTIONAL SUPERVISOR: MELISSA BRADY
 CHECKED BY: MARLO MAYNIGO, JOE DE LA GARZA
 DESIGNED BY: [blank]
 REVISED BY: [blank]
 DATE REVISED: [blank]

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:46
 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

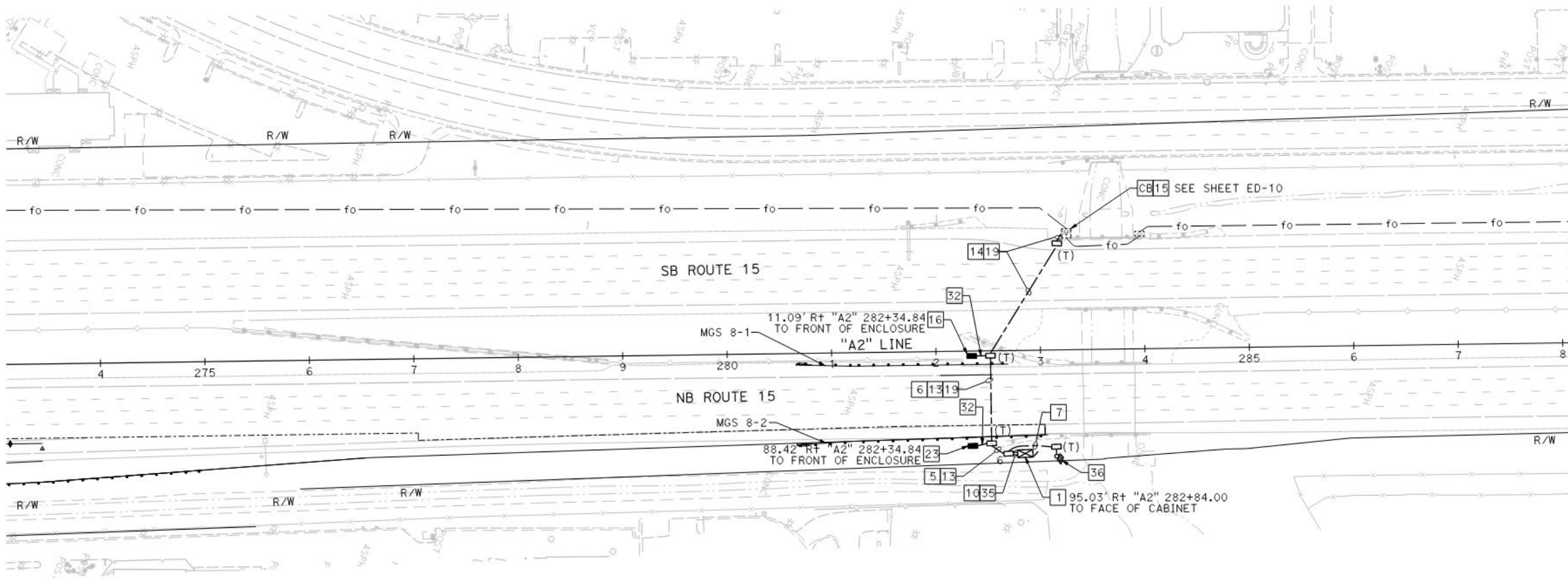
LEGEND:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. 13 INSTALL TYPE D FOC IN CONDUIT. 14 INSTALL 3"C AND 1-TYPE D FOC. 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-10 FOR SPLICE DETAILS. 16 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. | <ol style="list-style-type: none"> 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. 23 INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE. 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT. 36 INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. |
|--|---|



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	129	170

Joe R. De La Garza Jr.
 REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 WSP USA
 1100 TOWN & COUNTRY SUITE 200
 ORANGE, CA 92868
 RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



100% SUBMITTAL

NOT FOR CONSTRUCTION
AUGUST 2023

**TIRTL SYSTEM - LOCATION 8
MODIFYING FIBER OPTIC SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CHECKED BY
 MARLO MAYNIGO
 REVISED BY
 JOE DE LA GARZA
 DATE REVISED



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	130	170

REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23
 DATE: 08-04-23

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868

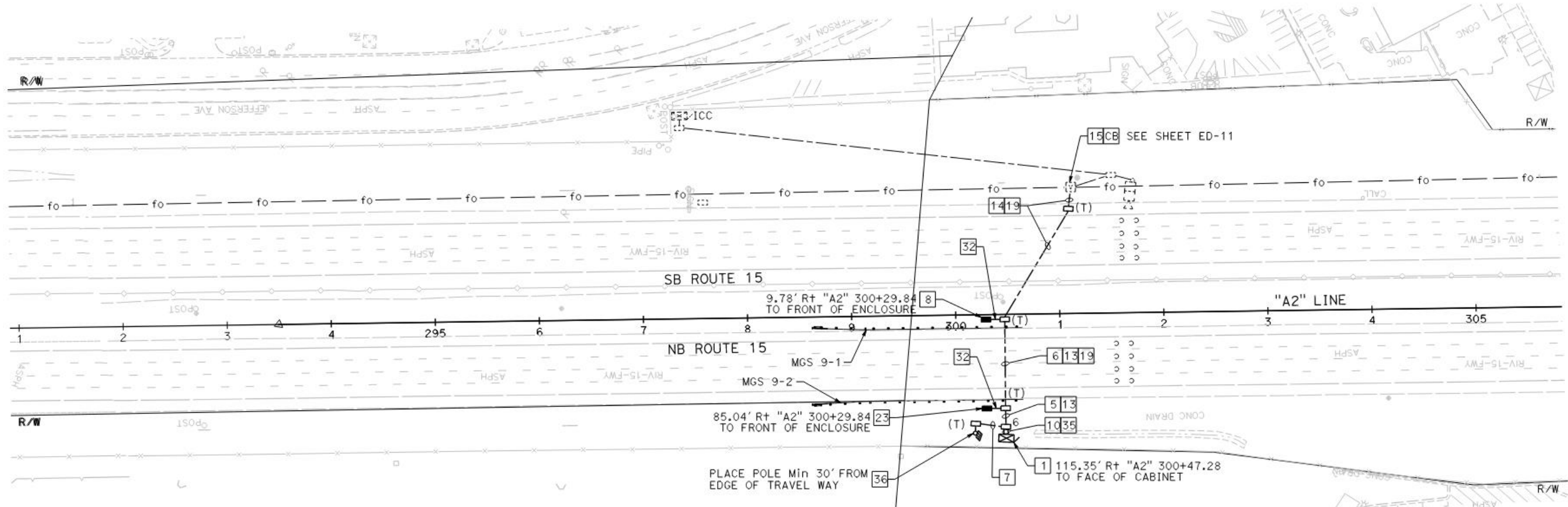
RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- | | |
|--|--|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3"C AND 1-TYPE D FOC. SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-11 FOR SPLICE DETAILS. | <ol style="list-style-type: none"> CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE. INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. |
|--|--|



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

TIRTL SYSTEM - LOCATION 9
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-10

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- | | |
|--|---|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE MOUNTED ON POLE. INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3"C AND 1-TYPE D FOC. SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-11 FOR SPLICE DETAILS. | <ol style="list-style-type: none"> CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS. INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. |
|--|---|



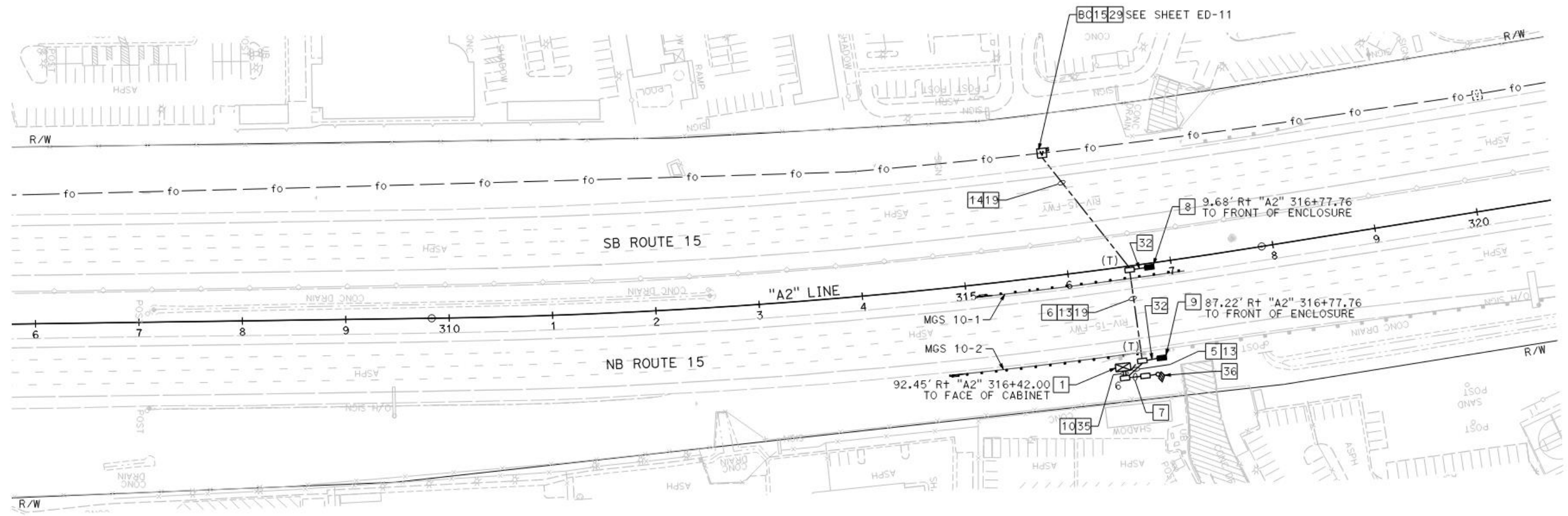
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	131	170

REGISTERED CIVIL ENGINEER: *Joe R. De La Garza Jr.*
 DATE: 08-04-23
 REGISTERED PROFESSIONAL ENGINEER: JOSE R DE LA GARZA JR.
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868	RCTC 4080 LEMON ST RIVERSIDE, CA 92501
---	--

REVISOR: MARLO MAYNIGO
 CHECKED BY: JOE DE LA GARZA
 SUPERVISOR: MELISSA BRADY
 DEPARTMENT OF TRANSPORTATION
 STATE OF CALIFORNIA



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

TIRTL SYSTEM - LOCATION 10
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-11

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEET E-25 FOR MORE INFORMATION.

LEGEND:

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. 4 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. 8 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. 13 INSTALL TYPE D FOC IN CONDUIT. 14 INSTALL 3"C AND 1-TYPE D FOC. | <ul style="list-style-type: none"> 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-11 FOR SPLICE DETAILS. 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. 22 INSTALL TIRTL TRANSMITTER INSIDE TIRTL CABINET ENCLOSURE. 26 INSTALL 2-TYPE D FOC IN CONDUIT. 27 SHOWN FOR REFERENCE ONLY. 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT. 40 POWER SPLICE 2#8 AND 1#8 (G) (TIRTL AT STA 352+22.28) WITH 2#8 AND 1#8 (G) (TIRTL AT STA 367+60.62). SPLICED 2#8 AND 1#8 (G) (TIRTL) TO CONNECT TO EXISTING TYPE III-C 120/240V SERVICE EQUIPMENT ENCLOSURE (ADDRESS: 41634 WINCHESTER RD.) |
|--|---|

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	132	170

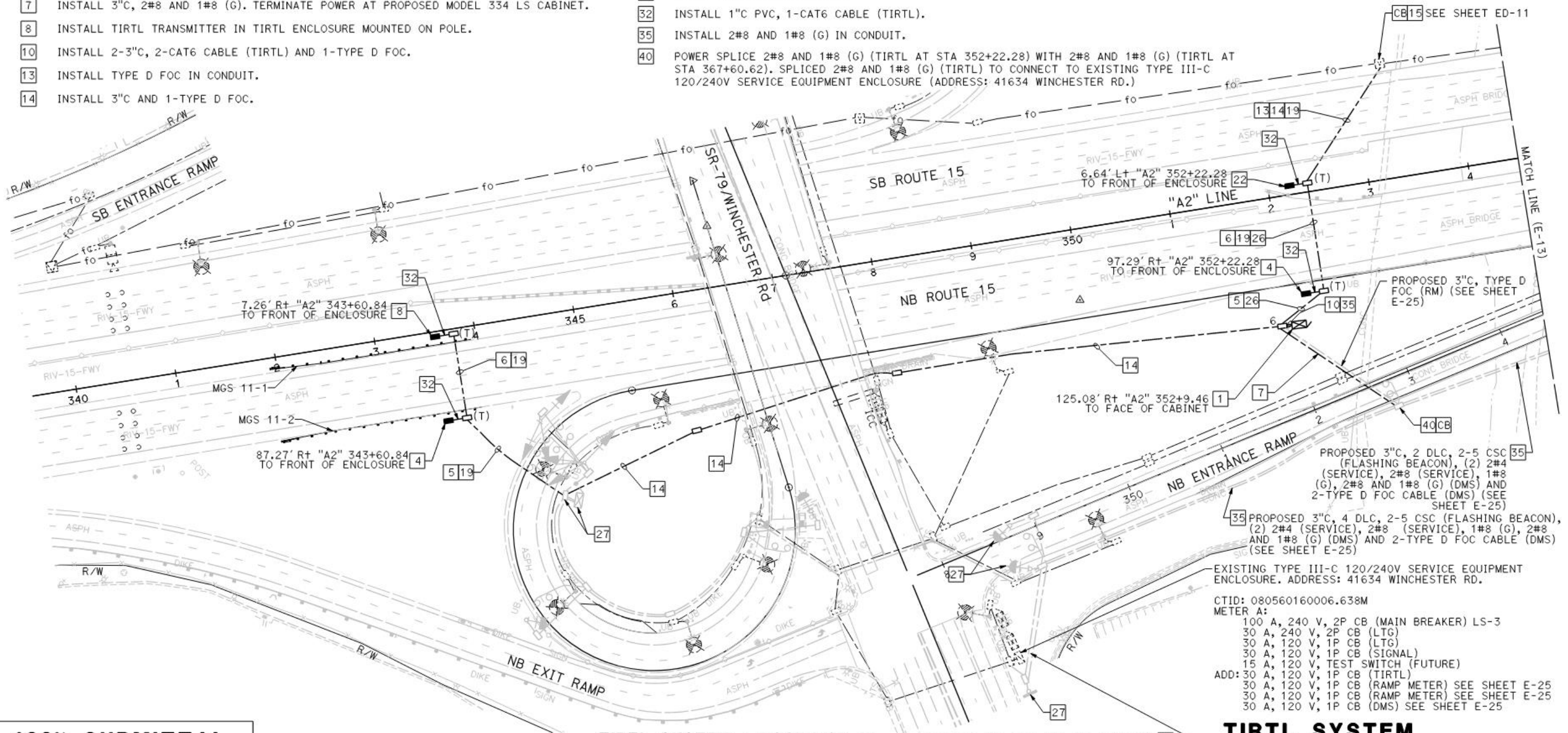
REGISTERED PROFESSIONAL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

REGISTERED CIVIL ENGINEER
 JOE R DE LA GARZA
 DATE: 08-04-23

PLANS APPROVAL DATE: _____

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868	RCTC 4080 LEMON ST RIVERSIDE, CA 92501
---	--



- PROPOSED 3"C, 2 DLC, 2-5 CSC (FLASHING BEACON), (2) 2#4 (SERVICE), 2#8 (SERVICE), 1#8 (G), 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS) (SEE SHEET E-25)
- PROPOSED 3"C, 4 DLC, 2-5 CSC (FLASHING BEACON), (2) 2#4 (SERVICE), 2#8 (SERVICE), 1#8 (G), 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS) (SEE SHEET E-25)
- EXISTING TYPE III-C 120/240V SERVICE EQUIPMENT ENCLOSURE. ADDRESS: 41634 WINCHESTER RD.
 CTID: 080560160006.638M
 METER A:
 100 A, 240 V, 2P CB (MAIN BREAKER) LS-3
 30 A, 240 V, 2P CB (LTG)
 30 A, 120 V, 1P CB (LTG)
 30 A, 120 V, 1P CB (SIGNAL)
 15 A, 120 V, TEST SWITCH (FUTURE)
 ADD: 30 A, 120 V, 1P CB (TIRTL)
 30 A, 120 V, 1P CB (RAMP METER) SEE SHEET E-25
 30 A, 120 V, 1P CB (RAMP METER) SEE SHEET E-25
 30 A, 120 V, 1P CB (DMS) SEE SHEET E-25

100% SUBMITTAL
NOT FOR CONSTRUCTION
AUGUST 2023

**TIRTL SYSTEM - LOCATION 11
TIRTL SYSTEM - LOCATION 12
MODIFYING FIBER OPTIC SYSTEM**
APPROVED FOR ELECTRICAL WORK ONLY

PROPOSED 3"C, 2#8 AND 1#8 (G) (DMS) AND 2-TYPE D FOC CABLE (DMS), (4) 2#4 (SERVICE), (2) 2#8 (SERVICE), 1#8 (G) (SEE SHEET E-25)

TIRTL SYSTEM
SCALE: 1" = 50'
E-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED/DESIGNED BY
 MARLO MAYNIGO
 CHECKED BY
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:47
 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEET E-25 FOR MORE INFORMATION.

LEGEND:

- | | |
|---|---|
| <ul style="list-style-type: none"> 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. 4 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. 8 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. 13 INSTALL TYPE D FOC IN CONDUIT. 14 INSTALL 3"C AND 1-TYPE D FOC. 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-11 FOR SPLICE DETAILS. | <ul style="list-style-type: none"> 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY. 27 SHOWN FOR REFERENCE ONLY. 29 INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS. 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT. |
|---|---|

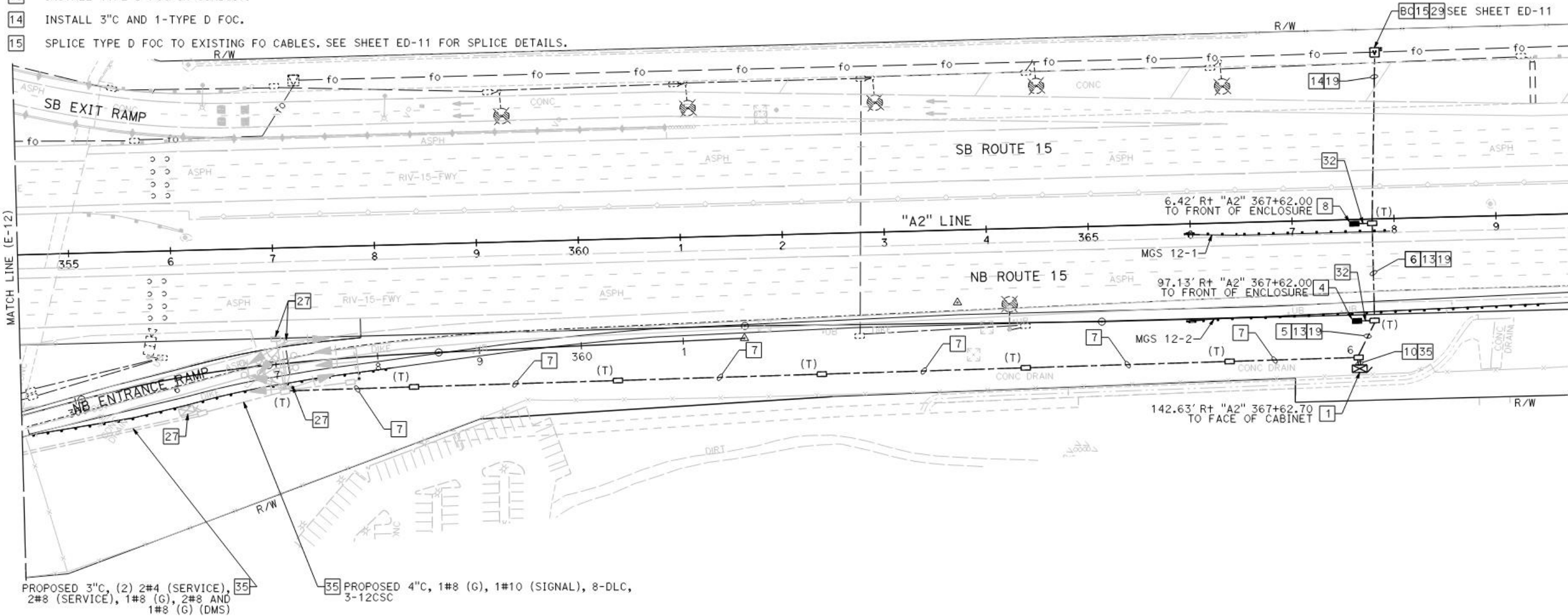
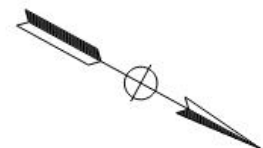
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	133	170

REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868	RCTC 4080 LEMON ST RIVERSIDE, CA 92501
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NOT FOR CONSTRUCTION
AUGUST 2023

**TIRTL SYSTEM - LOCATION 13
MODIFYING FIBER OPTIC SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 CHECKED BY
 DESIGNED BY
 CALCULATED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED
 MELISSA BRADY



NOTES:

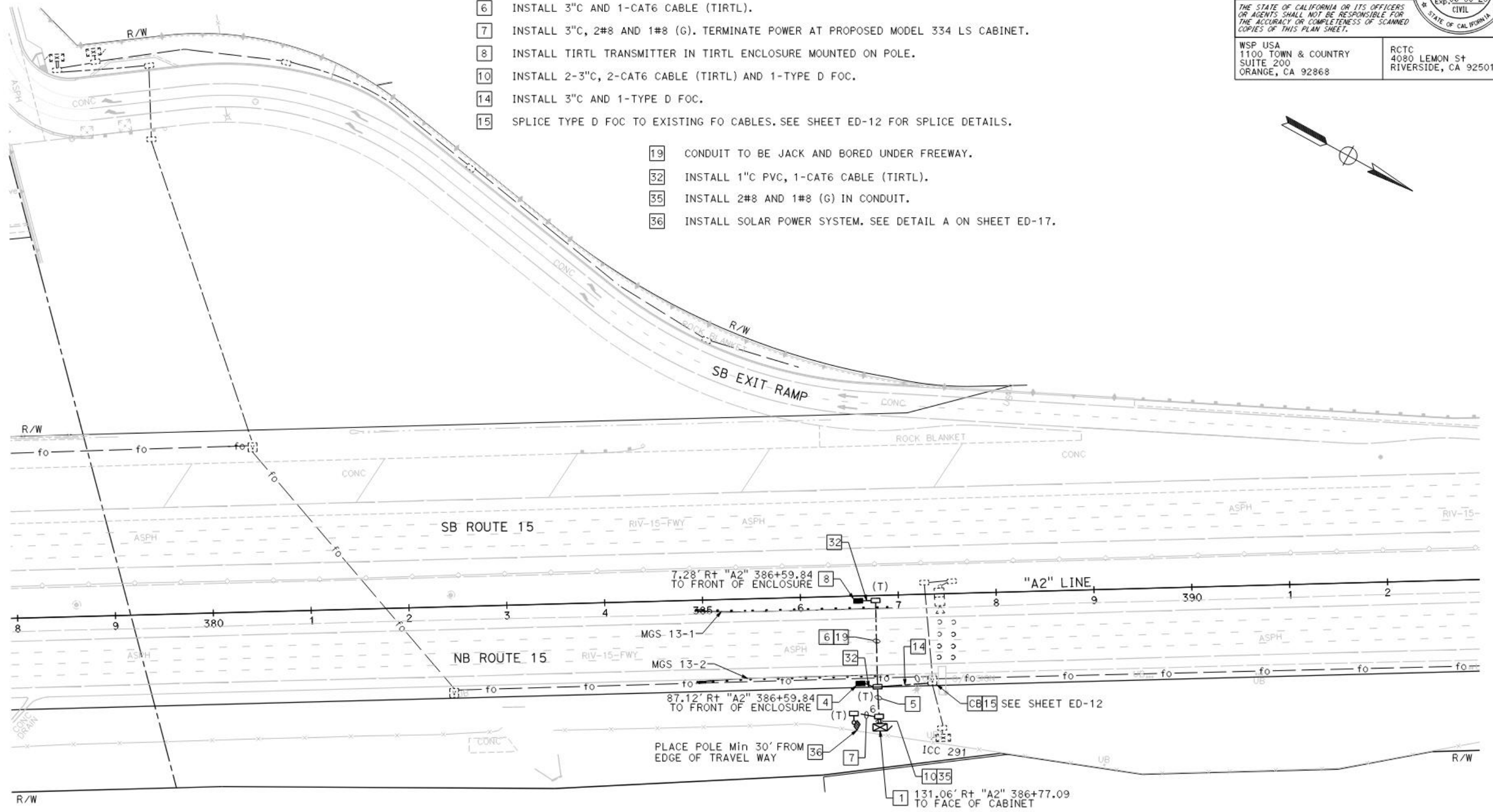
- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS.
- INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- INSTALL 3"C AND 1-TYPE D FOC.
- SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-12 FOR SPLICE DETAILS.
- CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	134	170

Joe R. De La Garza Jr.
 REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
 WSP USA
 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868
 RCTC
 4080 LEMON ST RIVERSIDE, CA 92501



100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**TIRTL SYSTEM - LOCATION 14
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-14

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:48
 LAST REVISION 00-00-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR MELISSA BRADY
 CALCULATED-DRAWN BY MARLO MAYNIGO
 CHECKED BY JOE DE LA GARZA
 REVISED BY DATE REVISED

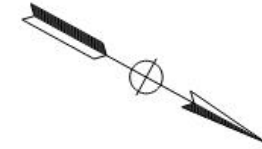


NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

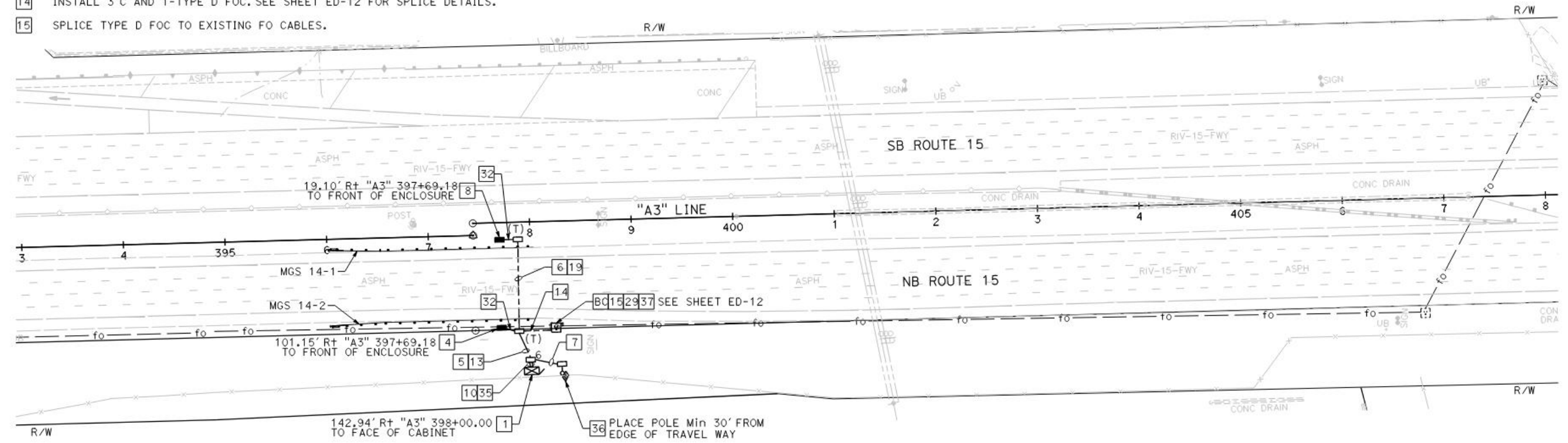
- | | |
|--|--|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. INSTALL 3" C AND 2-CAT6 CABLE (TIRTL). INSTALL 3" C AND 1-CAT6 CABLE (TIRTL). INSTALL 3" C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. INSTALL 2-3" C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3" C AND 1-TYPE D FOC. SEE SHEET ED-12 FOR SPLICE DETAILS. SPLICE TYPE D FOC TO EXISTING FO CABLES. | <ol style="list-style-type: none"> CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS. INSTALL 1" C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. CONTRACTOR TO DISCONNECT FIBER AT NEAREST SPLICE POINT AND PULL BACK TO NEW SPLICE LOCATION. AFTER NEW SPLICE IS CONNECTED, REPULL FIBER BACK TO NEAREST SPLICE POINT AND RECONNECT TO WORKING COMMUNICATIONS. |
|--|--|



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	135	170

Joe R. De La Garza Jr.
 REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 PLANS APPROVAL DATE: _____
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR: MELISSA BRADY
 CALCULATED/DESIGNED BY: _____
 CHECKED BY: _____
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY: _____
 DATE REVISED: _____



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 NOT FOR CONSTRUCTION
 AUGUST 2023

**TIRTL SYSTEM - LOCATION 15
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-15

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- | | |
|---|--|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. INSTALL 3"C AND 2-CAT6 CABLE (TIRTL). INSTALL 3"C AND 1-CAT6 CABLE (TIRTL). INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE. INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3"C AND 1-TYPE D FOC. SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-12 FOR SPLICE DETAILS. | <ol style="list-style-type: none"> CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. |
|---|--|

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	136	170

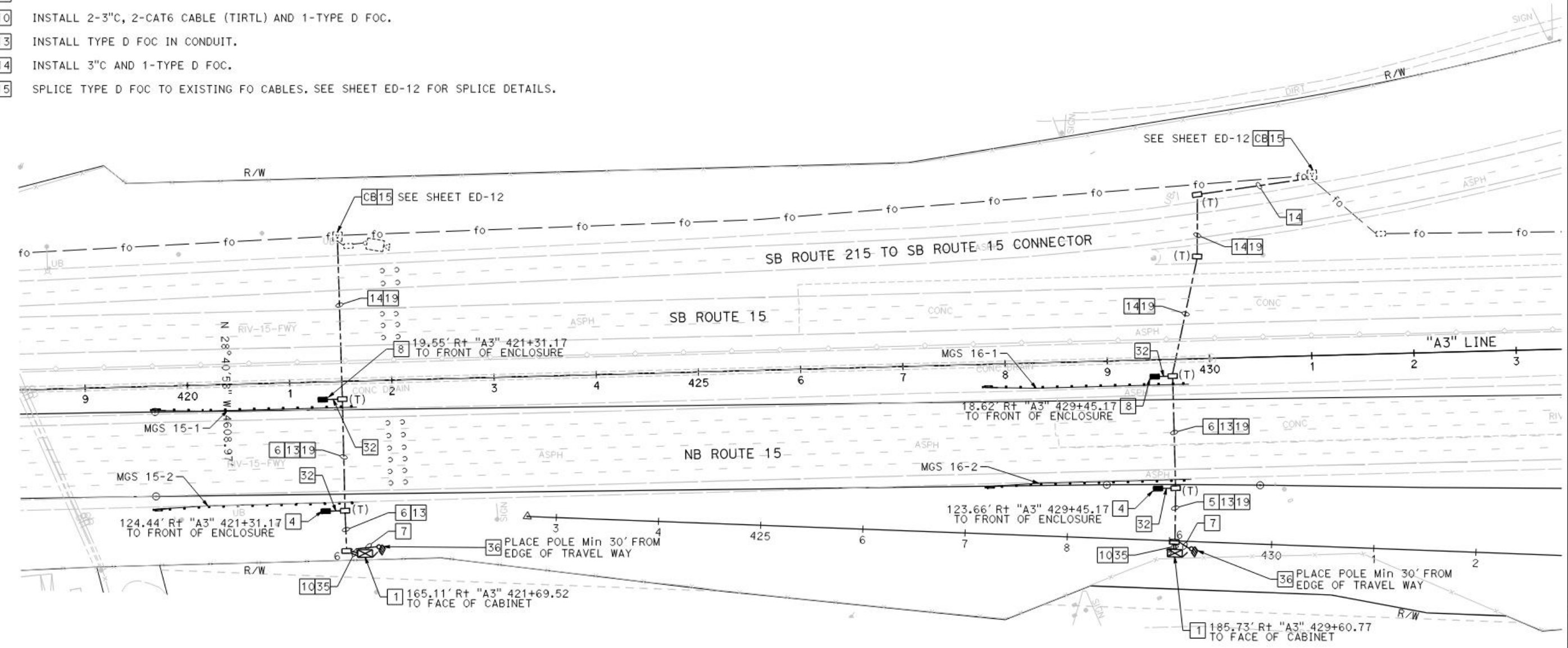
REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23
 DATE: 08-04-23

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AUGUST 2023

**TIRTL SYSTEM - LOCATION 16
TIRTL SYSTEM - LOCATION 17
MODIFYING FIBER OPTIC SYSTEM**
APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM

SCALE: 1" = 50'

E-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CHECKED BY
 MARLO MAYNIGO
 REVISOR
 JOE DE LA GARZA
 DATE REVISED



NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. FOR PROPOSED MGS, SEE SHEET C-21.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	137	170

REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

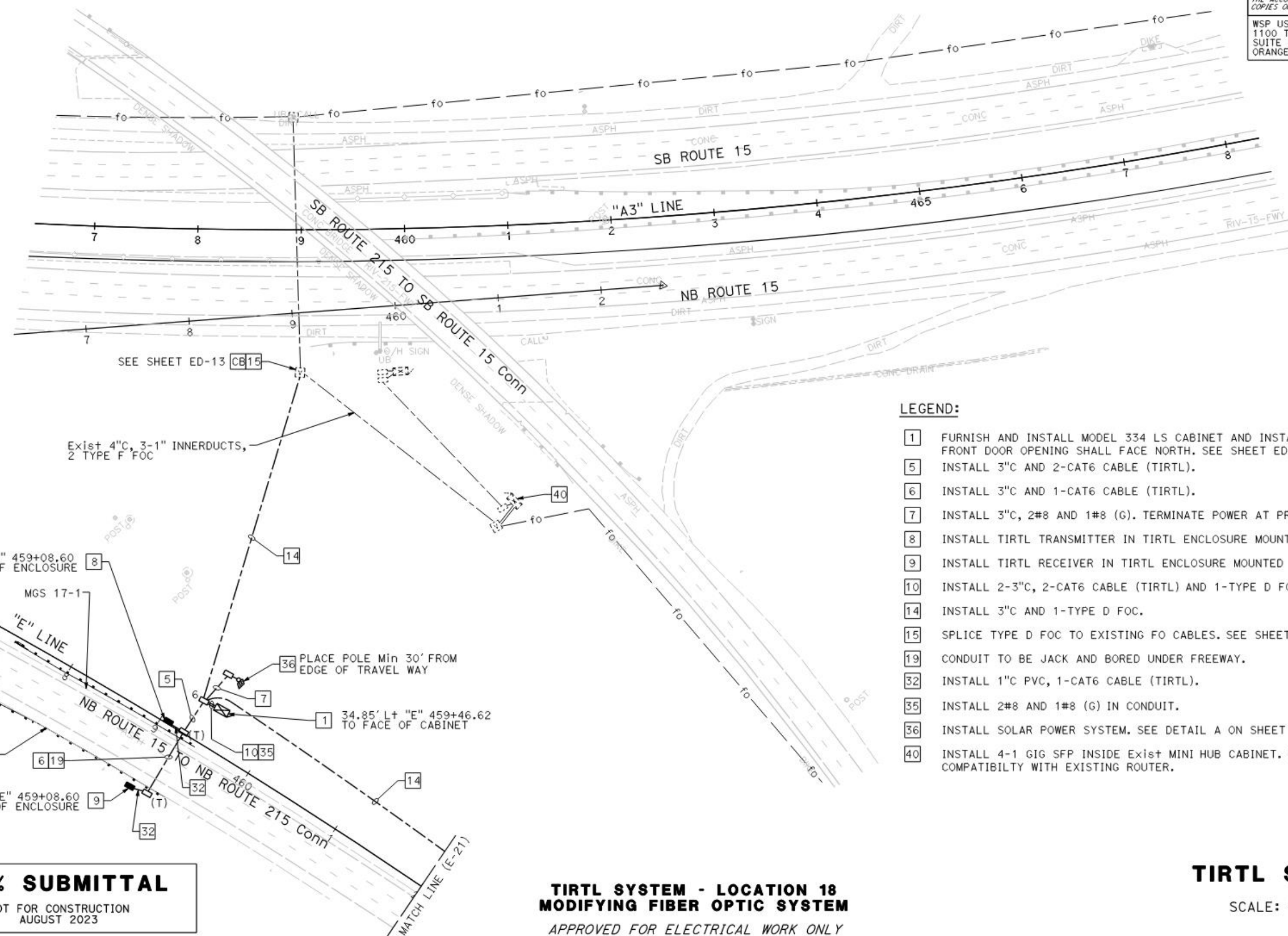
08-04-23
 DATE

PLANS APPROVAL DATE

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RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



LEGEND:

- 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- 8 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- 9 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- 14 INSTALL 3"C AND 1-TYPE D FOC.
- 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-13 FOR SPLICE DETAILS.
- 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- 36 INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17.
- 40 INSTALL 4-1 GIG SFP INSIDE Exist MINI HUB CABINET. CONTRACTOR TO CONFIRM COMPATIBILITY WITH EXISTING ROUTER.

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 AUGUST 2023

**TIRTL SYSTEM - LOCATION 18
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

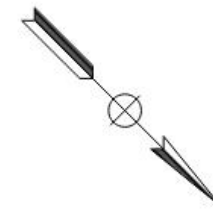
DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:46

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

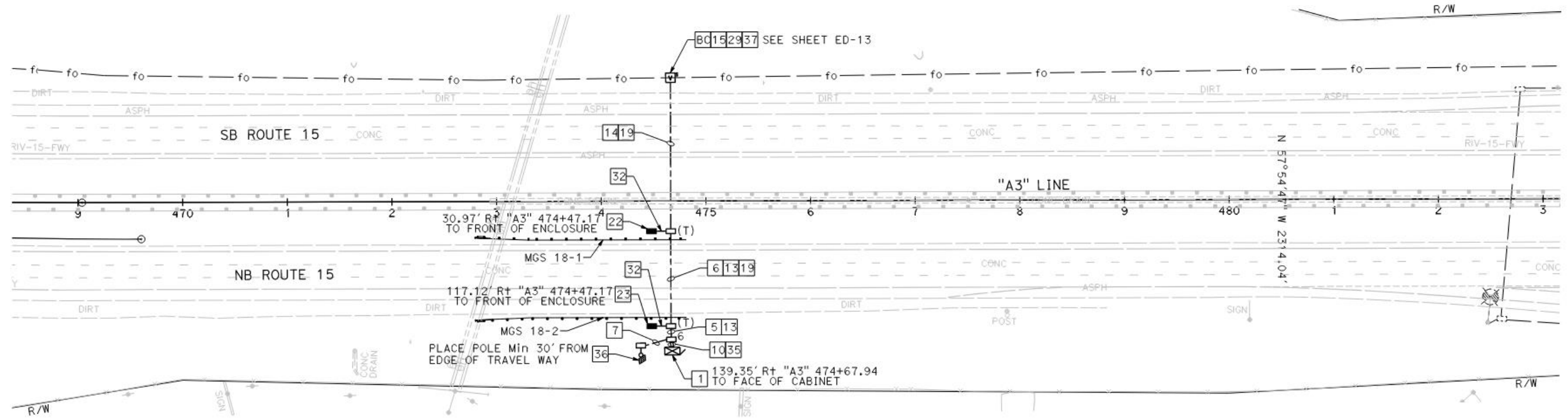
LEGEND:

- | | |
|--|---|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL 3" C AND 2-CAT6 CABLE (TIRTL). INSTALL 3" C AND 1-CAT6 CABLE (TIRTL). INSTALL 3" C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL 2-3" C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3" C AND 1-TYPE D FOC. SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-13 FOR SPLICE DETAILS. | <ol style="list-style-type: none"> CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL TIRTL TRANSMITTER INSIDE TIRTL CABINET ENCLOSURE. INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE. INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS. INSTALL 1" C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. CONTRACTOR TO DISCONNECT FIBER AT NEAREST SPLICE POINT AND PULL BACK TO NEW SPLICE LOCATION. AFTER NEW SPLICE IS CONNECTED, REPULE FIBER BACK TO NEAREST SPLICE POINT AND RECONNECT TO WORKING COMMUNICATIONS. |
|--|---|



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	138	170
REGISTERED CIVIL ENGINEER <i>Joe R. De La Garza Jr.</i> DATE: 08-04-23			REGISTERED PROFESSIONAL ENGINEER JOSE R DE LA GARZA JR No. C59366 Exp. 06-30-25 CIVIL STATE OF CALIFORNIA		
PLANS APPROVAL DATE					
WSP USA 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868			RCTC 4080 LEMON ST RIVERSIDE, CA 92501		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 CONSULTANT FUNCTIONAL SUPERVISOR: MELISSA BRADY
 CHECKED BY: MARLO MAYNIGO
 DESIGNED BY: JOE DE LA GARZA
 REVISED BY: DATE REVISED:



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 AUGUST 2023

**TIRTL SYSTEM - LOCATION 19
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-18

NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- 4 INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS.
- 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- 14 INSTALL 3"C AND 1-TYPE D FOC.
- 15 SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-13 FOR SPLICE DETAILS.
- 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- 22 INSTALL TIRTL TRANSMITTER INSIDE TIRTL CABINET ENCLOSURE.
- 20 EXISTING 3"C, 1-TYPE D FOC. INSTALL NEW 1-TYPE D FOC.
- 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	139	170

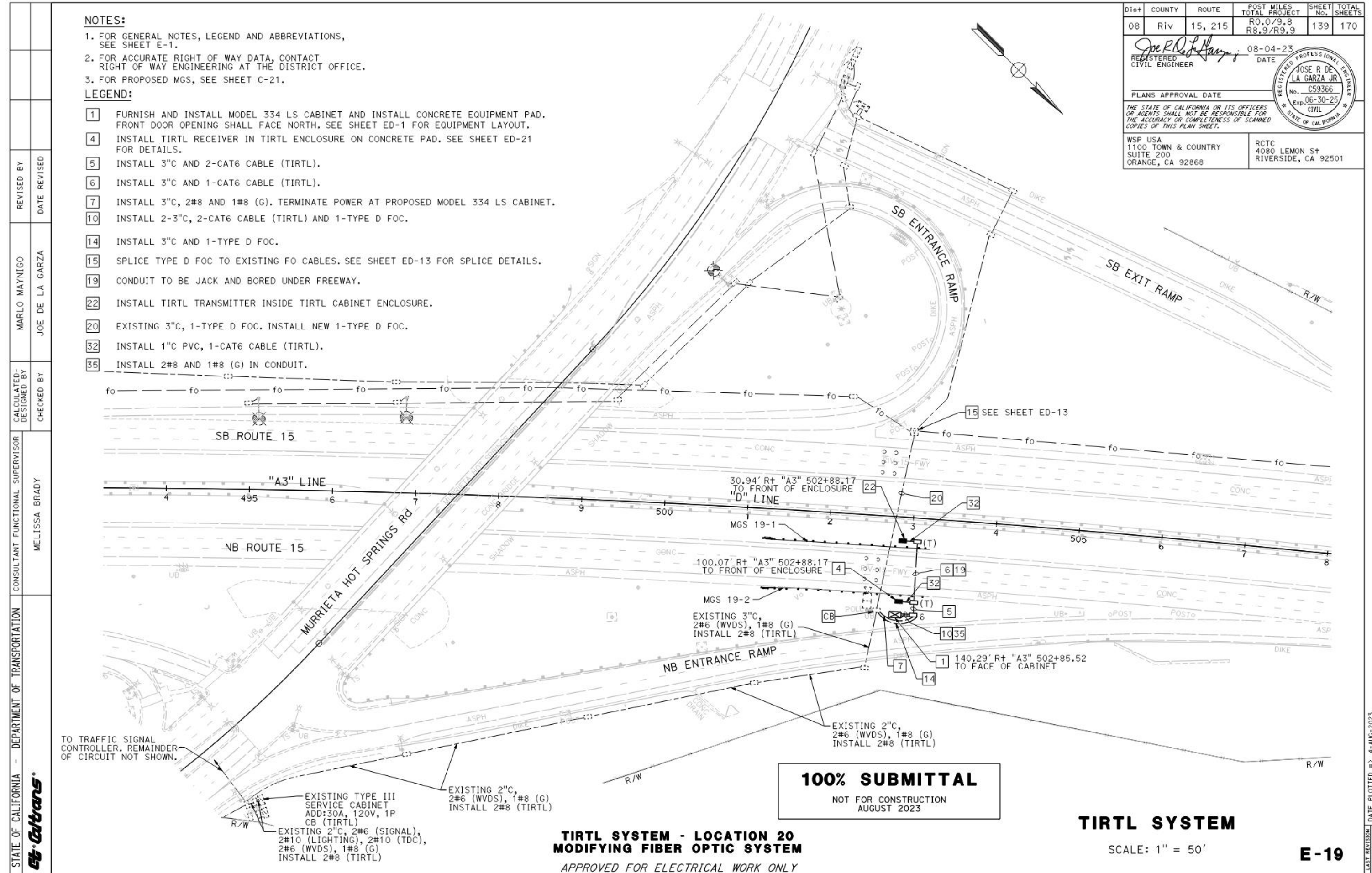
REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23
 DATE: 08-04-23

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 AUGUST 2023

TIRTL SYSTEM - LOCATION 20
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-19

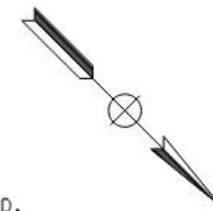
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED-DESIGNED BY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- | | |
|--|---|
| <ol style="list-style-type: none"> FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT. INSTALL 3" C AND 2-CAT6 CABLE (TIRTL). INSTALL 3" C AND 1-CAT6 CABLE (TIRTL). INSTALL 3" C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET. INSTALL 2-3" C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC. INSTALL TYPE D FOC IN CONDUIT. INSTALL 3" C AND 1-TYPE D FOC. SPLICE TYPE D FOC TO EXISTING FO CABLES. SEE SHEET ED-13 FOR SPLICE DETAILS. | <ol style="list-style-type: none"> INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON CONCRETE PAD. SEE SHEET ED-21 FOR DETAILS. CONDUIT TO BE JACK AND BORED UNDER FREEWAY. INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE. INSTALL 1" C PVC, 1-CAT6 CABLE (TIRTL). INSTALL 2#8 AND 1#8 (G) IN CONDUIT. INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17. |
|--|---|



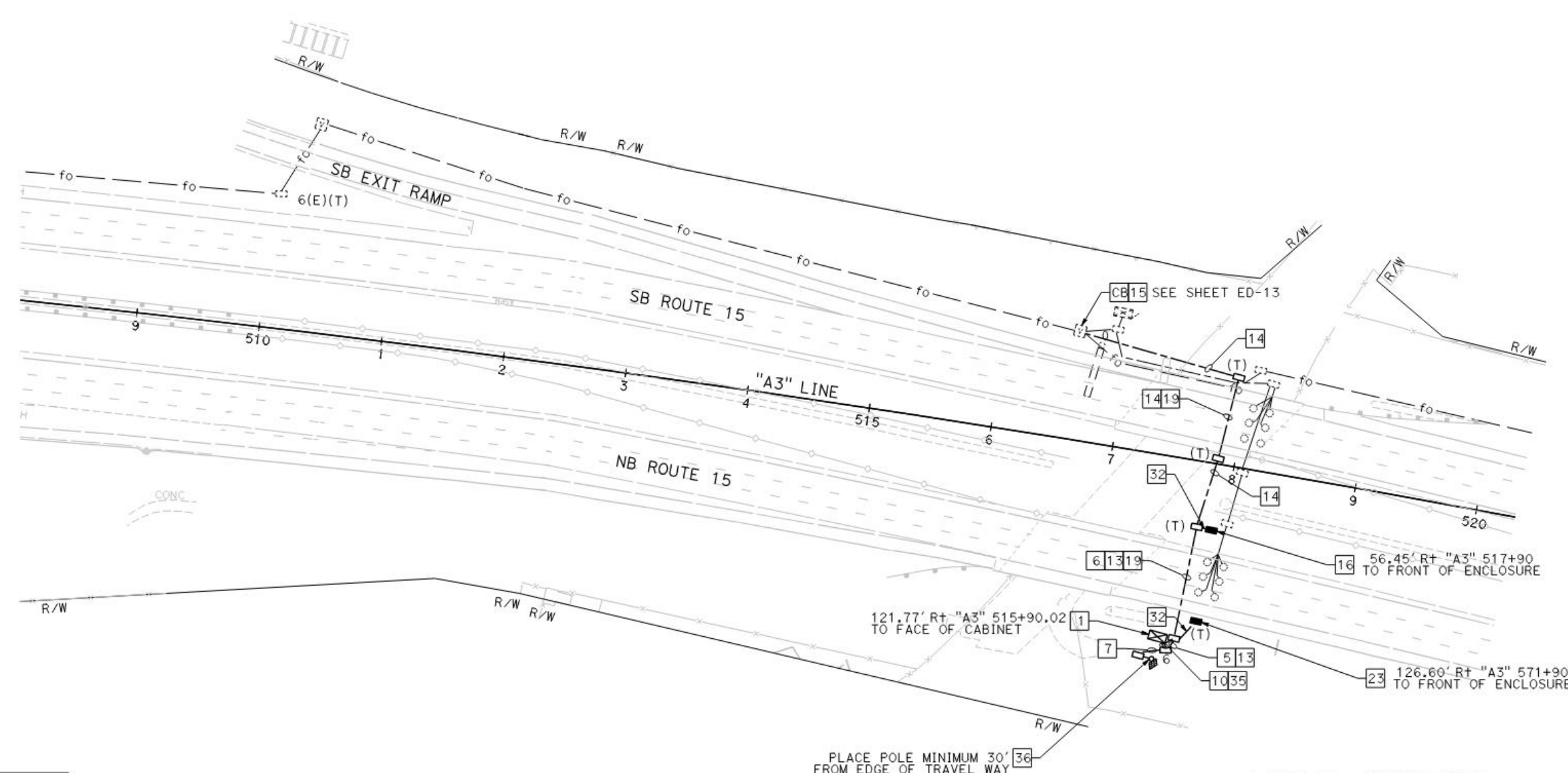
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	140	170

REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23
 DATE: 08-04-23

WSP USA
 1100 TOWN & COUNTRY
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RCTC
 4080 LEMON ST
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 AUGUST 2023

TIRTL SYSTEM - LOCATION 21
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-20

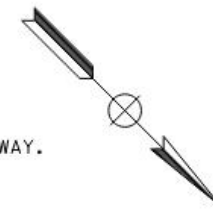
NOTES:

1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
3. FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- 1 FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- 3 INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON TYPE 60MC MOD TIRTL CB. SEE SHEET C-22 FOR DETAILS.
- 5 INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- 6 INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- 7 INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.
- 10 INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.

- 13 INSTALL TYPE D FOC IN CONDUIT.
- 14 INSTALL 3"C AND 1-TYPE D FOC.
- 19 CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- 21 INSTALL WIRELESS MODEM IN CABINET.
- 23 INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE.
- 29 INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS.
- 32 INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- 35 INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- 36 INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17



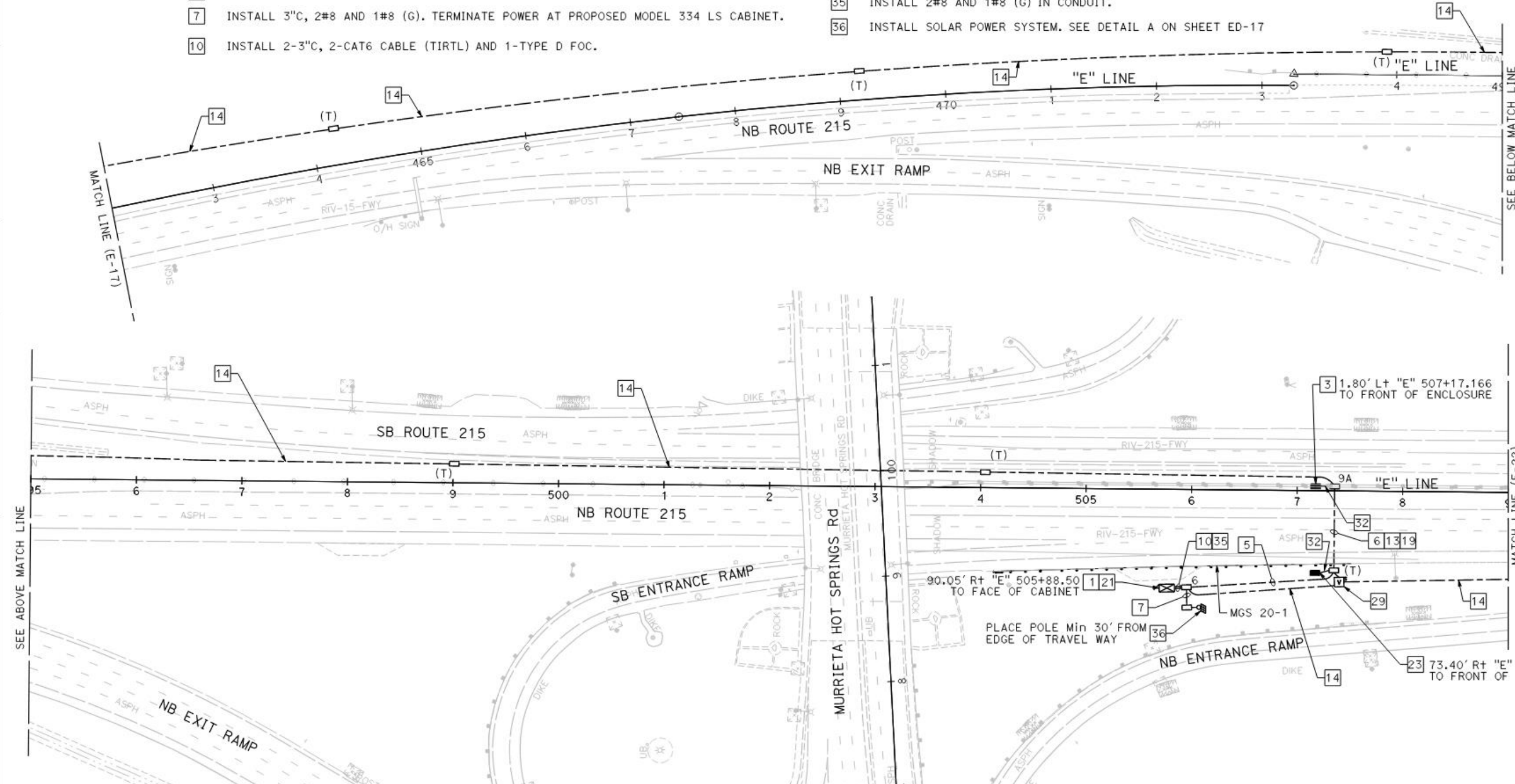
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	141	170

REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23
 DATE: 08-04-23

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TIRTL SYSTEM - LOCATION 22
MODIFYING FIBER OPTIC SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
St. Gobans
 CONSULTANT FUNCTIONAL SUPERVISOR
 MELISSA BRADY
 CALCULATED-DESIGNED BY
 CHECKED BY
 MARLO MAYNIGO
 JOE DE LA GARZA
 REVISED BY
 DATE REVISED

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.

LEGEND:

- FURNISH AND INSTALL MODEL 334 LS CABINET AND INSTALL CONCRETE EQUIPMENT PAD. FRONT DOOR OPENING SHALL FACE NORTH. SEE SHEET ED-1 FOR EQUIPMENT LAYOUT.
- INSTALL TIRTL TRANSMITTER IN TIRTL ENCLOSURE ON TYPE 60MC MOD TIRTL CB. SEE SHEET C-22 FOR DETAILS.
- INSTALL 3"C AND 2-CAT6 CABLE (TIRTL).
- INSTALL 3"C AND 1-CAT6 CABLE (TIRTL).
- INSTALL 3"C, 2#8 AND 1#8 (G). TERMINATE POWER AT PROPOSED MODEL 334 LS CABINET.

- INSTALL TIRTL RECEIVER IN TIRTL ENCLOSURE MOUNTED ON POLE.
- INSTALL 2-3"C, 2-CAT6 CABLE (TIRTL) AND 1-TYPE D FOC.
- INSTALL TYPE D FOC IN CONDUIT.
- INSTALL 3"C AND 1-TYPE D FOC.
- CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- INSTALL WIRELESS MODEM IN CABINET.
- INSTALL TIRTL RECEIVER INSIDE TIRTL CABINET ENCLOSURE.
- INSTALL SPLICE ENCLOSURE AND SPLICE TRAY. SEE CALTRANS STANDARD PLAN ES-8C FOR DETAILS.
- INSTALL 1"C PVC, 1-CAT6 CABLE (TIRTL).
- INSTALL 2#8 AND 1#8 (G) IN CONDUIT.
- INSTALL SOLAR POWER SYSTEM. SEE DETAIL A ON SHEET ED-17.

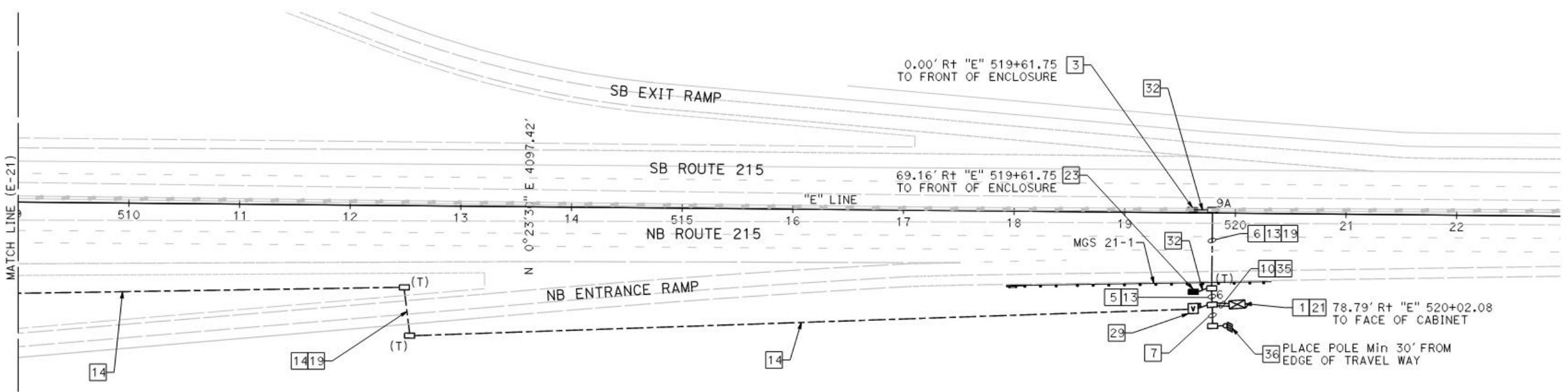


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	142	170

REGISTERED CIVIL ENGINEER
 DATE 08-04-23
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

WSP USA
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 AUGUST 2023

**TIRTL SYSTEM - LOCATION 23
 MODIFYING FIBER OPTIC SYSTEM**
 APPROVED FOR ELECTRICAL WORK ONLY

TIRTL SYSTEM
 SCALE: 1" = 50'
E-22

DATE PLOTTED => 4-AUG-2023
 TIME PLOTTED => 20:47
 LAST REVISION 00-00-00

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY SEE SHEETS E-2 AND E-5 FOR MORE INFORMATION.

CONDUCTOR AND CONDUIT SCHEDULE

CONDUCTOR DESIGNATION	RUN NUMBER							
	NUMBER OF CONDUCTORS							
	1	2	3	4	5	6	7	8
#8 SERVICE	-	-	-	-	-	-	-	-
#10 SIGNAL COMMON	1	1	1	1	1	1	2	
DLC	SURVEILLANCE	-	-	-	-	-	16(E)	16(E)
	DEMAND	-	3	6	3	9	9	9
	PASSAGE	-	1	2	1	3	3	3
	QUEUE	-	-	-	-	-	-	8
COUNT	-	-	-	-	-	-	-	
TOTAL DLC's PER RUN	-	4	8	4	12	28	36	
#8 GROUND	1	1	1	1	1	1	1	
12CSC RAMP SIGNAL	1	2	1	2	3	3	3	
5CSC FLASHING BEACON	-	-	-	-	-	-	2	
CCTV CABLE	-	-	-	-	-	-	1	
PERCENT FILL	18	19	16	19	19	29	21	
CONDUIT SIZE	2"(E)	3"	3"	3"	4"(E)	4"(E)	2-3"(E) 1-3"	

ALL CONDUCTORS/CABLES AND CONDUITS ARE NEW UNLESS INDICATED AS (E) - EXISTING.

LEGEND: (THIS SHEET ONLY)

- INSTALL DEPARTMENT-FURNISHED NEW MODEL 2070 CONTROLLER WITH TYPE 1C MODULE, DMS CONTROLLER, NEW ETHERNET SWITCH AND 12 SMFO FDU IN EXIST TYPE 334 CABINET.
- PROTECT IN PLACE EXISTING RMS FLASHING BEACON ASSEMBLY.
- FURNISH AND INSTALL NEW POLE FOUNDATION FOR RELOCATED TYPE 27-4-100 SIGNAL POLE.
- EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH 2-TYPE V PEC AND WITH THE FOLLOWING CIRCUIT BREAKERS:

METER A: TC-1 (CTID No. 08-56-015-0-003.576-S)
 100 A 240 V 2P CB (MAIN)
 30 A 120 V 1P CB (RAMP METERING LOCATION 1)
 20 A 120 V 1P CB (IRRIGATION CONTROLLER "B")
 20 A 120 V 1P CB (CCTV - DIGITAL CAMERA)
 ADD: 30 A 120 V 1P CB (DMS)
 30 A 120 V 1P CB (TIRTL)

METER B: LS-3 (CTID NO. 08-56-015-0-003.576-L)
 100 A 240 V 2P CB (MAIN)
 30 A 240 V 2P CB (LIGHTING) (N & S)
 30 A 240 V 2P CB (SIGN ILLUMINATION) (N & S)
 15 A 120 V 1P CB (TEST SWITCH - SIGN)

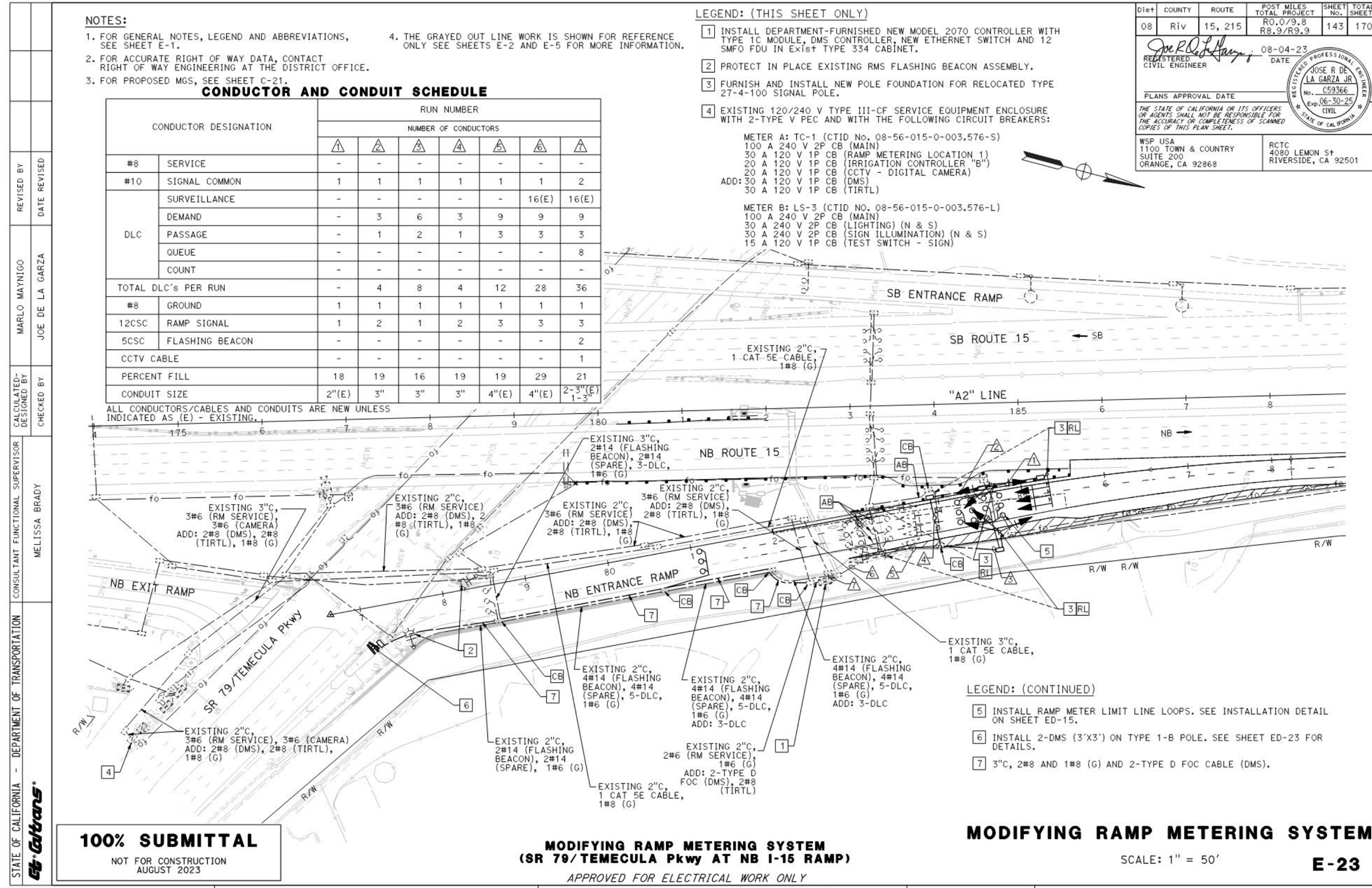
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	RO.0/9.8 R8.9/R9.9	143	170

08-04-23
 REGISTERED CIVIL ENGINEER
 JOSE R DE LA GARZA JR
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE

WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868

RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



LEGEND: (CONTINUED)

- INSTALL RAMP METER LIMIT LINE LOOPS. SEE INSTALLATION DETAIL ON SHEET ED-15.
- INSTALL 2-DMS (3'X3') ON TYPE 1-B POLE. SEE SHEET ED-23 FOR DETAILS.
- 3"C, 2#8 AND 1#8 (G) AND 2-TYPE D FOC CABLE (DMS).

100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**MODIFYING RAMP METERING SYSTEM
 (SR 79/ TEMECULA Pkwy AT NB I-15 RAMP)**

APPROVED FOR ELECTRICAL WORK ONLY

MODIFYING RAMP METERING SYSTEM

SCALE: 1" = 50'

E-23

DATE PLOTTED => 4-AUG-2023 TIME PLOTTED => 20:46

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT FUNCTIONAL SUPERVISOR: MELISSA BRADY
 CHECKED BY: JOE DE LA GARZA
 DESIGNED BY: MARLO MAYNIGO
 REVISIONS: REVISED BY: DATE REVISED

- NOTES:**
- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - FOR PROPOSED MGS, SEE SHEET C-21.
 - THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY SEE SHEET E-8 FOR MORE INFORMATION.

CONDUCTOR AND CONDUIT SCHEDULE

CONDUCTOR DESIGNATION	RUN NUMBER			
	NUMBER OF CONDUCTORS			
#10	1	1	1	2
SIGNAL COMMON	1	1	1	2
DLC	-	-	9	9
DEMAND	-	-	9	9
PASSAGE	-	-	3	3
QUEUE	-	-	-	7
TOTAL DLC'S PER RUN	-	-	12	19
#8	1	1	1	1
GROUND	1	1	1	1
#8	-	-	-	3
DMS	-	-	-	3
12CSC	1	1	3	3
RAMP SIGNAL	1	1	3	3
5CSC	-	-	-	2
FLASHING BEACON	-	-	-	2
CAT6 CABLE (TIRTL)	-	-	-	2*
12 SMFO (TIRTL)	-	-	-	1*
12 SMFO (DMS)	-	-	-	2
12 SMFO (RAMP METER)	-	-	-	1
PERCENT FILL	18	8	19	18
CONDUIT SIZE	2"	3"	4"	2-4"

*SEE SHEET E-8 FOR CABLE INSTALLATION

16 EXISTING 120 / 240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE

- METER 1:**
- 100 A, 240 V, 2P CB MAIN TC-1
 - 20 A, 120 V, 1P CB (IRRIGATION)
 - 20 A, 240 V, 2P CB (SIGN)
 - 20 A, 240 V, 2P CB (LIGHTING)
 - 30 A, 120 V, 1P CB (RAMP METERING)
 - 20 A, 120 V, 1P CB (DATA NODE)
 - 20 A, 120 V, 1P CB (WVDS)
 - 20 A, 120 V, 1P CB (WVDS)
 - ADD: 30 A, 120 V, 1P CB (RAMP METERING)
 - 30 A, 120 V, 1P CB (DMS)
- CTID: 08-56-015-0-R005.000-M

- METER 2:**
- 100 A, 240 V, 2P CB MAIN LS-3
 - 40 A, 240 V, 2P CB (LIGHTING)
 - 30 A, 240 V, 2P CB (SIGN)
 - 20 A, 120 V, 1P CB (SPARE)
 - 15 A, 120 V, 1P CB (CONTROL)
- CTID: 08-56-015-0-R005.001-M

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	R0.0/9.8 R8.9/R9.9	144	170

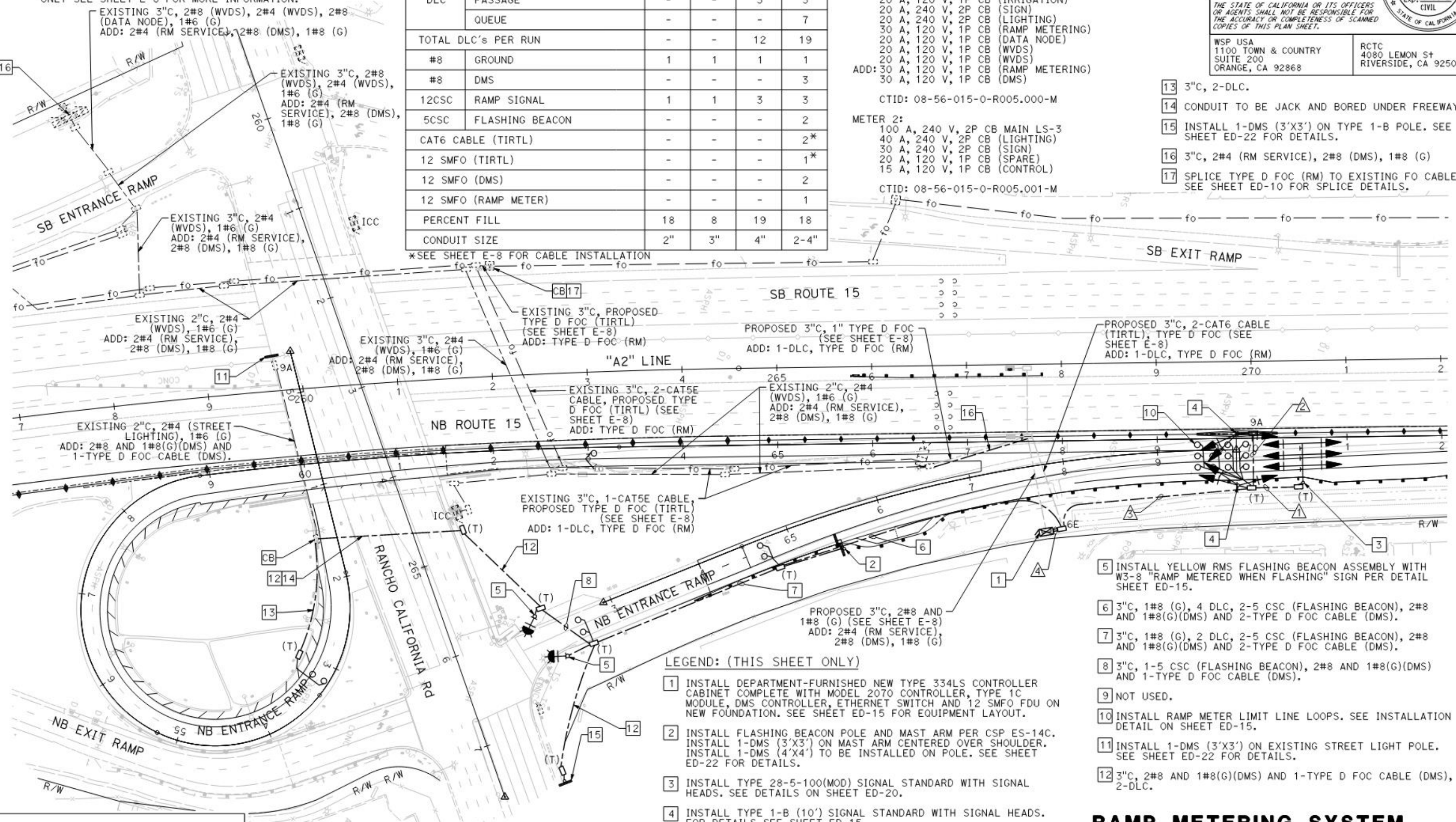
REGISTERED CIVIL ENGINEER: JOE R DE LA GARZA JR.
 No. C59366
 Exp. 06-30-25
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 08-04-23

WSP USA
 1100 TOWN & COUNTRY SUITE 200 ORANGE, CA 92868

RCTC
 4080 LEMON ST RIVERSIDE, CA 92501

- 3"C, 2-DLC.
- CONDUIT TO BE JACK AND BORED UNDER FREEWAY.
- INSTALL 1-DMS (3'X3') ON TYPE 1-B POLE. SEE SHEET ED-22 FOR DETAILS.
- 3"C, 2#4 (RM SERVICE), 2#8 (DMS), 1#8 (G)
- SPLICE TYPE D FOC (RM) TO EXISTING FO CABLES. SEE SHEET ED-10 FOR SPLICE DETAILS.



- LEGEND: (THIS SHEET ONLY)**
- INSTALL DEPARTMENT-FURNISHED NEW TYPE 334LS CONTROLLER CABINET COMPLETE WITH MODEL 2070 CONTROLLER, TYPE 1C MODULE, DMS CONTROLLER, ETHERNET SWITCH AND 12 SMFO FDU ON NEW FOUNDATION. SEE SHEET ED-15 FOR EQUIPMENT LAYOUT.
 - INSTALL FLASHING BEACON POLE AND MAST ARM PER CSP ES-14C. INSTALL 1-DMS (3'X3') ON MAST ARM CENTERED OVER SHOULDER. INSTALL 1-DMS (4'X4') TO BE INSTALLED ON POLE. SEE SHEET ED-22 FOR DETAILS.
 - INSTALL TYPE 28-5-100(MOD) SIGNAL STANDARD WITH SIGNAL HEADS. SEE DETAILS ON SHEET ED-20.
 - INSTALL TYPE 1-B (10') SIGNAL STANDARD WITH SIGNAL HEADS. FOR DETAILS SEE SHEET ED-15.

- INSTALL YELLOW RMS FLASHING BEACON ASSEMBLY WITH W3-8 "RAMP METERED WHEN FLASHING" SIGN PER DETAIL SHEET ED-15.
- 3"C, 1#8 (G), 4 DLC, 2-5 CSC (FLASHING BEACON), 2#8 AND 1#8(G)(DMS) AND 2-TYPE D FOC CABLE (DMS).
- 3"C, 1#8 (G), 2 DLC, 2-5 CSC (FLASHING BEACON), 2#8 AND 1#8(G)(DMS) AND 2-TYPE D FOC CABLE (DMS).
- 3"C, 1-5 CSC (FLASHING BEACON), 2#8 AND 1#8(G)(DMS) AND 1-TYPE D FOC CABLE (DMS).
- NOT USED.
- INSTALL RAMP METER LIMIT LINE LOOPS. SEE INSTALLATION DETAIL ON SHEET ED-15.
- INSTALL 1-DMS (3'X3') ON EXISTING STREET LIGHT POLE. SEE SHEET ED-22 FOR DETAILS.
- 3"C, 2#8 AND 1#8(G)(DMS) AND 1-TYPE D FOC CABLE (DMS), 2-DLC.

RAMP METERING SYSTEM

SCALE: 1" = 50'

E-24

100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

**RAMP METERING SYSTEM
 (RANCHO CALIFORNIA Rd AT NB I-15 RAMP)**

APPROVED FOR ELECTRICAL WORK ONLY

DATE PLOTTED => 4-AUG-2023 TIME PLOTTED => 20:46

NOTES:

- FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR PROPOSED MGS, SEE SHEET C-21.
- THE GRAYED OUT LINE WORK IS SHOWN FOR REFERENCE ONLY. SEE SHEET E-12 FOR MORE INFORMATION.

LEGEND: (THIS SHEET ONLY)

- INSTALL DEPARTMENT-FURNISHED NEW TYPE 334LS CONTROLLER CABINET COMPLETE WITH MODEL 2070 CONTROLLER, TYPE 1C MODULE, ETHERNET SWITCH AND 12 SMFO FDU ON NEW FOUNDATION. SEE SHEET ED-15 FOR EQUIPMENT LAYOUT.
- EXISTING TYPE III-C 120/240V SERVICE EQUIPMENT ENCLOSURE. ADDRESS: 41634 WINCHESTER RD.

CTID: 080560160006.638M

METER A:

- 100 A, 240 V, 2P CB (MAIN BREAKER) LS-3
- 30 A, 240 V, 2P CB (LTG)
- 30 A, 120 V, 1P CB (LTG)
- 30 A, 120 V, 1P CB (SIGNAL)
- 15 A, 120 V, TEST SWITCH (FUTURE)
- ADD: 30 A, 120 V, 1P CB (RAMP METER)
- 30 A, 120 V, 1P CB (RAMP METER)
- 30 A, 120 V, 1P CB (DMS)

METER B:

- 100 A, 240 V, 2P CB (MAIN BREAKER) TC-1
- 50 A, 120 V, 1P CB (SIGNAL)
- 20 A, 120 V, 1P CB (CITY CCTV)
- 15 A, 120 V, 1P CB (WVDS)
- 15 A, 120 V, 1P CB (FUTURE)
- 15 A, 120 V, 1P CB (TDC)

CONDUCTOR AND CONDUIT SCHEDULE

#	CONDUCTOR DESIGNATION	RUN NUMBER					
		NUMBER OF CONDUCTORS					
		1	2	3	4	5	6
#10	SIGNAL COMMON	1	1	2	1	1	2
	SURVEILLANCE	-	-	-	-	-	-
	DEMAND	-	6	6	-	6	6
DLC	PASSAGE	-	2	2	-	2	2
	QUEUE	-	-	4	-	-	4
	COUNT	-	-	-	-	-	-
TOTAL DLC'S PER RUN		-	8	12	-	8	12
#4	SERVICE	-	-	2	-	-	2
#8	SERVICE	-	-	2	-	2*	2
#8	GROUND	1	1	1	1	1	1
#8	DMS	-	-	-	-	-	2
12CSC	RAMP SIGNAL	1	2	2	1	3	3
5CSC	FLASHING BEACON	-	-	2	-	-	2
12 SMFO		-	-	1	-	-	2
PERCENT FILL		8	23	18	8	19	23
CONDUIT SIZE		3"	3"	2-3"	3"	4"	2-3"

*SEE SHEET E-13 FOR CABLE INSTALLATION

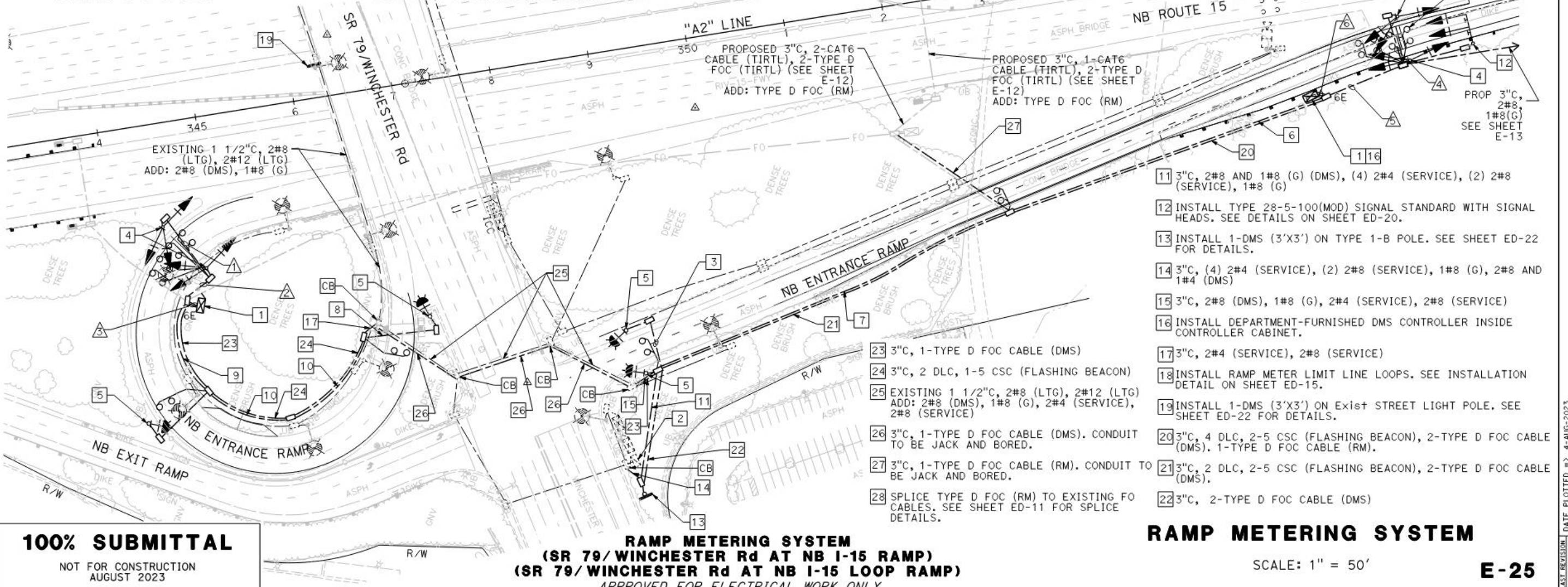
- 3"C, 5 CSC (FLASHING BEACON)
- INSTALL TYPE 1-B (10') SIGNAL STANDARD WITH SIGNAL HEADS. FOR DETAILS SEE SHEET ED-15.
- INSTALL RMS FLASHING BEACON ASSEMBLY WITH W3-8 "RAMP METERED WHEN FLASHING" SIGN PER DETAIL SHEET ED-15.
- 3"C, (2) 2#4 (SERVICE), 2#8 (SERVICE), 1#8 (G), 2#8 AND 1#8 (G) (DMS)
- 3"C, (2) 2#4 (SERVICE), 2#8 (SERVICE), 1#8 (G), 2#8 AND 1#8 (G) (DMS).
- 3"C, 1-5 CSC (FLASHING BEACON). CONDUIT TO BE JACK AND BORED.
- 3"C, 2#8 AND 1#8 (G) (DMS) AND 1-TYPE D FOC CABLE (DMS), 2#4 (SERVICE), 2#8 (SERVICE)
- 3"C, 2 DLC, 1-5 CSC (FLASHING BEACON), 2#4 (SERVICE), 2#8 (SERVICE)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	15, 215	RO.0/9.8 R8.9/R9.9	145	170

Joe R. De La Garza Jr.
 REGISTERED CIVIL ENGINEER
 DATE: 08-04-23
 PLANS APPROVAL DATE: 06-30-25
 No. C59366
 Exp. 06-30-25
 CIVIL
 STATE OF CALIFORNIA

WSP USA
 1100 TOWN & COUNTRY
 SUITE 200
 ORANGE, CA 92868

RCTC
 4080 LEMON ST
 RIVERSIDE, CA 92501



RAMP METERING SYSTEM
 SCALE: 1" = 50'
E-25

100% SUBMITTAL
 NOT FOR CONSTRUCTION
 AUGUST 2023

RAMP METERING SYSTEM
 (SR 79/WINCHESTER Rd AT NB I-15 RAMP)
 (SR 79/WINCHESTER Rd AT NB I-15 LOOP RAMP)
 APPROVED FOR ELECTRICAL WORK ONLY

Exhibit "B"

Detailed Diagram of the ITS system

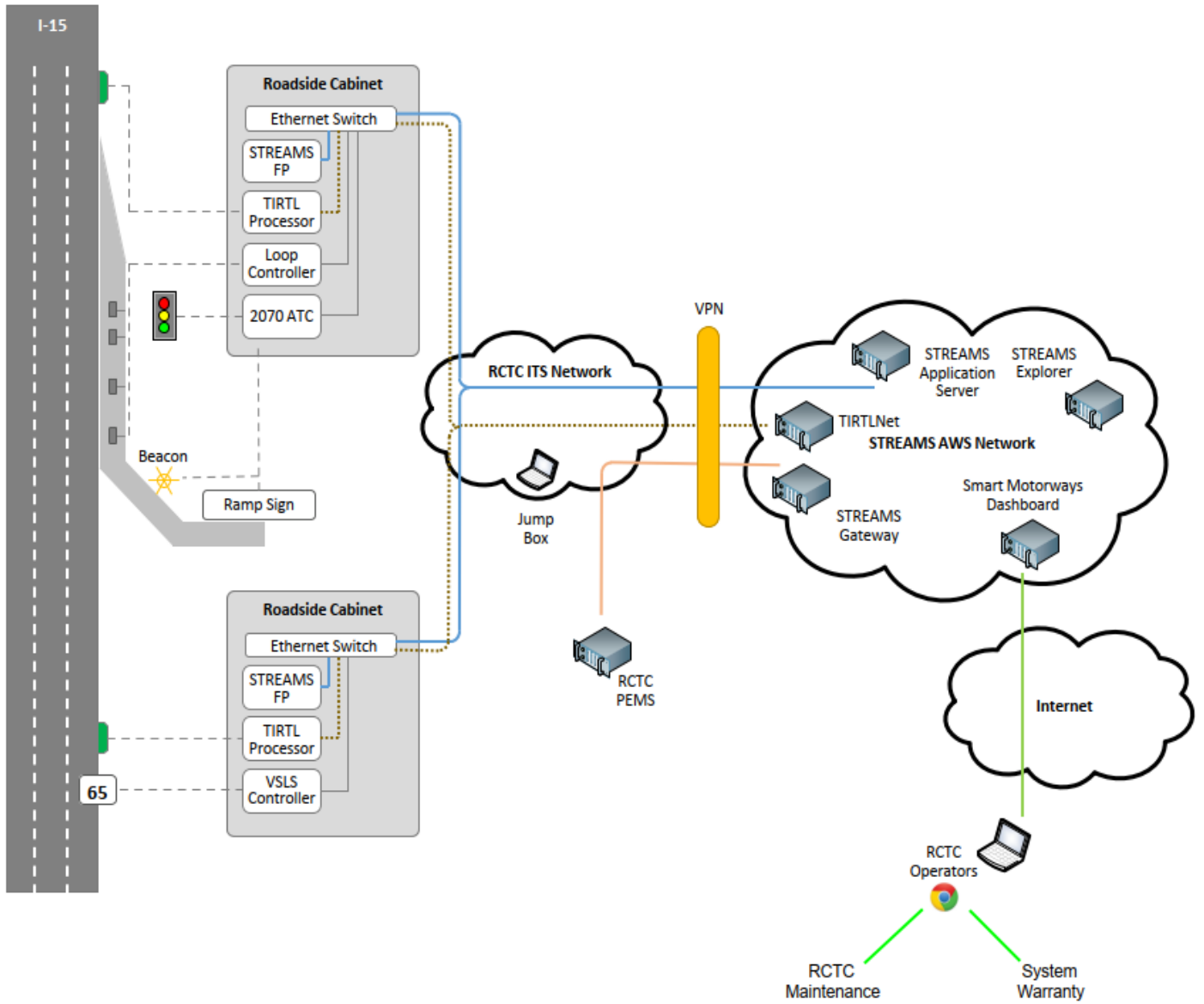


Exhibit “C”

Certificate of Insurance

[attached behind this page]

DRAFT

DRAFT



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/30/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).


PRODUCER Alliant Insurance Services, Inc. 18100 Von Karman Ave 10th Fl Irvine CA 92612 License#: 0C36861 RIVECOU-04	CONTACT NAME: Rita Carey PHONE (A/C No, Ext): 949 527 9819 E-MAIL ADDRESS: Rita.Carey@alliant.com	FAX (A/C No): 949-756-2713
	INSURER(S) AFFORDING COVERAGE	
	INSURER A : Homesite Insurance Company INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :	NAIC # 17221

COVERAGES **CERTIFICATE NUMBER:** 2045698495 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE	\$
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
							MED EXP (Any one person)	\$
							PERSONAL & ADV INJURY	\$
							GENERAL AGGREGATE	\$
							PRODUCTS - COMP/OP AGG	\$
								\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY <input type="checkbox"/> OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	\$
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ \$1,000,000			AMRSD00011-02	9/29/2023	9/29/2024	EACH OCCURRENCE	\$ 10,000,000
							AGGREGATE	\$ 10,000,000
								\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y / N N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE	OTH-ER
							E.L. EACH ACCIDENT	\$
							E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
As respects I-15 Smart Freeways Pilot Project Operations and Maintenance Agreement between the State of California, acting by and through its Department of Transportation, Caltrans, and the Riverside County Transportation Commission.

CERTIFICATE HOLDER California Department of Transportation Attn: Deputy District Traffic Operations 464 West Fourth Street San Bernardino CA 92401	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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RIVECOU-04

MJIMENEZ

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/30/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER License # 0C36861 Irvine-Alliant Insurance Services, Inc. 18100 Von Karman Ave 10th Fl Irvine, CA 92612	CONTACT NAME: Patricia K Guisler	
	PHONE (A/C, No, Ext): _____ FAX (A/C, No): _____ E-MAIL ADDRESS: pguisler@alliant.com	
INSURED RIVERSIDE COUNTY TRANSPORTATION COMMISSION 4080 LEMON ST, 3RD FLOOR RIVERSIDE, CA 92501	INSURER(S) AFFORDING COVERAGE INSURER A: Great American E & S Insurance Company	NAIC # 37532
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	


COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> GL DED: \$50,000 GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO JECT <input type="checkbox"/> LOC OTHER:	X		214510006	9/29/2023	9/29/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 0 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 0 PRODUCTS - COMP/OP AGG \$ 1,000,000
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB DED \$ RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY <input type="checkbox"/> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Additional Insured endorsement attached. Policy form does not contain a General Liability Aggregate. Notice of cancellation will be delivered only to the participating named insured as stated in Item 1 of the Participation Endorsement. Subject to policy terms, conditions and exclusions.

AS RESPECTS THE AGREEMENT BETWEEN RIVERSIDE COUNTY TRANSPORTATION COMMISSION AND CALIFORNIA DEPARTMENT OF TRANSPORTATION REGARDING THE I-15 SMART FREEWAY PILOT PROJECT OPERATIONS AND MAINTENANCE AGREEMENT BETWEEN THE STATE OF CALIFORNIA, ACTING BY AND THROUGH ITS DEPARTMENT OF TRANSPORTATION, CALTRANS AND THE RIVERSIDE COUNTY TRANSPORTATION COMMISSION. CALTRANS, ITS OFFICERS, AGENTS AND EMPLOYEES ARE NAMED AS ADDITIONAL INSURED WITH REGARD TO GENERAL LIABILITY ONLY. CALIFORNIA DEPARTMENT OF TRANSPORTATION IS NAMED AS ADDITIONAL INSURED AS RESPECTS GENERAL LIABILITY ONLY ARISING OUT OF THE OPERATIONS BY OR ON BEHALF OF THE NAMED INSURED.

CERTIFICATE HOLDER California Department of Transportation Attn: Deputy District Traffic Operations 464 West Fourth of Street San Bernardino, CA 92401	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
---	--



AGENCY CUSTOMER ID: RIVECOU-04
LOC #: _____

MJIMENEZ

ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

AGENCY Irvine-Alliant Insurance Services, Inc.		License # 0C36861	NAMED INSURED RIVERSIDE COUNTY TRANSPORTATION COMMISSION 4080 LEMON ST, 3RD FLOOR RIVERSIDE, CA 92501
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles:

Carriers on Policy:
Great American E&S Insurance Company
StarStone Specialty Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Additional Insured - Designated Person or Organization

This endorsement modifies insurance provided under the following:

SPECIAL LIABILITY POLICY FOR PUBLIC ENTITIES AND NON-PROFIT CORPORATIONS

Name of Person or Organization:
--

Any person or entity that the "Named Insured" has entered into a written agreement, prior to a loss, to provide defense, indemnity or additional insured protection.
--

The following is added to Section V. **PERSONS OR ENTITIES INSURED:**

Any person(s) or organization(s) listed in the Schedule above is an Additional Insured, but only as respects "Personal Injury" (including "Bodily Injury") and "Property Damage" arising, in whole or in part, out of the operations of the Named Insured. The inclusion of such Additional Insured shall not serve to increase the "Company's" Limit of Liability as specified in the participation endorsement of this Policy:

However, additional insured coverage provided by this insurance will not be broader than coverage required in the written agreement.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Primary and Non-Contributory Coverage Endorsement

This endorsement modifies insurance provided under the following:

SPECIAL LIABILITY POLICY FOR PUBLIC ENTITIES AND NON-PROFIT CORPORATIONS

The following is added to Section **VIII. COMMON POLICY CONDITIONS**:

If insurance similar to this insurance is held by a person or organization that is an additional insured on this policy, this insurance is primary to that other insurance. The "Company" shall not seek contribution from that other insurance for amounts payable under this insurance for liability arising out of the "Participating Named Insured's" ongoing operations performed for that person or organization under a written agreement.

However, the provisions of this endorsement do not apply to a person or organization unless the "Participating Named Insured" had a written agreement with that person or organization requiring:

- a. This insurance be primary insurance;
- b. They be an additional insured on this Policy; and
- c. The written agreement was entered into prior to the date the "Participating Named Insured's" operations for that person or organization commenced.

Exhibit “D”

ISSUE RESOLUTION LADDER

I-15 SMART FREEWAYS PILOT PROJECT OPERATIONS AND MAINTENANCE AGREEMENT			
ISSUE RESOLUTION LADDER			
RCTC		Caltrans	
LEVEL I - FIELD			
Operations	Maintenance	Operations	Maintenance
<i>Joie Edles Yanez</i>	<i>Joie Edles Yanez</i>	<i>Shaddy Gobran</i>	<ul style="list-style-type: none"> • <i>name (TBD)</i> Chad Slater – Area Maintenance Superintendent
<i>nJohn Tarascio</i> <i>Nisa Hester</i>	<i>Nisa Hester</i>	<i>Dirk Spaulding</i>	<ul style="list-style-type: none"> • <i>name (TBD)</i> Peter Acosta - Electrical Maintenance Superintendent
LEVEL II - PROJECT MANAGERS			
<i>David Lewis</i>		<i>Mourshad Haider</i>	
LEVEL III - SPONSORS			
<i>Erik Galloway</i>		<i>Thomas Ainsworth</i>	
LEVEL IV – EXECUTIVES (EOC)			
<i>Anne Mayer</i>		<i>Catalino A. Pinning III</i>	

Changes to representatives listed in Exhibit D can be made upon 30 days’ written notice to other party and do not require formal amendment.

AGENDA ITEM 6G

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee John Tarascio, Senior Capital Projects Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Quarterly Reporting of Contract Change Orders for Construction Contracts

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Receive and file the Quarterly Report of Contract Change Orders for Construction Contracts for the three months ended September 30, 2023.

BACKGROUND INFORMATION:

During the past quarter, July through September 2023, the Commission has had the following projects under construction:

1. Mid County Parkway (MCP) Placentia project
2. SR-71 / SR-91 Interchange Project
3. I-15 Railroad Canyon Interchange project
4. MVMF Platform and Track Expansion
5. SR-60 Truck Lanes Project
6. 15/91 Express Lanes Connector

DISCUSSION:

At the direction of the Executive Committee at its March 2021 meeting, a report will be filed each quarter listing the construction contract change orders that were issued in the previous quarter. The following table summarizes the Contract Change Orders that occurred in the third quarter (1st quarter of FY 2024/25).

Contractor Change Orders executed in the 3rd Quarter of CY 2023

Project	CCO No.	Description	Amount
MCP Placentia Project	CCO 52	Pull Boxes only within the Gore Area	\$77,543.00
	CCO 24-S1	Drainage Modifications	\$15,406.40
	CCO 53	Extension of Time (TRO)	\$90,200.00
	CCO 19-S1	Placing AC for Overside Drains (Small Areas)	\$3,417.32
	CCO 54	DLC Cables NB on Ramp & Signal Heads	\$11,950.38
	CCO 57	City Monument Signs	\$3,100.00
	CCO 59	Vandalism – Electrical work on Bridge	\$23,504.72
	CCO 33	Wireless Communication System	\$7,207.19
	CCO 58	Replace Stolen Fence along NB On Ramp	\$15,160.00
	CCO 18-S1	DS connection onto the private property	\$34,257.20
	CCO 55	Additional SWPPP Inspection	\$14,030.00
	CCO 45	Street Lights on RR Bridge	\$220,000.00
SR-71 / SR-91 Interchange Project	CCO 1	Maintain Traffic	\$250,000.00
	CCO 2	Maintain Electrical	\$50,000.00
	CCO 3	SWPPP Maintenance	\$97,600.00
	CCO 4	Trash Removal	\$75,000.00
	CCO 5	RTN Station (Survey)	\$95,000.00
	CCO 7	Environmental Bio Surveys, NRPP, and HMMP	\$25,000.00
	CCO 17	Repair Existing HMA	\$75,000.00
	CCO 10	Environmental Monitoring Biologist - full time	\$198,587.00
	CCO 11	Truck Haul	\$467,500.00
	CCO 18	Bent 3 CIDH - Differing Site Conditions	\$109,256.93
	CCO 8	Stage 1A K-rail VECF	(\$10,710.00)
		CCO 20	Drainage Change
I-15 Railroad Canyon Interchange Project	CCO 34-S1	Item Adjustments	\$43,228.78
	CCO 34-S2	Item Adjustments	\$4,350.00
	CCO 37	City Location 2 EVMWD Fire Hydrant Additional Work	\$9,450.00
	CCO 38	RFI 3, MSE Wall change	\$18,000.00
	CCO 57-S1	Fertilizer Applications, Supplemental	(\$2,740.00)
	CCO 88-S1	Add Freeway Markings to Railroad Canyon Rd	\$7,000.00
	CCO 89-S1	Drainage Remediations	\$9,000.00
	CCO 90-S1	Erosion Repair	\$9,746.00
	CCO 91	Weeding in Hydroseed Area	\$60,182.83
	CCO 92	Maintenance of Slopes Due to Weather Event	\$17,723.79
MVMF Platform and Track Expansion	CCO 4	Ped Crossing Reconstruction	\$128,624.00
	CCO 6	Ballast Depth and Gradation Modifications	\$205,400.00
	CCO 8	Platform Isolation	\$7,250.00
	CCO 9	Underdrain Cleanout Addition	\$1,189.00
SR-60 Truck Lanes Project	CCO 91	Concrete Jacking at EB STA 735+10 to STA 735+50 (Wildlife Crossing)	\$95,644.02
	CCO 89	Time Adjustment	\$24,390.00
15/91 Express Lanes Connector	CCO 24	Installation of Route Shields	\$90,000.00
	CCO 25	Purchase of Spare 400 AMP Service Cabinet	\$17,236.00
	CCO 26	Modify Channelizer Spacing Requirement	\$40,849.27
	CCO 27	DSC at Overhead Sign Foundation 7-1	\$8,894.00
	CCO 28	Pavement (EB SR 91 Pothole repair)	\$13,437.87
	CCO 30	TTMS Pole Height (Construction)	\$17,386.00

FISCAL IMPACT:

The Contract Change Orders were executed using available contingency authorized with the construction contract for each project.

AGENDA ITEM 6H

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee David Knudsen, External Affairs Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Traffic Relief Plan Public Engagement Program

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Award Agreement No. 24-15-032-00 to AlphaVu for Public Engagement Program services for an eight-month term, in an amount not to exceed \$986,034; and
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission.

BACKGROUND INFORMATION:

The Commission has long valued open, transparent, and continuous communication and outreach to communities across Riverside County. Public outreach and community engagement requires the Commission to actively listen to the public, respond to their feedback, and provide factual information and education about the Commission's work.

Over the last several years, the Commission has implemented a robust public outreach effort to hear directly from Riverside County residents concerning transportation issues facing the region as well as projects and planning efforts to address congestion. In 2019, RCTC launched the #RebootMyCommute public engagement program, which generated thousands of public comments from residents, its leaders, and local stakeholder groups about the County's transportation needs. As a two-way dialog between RCTC and communities across Riverside County, the #RebootMyCommute program brought to light various priorities and preferences from Riverside County residents about all facets of transportation and needed improvements, from Coachella Valley Rail and expanded transit services to improvements to interchanges, local streets and roads, bike paths, and trail networks. These public comments, in addition to feedback collected through public opinion surveys, in-person community events, and focus group meetings, were evaluated and used to inform the Commission-adopted 2020 Traffic Relief Plan (TRP or Plan).

The TRP is a transportation infrastructure planning and funding strategy to deliver a backlog of transportation improvements and address the County's future transportation and mobility

needs. While the 2020 TRP was not funded, it identifies the Commission's vision, values, and long-term transportation priorities for Riverside County.

Over the last three years, RCTC has delivered numerous projects that have benefited Riverside County residents, from the 15 Express Lanes and the Route 60 Truck Lanes to the first segment of the Mid County Parkway (I-215 Placentia Avenue Interchange), to interchanges and Metrolink station improvements. Although strides are being made by RCTC, transportation needs have only compounded as Riverside County faces continual population growth and exponential growth in goods movement on the region's roadways. At its February 2023 Commission Workshop, Commissioners discussed these issues, as well as reducing traffic congestion, supporting multimodal transportation options, increasing the use of passenger rail and bus transit, and reducing the burden of goods and freight movement on the county's transportation system. Based on this discussion, staff was directed to bring back to the Commission recommendations that would help identify strategies to fund and deliver planned projects. In addition, the Commission directed staff to evaluate the 2020 TRP and update it based on new information, including new state policies, state and federal funding opportunities, changes in project delivery costs and feasibility, and input from the County's residents.

Staff completed its evaluation of the TRP and outlined draft updates to the 2023 Projects and Funding Strategies Ad Hoc Committee (Committee) at its September meeting. Staff also indicated that a public outreach procurement would be advertised to help complete public outreach and education and collect input from residents to help finalize the updates to the TRP. On October 11, 2023, the Commission approved the Draft 2024 Traffic Relief Plan for public outreach and engagement.

Public Outreach Approach

The Public Engagement Program procurement is intended to inform the TRP and provide information to the Commission regarding a future funding strategy.

Inherent in the Public Engagement Program's design are accountability and performance management features that will ensure taxpayers' dollars are invested to achieve maximum return on investment. These features include:

- Goal-oriented work plan that keeps the consultant and staff focused on integrated outcomes, rather than independent outputs;
- Real-time, customized reporting of results of public engagements;
- Continuous improvement based on results received;
- Use of current and emerging digital communication methods to reach a large population with multiple levels of information; and
- Data privacy and security reviews throughout the program to ensure personal information of citizens who engage with the Commission are handled ethically, in compliance with the law, and in congruence with maintaining public trust.

The Public Engagement Program aims to achieve distinctive objectives apart from other communications from the Commission regarding existing projects.

Goal-Oriented Approach

Commission staff took a goal-oriented approach for this Public Engagement request for proposal (RFP). Typically, public outreach contracts are structured with requirements to complete specific tasks. In order better harness the private sector’s valued creativity and state-of-the-art technological capabilities to engage the public in today’s fast moving media environment, staff identified three goals with deadlines and challenged the proposers to develop best methods to achieve the goals. The goals are not rooted in increasing engagement or impressions, alone. The goals require a comprehensive approach that not only delivers the TRP to the community in a digital and grassroots fashion, but also gauges public knowledge of provisions contained in the TRP and solicits public feedback.

Development of the goals was also guided by recent experiences of the Commission and other California transportation agencies, including, but not limited, to:

- Successful and unsuccessful public engagement programs in California regarding transportation;
- Public opinion research in Riverside County;
- Previous communication activities by the Commission; and
- Existing staff and budget resources.

The three goals for the Public Engagement Program are as follows:

	Goal	Deadline
1.	Directly engage 5% of the county’s total population in guiding the Commission’s decisions about the county’s transportation future.	July 2024
2.	Directly deliver the draft Traffic Relief Plan to 50% of the adult population of Riverside County, with the plan accessible to 100% of the population.	March 2024
3.	Conduct a public opinion survey that informs the Commission about general public support for funding the TRP (By June 1, 2024).	May 2024

Through these goals, Commission staff seeks to accomplish the following:

- Assist the Commission in finalizing policy and investment decisions with limited resources and constrained funding environment;
- Fulfill the Commission’s goal of gathering public input on transportation needs;
- Increase transparency and accountability to the Commission’s constituents by outlining transportation goals and potential investments; and
- Fulfill the Commission’s direction to explore funding options that would be viable if the Commission chooses to seek support from County residents.

Following a competitive procurement process as discussed below, the recommendation is to award this Public Engagement Program contract to AlphaVu.

The Team: AlphaVu

AlphaVu has assembled a public engagement team with the breadth and depth of specialized skills and local experience necessary to execute a comprehensive, measurable, and meaningful public engagement program on behalf of the Commission. AlphaVu is the prime contractor and proposes a suite of sub-consultants for niche tasks to achieve the goals established by the Commission.

Team Member	Specialized Role
AlphaVu	Project management, advanced analytics and reporting, strategy, ad placement.
Arellano Associates	In-person public outreach, facilitation, public event management, and one-on-one engagement.
OPR Communications	Opinion leader outreach and nontraditional stakeholder engagement, earned media.
Hammons Strategies	Writing, content development, media relations.
Moonbeam	Moonbeam will design and produce print, graphic, video, and web elements.
FM3	Public opinion research, analysis, and strategy through surveys.

The Strategy

AlphaVu’s strategy is to generate high-quality content for Riverside County residents regarding their transportation system on the information channels they use, and that match their interests. AlphaVu will capture, aggregate, and measure responses from all individuals to continually improve communications and allow staff and Commissioners to make upcoming policy and investment decisions based on direct public feedback. AlphaVu relies on proprietary computer modeling to measure public response online and present it in easy-to-read charts and graphs. Additionally, AlphaVu’s software is designed to ensure the content being created by the Commission is placed in front of the intended audience at the intended time to maximize impact rather than placing sole control of content distribution at the discretion of the social media platform itself. The Commission has utilized AlphaVu’s technology since 2017 to obtain feedback from Riverside County residents on transportation projects across the county. That research helped staff understand what priorities exist within the diverse sub-regions of the county. This digital engagement work is conducted in compliance with all laws of California and the United States regarding privacy and data collection.

AlphaVu’s strategy also includes on-the-ground public outreach countywide. Sub-consultants Arellano Associates and OPR Communications will conduct organized and methodical outreach at community events and through one-on-one targeted stakeholder engagements. Using data collected online, the AlphaVu team will ascertain the most impactful events to attend to achieve the Commission’s goals and will also help identify community influencers to whom the Commission should ensure it is listening and responding. The Public Engagement Program must

be inclusive of all Riverside County residents and stakeholders, as well. Communities representative of county diversity, environmental groups, taxpayer advocacy groups, labor, and other communities of interest will be engaged. Public opinion surveys will also be conducted during the program.

Using data gathered throughout the program, the AlphaVu team will help finalize the draft 2024 TRP that can potentially achieve support of two-thirds of Riverside County residents, which will be presented to the Commission for input by early summer 2024.

In summary, the AlphaVu strategy proposes to build a holistic real-world understanding of what residents pay attention to regarding transportation and how the Commission can be most responsive to their concerns. The AlphaVu approach goes beyond anecdotal intelligence-gathering, or use of well-established networks of people from whom we are most likely to hear from on a regular basis; instead, the approach proposes a data-driven effort to listen and speak broadly to the county's diverse constituency with whom the Commission does not interact with on a regular basis.

The evaluation panel selected AlphaVu for its sophisticated use of data and technology to reach wide and deep across Riverside County in a manner that can give the Commission assurances that its funds are being spent on engagements that are effective and can be used for actionable purposes.

Procurement Process

Staff determined the weighted factor method of source selection to be the most appropriate for this procurement, as it allows the Commission to identify the most advantageous proposal with price and other factors considered. Non-price factors included qualifications of each firm, personnel, and the ability to respond to the Commission's needs for a Public Engagement Program as set forth under the terms of RFP No. 24-15-032-00.

RFP No. 24-15-032-00 was released on September 20, 2023. The RFP was posted on the Commission's PlanetBids website, which is accessible through the Commission's website. Utilizing PlanetBids, emails were sent to 328 firms, forty of which are located in Riverside County. Through the PlanetBids site, 52 firms downloaded the RFP. Staff responded to all questions submitted by potential proposers by October 4, 2023. Five firms –AlpaVu (Washington, DC); Kleinfelder Construction Services (Riverside); McCormick-Busse DBA MBI Media (Covina); CLC Publicidad DBA Sherpa Marketing Solutions (Sherman Oaks); and Southwest Strategies (San Diego) - submitted responsive proposals prior to the 2:00 p.m. submittal deadline on October 18, 2023. Utilizing the evaluation criteria set forth in the RFP, all firms were evaluated and scored by an evaluation committee comprised of Commission and Coachella Valley Association of Governments staff.

Based on the evaluation committee's assessment of the written proposals and pursuant to the terms of the RFP, the evaluation committee shortlisted and invited two firms – AlphaVu and

Southwest Strategies – to the interview phase of the evaluation and selection process. Interviews of the shortlisted firms were conducted on November 1.

Subsequently, the evaluation committee determined AlphaVu to be the most qualified firm to provide services for the Public Engagement Program.


The overall evaluation ranking of written proposals, based on highest to lowest total evaluation score, and price are presented in the following table.

Firm	Price	Overall Ranking
AlphaVu	\$986,034	1
Southwest Strategies	\$975,238	2
Kleinfelder	\$985,063	3
MBI Media	\$908,003	4
Sherpa Marketing Solutions	\$929,600	5

STAFF RECOMMENDATION

As a result of the evaluation committee’s assessment of the written proposals and interviews, the evaluation committee recommends contract award to AlphaVu for a term of 8 months, in a total amount not to exceed \$986,034, as this firm earned the highest total evaluation score.

The Commission’s professional services agreement will be entered into with the consultant subject to any changes approved by the Executive Director and pursuant to legal counsel review. Staff oversight of the contract will maximize the effectiveness of the consultant and minimize costs to the Commission.

Financial Information					
In Fiscal Year Budget:	Yes	Year:	FY 2023/24 FY 2024/25	Amount:	\$886,034 \$100,000
Source of Funds:	Measure A			Budget Adjustment:	No
GL/Project Accounting No.:	Expenditure: 002325 65520 00000 0000 106 67 65520				
Fiscal Procedures Approved:				Date:	11/15/2023

Attachment: Draft Agreement No. 24-15-032-00 to AlphaVu

Approved by the Budget and Implementation Committee on November 27, 2023

In Favor: 10 Abstain: 0 No: 0

**RIVERSIDE COUNTY TRANSPORTATION COMMISSION
AGREEMENT FOR PUBLIC ENGAGEMENT AND OUTREACH PROGRAM
WITH ALPHAVU**

1. PARTIES AND DATE.

This Agreement is made and entered into this 1st day of January, 2024, by and between the RIVERSIDE COUNTY TRANSPORTATION COMMISSION ("the Commission") and ALPHAVU ("Consultant"), a Limited Liability Corporation.

2. RECITALS.

2.1 Consultant desires to perform and assume responsibility for the provision of certain professional consulting services required by Commission on the terms and conditions set forth in this Agreement. Consultant represents that it is a professional consultant, experienced in providing public engagement and outreach programs to public clients, is licensed in the State of California, and is familiar with the plans of Commission.

2.2 Commission desires to engage Consultant to render certain consulting services for the Public Engagement and Outreach Program ("Project") as set forth herein.

3. TERMS.

3.1 General Scope of Services. Consultant promises and agrees to furnish to Commission all labor materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately provide professional consulting services and advice on various issues affecting the decisions of Commission regarding the Project and on other programs and matters affecting Commission, hereinafter referred to as "Services". The Services are more particularly described in Exhibit "A" attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state, and federal laws, rules and regulations.

3.2 Term. The term of this Agreement shall be from the date first specified above to August 31, 2024, unless earlier terminated as provided herein. Consultant shall complete the Services within the term of this Agreement and shall meet any other established schedules and deadlines.

3.3 Schedule of Services. Consultant shall perform the Services expeditiously, within the term of this Agreement, and in accordance with the Schedule of Services set forth in Exhibit "B" attached hereto and incorporated herein by reference. Consultant represents that it has the professional and technical personnel required to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule, the Commission shall respond to Consultant's submittals in a timely manner. Upon request of the Commission, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

3.4 Independent Contractor; Control and Payment of Subordinates. The Services shall be performed by Consultant under its supervision. Consultant will determine the means, method and details of performing the Services subject to the requirements of this Agreement. Commission retains Consultant on an independent contractor basis and Consultant is not an employee of Commission. Consultant retains the right to perform similar or different services for others during the term of this Agreement. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall not be employees of Commission and shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries, and other amounts due such personnel in connection with their performance of Services under this Agreement and as required by law. Consultant shall be responsible for all reports and obligations respecting such additional personnel, including, but not limited to: social security taxes, income tax withholding, unemployment insurance, and workers' compensation insurance.

3.5 Conformance to Applicable Requirements. All work prepared by Consultant shall be subject to the approval of Commission.

3.6 Substitution of Key Personnel. Consultant has represented to Commission that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence and experience upon written approval of Commission. In the event that Commission and Consultant cannot agree as to the substitution of key personnel, Commission shall be entitled to terminate this Agreement for cause, pursuant to provisions of Section 3.16 of this Agreement. The key personnel for performance of this Agreement are as follows: Scott G. Wilkinson; Zachary Hernandez; Justin Browning; Marshall McCraw; Richard Bernard; Adam Sonenshein; Gale Hammon; Patrick J. O'Reilly; Michael Fisher; Maddy Bogh; Maria Yanez-Forgash; Joshua Francis; Sohrab Mikanik; Ilian Ramirez; Russ Hennings.

3.7 Commission's Representative. Commission hereby designates the Executive Director, or his or her designee, to act as its representative for the performance of this Agreement ("Commission's Representative"). Commission's representative shall have the power to act on behalf of Commission for all purposes under this Agreement. Consultant shall not accept direction from any person other than Commission's Representative or his or her designee.

3.8 Consultant's Representative. Consultant hereby designates Scott G. Wilkinson, or his or her designee, to act as its representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to represent and act on behalf of the Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his or her best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement.

3.9 Coordination of Services. Consultant agrees to work closely with Commission staff in the performance of Services and shall be available to Commission's staff, consultants and other staff at all reasonable times.

3.10 Standard of Care; Licenses. Consultant shall perform the Services under this Agreement in a skillful and competent manner, consistent with the standard generally recognized as being employed by professionals in the same discipline in the State of California. Consultant represents and maintains that it is skilled in the professional calling necessary to perform the Services. Consultant warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Finally, Consultant represents that it, its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services and that such licenses and approvals shall be maintained throughout the term of this Agreement. Consultant shall perform, at its own cost and expense and without reimbursement from Commission, any Services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein, and shall be fully responsible to the Commission for all damages and other liabilities provided for in the indemnification provisions of this Agreement arising from the Consultant's errors and omissions.

3.11 Laws and Regulations. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. Consultant shall be liable for all violations of such laws and regulations in connection with Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to Commission, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold Commission, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

3.12 Insurance.

3.12.1 Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the Commission that it has secured all insurance required under this section, in a form and with insurance companies acceptable to the Commission. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has secured all insurance required under this section.

3.12.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Agreement by the Consultant, its agents, representatives, employees or subcontractors. Consultant shall also require all of its subcontractors to procure and maintain the same insurance for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(A) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001 or exact equivalent); (2) *Automobile Liability*: Insurance Services Office Business Auto Coverage (form CA 0001, code 1 (any auto) or exact equivalent); and (3) *Workers' Compensation and Employer's Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

(B) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) *General Liability*: \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit; (2) *Automobile Liability*: \$1,000,000 per accident for bodily injury and property damage; and (3) *if Consultant has an employees, Workers' Compensation and Employer's Liability*: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Practices Liability limits of \$1,000,000 per accident.

3.12.3 Professional Liability. Consultant shall procure and maintain, and require its sub-consultants to procure and maintain, for a period of five (5) years following completion of the Project, errors and omissions liability insurance appropriate to their profession. Such insurance shall be in an amount not less than \$1,000,000 per claim. This insurance shall be endorsed to include contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured and must include a provision establishing the insurer's duty to defend.

3.12.4 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the Commission to add the following provisions to the insurance policies:

(A) General Liability.

(i) Commercial General Liability Insurance must include coverage for (1) bodily Injury and property damage; (2) personal Injury/advertising Injury; (3) premises/operations liability; (4) products/completed operations liability; (5) aggregate limits that apply per Project; (6) explosion, collapse and underground (UCX) exclusion deleted; (7) contractual liability with respect to this Agreement; (8) broad form property damage; and (9) independent consultants coverage.

(ii) The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to this Agreement.

(iii) The policy shall give the Commission, its directors, officials, officers, employees, and agents insured status using ISO endorsement forms 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage.

(iv) The additional insured coverage under the policy shall be "primary and non-contributory" and will not seek contribution from the Commission's insurance or self-insurance and shall be at least as broad as CG 20 01 04 13, or endorsements providing the exact same coverage.

(B) Automobile Liability. The automobile liability policy shall be endorsed to state that: (1) the Commission, its directors, officials, officers, employees and agents shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; and (2) the insurance coverage shall be primary insurance as respects the Commission, its directors, officials, officers, employees and agents, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant's scheduled underlying coverage. Any insurance or self-insurance maintained by the Commission, its directors, officials, officers, employees and agents shall be excess of the Consultant's insurance and shall not be called upon to contribute with it in any way.

(C) Workers' Compensation and Employers Liability

Coverage.

(i) Consultant certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing work under this Agreement.

(ii) The insurer shall agree to waive all rights of subrogation against the Commission, its directors, officials, officers, employees and agents for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.

(D) All Coverages.

(i) Defense costs shall be payable in addition to the limits set forth hereunder.

(ii) Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits set forth herein shall be available to the Commission, its directors, officials, officers, employees and agents as additional insureds under said policies. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater.

(iii) The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the Commission (if agreed to in a written contract or agreement) before the Commission's own insurance or self-insurance shall be called upon to protect it as a named insured. The umbrella/excess policy shall be provided on a "following form" basis with coverage at least as broad as provided on the underlying policy(ies).

(iv) Consultant shall provide the Commission at least thirty (30) days prior written notice of cancellation of any policy required by this Agreement, except that the Consultant shall provide at least ten (10) days prior written notice of cancellation of any such policy due to non-payment of premium. If any of the required coverage is cancelled or expires during the term of this Agreement, the Consultant shall deliver renewal certificate(s) including the General Liability Additional Insured Endorsement

to the Commission at least ten (10) days prior to the effective date of cancellation or expiration.

(v) The retroactive date (if any) of each policy is to be no later than the effective date of this Agreement. Consultant shall maintain such coverage continuously for a period of at least three years after the completion of the work under this Agreement. Consultant shall purchase a one (1) year extended reporting period A) if the retroactive date is advanced past the effective date of this Agreement; B) if the policy is cancelled or not renewed; or C) if the policy is replaced by another claims-made policy with a retroactive date subsequent to the effective date of this Agreement.

(vi) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the Commission, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(vii) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, Commission has the right but not the duty to obtain the insurance it deems necessary and any premium paid by Commission will be promptly reimbursed by Consultant or Commission will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, Commission may cancel this Agreement. The Commission may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(viii) Neither the Commission nor any of its directors, officials, officers, employees or agents shall be personally responsible for any liability arising under or by virtue of this Agreement.

Each insurance policy required by this Agreement shall be endorsed to state that:

3.12.5 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the Commission. If the Commission does not approve the deductibles or self-insured retentions as presented, Consultant shall guarantee that, at the option of the Commission, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Commission, its directors, officials, officers, employees and agents; or, (2) the Consultant shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

3.12.6 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VIII, licensed to do business in California, and satisfactory to the Commission.

3.12.7 Verification of Coverage. Consultant shall furnish Commission with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the Commission. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements must be received and approved by the Commission before work commences. The Commission reserves the right to require complete, certified copies of all required insurance policies, at any time.

3.12.8 Subconsultant Insurance Requirements. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the Commission that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the Commission as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, the Commission may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

3.13 Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (A) adequate life protection and life saving equipment and procedures; (B) instructions in accident prevention for all employees and subcontractors, such as safe walkways, scaffolds, fall protection ladders, bridges, gang planks, confined space procedures, trenching and shoring, equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (C) adequate facilities for the proper inspection and maintenance of all safety measures.

3.14 Fees and Payment.

3.14.1 Compensation. Consultant shall receive compensation, including authorized reimbursements, for all Services rendered under this Agreement at the rates set forth in Exhibit "C" attached hereto. The overhead rates included in the attached Exhibit "C" shall be fixed for the term of the Master Agreement, and shall not be subject to adjustment, unless required by the applicable funding source. The total compensation shall not exceed Nine Hundred Eighty-Six Thousand Thirty-Four Dollars (\$986,034) without written approval of Commission's Executive Director ("Total Compensation"). Extra Work may be authorized, as described below, and if authorized, will be compensated at the rates and manner set forth in this Agreement.

3.14.2 Payment of Compensation. Consultant shall submit to Commission a monthly statement which indicates work completed and hours of Services rendered by Consultant. The statement shall describe the amount of Services and supplies

provided since the initial commencement date, or since the start of the subsequent billing periods, as appropriate, through the date of the statement. Commission shall, within 45 days of receiving such statement, review the statement and pay all approved charges thereon.

3.14.3 Reimbursement for Expenses. Consultant shall not be reimbursed for any expenses unless authorized in writing by Commission.

3.14.4 Extra Work. At any time during the term of this Agreement, Commission may request that Consultant perform Extra Work. As used herein, "Extra Work" means any work which is determined by Commission to be necessary for the proper completion of the Project, but which the parties did not reasonably anticipate would be necessary at the execution of this Agreement. Consultant shall not perform, nor be compensated for, Extra Work without written authorization from Commission's Executive Director.

3.15 Accounting Records. Consultant shall maintain complete and accurate records with respect to all costs and expenses incurred and fees charged under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of Commission during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

3.16 Termination of Agreement

3.16.1 Grounds for Termination. Commission may, by written notice to Consultant, terminate the whole or any part of this Agreement at any time and without cause by giving written notice to Consultant of such termination, and specifying the effective date thereof. Upon termination, Consultant shall be compensated only for those services which have been fully and adequately rendered to Commission through the effective date of the termination, and Consultant shall be entitled to no further compensation. Consultant may not terminate this Agreement except for cause.

3.16.2 Effect of Termination. If this Agreement is terminated as provided herein, Commission may require Consultant to provide all finished or unfinished Documents and Data, as defined below, and other information of any kind prepared by Consultant in connection with the performance of Services under this Agreement. Consultant shall be required to provide such document and other information within fifteen (15) days of the request.

3.16.3 Additional Services. In the event this Agreement is terminated in whole or in part as provided herein, Commission may procure, upon such terms and in such manner as it may determine appropriate, services similar to those terminated.

3.17 Delivery of Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

CONSULTANT:

AlphaVu LLC
1100 15th Street NW
4th Floor
Washington, DC 20005
Attn: Scott G. Wilkinson

COMMISSION:

Riverside County
Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92501
Attn: Executive Director

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. Mail, first class postage prepaid and addressed to the party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

3.18 Ownership of Materials/Confidentiality.

3.18.1 Documents & Data. This Agreement creates an exclusive and perpetual license for Commission to copy, use, modify, reuse, or sub-license any and all copyrights and designs embodied in plans, specifications, studies, drawings, estimates, materials, data and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement (“Documents & Data”).

Consultant shall require all subcontractors to agree in writing that Commission is granted an exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement.

Consultant represents and warrants that Consultant has the legal right to grant the exclusive and perpetual license for all such Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the Commission.

Commission shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at Commission’s sole risk.

3.18.2 Intellectual Property. In addition, Commission shall have and retain all right, title and interest (including copyright, patent, trade secret and other proprietary rights) in all plans, specifications, studies, drawings, estimates, materials, data, computer programs or software and source code, enhancements, documents, and any and all works of authorship fixed in any tangible medium or expression, including but not limited

to, physical drawings or other data magnetically or otherwise recorded on computer media ("Intellectual Property") prepared or developed by or on behalf of Consultant under this Agreement as well as any other such Intellectual Property prepared or developed by or on behalf of Consultant under this Agreement.

The Commission shall have and retain all right, title and interest in Intellectual Property developed or modified under this Agreement whether or not paid for wholly or in part by Commission, whether or not developed in conjunction with Consultant, and whether or not developed by Consultant. Consultant will execute separate written assignments of any and all rights to the above referenced Intellectual Property upon request of Commission.

Consultant shall also be responsible to obtain in writing separate written assignments from any subcontractors or agents of Consultant of any and all right to the above referenced Intellectual Property. Should Consultant, either during or following termination of this Agreement, desire to use any of the above-referenced Intellectual Property, it shall first obtain the written approval of the Commission.

All materials and documents which were developed or prepared by the Consultant for general use prior to the execution of this Agreement and which are not the copyright of any other party or publicly available and any other computer applications, shall continue to be the property of the Consultant. However, unless otherwise identified and stated prior to execution of this Agreement, Consultant represents and warrants that it has the right to grant the exclusive and perpetual license for all such Intellectual Property as provided herein.

Commission further is granted by Consultant a non-exclusive and perpetual license to copy, use, modify or sub-license any and all Intellectual Property otherwise owned by Consultant which is the basis or foundation for any derivative, collective, insurrectional, or supplemental work created under this Agreement.

3.18.3 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents and Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of Commission, be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use Commission's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of Commission.

3.18.4 Infringement Indemnification. Consultant shall defend, indemnify and hold the Commission, its directors, officials, officers, employees, volunteers and agents free and harmless, pursuant to the indemnification provisions of this Agreement, for any alleged infringement of any patent, copyright, trade secret, trade name, trademark, or any other proprietary right of any person or entity in consequence of the use on the Project by Commission of the Documents & Data, including any method, process, product, or concept specified or depicted.

3.19 Cooperation; Further Acts. The Parties shall fully cooperate with one another, and shall take any additional acts or sign any additional documents as may be necessary, appropriate or convenient to attain the purposes of this Agreement.

3.20 Attorney's Fees. If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and costs of such actions.

3.21 Indemnification. To the fullest extent permitted by law, Consultant shall defend (with counsel of Commission's choosing), indemnify and hold Commission, its directors, officials, officers, employees, consultants, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of or incident to alleged negligent acts, omissions, or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project or this Agreement, including without limitation the payment of consequential damages, expert witness fees, and attorneys fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against Commission, its directors, officials, officers, employees, consultants, agents, or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against Commission or its directors, officials, officers, employees, consultants, agents, or volunteers, in any such suit, action or other legal proceeding. Consultant shall reimburse Commission and its directors, officials, officers, employees, consultants, agents, and/or volunteers, for any and all legal expenses and costs, including reasonable attorney's fees, incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by Commission, its directors, officials officers, employees, consultants, agents, or volunteers.

If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by

a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

Consultant's obligations as set forth in this Section shall survive expiration or termination of this Agreement.

3.22 Entire Agreement. This Agreement contains the entire Agreement of the parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be supplemented, amended, or modified by a writing signed by both parties.

3.23 Governing Law. This Agreement shall be governed by the laws of the State of California. Venue shall be in Riverside County.

3.24 Time of Essence. Time is of the essence for each and every provision of this Agreement.

3.25 Commission's Right to Employ Other Consultants. The Commission reserves the right to employ other consultants in connection with this Project.

3.26 Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties, and shall not be assigned by Consultant without the prior written consent of Commission.

3.27 Prohibited Interests and Conflicts.

3.27.1 Solicitation. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, Commission shall have the right to rescind this Agreement without liability.

3.27.2 Conflict of Interest. For the term of this Agreement, no member, officer or employee of Commission, during the term of his or her service with Commission, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

3.27.3 Conflict of Employment. Employment by the Consultant of personnel currently on the payroll of the Commission shall not be permitted in the performance of this Agreement, even though such employment may occur outside of the employee's regular working hours or on weekends, holidays or vacation time. Further, the employment by the Consultant of personnel who have been on the Commission payroll within one year prior to the date of execution of this Agreement, where this employment is

caused by and or dependent upon the Consultant securing this or related Agreements with the Commission, is prohibited.

3.27.4 Employment Adverse to the Commission. Consultant shall notify the Commission, and shall obtain the Commission's written consent, prior to accepting work to assist with or participate in a third-party lawsuit or other legal or administrative proceeding against the Commission during the term of this Agreement.

3.28 Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination. Consultant shall also comply with all relevant provisions of Commission's Disadvantaged Business Enterprise program, Affirmative Action Plan or other related Commission programs or guidelines currently in effect or hereinafter enacted.

3.29 Subcontracting. Consultant shall not subcontract any portion of the work or Services required by this Agreement, except as expressly stated herein, without prior written approval of the Commission. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement.

3.30 Prevailing Wages. By its execution of this Agreement, Consultant certified that it is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. If the Services are being performed as part of an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and if the total compensation is \$1,000 or more, Consultant agrees to fully comply with such Prevailing Wage Laws. The Commission shall provide Consultant with a copy of the prevailing rate of per diem wages in effect at the commencement of this Agreement. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. Consultant shall defend, indemnify and hold the Commission, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

3.30.1 DIR Registration. If the Services are being performed as part of an applicable "public works" or "maintenance" project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants must be registered with the Department of Industrial Relations. If applicable, Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants. This Project may also be subject to compliance monitoring and enforcement by the Department of

Industrial Relations. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements.

3.31 Employment of Apprentices. This Agreement shall not prevent the employment of properly indentured apprentices in accordance with the California Labor Code, and no employer or labor union shall refuse to accept otherwise qualified employees as indentured apprentices on the work performed hereunder solely on the ground of race, creed, national origin, ancestry, color or sex. Every qualified apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade in which he or she is employed and shall be employed only in the craft or trade to which he or she is registered.

If California Labor Code Section 1777.5 applies to the Services, Consultant and any subcontractor hereunder who employs workers in any apprenticeable craft or trade shall apply to the joint apprenticeship council administering applicable standards for a certificate approving Consultant or any sub-consultant for the employment and training of apprentices. Upon issuance of this certificate, Consultant and any sub-consultant shall employ the number of apprentices provided for therein, as well as contribute to the fund to administer the apprenticeship program in each craft or trade in the area of the work hereunder.

The parties expressly understand that the responsibility for compliance with provisions of this Section and with Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code in regard to all apprenticeable occupations lies with Consultant.

3.32 No Waiver. Failure of Commission to insist on any one occasion upon strict compliance with any of the terms, covenants or conditions hereof shall not be deemed a waiver of such term, covenant or condition, nor shall any waiver or relinquishment of any rights or powers hereunder at any one time or more times be deemed a waiver or relinquishment of such other right or power at any other time or times.

3.33 Eight-Hour Law. Pursuant to the provisions of the California Labor Code, eight hours of labor shall constitute a legal day's work, and the time of service of any worker employed on the work shall be limited and restricted to eight hours during any one calendar day, and forty hours in any one calendar week, except when payment for overtime is made at not less than one and one-half the basic rate for all hours worked in excess of eight hours per day ("Eight-Hour Law"), unless Consultant or the Services are not subject to the Eight-Hour Law. Consultant shall forfeit to Commission as a penalty, \$50.00 for each worker employed in the execution of this Agreement by him, or by any sub-consultant under him, for each calendar day during which such workman is required or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week without such compensation for overtime violation of the provisions of the California Labor Code, unless Consultant or the Services are not subject to the Eight-Hour Law.

3.34 Subpoenas or Court Orders. Should Consultant receive a subpoena or court order related to this Agreement, the Services or the Project, Consultant shall

immediately provide written notice of the subpoena or court order to the Commission. Consultant shall not respond to any such subpoena or court order until notice to the Commission is provided as required herein, and shall cooperate with the Commission in responding to the subpoena or court order.

3.35 Survival. All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification and confidentiality obligations, and the obligations related to receipt of subpoenas or court orders, shall survive any such expiration or termination.

3.36 No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

3.37 Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

3.38 Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

3.39 Incorporation of Recitals. The recitals set forth above are true and correct and are incorporated into this Agreement as though fully set forth herein.

3.40 Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

3.41 Conflicting Provisions. In the event that provisions of any attached exhibits conflict in any way with the provisions set forth in this Agreement, the language, terms and conditions contained in this Agreement shall control the actions and obligations of the Parties and the interpretation of the Parties' understanding concerning the performance of the Services.

3.42 Headings. Article and Section Headings, paragraph captions or marginal headings contained in this Agreement are for convenience only and shall have no effect in the construction or interpretation of any provision herein.

3.43 Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein, without the prior written consent of the Commission. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

3.44 Authority to Enter Agreement. Consultant has all requisite power and authority to conduct its business and to execute, deliver, and perform the Agreement. Each Party warrants that the individuals who have signed this Agreement have the legal power, right, and authority to make this Agreement and bind each respective Party.

3.45 Electronically Transmitted Signatures. A manually signed copy of this Agreement which is transmitted by facsimile, email or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes. This Agreement may be signed using an electronic signature.

[Signatures on following page]

DRAFT

**SIGNATURE PAGE
TO
RIVERSIDE COUNTY TRANSPORTATION COMMISSION
AGREEMENT FOR PUBLIC ENGAGEMENT AND OUTREACH PROGRAM
WITH ALPHAVU LLC**

IN WITNESS WHEREOF, this Agreement was executed on the date first written above.

**RIVERSIDE COUNTY
TRANSPORTATION COMMISSION**

**CONSULTANT
ALPHAVU LLC**

By: _____
Anne Mayer
Executive Director

By: _____
Signature

Name

Title

Approved as to Form:

Attest:

By: _____
Best Best & Krieger LLP
General Counsel

By: _____
Its: _____

* A corporation requires the signatures of two corporate officers.

One signature shall be that of the chairman of board, the president or any vice president and the second signature (on the attest line) shall be that of the secretary, any assistant secretary, the chief financial officer or any assistant treasurer of such corporation.

If the above persons are not the intended signators, evidence of signature authority shall be provided to RCTC.

EXHIBIT "A"

SCOPE OF SERVICES

DRAFT

4. UNDERSTANDING AND APPROACH - HOW THE GOALS WILL BE MET

It is first necessary to establish target audiences based on RCTC's goals. According to the [US Census Bureau](#), the adult population of Riverside County was 2,473,902 as of July, 2022, with 76% of the population being 18 years of age or older. This yields an adult population of 1,880,166. To account for the time since the census data update and to be conservative in case of any undercount, we recommend increasing the assumed adult population by 2%, yielding an estimated adult population of 1,917,770. As such, the following audience sizes correspond with each goal.

Goal	Target Audience	Deadline
Directly engage 5% of the county's adult population.	95,889	July 2024
Directly deliver the draft of the TRP to 50% of the adult population. Make the plan available to the entire adult population.	958,885	March 2024
Make the plan available to the entire adult population.	1,917,770	March 2024
Public Opinion Survey	1,050 (Random Sample)	May 2024

In order to assure the best possible return on investment for the expenditure of public funds, it is imperative that we remain laser-focused on these specific goals. We propose a highly specific, targeted method to reach these goals while maximizing the reach of information throughout the County's incredibly diverse demographic and geographic range. This means target audiences must be reached through a wide range of communications channels, as appropriate for the demographic and geographic makeup of each audience. As such, we propose the following specific methods to meet each goal.

Goal 1 – Directly engage at least 95,889 adult residents of Riverside County.

We define direct engagement as an adult resident's direct opinion relative to the Traffic Relief Plan, or a component of the TRP, via survey, written, direct observable online, or oral input. The direct engagement must represent a measurable opinion of each individual and, therefore, must exclude metrics like reach and impressions. Our outreach for direct engagements must also be targeted to receive feedback from as diverse a cross section of the County population as is possible. To accomplish these ends for Goal 1, we recommend the following channels:

Channel	Target Audience & Demographic	Target Audience Population	Estimated Response Rate (rounded)	Total Estimated Responses
Survey	Representative Sample	1,050	29%	300
Public Meetings/ Events	Key Community Stakeholder Groups			1,000
Direct Mail Responses	Residents 65 years of age	386,000	1%	3,860
Facebook/ Instagram	General population and non-English speakers	1,550,000	4%	64,000
WhatsApp/ Messenger	Spanish-speaking population	500,000	3%	15,000
Email and SMS	RCTC Contact List	10,000	3%	300
Miscellaneous Online Form/ Signup	Countywide			500
Tele-Town Halls	Countywide	122,200	9%	11,000
TOTAL				95,960

We believe this represents a conservative and appropriate pathway to achieving direct public engagement from at least 5% of the County's adult population by the target date. This will also assure we receive feedback from a demographically and geographically diverse range of residents, representing those of all ages, genders, race-ethnicities, primary languages spoken, and residential locations.

Local Partnerships

Direct, in-person contact with residents is an important element of this goal. Arellano Associates will identify and staff key community events in each region of the County over the summer months in order to distribute the TRP, and to ask residents to provide their direct input via a survey that will be available at each event.

Furthermore, in consultation with RCTC, OPR Communications will identify key community stakeholders and influencers throughout the County and will facilitate information sharing opportunities with RCTC staff. This will be an effective way to inform residents who will likely want a deeper, more detailed exchange of information about the TRP. These information sharing sessions will also incorporate earned media outlets in

4. UNDERSTANDING AND APPROACH - HOW THE GOALS WILL BE MET

the County, so the media can have detailed access to all the relevant information as well as the opportunity to ask RCTC staff questions that may support their reporting efforts.

Digital Content (Graphic Design & Video)

Strong design for printed, digital, and audio elements is absolutely critical for effective public outreach. Arellano Associates with the support of Moonbeam will design and produce all print, graphic, video, and web elements. These elements will be the 'point of the spear' for all outreach for both Goals 1 and 2, including the annual report, digital ads, video ads/content, direct mail, and website regional maps. AlphaVu's targeting and ongoing measurements will assure only the most effective, high ROI content receives continued investment, regardless of channel. AlphaVu will also deploy its targeting techniques to make sure recipient audiences remain demographically and demographically representative of the County as a whole.



This is an example of an engaging graphic design by Arellano Associates that captures attention in a competitive media landscape.

We also recognize that these outreach efforts, in the pursuit of Goals 1 and 2, will generate more public interest and requests than RCTC staff may be used to on a regular basis. As such, our team will assist any bandwidth challenges RCTC staff may have in responding to public inquiries by:

- Developing a summary of common themes in public inquiries.
- Developing draft recommended stock answers that effectively respond to these inquiries and provide access to further information, if desired.

Goal 2 – Directly deliver the Traffic Relief Plan to 50% of the adult population of Riverside County, with the plan accessible to 100% of the population (958,885).

Mass delivery of the TRP will be accomplished also using an all-channels approach, but with particular emphasis on direct mail and digital distribution. Again, in order to assure high return-on-investment, we recommend focusing direct mail resources on older residents, who are more likely to read and spend time with direct mail content, and digital content for younger and middle-aged residents. We also propose providing a link on the direct mail that will connect citizens to additional online information, regional maps, and to an online survey for direct public input. This will help us towards achieving both Goals 1 and 2.

Channel	Target Audience & Demographic	Estimated Audience Capable of Reaching
Direct Mail	Residents 65 years of age +	386,000
Facebook/Instagram	Residents 18-65 years of age and non-English speakers	775,000
WhatsApp	Spanish speaking population	100,000
YouTube/Video	Residents 18-65 years of age	500,000
Google Display	Residents 18-65 years of age	650,000
Email and SMS	RCTC Contact List	10,000

We expect there to be overlap in unique audience members between channels, which is why the sum of reach among all channels is more than the stated goal. Between all the channels above, we expect the same individual to be counted 2 to 3 (2.5) times on average.

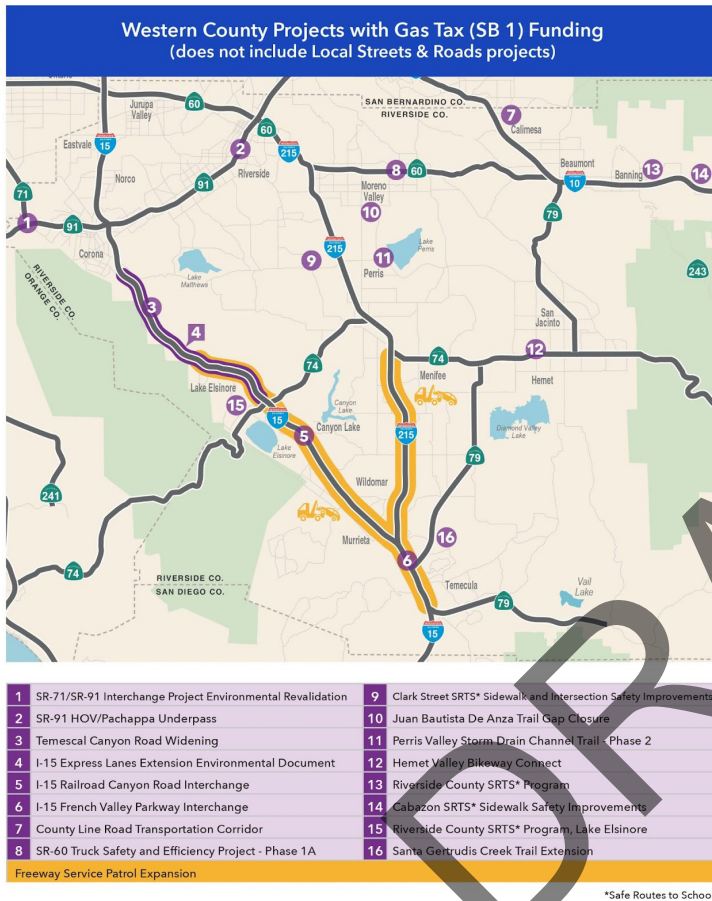
In addition to direct receipt of the TRP by 50% of Riverside County's adult population, we also must be sure the TRP is accessible to any and every resident who wants it. As such, it's critical that we not only make the plan easily-accessible, readable, and understandable via web, but that we also assure its accessibility via non-digital modes.

- Post responses to these public inquiries in the appropriate channels.
- Continue to monitor, recommend responses, and post throughout the program.

4. UNDERSTANDING AND APPROACH - HOW THE GOALS WILL BE MET

TRP Web Design

We propose County regional maps be designed and posted to the TRP website. These maps will empower residents to see what projects are within the TRP so they can determine for themselves the likely impact on their daily lives near their homes and workplaces. As such, these online maps should be the following features to maximize ROI and effectiveness:



Regional maps are a critically important tool for effectively communicating the impact of transportation projects to the public.

- Each map should have its own direct link so maps can be seamlessly integrated into digital ads for hyper-local targeting.
- Residents should be able easily determine their residential or work locations relative to projects.
- Maps should allow users to filter by transportation mode, type of project, project size, and other desirable variables.
- These web features are to be designed with generally accepted standards for web accessibility in order to assure usability by every Riverside County resident regardless of ability or native language spoken.

Additional Accessibility

We recognize not every citizen has digital access or may receive mail at home. As such, we propose the following distribution methods in order to assure the TRP is available to 100% of the adult population:



- Physical copies of the TRP will be printed and mailed to every public library in the County.
- Physical copies (in English and Spanish) will be available at key community stakeholder meetings and community events.
- An audio version of the TRP will be recorded and made available for visually impaired residents. Audio can also be cut for any potential podcast or radio ads, either during the TRP outreach period or for future RCTC use.

We are confident this unified, multi-channel plan will assure both direct delivery of the TRP to 50% of adults in the County as well as availability to 100% of residents.

Digital Advertising

While the AlphaVu team will lean heavily into digital advertising in order to get TRP into the hands of as many residents as possible, it is important to note the principles which will guide this advertising:

1. We will be highly focused on return on investment (ROI). ROI will guide many of our decisions, from channel to targeting to content. We will not, for example, advertise on Tik Tok because of that platform's lack of hyper-local targeting capabilities (in addition to other policy and security concerns). Without local targeting, RCTC resources would be wasted reaching residents outside of Riverside County.
2. We will target information only to the residents for whom that information is most relevant. For example, we will target information about certain capital projects only to the residents likely to be impacted by or to benefit from those projects. This assures residents will have greater attachment to information because it is relevant to their lives while also supporting return on investment on public funds. This will also aid with RCTC's goal of this being an integrated program. RCTC's existing projects can either be tied in with these targeting and ROI measurement efforts at any time either during or after this outreach program.
3. We will measure ROI on each piece of content. This will help us focus advertising funds only on the content that is proven the most effective.

4. UNDERSTANDING AND APPROACH - HOW THE GOALS WILL BE MET

Annual Report

We do recommend and plan to create, with RCTC's guidance, an annual report. This report will, like other elements of the effort, will be a combination of elements that can be distributed via digital channels for easy understanding by the widest audience possible. We do not recommend the printing and distribution of a long annual report heavy with text. This simply will not be read by many residents. Such an extended version can be available online, but the majority of the effort will be focused on creating summary content that is appropriate for each geographic target audience.

Targeting

Mass distribution actually makes effective targeting more important, not less. In addition to traditional demographic and geographic targeting, AlphaVu has developed a new, Large Language Model (artificial intelligence) targeting system. This system ingests RCTC's public contact data (social media, email inquiries, public meetings lists, etc.), RCTC's public opinion polling research, as well as exogenous data (news, gas prices, etc) to constantly update a model of which citizens are most interested in which aspects of the TRP (specific projects, funding, etc.). This has several high-value benefits:

1. RCTC can continue to generate value from its investments in public opinion polling, both previous polling and the polling planned in this program.
2. Outreach will account for real-world factors, like gas prices, that impact the public's interest in transportation.
3. Targeting for RCTC's outreach can be updated and adjusted **daily** if necessary, so content is matched with the residents most interested in that content, based on extremely fresh analysis rather than targeting decisions made weeks or months previously.

Goal 3 – Conduct a public opinion survey that informs the Commission about general public support for funding the TRP (by June 1, 2024).

Similar to the most recent May/June 2023 survey, FM3 proposes to utilize a dual-mode, voter-listed sampling methodology to conduct an 18- to 20-minute survey among a random sample of 1,500 respondents. This dual-mode methodology employs two data collection methods (online and landline/cellular telephone interviews) and three contact methods (email and texting invitations, as well as telephone calls). In all, this methodology provides for a more inclusive and representative sample by allowing all likely voters to have a chance to be selected. Further, FM3 proposes to provide the survey in English and Spanish both online and by telephone.

FM3 understands the significance of these survey results, which will be used as an important data point in the RCTC Board's deliberations as to whether to place a measure on the ballot in the November 2024 General Election. Many of the questions in the survey will be tracked to past surveys we have conducted for RCTC to help provide context for the results and a better understanding of the movement in public opinion.

As RCTC is aware, previous research has found that while some opinions are homogenous across the county, some subregions differ in their transportation priorities and/or vary in the reasons they are likely to support or oppose a new transportation sales tax. Given the aforementioned findings, FM3 proposes to again oversample particular subregions in order to ensure likely November 2024 voters across the county are heard. Because of these differences, FM3 recommends that there be a few subregional specific questions. To benefit from the proposed sub-regional approach, FM3 recommends employing the same sampling plan used in the 2023 Riverside County Transportation Survey. The Table below itemizes the proposed sample size by sub-regions of Riverside County. FM3 proposes to complete 1,500 interviews, consisting of 1,050 interviews in Western Riverside County, 400 in Coachella Valley, 25 in Palos Verdes Valley and 25 in the Mountain subregion. The entire proposed sample will yield a margin of error of $\pm 2.8\%$ at the 95% Confidence Level. The Western Riverside sample will have a margin of error of $\pm 3.1\%$ and the Coachella Valley sample will yield a margin of error of $\pm 4.9\%$.

Table: Sample Sizes by Subregion

Sub-Region	Cities and Zip Codes	Sample
Western Riverside Region		1,050
Western Subregion 1	Corona, Norco, Eastvale, Jurupa Valley; ZIP Code: 92883	240
Western Subregion 2	City of Riverside; ZIP Codes: 92504,92508, 92518	160
Western Subregion 3	Moreno Valley, Perris; ZIP Code: 92570	150
Western Subregion 4	Hemet, San Jacinto; ZIP Codes: 92582, 92583, 92544, 92581	100
Western Subregion 5	Menifee, Murrieta, Temecula, Lake Elsinore, Canyon Lake/ Wildomar; ZIP Codes: 92530, 92562, 92590, 92028, 92595, 92592	300

4. UNDERSTANDING AND APPROACH - HOW THE GOALS WILL BE MET

Sub-Region	Cities and Zip Codes	Sample
Western Subregion 6	Beaumont, Banning, Calimesa; ZIP Codes: 92223, 92220, 92230	100
Coachella Valley Region		400
Coachella Subregion 1	Indio, Coachella, La Quinta; ZIP Codes: 92274, 92254	160
Coachella Subregion 2	Desert Hot Springs, Palm Springs, Cathedral City; ZIP Codes: 92241, 92276, 92240, 92258	140
Coachella Subregion 3	Rancho Mirage, Indian Wells, Palm Desert	100
Palos Verde Valley Region		25
Mountain Subregion		25

The proposed sample size will again allow RCTC to test two different sales tax rates to assess current levels of support for each respective rate - given the cost of living, gas prices and the state of the labor market, just prior to Board deliberations.

SECTION 4: UNDERSTANDING AND APPROACH - SUGGESTED MODIFICATIONS TO GOALS, ADDITIONAL GOALS, WITH RATIONALE

We recommend two additional goals:

1. Positive average sentiment across all engagements – We recommend a goal of maintaining average positive sentiment on engagements with TRP content. We believe this is important because positive sentiment indicates understanding and acceptance of the content. This is not intended to dissuade negative engagements, because of course any citizen is free to disagree with the plan. However, it is also true that content that effectively and efficiently disseminates information yields positive sentiment, so we believe positive sentiment is an important indicator of strong ROI. For this reason, we recommend tracking sentiment across all engagements and maintaining positive sentiment, on average, for the lifetime of the project.
2. We recommend maintaining an average video view time of 15 seconds. Video is an incredibly important mode of communication, so we believe a goal should be attached specifically to video, to assure its dissemination is yielding a strong return on investment. As such, a video view time of 15 seconds will clearly indicate residents are engaging with and receiving good information from RCTC's investments in video.

We recommend the consideration of the modification of the timing of Goals 2 and 3:

- If it is the intent of the Commission to measure the impact of the public outreach effort on the public's understanding of the Traffic Relief Plan, we recommend the Commission consider most closely aligning the deadlines for Goals 2 and 3. Goal 2 currently requires that maximum public outreach for this Goal conclude at the end of March while the public opinion research for Goal 3 would not begin until May. Therefore, **only if we are correct about the intent of the Commission**, we recommend that the deadline for Goals 2 and 3 be changed to more closely overlap.

SECTION 4: UNDERSTANDING AND APPROACH - CHALLENGES TO MEETING THE GOALS

Challenges to Meetings Goals

As we learned from the pandemic, uncontrollable, environmental factors can impact any program. While such factors can't be prevented, we can structure our organization and programming to be flexible and fast-reacting. As such, the AlphaVu team will maintain a flat organizational structure to assure quick and clear communications. Accounting and finances will also be very carefully maintained and monitored so that any unspent funds can be quickly returned to RCTC in case of unforeseen emergency circumstances that interrupt the program.

The only other potential challenge to meeting the goals would be a significant, unexpected change in advertising costs (mail, digital, etc.). While we think this is highly unlikely, the best approach is to maintain a portfolio approach to our outreach – using as many channels as reasonably makes sense. For example, by using both direct mail and multiple digital channels (Facebook/Instagram, YouTube, WhatsApp etc.), we can quickly move resources from one channel to another as necessary for the maximum return on investment.

We do note that we strictly adhere to the terms of service for every digital platform and we fully comply with California data privacy and security regulations. This may at times make it more difficult to count unique, non-duplicate engagements for the same resident. For this reason we recommend striving to surpass our goals to increase the likelihood unique residents and households engage with and receive our messaging. We believe the Commission's stated budget allows this.

4. UNDERSTANDING AND APPROACH

SECTION 4: UNDERSTANDING AND APPROACH - REPORTING AND METRICS

There are four reasons why well-planned reporting is absolutely essential for the success of this program:

1. Detailed, transparent reporting is the method of accountability for reaching the stated goals.
2. Well-designed reporting allows mid-course correction if outside factors impact TRP distribution plans.
3. Reporting is essential to public transparency and measurements of return on investment.
4. Reporting helps ensure deadlines are met according to plan, without a rush for completion near the end.

Audience of Reports

We propose designing three reports, one for each of the following audiences:

1. Analysts - AlphaVu analysts and RCTC staff working on the most detailed levels of the outreach program.
2. Senior Staff – RCTC staff managing/supervising the outreach program.
3. RCTC Board and Public – RCTC’s governing board and the general public.

Reports will be customized for each audience so as to assure an efficient distribution of critical information for timely and effective decision making.

Frequency of Reports

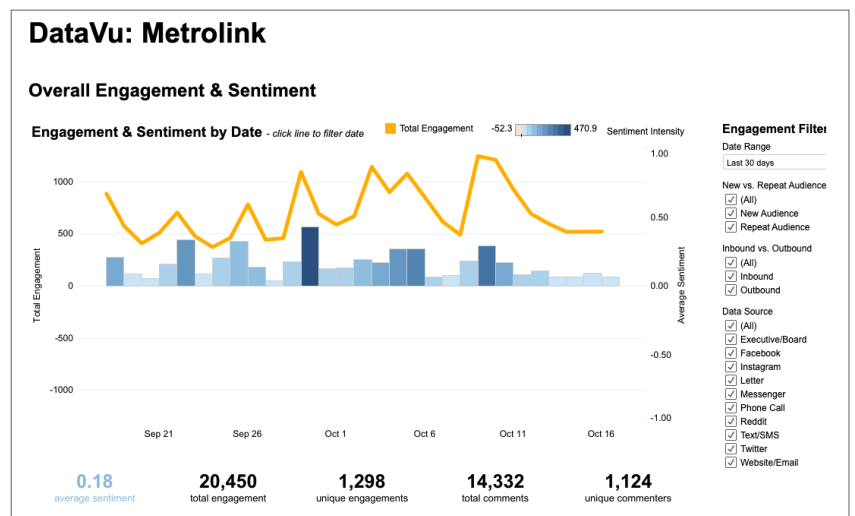
Report frequency should suit the target audience and the decision-making framework for each audience.

1. Analysts will have direct access to a web-based dashboard with detailed key metrics. This dashboard will update every 30 minutes during peak public outreach periods, and between every 1-4 hours in off periods.
2. Senior staff will receive a slightly less detailed summary report every week.
3. RCTC Board will receive an update for every monthly board meeting or committee meeting as directly by RCTC. These reports can be available to the public either by request or by posting to the RCTC website, as directed by RCTC.

Metrics

We propose the use of the following metrics and the reasoning for each:

- Direct Engagement – this is the number of unique adult Riverside County residents who express an opinion of the TRP and/or ask a question about it. These engagements can come in through any channel, including digital (likes, reactions, comments, etc.), email, web form, tele-town hall survey, telephone survey, public meeting or community event, etc. This is the key metric for measuring progress towards Goal 1.
- Distribution – this is the confirmed delivery of the TRP or summary TRP content to unique individuals. This is measured as the number of households receiving direct mail plus the digital reach and number of 15-second video views online. By reach we mean unique impressions so as not to count the same resident twice in considering digital distribution. For platforms like Google that do not provide reach and only impressions, we will count 6 impressions to equal 1 unique individual. This is the key metric for measuring progress towards Goal 2.
- Sentiment – Sentiment (positive, negative, and neutral) is a key representation of the public’s understanding and acceptance of the TRP. While we cannot and should not expect all neutral or positive sentiment (some residents may object to certain aspects of the TRP), it is imperative that we capture and measure all sentiment so we can assess how receptive the public is to the plan, what questions commonly arise, and how we can continually improve our explanations of the TRP.
- Topics – The TRP encompasses many aspects, from funding to roadways and from public transit to pothole repair. We plan to measure exactly what specific topics the public discusses relative to the TRP so we can



Engagement and Sentiment are critical metrics and should be reported with the frequency appropriate for each audience,

4. UNDERSTANDING AND APPROACH

assess which topical areas of the plan cause the greatest concern, capture the most attention, and may need additional emphasis in ongoing communications. Topics in combination with Sentiment will help us understand the public's acceptance and understanding of each specific component of the plan.

- Outside Mentions - We will track the level of organic awareness in the community outside of the direct engagement with the Commission. This involves social listening of community groups, stakeholder, and media public pages.

Content of Reports

The content of each report type will be customized for each intended audience:

- Analyst reports will contain all of the referenced metrics for the entire time period of the project. Analysts will be able to filter by any time period, down to a single day. Their reporting dashboard will also allow them to view all of the underlying data, down to the individual record, feeding into each metric. This allows analysts and staff to have

the most granular access for detail analysis and problem solving.

- Senior staff will have summary reports including summary charts and analyst notes. This will give senior staff the most important analysis in a quickly and easily digestible format.
- RCTC Board reports will be provided in presentation format with summary charts and high-level notes explaining:
 - Progress towards each goal.
 - Overview of upcoming actions in the program.
 - These presentations will be first provided to RCTC staff in draft format for review in time for any necessary revisions before Board or committee meetings.

SECTION 4: UNDERSTANDING AND APPROACH - SCHEDULE

	January	February	March	April	May	June	July	August
Goal 1 (July 2024 Deadline)								
Content Creation/Revision								
Public Opinion Survey								
Public Meetings/Events/Stakeholders								
Direct Mail Responses								
Digital Engagement (Social, Email, SMS)								
Tele-Town Halls								
Inquiry Response Support								
Reporting								
Goal 2 (March 2024 Deadline)								
Content Creation/Revision								
Direct Mail								
Digital Advertising								
Inquiry Response Support								
Reporting								
Goal 3 (May 2024 Deadline)								
Public Opinion Survey								
Reporting								

4. UNDERSTANDING AND APPROACH

SECTION 4: UNDERSTANDING AND APPROACH - BUDGET AND LIMITATIONS

Here we state anticipated spends through months 3, 5, and 7. While the Detailed Pricing Proposal Form divides costs by goal, here when we view costs through the lens of monthly expenditures we must recognize that funds will be expended for the goals in overlapping months. In particular, expenditures for Goal 1 will occur during work for Goal 3, meaning funds for both goals will be focused just before the 5th month.

This explains the distribution of funds by time rather than by goal, but with the same amount accounted for in either structure.

Spend Increments (3, 5, & 7 Months)	
Jan-March (through Goal 2)	\$508,236.40
April-May (Goal 3)	\$387,797.60
Through Completion (Goal 1)	\$90,000
TOTAL	\$986,034.00

Limitations

Both AlphaVu and its subcontractors will at all times adhere to state laws, regulations, and rules. No team member acting on behalf of the Commission will exhort any member of the public to vote for or against any ballot measure or candidate.

DRAFT

EXHIBIT "B"

SCHEDULE OF SERVICES

DRAFT

	January	February	March	April	May	June	July	August
Goal 1 (July 2024 Deadline)								
Content Creation/Revision								
Public Opinion Survey								
Public Meetings/Events/Stakeholders								
Direct Mail Responses								
Digital Engagement (Social, Email, SMS)								
Tele-Town Halls								
Inquiry Response Support								
Reporting								
Goal 2 (March 2024 Deadline)								
Content Creation/Revision								
Direct Mail								
Digital Advertising								
Inquiry Response Support								
Reporting								
Goal 3 (May 2024 Deadline)								
Public Opinion Survey								
Reporting								

DRAFT

EXHIBIT "C"

COMPENSATION

DRAFT

PROJECT TOTALS

GOAL	GOAL DESCRIPTION	Total Estimated Hours	Total Labor	Total ODC's	Total Budget
1	Directly engage 5% of the county's total population in guiding the Commission's decisions about the county's transportation future.	942	\$ 215,397.60	\$ 178,000.00	\$ 393,397.60
2	Directly deliver the draft Traffic Relief Plan to 50% of the adult population of Riverside County, with the plan accessible to 100% of the population.	642	\$ 139,236.40	\$ 369,000.00	\$ 508,236.40
3	Conduct a public opinion survey that informs the Commission about general public support for funding the TRP (By June 1, 2024)	12	\$ 3,400.00	\$ 81,000.00	\$ 84,400.00
TOTAL PROJECT BUDGET:					\$ 986,034.00

DRAFT

AGENDA ITEM 6I

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Tyler Madary, Legislative Affairs Manager David Knudsen, External Affairs Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	State and Federal Legislative Update

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Adopt the Commission’s 2024 State and Federal Legislative Platform; and
- 2) Receive and file a state and federal legislative update.

BACKGROUND INFORMATION:

Draft 2024 State and Federal Legislative Platform

Each year, the Commission updates and adopts a legislative platform that serves as a framework for the policy positions the Commission will take on pieces of legislation, regulations, and administrative policies. The platform addresses broad themes critical to the Commission in both Sacramento and Washington, D.C and allows staff, Commissioners, and the Commission’s lobbyists to communicate in a timely, effective manner with state and federal agencies and elected officials as issues arise.

The proposed 2024 State and Federal Legislative Platform builds on previously adopted platforms, with minor changes from the 2023 version. Recommended changes include:

- Simplifying and consolidating language where feasible;
- Eliminating or updating priorities that have either been addressed or are based on policies that are no longer in effect; and
- Adding reference to the progressive design-build procurement method, following the passage of Senate Bill 617 by Senator Josh Newman earlier this year.

The proposed 2024 State and Federal Legislative Platform is attached, along with a copy that includes track changes to highlight additions and deletions from the 2023 version.

State Update

On November 21, Assembly Speaker Robert Rivas announced changes to Standing Committees for the second year of the 2023-24 Regular Session. Speaker Rivas deferred his long-expected shakeup of committee assignments to maintain consistency when he took his leadership role mid-session in July 2023. Notably, Assemblymember Lori Wilson of Suisun City replaced Assemblymember Laura Friedman as Chair of the Assembly Transportation Committee. Assemblymember Friedman was also removed from the committee. Staff intend to schedule a meeting with Chair Wilson's staff to identify her top committee priorities and the future of legislation that would impact how transportation projects are planned, programmed, and funded, such as Assembly Bill 6 (Friedman), Assembly Bill 7 (Friedman), and AB 1525 (Bonta).

The State Legislature reconvenes on January 3 and Governor Gavin Newsom is expected to outline his budget proposal before the required January 10, 2024 deadline. Governor Newsom and Legislators will likely need to address a larger deficit next year than previously forecasted. According to the State Department of Finance (DOF) this is due to state tax revenue coming in below projections—possibly the result of the six-month extension in the state's tax filing deadline earlier this year. The 2023 Budget Act signed by Governor Newsom in June projected a \$14 billion shortfall in the next fiscal year, which begins July 1, 2024.

Federal Update

On October 25, Representative Mike Johnson was elected Speaker of the House of Representatives. The House passed a new Continuing Resolution on November 14 to fund government operations beyond November 17, and the Senate is expected to do the same ahead of the deadline. This agreement funds agencies at Fiscal Year 2023 levels covered by the Agriculture; Energy-Water; Military Construction-Veterans Affairs; and Transportation-Housing & Urban Development bills through January 19, 2024, while all other appropriations bills will be extended to February 2, 2024. The new Continuing Resolution offers Congress an opportunity to keep the government open while negotiations continue for full Fiscal Year 2024 Appropriations legislation.

FISCAL IMPACT:

This is a policy and information item. There is no fiscal impact.

Attachments:

- 1) Draft 2024 State and Federal Legislative Platform – Redline Version
- 2) Draft 2024 State and Federal Legislative Platform – Edits Accepted Version
- 3) Legislative Matrix – December 2023

Approved by the Budget and Implementation Committee on November 27, 2023

In Favor: 9 Abstain: 0 No: 0



OBJECTIVE: The ~~2023~~2024 State and Federal Legislative Platform serves as the framework that will guide Riverside County Transportation Commission’s (RCTC or Commission) advocacy efforts for state and federal policy and funding decisions that enable the Commission to: implement Measure A, the Regional Transportation Plan (RTP), and adopted plans and programs; comply with state and federal requirements; and provide greater mobility, equitable access, improved quality of life, operational excellence, and economic vitality in Riverside County.

RCTC’s State and Federal Legislative Platform offers positions on key policy issues which are likely to be the focus in the next legislative and congressional sessions.

Equity and Fairness

- Ensure that rural, low-income, and disadvantaged communities in Riverside County benefit from equity-based transportation planning and implementation policies.
- State and federal funding should be distributed equitably to Riverside County. This includes core formula funding as well as supplemental distributions.
- Governance structures should ensure equitable representation and decision-making authority is provided to Riverside County.
- Policies should be developed and implemented recognizing with regional variance to limit disproportionate impacts on by distinguishing high-growth regions with fast-growing populations for their impact on the economy, environment, and should be dynamic to address current and future population growth, including low-income and disadvantaged communities priced out of coastal urban centers.
- Engage in policy discussions regarding the way public outreach and public meetings are conducted by public agencies.

Regional Control

- Project selection and planning authority for state/federal funds should be as local as possible, preferably in the hands of the Commission.
- State and federal rulemakings, administrative processes, program guidelines, and policy development activities should include meaningful collaboration from regional transportation agencies.
- Oppose efforts by non-elected, regulatory bodies and non-transportation interests to assert control over transportation funding and decision-making.
- Policies should be sensitive to each region’s unique needs and avoid “one size fits all” assumptions, over-reliance on single modes of transportation that would disadvantage regional mobility, and lack of distinction between urban, suburban, and rural needs.
- State and federal ~~policies should align~~ authority related to select planning, programming, funding, clearing, or managing the performance of projects should align rather than conflict or duplicate, manage performance, and should recognize mandates and responsibilities placed upon regional and local governments.

Protect Our Authority and Revenue

- Existing statutory authorities for the Commission should be preserved and protected.
- Oppose efforts to infringe on the Commission’s discretion in collecting and administering its revenue sources including, but not limited to: Measure A, tolls, and TUMF.

- Oppose efforts to place mandates on agencies which could nullify RCTC [mobility improvement priorities](#) by driving up operating [and project delivery](#) costs ~~and thereby reducing the amount of funds available to deliver mobility improvements.~~
- Oppose efforts to remove or reduce tax exemption ~~on~~^{of} municipal bond interest to avoid increased costs to financed projects.
- Reinstate advanced refunding of municipal bond authority.
- Oppose legislation that restructures or interferes with governance of the Commission or other local and regional transportation agencies without the support and consent of the entity affected.
- Oppose legislation that amends procurement law in a manner that increases the Commission's exposure to litigation, costs, decreased private sector competition, conflicts of interest, or deviation from best practices.
- ~~Support~~ ^{Support} efforts to preserve, stabilize, leverage and/or increase funding for transportation.
- ~~Oppose policy changes that infringe on the ability of~~ the Commission ~~to~~^{to} receive maximum sales tax collections ~~resulting from implementation of the Wayfair Supreme Court Decision~~ relative to state sales taxes on internet sales or any other change in policy.

Innovation

- Support implementation and expansion of state and federal initiatives to expedite and advance innovative transportation policies, programs, and technologies.

Project Delivery Streamlining

- Support all efforts to reduce project delivery timelines and provide flexibility to meet planning requirements due to changing circumstances, while maintaining important environmental protections.
- Support the availability of project delivery tools such as the design-build [and progressive design-build](#) project delivery methods, construction manager/general contractor (CM/GC, or construction manager at-risk) project delivery method, and public-private partnerships to the Commission, the State, federal agencies, and other infrastructure agencies. Oppose efforts to add barriers to effective implementation of such tools.
- Support the simplification of SB 743 Steinberg (Chapter 386, Statutes of 2013) VMT modeling and analysis for highway projects.
- Support reciprocity of the California Environmental Quality Act (CEQA) for the National Environmental Protection Act (NEPA).
- Support removing the statutory sunset on the NEPA Assignment program California participates in with the Federal Highway Administration which continues to benefit Commission projects. ~~Engage with the California Department of Transportation (Caltrans) and U.S. Department of Transportation to allow the State and the Commission to participate in the NEPA reciprocity pilot program.~~
- Support creation of a low-interest loan program to support habitat conservation plans that mitigate the impacts of transportation infrastructure and make project approvals more efficient.
- Support efforts to modernize the CEQA, including but not limited to:
 - Reduce the Commission's exposure to litigation;
 - Increase accountability and disclosure for plaintiffs in CEQA cases;
 - Limit courts' ability to invalidate an entire CEQA document when a writ of mandate can resolve discreet issues;
 - Exempt illegal actions from CEQA review; and
 - Prohibit "document dumping."
- Support categorical exclusions for multimodal transit projects and for safety improvements on roads and highways.

Accountability

- Revenue derived from transportation sources should be spent exclusively on planning, development, and implementation of transportation projects. Support measures to strengthen the relationship between transportation revenue and expenditures; oppose measures that weaken them.
- Support efforts to ensure that all projects in a voter-approved sales tax measure expenditure plan are delivered to the public.
- Encourage the adoption of on-time, balanced state budgets, and federal appropriation and authorization legislation to ensure transportation projects are delivered without delay or costly stoppages, and that adequate planning for future projects can take place.
- Promote policies that ensure state and federal agencies have adequate funding in order to be responsive and accountable to Commission concerns when working on Commission projects.
- Oppose efforts by non-elected, regulatory bodies to dilute, reduce, or withhold transportation funds.
- Support maximum transparency of funding agencies through the clear scoring and evaluation of funding requests.

Alignment of Responsibilities

- Support strong collaborative partnerships with state and federal agencies.
- Support local control and policies that incentivize self-help counties' continued funding contribution to transportation projects in California.
- Support policies that provide decision-making authority and flexibility to agencies bearing financial risk for projects. Oppose policies that place unfunded mandates and other undue burdens and restrictions on agencies that bear financial risk for projects.
- Support efforts by the state governments to improve maintenance and operations of the state highway and interstate systems.
- Oppose efforts by [the](#) state government to negate their obligation to maintain the state and federal highway systems, or otherwise realign those costs and responsibilities to local and regional agencies.
- Oppose efforts by the state legislature to deflect responsibility for voting on revenue for statewide transportation to local voters.

Environment

- Encourage efforts to limit impacts to the climate, air quality, and habitats in a manner that promotes improved quality of life and equitable outcomes for residents of Riverside County, provided that these efforts are sufficiently funded and do not negatively impact the mission of RCTC.

Climate Action and Air Quality

- Support a greater share of state greenhouse gas (GHG) reduction funds toward transportation investments to address the transportation sector's share of GHG emissions.
- Ensure criteria for defining disadvantaged communities and environmental justice areas of concern accurately represent Riverside County and enable the region to compete for funding.
- Oppose efforts to place new environmental criteria (such as GHG reduction or vehicle miles traveled reduction) on transportation projects and programs without commensurate funding for alternatives or mitigation.
- Oppose legislative proposals or implementation measures (programming, funding, environmental

review, etc.) associated with the Climate Action Plan for Transportation Infrastructure (CAPTI), Caltrans System Investment Strategy (CSIS), Executive Order N-19-19, Executive Order N-79-20, AB 32 Nunez (Chapter 488, Statutes of 2006), SB 375 Steinberg (Chapter 728, Statutes of 2008), SB 743 Steinberg (Chapter 386, Statutes of 2013), SB 32 Pavley (Chapter 249, Statutes of 2016), AB 1278 Muratsuchi (Chapter 337, Statutes of 2022), or other climate action goals that hinder a just transition to multimodal transportation systems in Riverside County.

- Support alternative metrics to Vehicle Miles Traveled (VMT) that more accurately account for environmental impacts. Support use of per capita measurements when mitigating transportation sector impacts in growing regions.
- Support efforts that allow transportation agencies to receive credit for VMT-reducing projects that have been recently delivered or are included in future delivery plans.
- Oppose legislation to authorize a multicounty revenue measure for environmental programs if the measure is not required to: (1) provide equitable funding to Riverside County, and (2) be developed through formal consultation with the Commission before and after passage, and (3) involve the Commission in expenditure of funds within Riverside County related to transportation projects, programs, and services; or if such a measure would negatively impact the Commission's ability to achieve voter approval of local transportation revenue.

Habitat Conservation

- Support efforts or initiatives that expedite the approval of Habitat Conservation Plans or Special Area Management Plans, or support existing plans.
- Support funding for projects and programs that promote wildlife connectivity, if resources are not redirected from other transportation funding programs.
- Oppose legislation that limits the streamlining benefit of the Western Riverside County Multiple Species Habitat Conservation Plan or Coachella Valley Multiple Species Habitat Conservation Plan by impugning or duplicating requirements for analysis and remediation of impacts.

Alternatives to Driving

- Support the continued development of a multimodal transit system in Riverside County that promotes equitable access through geographic reach and service frequency, commuter and mobility choice, and environmental sustainability, as well as maximizes regional competitiveness for state and federal funding.
- Support integration of public transportation systems in southern California.

Ridesharing

- Support incentives to employers that enhance or create transit reimbursement or ridesharing programs.
- Oppose new mandates on employers or transportation agencies that would result in disruption of the Commission's ridesharing program.
- Support programs and policies that invest in and foster new technologies that promote ridesharing, traffic information, and commuter assistance.
- Support regional cooperation toward establishing transportation data standards and technological integrations.
- Support rideshare and vanpool program eligibility for state and federal transit funding, such as the Transportation Development Act.

Active Transportation

- Support maximum regional control of project selection for funding of active transportation projects.
- Support policies and programs that recognize when active transportation improvements are incorporated into other modal projects.

Transit

- Support all transit operators in Riverside County with legislative concerns impacting the operators' funding and operations.
- Support efforts to provide flexibility of funding between capital and operating budgets from state/federal programs for transit agencies.
- Support efforts to reevaluate transit performance measures in state and federal law.
- Support policies and funding programs that promote the establishment or expansion of express bus service that utilizes the Riverside Express Lanes.
- Support incentives for transit agencies that utilize alternative fuels and/or zero-emission buses.
- Support additional funding for specialized transit programs within state and federal programs.
- Support funding for micro-transit programs, as well as efforts to classify these programs as transit operations/transit operators within state and federal programs.
- Oppose unfunded mandates that would negatively impact the operating budgets of transit agencies.

Passenger Rail

- Support inclusion and prioritization of Coachella Valley ~~San Geronio Pass~~ Rail service in the California State Rail Plan, Federal Corridor ID Program, and other state and federal plans and program pipelines.
- Support legislation to better enable the Coachella Valley ~~San Geronio Pass~~ Rail service to become part of California's intercity rail network, such as legislation to allow intercity rail joint powers authorities to expand their service areas.
- Support efforts to secure state and federal funding for the Coachella Valley ~~San Geronio Pass~~ Rail ~~service~~ project.
- Support LOSSAN Rail Corridor Agency and Metrolink with legislative and regulatory concerns impacting funding and operations.
- Support efforts to provide an equitable share of funding to west coast intercity rail systems as compared to the Northeast Corridor.
- Support Metrolink's policy and funding needs with regards to implementation of positive train control and other rail safety items.
- Support Metrolink's SCORE implementation and encourage early SCORE investments in Riverside County.
- Support efforts to prioritize high-speed rail funding for connectivity improvements to existing transit systems and infrastructure in California's urban areas. In particular, support all efforts to ensure that funding is provided as soon as possible to projects included in the Memorandum of Understanding (MOU) between the California High Speed Rail Authority (CHSRA), the Southern California Association of Governments (SCAG), and the Commission.
- Ensure that the Commission's rights and interests in passenger rail in southern California are properly respected in state, federal, and regional plans and policies.

Teleworking/Remote Working

- Engage in policy discussions that utilize teleworking as a method to reduce traffic congestion and improve local economic and public health by permanently increasing the number of Riverside County residents who telecommute or work remotely.

Tolling and Managed Lanes

- Support legislation that ensures the full and accurate capture of toll revenues, to protect the Commission's debt and congestion management obligations.
- Support legislation that authorizes toll agencies to pilot or deploy new technology to improve toll operations and mobility.
- Support legislation and policies that strengthen existing statutory authority for connecting toll segments to be implemented in an adjacent county with approvals by both authorized counties.
- Engage in legislation regarding privacy laws to ensure an appropriate balance between customer privacy, public safety, financial obligation, and practical operations is reasonably met.
- Oppose legislation increasing the type and/or number of vehicles subject to free or reduced toll rates, to protect the Commission's debt and congestion management obligations, and to reduce operational costs and complexity.
- Oppose state and federal policies which would dictate how tolling policy and rates are implemented on the Commission's tolled facilities.
- Engage in policy discussions that may involve legislation or regulatory efforts that add statutory barriers to expanding the use of tolling.
- Oppose policies that would dictate, limit use of, or create onerous requirements for utilizing [surplus](#) toll revenue.
- Engage in legislation and monitor administrative policies relating to interoperability of business practices of tolled facilities statewide, regionally, and nationally, in order to ensure technical feasibility, efficient and effective operations, cost reasonableness, and customer satisfaction.
- Support increased enforcement of managed lanes for improved travel time reliability and effective operation of express bus service.
- Support policies that recognize the role of pricing and managed lanes as an integral part of multi-modal corridor mobility and achieving environmental goals.
- Support initiatives and research that demonstrate the air quality improvements, VMT reduction, and economic benefits from the use of toll and managed lanes.

Goods Movement

- Policies should recognize the impact of goods movement from the Ports of Los Angeles and Long Beach and the U.S.-Mexico border on Riverside County.
- Support state and federal legislative action to continue dedicated funding for goods movement projects, inasmuch as the funding source:
 - Has a nexus to the user;
 - Does not reduce funding to existing highway and transit programs;
 - Provides funding to California, and southern California in particular, commensurate with this region and state's significance to interstate goods movement; and
 - Can be spent on grade separation projects.
- [Provide input to the National Freight Advisory Committee and California State Freight Advisory Committee.](#)
- Advocate for accurate representation of Riverside County in the [Primary National Highway](#) Freight Network or other national or statewide freight route designations.
- Advocate for freight funding from state and federal sources to be distributed based on a regional

consensus, in consultation with state and federal agency's freight plans.

- Oppose increasing the capacity or intensity of freight movement in and near Riverside County without commensurate mitigation of impacts.
- Support legislation to ensure that the Commission is eligible to seek federal goods movement and freight program discretionary grant funding.
- Oppose policies that restrict the ability to deliver goods movement enhancements due to application of SB 743 [or other VMT reduction or mitigation requirements](#).

Projects

- Support programs and policies that advantage transportation projects in Riverside County.
- Oppose policies that inhibit the efficient, timely delivery of such projects.

Funding

- Support continued testing and analysis of California's road charge pilot program as a potential replacement of the state motor fuels excise tax as the primary funding mechanism for transportation and ensure that both urban, suburban, and rural communities are treated in an equitable manner.
- Monitor the federal government's pilot program to explore potential replacement mechanisms for the federal gasoline excise tax.
- Support all efforts to maintain, at the very least, level state/federal funding for transportation programs.
- Support re-dedication of California truck weight fees to transportation accounts.
- Monitor legislation relating to tax collection for impacts on Measure A revenues or administration fees.
- Support maximizing Commission flexibility and discretion over funding decisions.
- Funding sources should be discretionary and distributed by population share to facilitate expeditious project delivery and expenditure of funds.
- Support maintaining the legislative intent behind Senate Bill 1 (Statutes 2017) and historic base program funding, by:
 - Opposing efforts to tie distribution of transportation funding to ancillary policy matters, such as housing.
 - Opposing efforts to deviate from legislative intent and existing statute.
 - Supporting efforts to adjust formula allocations to maximize funding decisions being made as locally as possible.
 - Ensuring program guidelines are as broad as possible with respect to mode, to the extent appropriate while adhering to legislative intent.

Regional Partnerships

- Collaborate with regional transportation agencies to impact transportation funding and regulatory policies to bring equity and fairness to the Inland Empire region.
- Collaborate with public and private sector stakeholders on policy and funding matters that enhance economic development and quality of life in the Inland Empire region.
- Engage in legislative efforts impacting regional transportation agencies, particularly when the efforts have a nexus to the Commission.
- Support implementation of projects in other counties that are contained in the Southern California Association of Governments RTP/Sustainable Communities Strategy when requested by other counties and not in conflict with the Commission's interests.



OBJECTIVE: The 2024 State and Federal Legislative Platform serves as the framework that will guide Riverside County Transportation Commission’s (RCTC or Commission) advocacy efforts for state and federal policy and funding decisions that enable the Commission to: implement Measure A, the Regional Transportation Plan (RTP), and adopted plans and programs; comply with state and federal requirements; and provide greater mobility, equitable access, improved quality of life, operational excellence, and economic vitality in Riverside County.

RCTC’s State and Federal Legislative Platform offers positions on key policy issues which are likely to be the focus in the next legislative and congressional sessions.

Equity and Fairness

- Ensure that rural, low-income, and disadvantaged communities in Riverside County benefit from equity-based transportation planning and implementation policies.
- State and federal funding should be distributed equitably to Riverside County. This includes core formula funding as well as supplemental distributions.
- Governance structures should ensure equitable representation and decision-making authority is provided to Riverside County.
- Policies should be developed and implemented with regional variance to limit disproportionate impacts on regions with fast-growing populations, including low-income and disadvantaged communities priced out of coastal urban centers.
- Engage in policy discussions regarding the way public outreach and public meetings are conducted by public agencies.

Regional Control

- Project selection and planning authority for state/federal funds should be as local as possible, preferably in the hands of the Commission.
- State and federal rulemakings, administrative processes, program guidelines, and policy development activities should include meaningful collaboration from regional transportation agencies.
- Oppose efforts by non-elected, regulatory bodies and non-transportation interests to assert control over transportation funding and decision-making.
- Policies should be sensitive to each region’s unique needs and avoid “one size fits all” assumptions, over-reliance on single modes of transportation that would disadvantage regional mobility, and lack of distinction between urban, suburban, and rural needs.
- State and federal authority related to planning, programming, funding, clearing, or managing the performance of projects should align rather than conflict or duplicate, and should recognize mandates and responsibilities placed upon regional and local governments.

Protect Our Authority and Revenue

- Existing statutory authorities for the Commission should be preserved and protected.
- Oppose efforts to infringe on the Commission’s discretion in collecting and administering its revenue sources including, but not limited to: Measure A, tolls, and TUMF.

- Oppose efforts to place mandates on agencies which could nullify RCTC mobility improvement priorities by driving up operating and project delivery costs.
- Oppose efforts to remove or reduce tax exemption of municipal bond interest to avoid increased costs to financed projects.
- Reinstate advanced refunding of municipal bond authority.
- Oppose legislation that restructures or interferes with governance of the Commission or other local and regional transportation agencies without the support and consent of the entity affected.
- Oppose legislation that amends procurement law in a manner that increases the Commission's exposure to litigation, costs, decreased private sector competition, conflicts of interest, or deviation from best practices.
- Support efforts to preserve, stabilize, leverage and/or increase funding for transportation.
- Oppose policy changes that infringe on the ability of the Commission to receive maximum sales tax collections relative to state sales taxes on internet sales or any other change in policy.

Innovation

- Support implementation and expansion of state and federal initiatives to expedite and advance innovative transportation policies, programs, and technologies.

Project Delivery Streamlining

- Support all efforts to reduce project delivery timelines and provide flexibility to meet planning requirements due to changing circumstances, while maintaining important environmental protections.
- Support the availability of project delivery tools such as the design-build and progressive design-build project delivery methods, construction manager/general contractor (CM/GC, or construction manager at-risk) project delivery method, and public-private partnerships to the Commission, the State, federal agencies, and other infrastructure agencies. Oppose efforts to add barriers to effective implementation of such tools.
- Support the simplification of SB 743 Steinberg (Chapter 386, Statutes of 2013) VMT modeling and analysis for highway projects.
- Support reciprocity of the California Environmental Quality Act (CEQA) for the National Environmental Protection Act (NEPA).
- Support removing the statutory sunset on the NEPA Assignment program California participates in with the Federal Highway Administration which continues to benefit Commission projects.
- Support creation of a low-interest loan program to support habitat conservation plans that mitigate the impacts of transportation infrastructure and make project approvals more efficient.
- Support efforts to modernize the CEQA, including but not limited to:
 - Reduce the Commission's exposure to litigation;
 - Increase accountability and disclosure for plaintiffs in CEQA cases;
 - Limit courts' ability to invalidate an entire CEQA document when a writ of mandate can resolve discreet issues;
 - Exempt illegal actions from CEQA review; and
 - Prohibit "document dumping."
- Support categorical exclusions for multimodal transit projects and for safety improvements on roads and highways.

Accountability

- Revenue derived from transportation sources should be spent exclusively on planning, development, and implementation of transportation projects. Support measures to strengthen the relationship between transportation revenue and expenditures; oppose measures that weaken them.
- Support efforts to ensure that all projects in a voter-approved sales tax measure expenditure plan are delivered to the public.
- Encourage the adoption of on-time, balanced state budgets, and federal appropriation and authorization legislation to ensure transportation projects are delivered without delay or costly stoppages, and that adequate planning for future projects can take place.
- Promote policies that ensure state and federal agencies have adequate funding in order to be responsive and accountable to Commission concerns when working on Commission projects.
- Oppose efforts by non-elected, regulatory bodies to dilute, reduce, or withhold transportation funds.
- Support maximum transparency of funding agencies through the clear scoring and evaluation of funding requests.

Alignment of Responsibilities

- Support strong collaborative partnerships with state and federal agencies.
- Support local control and policies that incentivize self-help counties' continued funding contribution to transportation projects in California.
- Support policies that provide decision-making authority and flexibility to agencies bearing financial risk for projects. Oppose policies that place unfunded mandates and other undue burdens and restrictions on agencies that bear financial risk for projects.
- Support efforts by the state government to improve maintenance and operations of the state highway and interstate systems.
- Oppose efforts by the state government to negate their obligation to maintain the state and federal highway systems, or otherwise realign those costs and responsibilities to local and regional agencies.
- Oppose efforts by the state legislature to deflect responsibility for voting on revenue for statewide transportation to local voters.

Environment

- Encourage efforts to limit impacts to the climate, air quality, and habitats in a manner that promotes improved quality of life and equitable outcomes for residents of Riverside County, provided that these efforts are sufficiently funded and do not negatively impact the mission of RCTC.

Climate Action and Air Quality

- Support a greater share of state greenhouse gas (GHG) reduction funds toward transportation investments to address the transportation sector's share of GHG emissions.
- Ensure criteria for defining disadvantaged communities and environmental justice areas of concern accurately represent Riverside County and enable the region to compete for funding.
- Oppose efforts to place new environmental criteria (such as GHG reduction or vehicle miles traveled reduction) on transportation projects and programs without commensurate funding for alternatives or mitigation.
- Oppose legislative proposals or implementation measures (programming, funding, environmental

review, etc.) associated with the Climate Action Plan for Transportation Infrastructure (CAPTI), Caltrans System Investment Strategy (CSIS), Executive Order N-19-19, Executive Order N-79-20, AB 32 Nunez (Chapter 488, Statutes of 2006), SB 375 Steinberg (Chapter 728, Statutes of 2008), SB 743 Steinberg (Chapter 386, Statutes of 2013), SB 32 Pavley (Chapter 249, Statutes of 2016), AB 1278 Muratsuchi (Chapter 337, Statutes of 2022), or other climate action goals that hinder a just transition to multimodal transportation systems in Riverside County.

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Habitat Conservation

- Support efforts or initiatives that expedite the approval of Habitat Conservation Plans or Special Area Management Plans, or support existing plans.
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- Oppose legislation that limits the streamlining benefit of the Western Riverside County Multiple Species Habitat Conservation Plan or Coachella Valley Multiple Species Habitat Conservation Plan by impugning or duplicating requirements for analysis and remediation of impacts.

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- Support incentives to employers that enhance or create transit reimbursement or ridesharing programs.
- Oppose new mandates on employers or transportation agencies that would result in disruption of the Commission's ridesharing program.
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Active Transportation

- Support maximum regional control of project selection for funding of active transportation projects.
- Support policies and programs that recognize when active transportation improvements are incorporated into other modal projects.

Transit

- Support all transit operators in Riverside County with legislative concerns impacting the operators' funding and operations.
- Support efforts to provide flexibility of funding between capital and operating budgets from state/federal programs for transit agencies.
- Support efforts to reevaluate transit performance measures in state and federal law.
- Support policies and funding programs that promote the establishment or expansion of express bus service that utilizes the Riverside Express Lanes.
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- Support additional funding for specialized transit programs within state and federal programs.
- Support funding for micro-transit programs, as well as efforts to classify these programs as transit operations/transit operators within state and federal programs.
- Oppose unfunded mandates that would negatively impact the operating budgets of transit agencies.

Passenger Rail

- Support inclusion and prioritization of Coachella Valley Rail service in the California State Rail Plan, Federal Corridor ID Program, and other state and federal plans and program pipelines.
- Support legislation to better enable the Coachella Valley Rail service to become part of California's intercity rail network, such as legislation to allow intercity rail joint powers authorities to expand their service areas.
- Support efforts to secure state and federal funding for the Coachella Valley Rail project.
- Support LOSSAN Rail Corridor Agency and Metrolink with legislative and regulatory concerns impacting funding and operations.
- Support efforts to provide an equitable share of funding to west coast intercity rail systems as compared to the Northeast Corridor.
- Support Metrolink's policy and funding needs with regards to implementation of positive train control and other rail safety items.
- Support Metrolink's SCORE implementation and encourage early SCORE investments in Riverside County.
- Support efforts to prioritize high-speed rail funding for connectivity improvements to existing transit systems and infrastructure in California's urban areas. In particular, support all efforts to ensure that funding is provided as soon as possible to projects included in the Memorandum of Understanding (MOU) between the California High Speed Rail Authority (CHSRA), the Southern California Association of Governments (SCAG), and the Commission.
- Ensure that the Commission's rights and interests in passenger rail in southern California are properly respected in state, federal, and regional plans and policies.

Teleworking/Remote Working

- Engage in policy discussions that utilize teleworking as a method to reduce traffic congestion and improve local economic and public health by permanently increasing the number of Riverside County residents who telecommute or work remotely.

Tolling and Managed Lanes

- Support legislation that ensures the full and accurate capture of toll revenues, to protect the Commission's debt and congestion management obligations.
- Support legislation that authorizes toll agencies to pilot or deploy new technology to improve toll operations and mobility.
- Support legislation and policies that strengthen existing statutory authority for connecting toll segments to be implemented in an adjacent county with approvals by both authorized counties.
- Engage in legislation regarding privacy laws to ensure an appropriate balance between customer privacy, public safety, financial obligation, and practical operations is reasonably met.
- Oppose legislation increasing the type and/or number of vehicles subject to free or reduced toll rates, to protect the Commission's debt and congestion management obligations, and to reduce operational costs and complexity.
- Oppose state and federal policies which would dictate how tolling policy and rates are implemented on the Commission's tolled facilities.
- Engage in policy discussions that may involve legislation or regulatory efforts that add statutory barriers to expanding the use of tolling.
- Oppose policies that would dictate, limit use of, or create onerous requirements for utilizing toll revenue.
- Engage in legislation and monitor administrative policies relating to interoperability of business practices of tolled facilities statewide, regionally, and nationally, in order to ensure technical feasibility, efficient and effective operations, cost reasonableness, and customer satisfaction.
- Support increased enforcement of managed lanes for improved travel time reliability and effective operation of express bus service.
- Support policies that recognize the role of pricing and managed lanes as an integral part of multi-modal corridor mobility and achieving environmental goals.
- Support initiatives and research that demonstrate the air quality improvements, VMT reduction, and economic benefits from the use of toll and managed lanes.

Goods Movement

- Policies should recognize the impact of goods movement from the Ports of Los Angeles and Long Beach and the U.S.-Mexico border on Riverside County.
- Support state and federal legislative action to continue dedicated funding for goods movement projects, inasmuch as the funding source:
 - Has a nexus to the user;
 - Does not reduce funding to existing highway and transit programs;
 - Provides funding to California, and southern California in particular, commensurate with this region and state's significance to interstate goods movement; and
 - Can be spent on grade separation projects.
- Advocate for accurate representation of Riverside County in the National Highway Freight Network or other national or statewide freight route designations.
- Advocate for freight funding from state and federal sources to be distributed based on a regional

consensus, in consultation with state and federal agency's freight plans.

- Oppose increasing the capacity or intensity of freight movement in and near Riverside County without commensurate mitigation of impacts.
- Support legislation to ensure that the Commission is eligible to seek federal goods movement and freight program discretionary grant funding.
- Oppose policies that restrict the ability to deliver goods movement enhancements due to application of SB 743 or other VMT reduction or mitigation requirements.

Projects

- Support programs and policies that advantage transportation projects in Riverside County.
- Oppose policies that inhibit the efficient, timely delivery of such projects.

Funding

- Support continued testing and analysis of California's road charge pilot program as a potential replacement of the state motor fuels excise tax as the primary funding mechanism for transportation and ensure that both urban, suburban, and rural communities are treated in an equitable manner.
- Monitor the federal government's pilot program to explore potential replacement mechanisms for the federal gasoline excise tax.
- Support all efforts to maintain, at the very least, level state/federal funding for transportation programs.
- Support re-dedication of California truck weight fees to transportation accounts.
- Monitor legislation relating to tax collection for impacts on Measure A revenues or administration fees.
- Support maximizing Commission flexibility and discretion over funding decisions.
- Funding sources should be discretionary and distributed by population share to facilitate expeditious project delivery and expenditure of funds.
- Support maintaining the legislative intent behind Senate Bill 1 (Statutes 2017) and historic base program funding, by:
 - Opposing efforts to tie distribution of transportation funding to ancillary policy matters, such as housing.
 - Opposing efforts to deviate from legislative intent and existing statute.
 - Supporting efforts to adjust formula allocations to maximize funding decisions being made as locally as possible.
 - Ensuring program guidelines are as broad as possible with respect to mode, to the extent appropriate while adhering to legislative intent.

Regional Partnerships

- Collaborate with regional transportation agencies to impact transportation funding and regulatory policies to bring equity and fairness to the Inland Empire region.
- Collaborate with public and private sector stakeholders on policy and funding matters that enhance economic development and quality of life in the Inland Empire region.
- Engage in legislative efforts impacting regional transportation agencies, particularly when the efforts have a nexus to the Commission.
- Support implementation of projects in other counties that are contained in the Southern California Association of Governments RTP/Sustainable Communities Strategy when requested by other counties and not in conflict with the Commission's interests.

RIVERSIDE COUNTY TRANSPORTATION COMMISSION - POSITIONS ON STATE AND FEDERAL LEGISLATION – DECEMBER 2023

Legislation/ Author	Description	Bill Status	Position	Date of Board Adoption
AB 6 (Friedman)	This bill provides significant new oversight to the California Air Resources Board in the approval process of a metropolitan planning organization's Sustainable Communities Strategy and the methodology used to estimate greenhouse gas emissions. These new burdensome requirements will likely result in significant delays to transportation projects.	Passed the Assembly, referred to the Senate Transportation and Environmental Quality Committees on June 14, 2023. Two-year bill. September 15, 2023	<i>Oppose Based on Platform</i>	5/24/2023
AB 7 (Friedman)	This bill requires the California State Transportation Agency, California Department of Transportation, and California Transportation Commission to consider specific goals as part of their processes for project development, selection, and implementation. AB 7 may impact the allocation of billions of dollars in state transportation funding, infringing on RCTC's ability to deliver critically needed transportation infrastructure in Riverside County.	Ordered to the inactive file. Two-year bill. September 11, 2023	<i>Oppose Based on Platform</i>	5/25/2023
AB 558 (Arambula)	This bill restructures the Fresno County Transportation Authority (FCTA) by increasing its board membership from nine to thirteen members. This restructuring is done without the consensus and support from regional stakeholders and sets a concerning precedent for RCTC and other regional transportation agencies that rely upon a collaborative process to be effective. Additionally, the bill was amended on April 18 to subject a county transportation expenditure plan prepared by the Fresno County Transportation Authority (FCTA) to the requirements of the California Environmental Quality Act.	Hearing postponed by the Local Government Committee on April 24, 2023. Two-year bill. April 28, 2023	<i>Oppose Based on platform</i>	4/10/2023
AB 1385 (Garcia)	This bill would raise RCTC's maximum tax rate authority from 1% to 1.5%.	Approved by the Governor. October 8, 2023	<i>Support</i>	3/8/2023

Legislation/ Author	Description	Bill Status	Position	Date of Board Adoption
AB 1525 (Bonta)	This bill significantly narrows the location and types of projects eligible to receive state transportation funding by requiring 60% of funds to be allocated to priority populations.	Held under submission in the Assembly Appropriations Committee on May 18, 2023. Two-year bill. May 18, 2023	<i>Oppose Based on platform</i>	4/11/2023
SB 617 (Newman)	This bill, until January 1, 2029, would authorize a transit district, municipal operator, consolidated agency, joint powers authority, regional transportation agency, or local or regional agency, as described, to use the progressive design-build process for up to 10 public works projects in excess of \$5 million for each project. The bill would specify that the authority to use the progressive design-build process.	Approved by the Governor. October 4, 2023	<i>Support Based on platform</i>	4/5/2023

AGENDA ITEM 6J

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Jonathan Marin, Senior Management Analyst David Knudsen, External Affairs Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Quarterly Public Engagement Metrics Report, July - September 2023

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Receive and file the Quarterly Public Engagement Metrics Report for July - September 2023.

BACKGROUND INFORMATION:

The Quarterly Public Engagement Metrics Report allows the Commission to monitor and gauge progress toward public engagement goals, analyze the effectiveness of its efforts, and provide transparency into how the Commission uses resources to engage with the public. This report covers the third quarter of 2023, from July to September.

The Public Affairs staff continues to measure public engagement activities through the Commission’s communication channels. Staff publishes information about Commissions’ achievements, project deliveries, partnerships, and investments made through Measure A on these communication channels. Commission staff actively monitors digital engagement activities to respond to comments and questions, and to assess how audiences are engage with the digital information.

The metrics provided are compared to the previous quarter, which can produce varying results based on the level of activity and other seasonal trends. For example, metrics can be significantly higher if the Commission boosts posts to raise awareness of closures or other activities.

This quarter’s report includes three sets of data:

- 1) Metrics for RCTC’s overall public engagement activities including public sentiment on social media; social media followers, engagement, and reach; email notifications; website use and access; and top pages visited.

- 2) Metrics for RCTC's 15/91 Express Lanes Connector Project including email activity, text messages, website sessions, and social media followers.
- 3) Metrics for RCTC's 71/91 Interchange Project including email activity, website sessions, and social media following.

RCTC Overall Public Engagement

1) Social Media

- a. Overall public sentiment for the last quarter was generally positive. Posts highlighting the VanClub program, Metrolink discounts, and Rail Safety Month produced some of the highest levels of positive sentiment for the quarter.
- b. **Facebook:** Followers during this quarter grew slightly – up 0.1%, from 13,481 to 13,491. The Facebook page had garnered 24,613 forms of engagement, such as likes, comments, and video viewing and shares, representing a 59% decrease from the second quarter's 59,959. Overall, posts reached a total of 277,261 unique users for this quarter (followers and non-followers), a 17% decrease from the previous quarter's mark of 335,824.
- c. **X (formerly known as Twitter):** During the third quarter, followers on the platform increased from 1,723 to 1,745 – representing a 1% increase. Engagement decreased 13%, from 1,120 to 975, while post impressions increased by 24%, from 15,652 to 19,337.
- d. **Instagram:** A 3% increase in followers occurred during this quarter – climbing from 3,682 to 3,796. Overall engagement decreased 52%, from 16,839 to 7,966. The account reached 179,160 unique users, a significant increase of 124% from last quarter's 79,761.
- e. The decrease in overall engagement from quarter-to-quarter was due in large part to the high-profile 71/91 Interchange closure that took place during the second quarter – producing elevated levels of engagement as a result of increased ad spend.

- #### **2) The Point E-Newsletter:** Public Affairs staff continually develops diverse and high-quality content for publication on the official RCTC blog, **The Point**. A collection of the month's stories is distributed as a monthly email newsletter. During the third quarter, subscribers to this newsletter decreased by 0.3%, from 6,211 to 6,191. On average, 48% of the newsletter subscribers opened the monthly **The Point** email, and 4.4% clicked on links to learn more. The open rate for this newsletter continues to outperform the industry (government) average of 34%.

3) Website

- a. Website sessions were up 47% in the third quarter, from 85,042 to 124,781. There were 111,025 unique users, an increase of 36% compared to the previous quarter's 81,777.
- b. Direct visits (keying in rctc.org) made up most web traffic at 79%. Users visiting the website through a search engine reached 17%. Referrals from external sites,

such as the FasTrak, City of Corona, and Caltrans websites, made up 2% of visits. Traffic from email and social media links each accounted for 1% of website sessions.

- c. Website access by device shifted during the third quarter. 87% of website visits originated from desktop, while mobile (phones and tablets) accounted for 13%, representing a drastic increase in desktop visits from last quarter.
- d. The home page (rctc.org) was the most visited page during the third quarter, followed by the project page for the 15/91 Express Lanes Connector and the 71/91 Interchange.

15/91 Express Lanes Connector Public Engagement

- 1) **Emails:** Subscribers during the past quarter totaled 3,152, a slight increase of 0.2%. The project team has received 34 email inquiries to date.
- 2) **Texts:** A total of 525 people signed up to receive text message updates, representing a 0.3% increase from the previous quarter.
- 3) **Webpage:** 4,182 visits to the project page occurred during the third quarter - totaling 42,286 visits to date.
- 4) **Social Media:** Facebook page followers increased to 3,365 compared to 3,351 last quarter. Twitter grew by 0.4% from 431 to 448 followers. Instagram followers increased 0.5% from 925 to 971 followers.

71/91 Interchange Project Public Engagement

- 1) **Emails:** Email sign-ups during the third quarter totaled 2,508, representing a 16% increase in subscribers. The project team received 9 inquiries.
- 2) **Texts:** 1,101 people registered to receive text message updates of the project – a 116% increase from the previous quarter. A text message sign-up campaign through Facebook was launched during this quarter to facilitate new sign ups.
- 3) **Webpage:** Visits to the project, construction update, and closures webpages totaled 9,798.
- 4) **Social Media:** Facebook page followers totaled 1,195 compared to second quarter's 1,025 – a 15% increase. X (formerly known as Twitter) followers grew by 25% from 108 to 135. Instagram followers increased 9% from 1,592 to 1,748 followers.

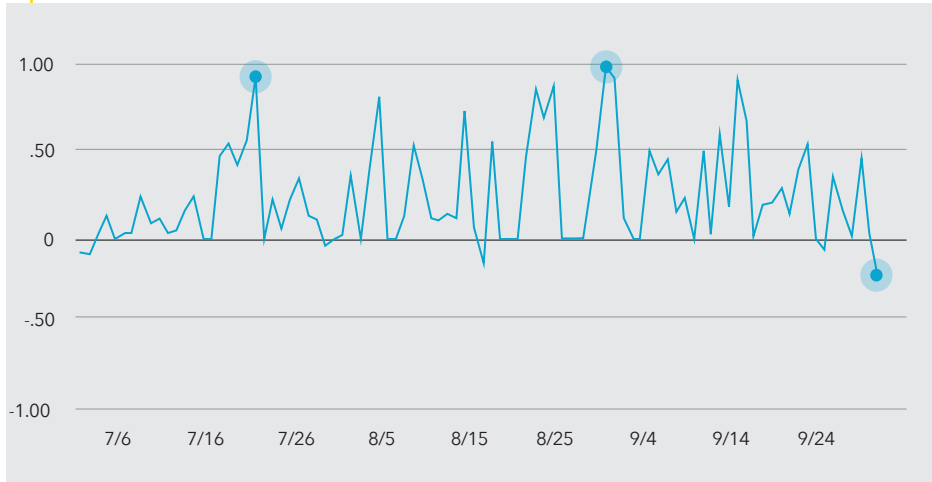
FISCAL IMPACT:

This is an informational item. There is no fiscal impact.

Attachments:

- 1) RCTC Overall Public Engagement Metrics
- 2) 15/91 Express Lanes Connector Construction Public Engagement Metrics
- 3) 71/91 Interchange Construction Public Engagement Metrics

Overall Social Media Sentiment



7/21: Positive sentiment on post promoting VanClub opportunities
 8/30: Positive sentiment on back-to-school post highlighting Metrolink
 9/30: Negative engagement calling for transit service to sports events

Eblasts



Subscribers
6,191

Average Open
48%

Average Click
4.4%

Web

124,781

Number of Sessions

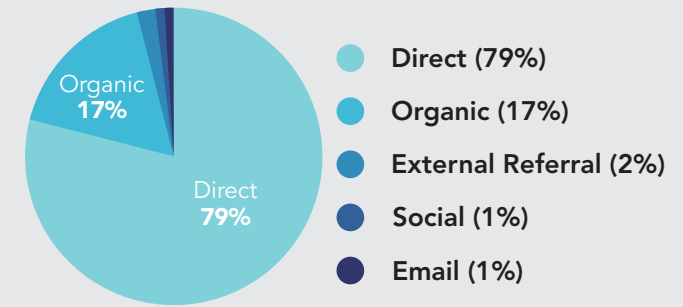
+47%

111,025

Number of Unique Users

+36%

Top Channels



Differences

Direct visits to the website increased significantly in the third quarter. External referrals experienced a modest increase due to site links from the FasTrak, City of Corona, and Caltrans websites.

Social Media

Facebook

Followers
13,491
+0.1%

Engagement
24,613
-59%

Reach
277,261
-17%

X formerly known as Twitter

Followers
1,745
+1%

Engagement
975
-13%

Impressions
19,337
+24%

Instagram

Followers
3,796
+3%

Engagement
7,966
-52%

Reach
179,160
+124%

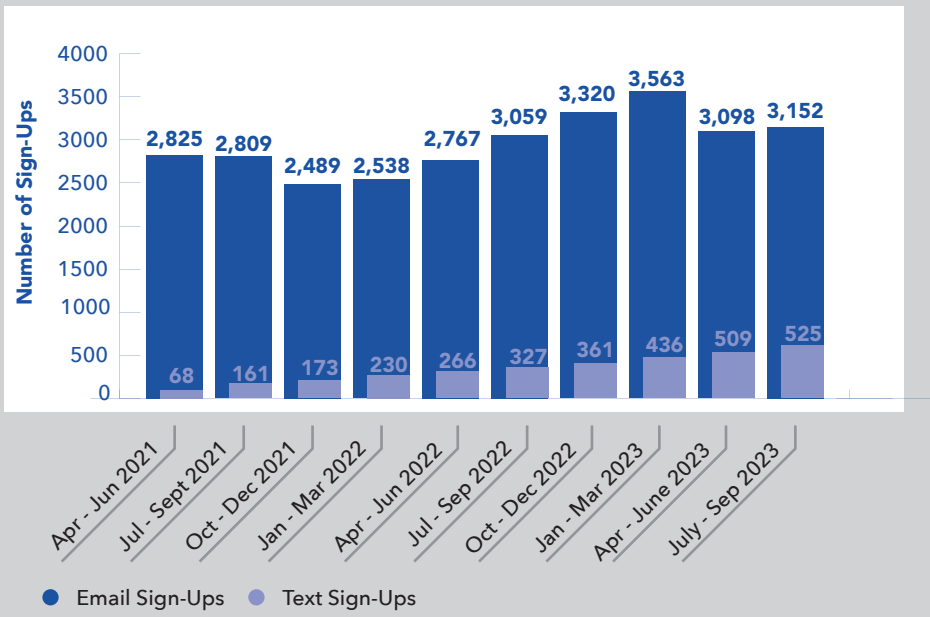
Top Pages Visited

- Home Page
- 15/91 Express Lanes Connector Project
- 71/91 Interchange Project - Construction Updates

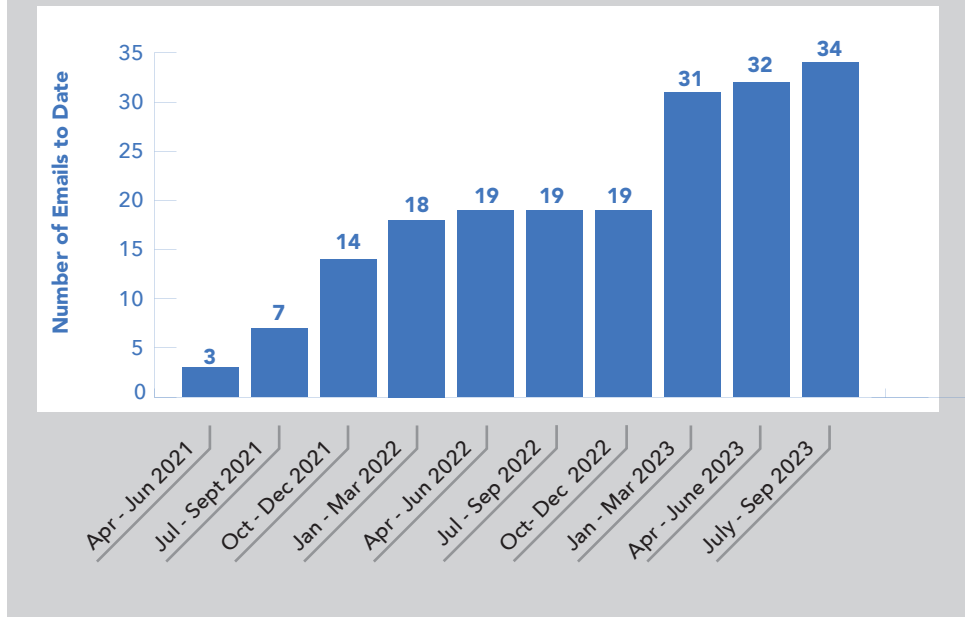
Desktop vs Mobile Users



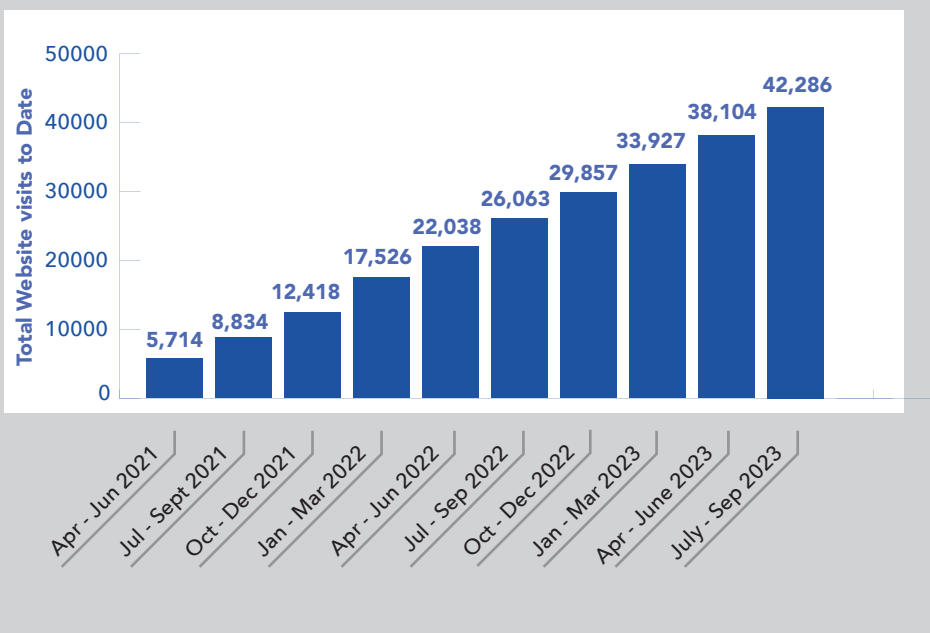
Email & Text Alert Sign-Ups



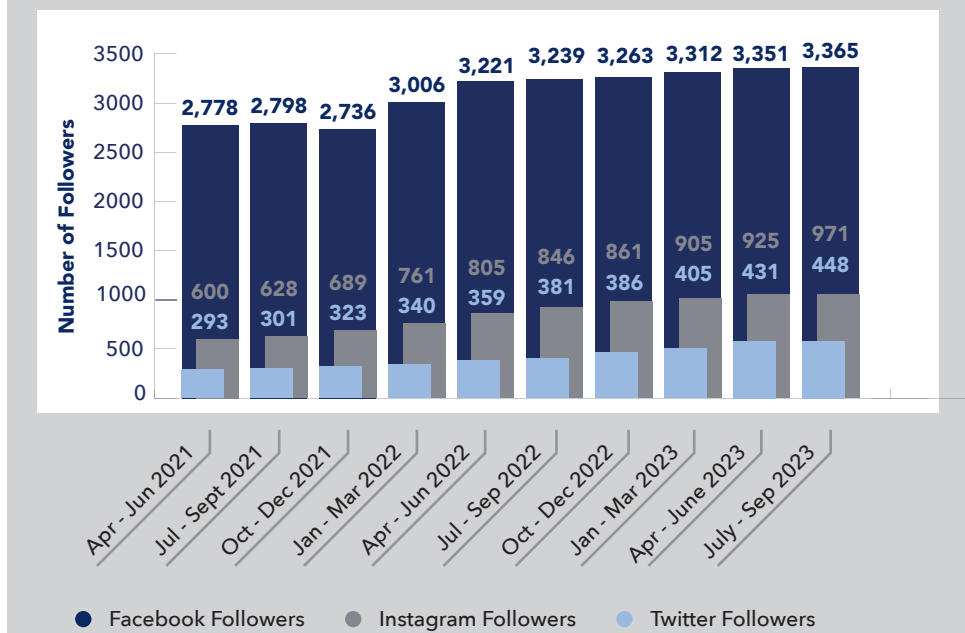
Emails to Project Team



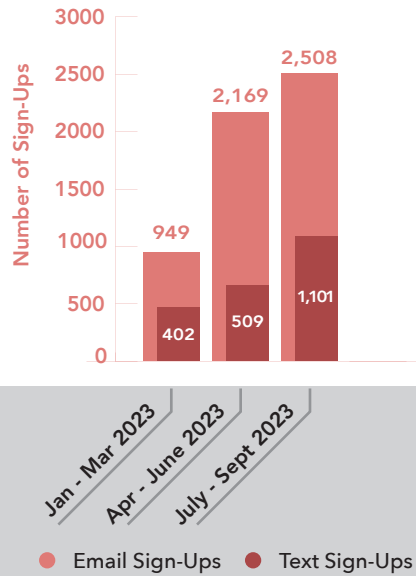
Website Sessions



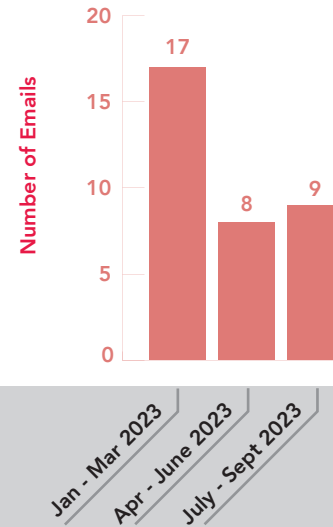
Social Media Followers



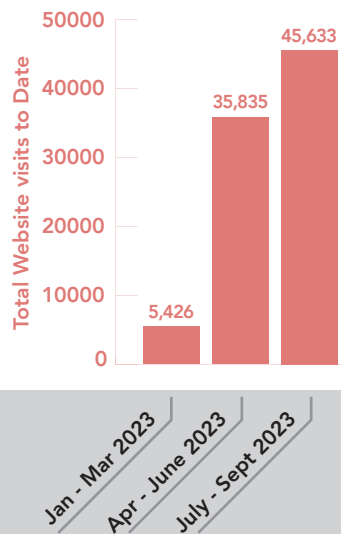
Email & Text Alert Sign-Ups



Emails to Project Team

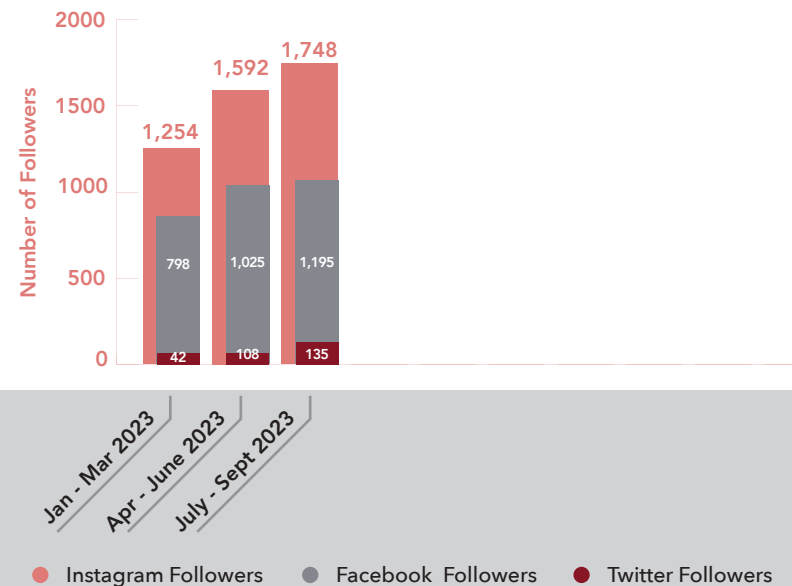


Website Sessions



Includes project, construction update, and closures pages

Social Media Followers



AGENDA ITEM 6K

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Eric DeHate, Transit Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Riverside County Zero-Emission Bus Rollout Plans and Funding and Implementation Strategy

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Receive and file an update on the Riverside County Zero-Emission Bus (ZEB) Rollout Plans and Funding and Implementation Strategy (Project);
- 2) Direct staff to review existing transit funding policies and continue to work with the transit operators to strategize and leverage revenue sources to support the transition to zero-emission; and
- 3) Award sole source Agreement No. 24-62-042-00 with Center for Transportation and the Environment (CTE) for ongoing plan updates and zero-emission technical assistance for a three-year term in the amount of 150,000, plus a contingency of \$15,000, for a total amount not to exceed \$165,000.

BACKGROUND AND DISCUSSION:

The California Air Resources Board (CARB) adopted the Innovative Clean Transit (ICT) regulation in December 2018. Per the regulation, all California public transit (bus) operators are required to gradually transition to a 100-percent zero-emission fleet by 2040. The rule sets a purchasing target, as shown in Table 1, for ZEBs of 25 percent beginning in 2023 for large transit operators and 2026 for small operators, and 100 percent by 2029 for all bus purchases.

Table 1: ICT Purchasing Requirements for Large and Small Transit Operators

Starting January 1	ZEB Percentage of Total New Bus Purchases	Starting January 1	ZEB Percentage of Total New Bus Purchases
Large Transit Operators Purchasing Rule		Small Transit Operators Purchasing Rule	
2023	25%	2026	25%
2026	50%	2029	100%
2029	100%		

The completion of the ZEB rollout plans will allow CARB to assess the financial impacts of the regulation on transit agencies and plan for future funding assistance opportunities to aid all agencies to reach the goal by 2040.

In April of 2022, the Commission awarded a contract to CTE to complete the Project. The Project includes two main tasks: 1) completion of ICT ZEB Rollout Plans for the smaller transit agencies in Riverside County (County), which include the cities of Banning, Beaumont, Corona, and Riverside and the Palo Verde Valley Transit Agency (PVVTA), and 2) an analysis of the total overall funding needs countywide.

The key activities for the Project included:

- A review of the existing conditions including any relevant demographics, service area characteristics, existing fleet sizes and conditions, location and status of charging and maintenance infrastructure in the project area.
- Stakeholder engagement with public utilities, municipalities, and any private properties owners who will be directly impacted by the implementation of ZEB infrastructure such as charging facilities and utility work related to charging infrastructure.
- Development of a detailed capital and operating financial analysis comparing the purchase of ZEBs to the purchase of existing CNG or gasoline buses for the preparation of a longer-term implementation financial strategy for an 18-year period from Fiscal Years 2022 to 2040.
- Development of final ZEB rollout reports based on existing conditions and financial analysis.
- Approval of final ICT ZEB Rollout Plans by the transit agencies’ boards and submission to CARB.
- Development of an 18-year long-term funding analysis for complete transition to zero-emission including procurement and purchasing of zero-emission vehicles to meet regulation deadlines.

Each of the smaller transit agencies were able to submit their required ICT ZEB rollout plans (Attachments 1 – 5) by the required June 30, 2023, deadline. The rollout plans analyzed two technologies, battery electric buses (BEB) and fuel cell electric buses (FCEB). Table 2 is a summary of the technology selected for the smaller agencies.

Table 2: Small Transit Operator Technology Selection

Agency	Technology Selected
Banning	BEB fleet
Beaumont	Mixed BEB/FCEB fleet
Corona	Mixed BEB/FCEB fleet
Riverside	Mixed BEB/FCEB fleet
PVVTA	FCEB fleet

If needed, the transit agencies may revise their plans in the future should they choose to select a different technology.

Countywide Funding and Implementation Strategy

As part of the 18-year long-term implementation financial strategy, CTE also incorporated the zero-emission needs identified in Riverside Transit Agency’s (RTA) and SunLine Transit Agency’s (SunLine) ICT rollout plans to provide a countywide summary of the total impact of the CARB purchasing rule for Riverside County. RTA’s board selected FCEB fleet as the preferred technology and SunLine’s board selected a mixed BEB/FCEB fleet. The vast majority of SunLine’s fleet will need to be FCEB due to the service area and range limitations of BEB.

The core component of transitioning to zero-emission is to reduce greenhouse gas emissions. The 18-year transition to zero-emission is projected to save about 132.1 million pounds of greenhouse gas emissions, which equates to removing approximately 13,335 gas powered vehicles from the roads.

It is estimated that the minimum cost to transition all transit operators to zero-emission technology will be about \$608.2 million more than the current fleet and operating configurations. This includes approximately \$48.7 million more for ongoing operating costs and \$560.0 million more for capital outlay and rolling stock needed through 2040. Table 3 summarizes the projected additional zero-emission costs for operations and capital by bus operator.

Table 3: Additional Costs for Zero-Emission Transition from FY 2022 through 2040

Agency	Additional Operating Costs for ZE	Additional Capital Costs for ZE	Total Costs for ZE Transition
Banning	\$ 1,403,000	\$ 11,091,000	\$ 12,494,000
Beaumont	2,504,000	22,140,000	24,644,000
Corona	2,783,000	31,924,000	34,707,000
Riverside	6,354,000	22,883,000	29,237,000
RTA*	35,271,000	322,312,000	357,583,000
SunLine**	-	129,648,000	129,648,000
PVVTA	32,000	19,522,000	19,954,000
Total	\$ 48,747,000	\$ 559,520,000	\$ 608,267,000

*Additional costs may be needed for maintenance and warranties.

**Operational impacts were not included in their ICT rollout plan.

Other costs for workforce development, charging management systems and additional project management staff were not included in the analysis as they are unknown at this time. As the plans are revised, the funding analysis will also be updated.

Funding Gap Analysis

As the regional transportation planning agency and county transportation commission, the Commission provides allocations of federal, state and local funds to all of the transit operators in the County and has a vested interest to support and strategize how existing revenue sources can be leveraged to facilitate this transition. As part of this role, staff has projected the amount of funding over the zero-emission transition period to gauge the amount of revenue resources available. Over the 18-year transition period, the Commission is expected to receive approximately \$4.9 billion in formula funding for bus operators. Table 4 below summarizes the funding expected between FY 2022 to 2040.

Table 4: Source and Anticipated Revenues from FY 2022 to 2040

Source of Funds*	Anticipated Revenues*
Federal**	\$ 920,182,000
State**	3,471,714,000
Local	482,730,000
Total	\$ 4,874,626,000

*Excludes other transit revenues for rail and commuter assistance.

**Includes competitive funds already awarded.

Over the same period, baseline ongoing operating and capital costs will require approximately \$4.1 billion for operations and \$562.8 million for capital, for a total of about \$4.6 billion. Operating costs include ongoing salaries and benefits for staff, insurance, ongoing preventative maintenance costs for facilities, bus shelters and support vehicles, ITS, and security. Capital costs include support vehicles, bus shelters, ITS upgrades and components, bus shelters and other capital costs. This excludes increased service and associated capital support. Table 5 illustrates the projected need by bus operator over the same 18-year period.

Table 5: Projected Ongoing Operating and Capital Costs from FY 2022 to 2040

Agency	Ongoing Operating Costs	Ongoing Capital Costs	Total Ongoing Operating and Capital Costs
Banning	\$ 50,312,000	\$ 19,813,000	\$ 70,125,000
Beaumont	68,459,000	29,237,000	97,696,000
Corona	80,580,000	16,416,000	96,996,000
Riverside	112,852,000	29,189,000	142,041,000
RTA	2,566,160,000	226,033,000	2,792,193,000
SunLine	1,129,932,000	230,571,000	1,360,503,000
PVVTA	42,153,000	11,540,000	53,693,000
Total	\$ 4,050,448,000	\$ 562,799,000	\$ 4,613,247,000

Table 6 includes the ongoing operating and capital costs with all of the additional zero-emission costs provided by CTE. This includes approximately \$4.1 billion in operating costs and \$1.1 billion in capital costs for a total of \$5.2 billion over the 18-year transition period.

Table 6: Projected Ongoing and Additional ZE Costs from FY 2022 to 2040

Type of Costs	Operating Costs	Capital Costs	Total Projected Costs
Ongoing Costs	\$ 4,050,448,000	\$ 562,799,000	\$ 4,613,247,000
Additional ZE Costs	48,747,000	59,520,000	608,267,000
Total	\$ 4,099,195,000	\$ 1,122,319,000	\$ 5,221,514,000

When comparing the anticipated revenues and the combination of ongoing costs and additional zero-emission costs, it is expected that projected costs will exceed the anticipated revenues by approximately \$346.9 million over the 18-year transition period, as shown in Table 7.

Table 7: Revenues and Projected Costs from FY 2022 to 2040

Revenues/Projected Costs	Estimated Total
Anticipated Revenues	\$ 4,874,626,000
Total Projected Costs	5,221,514,000
Under/(over) Revenues	\$ (346,888,000)

Next Steps

This analysis serves as a roadmap for the transit operators to guide them to reach their ICT goals. However, the roadmap shows that traditional formula funds the Commission receives and provides is not sufficient on its own to fund the transit needs of our operators. This will require transit operators to seek additional federal and state competitive grants to ensure their ICT plan is fully funded. RTA and SunLine have been proactive in applying for federal and state competitive grants and have received about \$70 million for zero-emission projects already.

The projected shortfall only considers transitioning to zero-emission and does not include any expansion of services. As operators consider adding more frequency or routes, those may include additional capital and operating expenses. More funding will be needed to support these new planned services. Staff will work with the operators to understand their long-term plans and update the financial strategy as needed.

Staff will continue to work with the transit operators to strategize how formula funding can be best leveraged with competitive state and federal programs and review existing funding policies to assess how they might be improved to address the funding needs for zero emission transition and growth for more service. This may also include advocating for the transit operators on a legislative level to seek additional funding.

CTE Sole Source Contract Award


Staff recommends approval of Agreement No. 24-62-042-00 for the award of a sole source contract to CTE for the next three years to utilize their services to update the funding and implementation analysis as well as provide technical assistance to Commission staff and transit operators. The total agreement is for a not to exceed amount of \$165,000, which includes \$150,000 over three years and a contingency of \$15,000. This is based on CTE’s hourly rates which are consistent with its current contract.

CTE has the knowledge and expertise to advise on implementation strategies as the technology continues to mature and state and federal policies evolve. In addition, CTE has developed a strong understanding of the local needs and challenges that the transit operators face and has developed relationships with each that it would also be a cost savings to the transit operators for the Commission to extent their involvement in this Project. The original scope of the Project did not include an on-call task option; therefore, a sole source contract is needed.

FISCAL IMPACT:

There is no fiscal impact for receiving an update on the ZEB rollout plans and funding analysis at this time. The first three years of the 18-year transition period have already been approved by the Commission through the Short-Range Transit Plan process. The funding needs over the remaining 15-year period for each operator will be considered in the annual SRTP process.

Sufficient funding is included in the approved budget to utilize CTE’s services for the remainder of FY 2023/24. The contract will be on an as-needed basis and future expenditures will be included in future budget years.

Financial Information					
In Fiscal Year Budget:	Yes N/A	Year:	FY 2023/24 FY 2024/25+	Amount:	\$25,000 \$140,000
Source of Funds:	Local Transportation Funds (LTF)		Budget Adjustment:	No N/A	
GL/Project Accounting No.:	622305 65520 00000 0000 106 62 65520				
Fiscal Procedures Approved:				Date:	11/14/2023

Attachments:

- 1) City of Banning’s ICT Rollout Plan
- 2) City of Beaumont’s ICT Rollout Plan
- 3) City of Corona’s ICT Rollout Plan

- 4) City of Riverside's ICT Rollout Plan
- 5) PVVTA's ICT Rollout Plan

Approved by the Budget and Implementation Committee on November 27, 2023

In Favor: 9 Abstain: 0 No: 0



Zero-Emission Bus Rollout Plan

Prepared by Banning Connect Transit Service with support from the Center for Transportation and the Environment, Arcadis IBI Group, and the Riverside County Transportation Commission



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List of Abbreviations

ADA: Americans with Disabilities Act

A&E: Architecture and Engineering

BEB: Battery Electric Bus

CA: California

CARB: California Air Resources Board

CNG: Compressed Natural Gas

COVID/COVID-19: Coronavirus Disease 2019 (SARS-CoV-2)

CTE: Center for Transportation and the Environment

DAC: Disadvantaged Community

FCEB: Fuel Cell Electric Bus

HVAC: Heating, Ventilation, and Air Conditioning

ICE: Internal Combustion Engine

ICT: Innovative Clean Transit

kW: Kilowatt

kWh: Kilowatt-Hour

MW: Megawatt

OEM: Original Equipment Manufacturer

PM: Particulate Matter

PPI: Producer Price Index

CPI: Consumer Price Index

RFP: Request for Proposals

SCE: Southern California Edison (SoCal Edison)

TDA: Transportation Development Act

VTT: Verification of Transit Training

ZEB: Zero-Emission Bus

A glossary of useful terms can also be found in Appendix B - Glossary

Executive Summary

Banning Connect Transit Service (Banning Connect) provides public transit services in and around the City of Banning, a suburban community located east of Riverside and southeast of San Bernardino in Riverside County. Banning Connect operates three fixed routes during the weekdays, two (2) fixed routes on the weekends, and Dial-A-Ride (DAR) service. Banning Connect's fleet, as of 2022, consists of four (4) Compressed Natural Gas (CNG) transit buses, three (3) CNG cutaways, and two (2) gasoline cutaways. Riverside County Transportation Commission (RCTC) awarded a contract to the Center for Transportation and the Environment (CTE) to perform a zero-emission bus (ZEB) transition study to create a plan for a 100% zero-emission fleet by 2040 on behalf of transit agencies and municipal transportation services in the cities of Banning, Beaumont, Corona and Riverside and the Palo Verde Valley Transit Agency to comply with the Innovative Clean Transit (ICT) regulation enacted by the California Air Resources Board (CARB). This report will focus on Banning Connect's transition plan to zero-emission technology.

Banning Connect's Rollout Plan achieves a zero-emission bus fleet in line with the 2040 target of the ICT Regulation. To achieve this goal, Banning Connect will replace all CNG and gasoline buses with ZEBs when the vehicles reach the end of their 12-year useful life. By 2040, all 9 of the agency's buses are expected to be battery electric buses (BEBs). The last of the agency's gasoline buses will reach end of life in 2025 and the last of the CNG buses will reach end of life in 2039.

Banning Connect's entire fixed-route and DAR transit fleet operates out of 176 East Lincoln Street, known by the city as the Corporation Yard. The facility houses Banning's slow-fill CNG fueling station, its five maintenance bays, an outside vehicle wash bay, and its administrative facilities. In their SRTP, Banning Connect has listed plans to replace its current slow-fill CNG station, which is well beyond its useful life, in addition to including a public dispenser to the fueling station. Banning Connect plans to install charging infrastructure at this location to support their BEB fleet. Banning Connect's customer service operations are centered at the City of Banning Community Services Center at 789 North San Gorgonio Avenue, where riders can purchase bus passes, get bus schedules, and complete ADA applications.

Banning Connect's bus service provides transportation opportunities to Disadvantaged Communities (DACs) and moving toward zero-emission buses will help improve the health of DACs and non-DACs alike. The agency will build upon an existing training structure for bus maintenance and operators to provide the necessary battery-electric bus (BEB) specific training that will be required for the agency to own and operate BEBs. The agency estimates that pursuing a ZEB fleet in place of a CNG and gasoline fleet will cost an additional \$5M in bus costs and infrastructure alone between 2022 and 2040, which will require significantly more funding opportunities. Banning Connect plans to pursue funding opportunities at the federal, state, and local levels to help fill this funding gap.



Transit Agency Information

Banning Connect Profile

History

The City of Banning (“Banning”) is strategically located astride Interstate 10 between the Inland Empire and the Coachella Valley in the San Gorgonio Pass. The City, incorporated in 1913, has a rich and colorful history.

Initially Banning served as a stagecoach and railroad stop between the Arizona territories and Los Angeles. This history has contributed to the present-day spirit of pioneer resourcefulness and "can do" attitude that is so prevalent in the community.

Banning has provided public transportation service since April 1973, which expanded to two routes in September 1985. The current transit system comprises three fixed-route services and a Dial-a-Ride system that is limited to seniors (60 + years of age) and persons with disabilities, including riders certified under the Americans with Disabilities Act (ADA). The newest of the three fixed routes, the Cabazon service, which began in July 1995, extends from Banning east to the unincorporated area of Cabazon. This route was extended in January 2000 to provide a route deviation to serve a remote residential area in eastern Cabazon.

The Banning transit system serves several areas, including the commercial and residential areas of Banning and Cabazon, as well as the commercial areas of the Morongo Indian Reservation and limited commercial areas in the City of Beaumont (“Beaumont”). Banning transit services cover approximately 35 square miles in the pass area with routes connecting to regional services.

Within the service area, population is mixed with areas of both high and low densities. The current routes have been planned by taking advantage of this knowledge, allowing the system to operate more efficiently.

There is significant growth happening in Banning with the development of two large specific plan development projects and several industrial developments. It is anticipated that the growth will provide additional opportunities that will benefit the Banning Connect Transit Service.

Service Area and Bus Service

Banning Connect Transit Service (Banning Connect) provides public transit services in and around the City of Banning, a suburban community located east of Riverside and southeast of San Bernardino in Riverside County. Banning Connect provides service along three fixed routes during the weekdays and two fixed routes on the weekends¹. As of July 2022, the transit agency’s bus fleet consists of four (4) 32-ft. and 33.5-ft. CNG transit buses, including two (2) EIDorado National E-Z Rider II CNG buses and two (2) EIDorado National XHF CNG buses, and two (2) 32-ft EIDorado Bus CNG cutaways . Banning Connect’s fixed route service connects the cities of Banning, Cabazon, Beaumont, and the Morongo Indian Reservation, covering an area of approximately 35 square miles. The Cities of Banning and Beaumont have executed an Interagency Service Agreement, which allows each city’s transit service to operate within both cities, allowing Banning residents to access Beaumont’s commercial area. Banning

¹ Short Range Transit Plan, City of Banning

also has a Memorandum of Understanding with the Morongo Band of Mission Indians which allows bus stops within their property, including the Casino Morongo and the town of Cabazon. Within the City of Banning, bus routes provide service to the San Geronio Hospital, Mid-County Courthouse, Banning Library, Banning High School, Mount San Jacinto College and Hemmerling Elementary School.

In addition to fixed-route service, Banning Connect provides dial-a-ride (DAR) service. This service is provided for Seniors 60 and older; persons with disabilities; and persons certified under the Americans with Disability Act (ADA). The DAR service is primarily used for medical appointments, workshop programs, and shopping areas. Unlike fixed-route service, the DAR service does not run a set route, and so a single vehicle may provide trips both within and outside of a DAC during a single day. As of July 2022, Banning’s paratransit fleet consists of one (1) Glaval CNG cutaway, one (1) El Dorado gas cutaway, and one (1) Starcraft Bus gas cutaway. Banning Connect’s service map is illustrated in **Figure 1**.

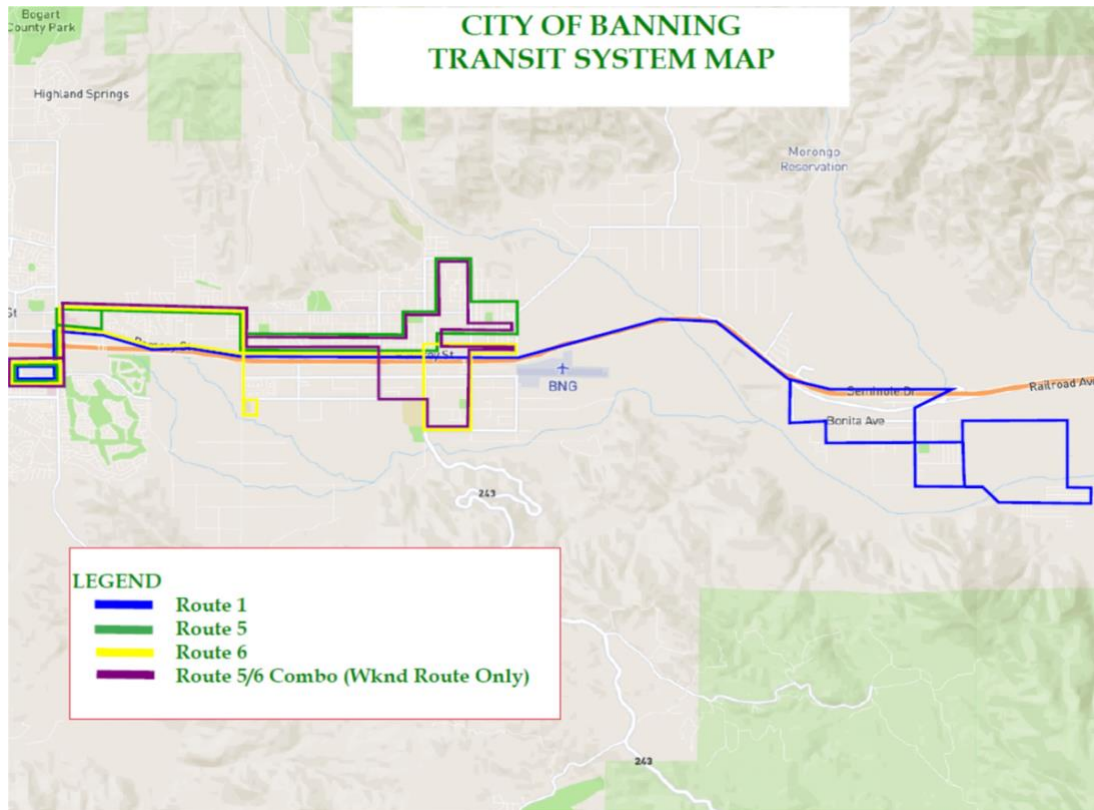


Figure 1 – Banning Connect Service Area

Ridership

Banning Connect had a total of 87,624 passengers in the 2020/2021 fiscal year for both fixed route and DAR services and 49,612 in the third quarter of the 2021/2022 fiscal year. Based on this ridership data, Banning Connect staff estimated a total of 65,898 passengers in the 2022/2023 fiscal year, with 63,245 on fixed route services and 2,653 on DAR services.

The Banning transit system has seen a slight downward trend in ridership since 2016. An increase in ridership was realized in the first quarter of the 2019/2020 fiscal year resulting from the new Interagency Services Agreement with the City of Beaumont, but later drastically dropped due to COVID-19. In the 2021/2022 fiscal year, final numbers are projected to be lower, by about 50% as compared to pre-pandemic numbers. While the reduction in ridership carried into the beginning of FY 2022/2023, ridership trends are now beginning to increase, indicating a potential return to near pre-pandemic ridership levels.

Banning Connect staff will continue to monitor key performance metrics throughout the year in order to identify underperforming routes and trips and make adjustments as necessary. Additionally, staff plans to develop a Comprehensive Operational Analysis (COA) once ridership numbers normalize to pre-Covid-19 numbers, hopefully in FY 2023/2024. One goal of the COA will be to develop a plan for improving Banning Connect's routes to make them more efficient so the agency can continue to meet the needs of Banning's riders. Banning Connect also plans to increase ridership by participating in community events and raising awareness on the benefits of public transit. This will include agency staff attending senior community meetings, highlighting new routes in articles of local papers, partnering with nearby transit agencies to provide training to passengers in the area, and more.

Banning Connect Basic Information

Transit Agency's Name:

Banning Connect Transit Service

Mailing Address:

Banning Connect Transit Service

176 East Lincoln Street

Banning, CA 92220

Transit Agency's Air Districts:

Banning Connect is part of the South Coast Air Quality Management District (SCAQMD).

Transit Agency's Air Basin:

South Coast Air Quality Management District is part of the South Coast Air Basin.²

Total number of buses in Annual Maximum Service:

The maximum number of active buses operating fixed route and DAR services out of the Corporation Yard is nine (9).

Urbanized Area:

Banning, CA. Banning is 23 square miles of land area with 1,282 people per square mile living within that area.

Population of Urbanized Area:

Over 29,000 residents³

² <https://www.rcrcd.org/south-coast-air-quality-management-district-scaqmd>

³ Short Range Transit Plan, City of Banning

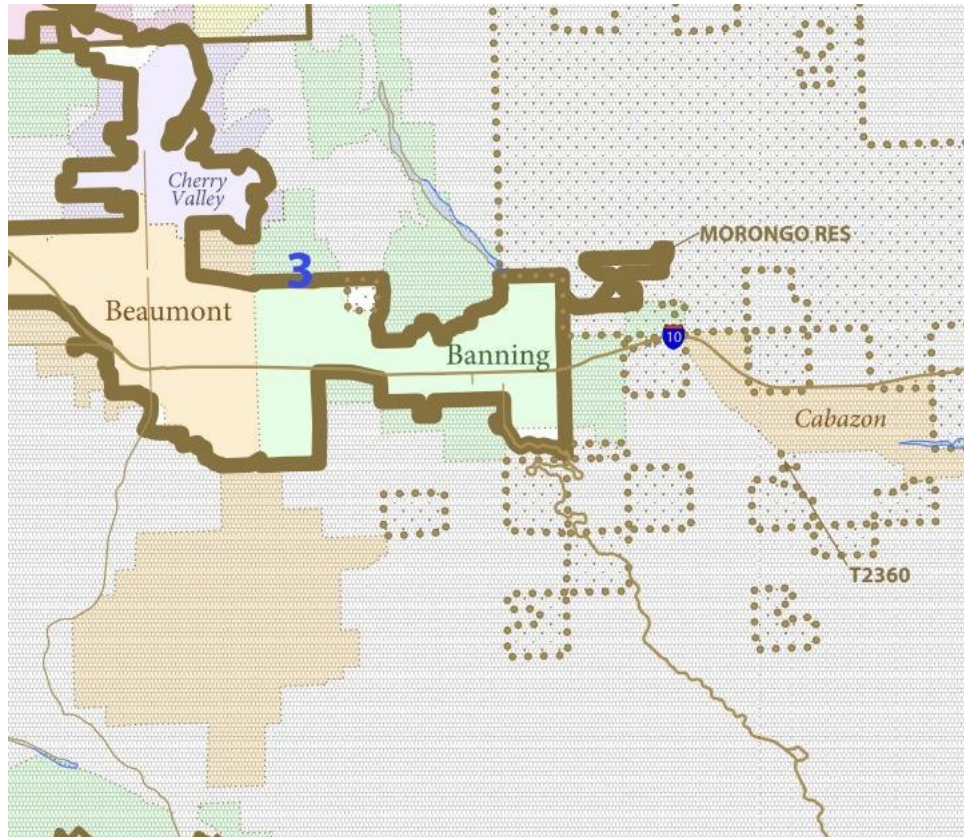


Figure 2 – City of Banning Urbanized and Rural Map⁴⁵

Contact Information for Inquiries on the Banning Connect ICT Rollout Plan:

Stephanie Sirls, Transit Manager, Banning Connect Transit Service

176 East Lincoln Street

Banning, CA 92220

Tel: (951) 922-3243

ssirls@banningca.gov

Is your transit agency part of a Joint Group? No

⁴https://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua75340_riverside--san_bernardino_ca/DC10UA75340_000.pdf

⁵ Solid brown lines represent the boundaries of the urbanized area

Fleet Facility

Banning Connect’s entire fixed-route and DAR transit fleet operates out of 176 East Lincoln Street, known by the city as the Corporation Yard. The facility houses Banning’s slow-fill CNG fueling station, its five maintenance bays, an outside vehicle wash bay, and its administrative facilities. In their Short-Range Transit Plan (SRTP), Banning Connect has listed plans to replace its current slow-fill CNG station, which is well beyond its useful life, in addition to including a public dispenser to the fueling station. Banning Connect’s customer service operations are centered at the City of Banning Community Services Center at 789 North San Gorgonio Avenue, where riders can purchase bus passes, get bus schedules, and complete ADA applications. A map of the Corporation Yard is shown in **Figure 3** and a map of the Community Services Center is shown in **Figure 4** to understand the locations of Banning Connect’s properties in relation to one another, as well as to routes and service areas. These facilities offer a starting point for the consideration of viable locations for BEB charging infrastructure.



Figure 3 – Banning Connect Fueling, Administrative, and Storage Facility Overview

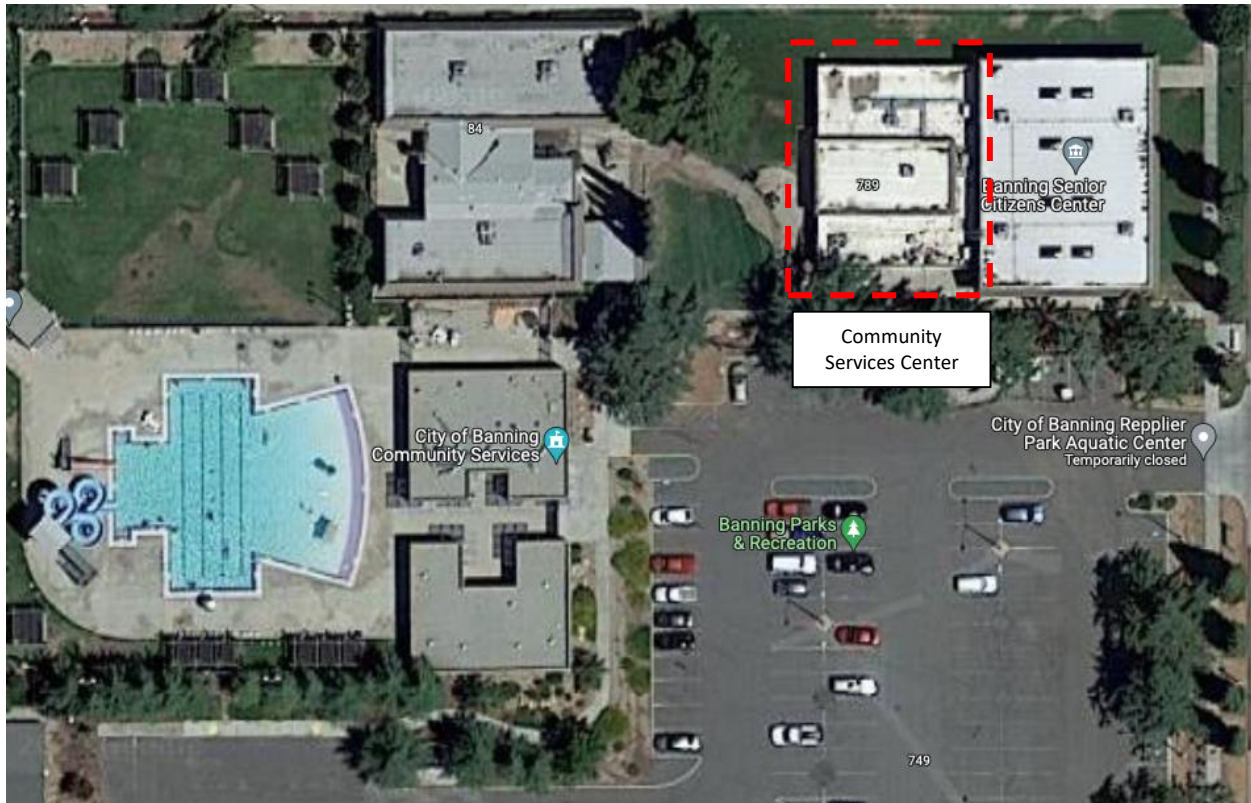


Figure 4 – Banning Connect Community Services Facility Overview

Banning Connect’s Sustainability Goals

Per their Clean & Green Report from June 2008⁶, the City of Banning has dedicated themselves to sustainability; “maximizing energy efficiency; optimizing resource use while minimizing negative environmental impacts; minimizing waste production and pollution; capturing the benefits of natural processes while minimizing damage from natural events; and meeting the economic and social needs of all its people in a manner that does not degrade or destroy the productivity of its natural and man-made systems.” The report details the City’s commitment to improving the region’s air quality, transit, and transportation issues through its Clean Fuel Fleet Program, City Rideshare Programs, etc. The Banning Electric Utility Department offers several rebates and incentives to its residential and commercial communities; however, it does not currently have any programs specific to electric vehicles (EVs). The utility’s portfolio consists of 53.9% eligible renewable energy, with a greenhouse gas emissions intensity of 313 lbs. CO₂e/MWh.

California’s plan to address public health, air quality and climate protection goals includes the Innovative Clean Transit (ICT) regulation, which aims to reduce greenhouse gas (GHG), nitrogen oxide (NO_x), and diesel particulate emissions, with which Banning Connect will be compliant at the conclusion of this project. To accomplish its sustainability goals, Banning Connect is working to replace its CNG and gas fleet with 100% zero-emission vehicles by 2040 in accordance with ICT regulations.

Banning Connect has developed a plan to transition to a fully zero emission bus (ZEB) fleet composed of battery electric buses by 2040, in accordance with the Innovative Clean Transit (ICT) regulation, requiring all California transit agencies to follow zero-emission procurement guidelines with the goal of achieving 100% zero-emission fleets by 2040. Banning Connect has committed to purchasing zero emission buses, demonstrating the agency’s commitment to reducing emissions. Banning Connect has worked with CTE to select a plan that prioritizes local

⁶ https://www.ci.banning.ca.us/DocumentCenter/View/557/Banning_Clean--Green-Report?bidId=

needs and conditions, namely considering resilience, redundancy, and emergency response adaptation options. Banning Connect's transition to a fully ZEB fleet will ultimately benefit communities through cleaner air, greater independence from fossil fuels, and more environmental sustainability.

B

Rollout Plan General Information

Overview of the Innovative Clean Transit Regulation

On December 14, 2018, CARB enacted the Innovative Clean Transit (ICT) regulation, setting a goal for California public transit agencies to have zero-emission bus fleets by 2040. The regulation specifies the percentage of new bus procurements that must be zero-emission buses for each year of the transition period (2023–2040). The annual percentages for Small Transit agencies are as follows:

ICT Zero-Emission Bus Purchase Requirements for Small Agencies:

January 1, 2026 - 25% of all new bus purchases must be zero-emission

January 1, 2027 - 25% of all new bus purchases must be zero-emission

January 1, 2028 - 25% of all new bus purchases must be zero-emission

January 1, 2029+ - 100% of all new bus purchases must be zero-emission

March 2021-March 2050 – Annual compliance report due to CARB

This purchasing schedule guides agency procurements to realize the goal of zero-emission fleets in 2040 while avoiding any early retirement of vehicles that have not reached the end of their 12-year useful life. Agencies have the opportunity to request waivers that allow purchase deferrals in the event of economic hardship or if zero-emission technology cannot meet the service requirements of a given route. These concessions recognize that zero-emission technologies may cost more than current internal combustion engine (ICE) technologies on a vehicle lifecycle basis and that zero-emission technology may not currently be able to meet all service requirements.

Banning Connect’s Rollout Plan General Information

Rollout Plan’s Approval Date: May 23, 2023

Resolution No: 2023-91

Is a copy of the approved resolution attached to the Rollout Plan? Yes

Contact for Rollout Plan follow-up questions:

Stephanie Sirls, Transit Manager, Banning Connect Transit Service

176 East Lincoln Street

Banning, CA 92220

Tel: (951) 922-3243

ssirls@banningca.gov

Who created the Rollout Plan?

This Rollout Plan was created by the City of Banning, with assistance from the Center for Transportation and the Environment (CTE) and the Riverside County Transportation Commission (RCTC).

This document, the ICT Rollout Plan, contains the information for Banning Connect’s zero-emission fleet transition trajectory as requested by the ICT Regulation. It is intended to outline the high-level plan for implementing the

transition. The Rollout Plan provides estimated timelines based on information on bus purchases, infrastructure upgrades, workforce training, and other developments and expenses that were available at the time of writing.

Additional Agency Resources

Banning Connect agency website: <https://banningca.gov/>



Technology Portfolio

ZEB Transition Technology Selection

Based on outcomes of the zero-emission fleet transition planning study completed by CTE, Banning Connect plans to transition its fleet to battery electric buses. By 2040, Banning Connect expects to operate a fully battery electric fleet of 9 transit vehicles.

A BEB-only fleet scenario will allow Banning Connect to focus on implementing one zero-emission propulsion technology as opposed to a mixed technology zero-emission fleet as well as avoid the higher fuel cost of hydrogen for a mixed-fleet or FCEB-only fleet. This plan also summarizes the charging infrastructure costs needed to support a fleet of 9 BEBs.

Local Developments and Regional Market

California has become a global leader for zero-emission buses, as well as the zero-emission fuel and fueling infrastructure required to support these vehicles. California is home to four bus OEMs that manufacture zero-emission buses, all having experience in building BEB technology in particular.

The state legislature has fostered growth in zero-emission fuels through the state's Low-Carbon Fuel Standard (LCFS) program, which incentivizes the consumption of fuels with a lower carbon intensity than traditional combustion fuels and through funding opportunities offered by CARB and CEC. The state's electrical utility companies have also supported the transition to ZEB technology by offering incentive programs for heavy duty EV charging infrastructure and service upgrades. California BEB deployments represent 37% of the nation's BEB deployments.⁷

Three of the major BEB OEMs manufacture buses in California with two manufacturing sites located in Southern California. Nearby agencies such as Long Beach Transit, LA Metro, and Foothill California have some of the most mature BEB deployments in the country. This year, the FTA also awarded battery-electric bus and charging infrastructure projects under the FY2022 Low-No Emission Vehicle Program. In Los Angeles County, Los Angeles County Metropolitan Transportation Authority (LA Metro) was awarded \$104.2 million, and the City of Gardena was awarded \$2.22 million to procure battery-electric buses and charging equipment. In Riverside County, Sunline Transit Agency was awarded an additional \$7.15 million to procure battery electric buses and charging stations, and in Orange County, Orange County Transportation Authority (OCTA) was awarded \$2.51 million to purchase zero-emission buses to improve air quality and paratransit service.

⁷ CALSTART. 2021. THE ADVANCED TECHNOLOGY TRANSIT BUS INDEX: A NORTH AMERICAN ZEB INVENTORY REPORT. https://calstart.org/wp-content/uploads/2022/01/2021-ZIO-ZEB-Final-Report_1.3.21.pdf

ZEB Transition Planning Methodology

Banning Connect's ICT Rollout Plan was created in combination with Banning Connect's Existing Conditions Report and the Riverside County ZEB Financial Strategy Plan, utilizing CTE's ZEB Transition Planning Methodology. CTE's methodology consists of a series of assessments that enable transit agencies to understand what resources and decisions are necessary to convert their fleets to zero-emission technologies. The results of the assessments help the agency decide on a step-by-step process to achieve its transition goals. These assessments consist of data collection, analysis, and modeling outcome reporting stages. These stages are sequential and build upon findings in previous steps. The assessment steps specific to Banning Connect's Rollout Plan are outlined below:

1. Planning and Initiation
2. Requirements Analysis & Data Collection
3. Service Assessment
4. Fleet Assessment
5. Fuel Assessment
6. Maintenance Assessment
7. Facilities Assessment
8. Total Cost of Ownership Assessment
9. Policy Assessment
10. Partnership Assessment

For **Requirements Analysis & Data Collection**, CTE collects data on the agency's fleet, routes and blocks, operational data (e.g., mileage and fuel consumption), and maintenance costs. Using this data, CTE establishes service requirements to constrain the analyses in later assessments and produce agency-specific outputs for the zero-emission fleet transition plan.

The **Service Assessment** phase initiates the technical analysis phase of the study. Using information collected in the Data Collection phase, CTE evaluates the feasibility of using zero-emission buses to provide service to the agency's routes and blocks over the transition plan timeframe from 2022 to 2040. Results from the Service Assessment are used to guide ZEB procurement plans in the Fleet Assessment and to determine energy requirements in the Fuel Assessment.

The **Fleet Assessment** projects a timeline for the replacement of existing buses with ZEBs that is consistent with Banning Connect's existing fleet replacement plan and known procurements. This assessment also includes a projection of fleet capital costs over the transition timeline and is optimized to meet state mandates or agency goals, such as minimizing costs or maximizing service levels.

The **Fuel Assessment** merges the results of the Service Assessment and Fleet Assessment to determine annual fuel requirements and associated costs. The Fuel Assessment calculates energy costs through the full transition timeline for each fleet scenario, including the agency's existing CNG and gasoline buses. To more accurately estimate battery electric bus (BEB) charging costs, a focused Charging Analysis is performed to simulate daily system-wide energy use. As older technologies are phased out in later years of the transition, the Fuel Assessment calculates the changing fuel requirements as the fleet transitions to ZEBs. The Fuel Assessment also provides a total fuel cost over the transition timeline.

The **Maintenance Assessment** calculates all projected fleet maintenance costs over the transition timeline. Maintenance costs are calculated for each fleet scenario and include costs of maintaining existing fossil-fuel buses that remain in the fleet and maintenance costs of new BEBs.

The **Facilities Assessment** determines the infrastructure necessary to support the projected zero-emission fleet composition over the transition period based on results from the Fleet Assessment and Fuel Assessment. This assessment evaluates the required quantities of charging infrastructure and/or hydrogen fueling station projects and calculates the costs of infrastructure procurement and installation sequenced over the transition timeline.

The **Total Cost of Ownership Assessment** compiles results from the previous assessment stages to provide a comprehensive view of all fleet transition costs, organized by scenario, over the transition timeline.

The **Policy Assessment** considers the policies and legislation that impact the relevant technologies.

The **Partnership Assessment** describes the partnership of the agency with the utility or alternative fuel provider.

Requirements Analysis & Data Collection

The Requirements Analysis and Data Collection stage begins by compiling operational data from Banning Connect regarding its current fleet and operations and establishing service requirements to constrain the analyses in later assessments. CTE requested data such as fleet composition, fuel consumption and cost, maintenance costs, and annual mileage to use as the basis for analyses. CTE conducted a screening-level analysis of Banning Connect's routes by determining their average speed and grades, and classified them as fast or slow and flat or hilly. CTE used these to model the energy efficiencies for each of Banning Connect's routes. The calculated efficiencies were then used in the Service Assessment to determine the energy requirements of Banning Connect's service.

CTE evaluated BEBs and FCEBs to support Banning Connect's technology selection. The range of FCEBs, however, does not have the same level of sensitivity to environmental and operating conditions as BEBs. After collecting route and operational data, CTE determined that Banning Connect's longest block is 307 miles long. Based on observed performance, CTE estimates FCEBs are able to complete any block under 350 total miles, which means that FCEB technology already has the capability to meet Banning Connect's service requirements. Although FCEBs were determined to have the capability of serving all of the agency's routes, Banning Connect was interested in exploring BEB-only service scenarios, so it was necessary to determine how much of Banning Connect's service could feasibly be served by depot-only charged BEBs in order to develop a set of ZEB transition scenarios that would allow the agency to make an informed decision on what technology or technologies would be most suitable to the agency's needs.

The energy efficiency and range of BEBs are primarily driven by bus specifications, such as on-board energy storage capacity and vehicle weight. Both metrics are affected by environmental and operating variables including the route profile (e.g., distance, dwell time, acceleration, sustained top speed over distance, average speed, and traffic conditions), topography (e.g., grades), climate (e.g., temperature), driver behavior, and operational conditions such as passenger loads and auxiliary loads. As such, BEB efficiency and range can vary dramatically from one agency to another or even from one service day to another. It was therefore critical for Banning Connect to determine efficiency and range estimates based on an accurate representation of its operating conditions.

To understand BEB performance on Banning Connect's routes, CTE modeled the impact of variations in passenger load, accessory load, and battery degradation on bus performance, fuel efficiency, and range. CTE ran models with different energy demands that represented *nominal* and *strenuous* conditions. Nominal loading conditions assume average passenger loads and moderate temperature over the course of the day, which places low demands on the motor and heating, ventilation, and air conditioning (HVAC) system. Strenuous loading conditions assume high or maximum passenger loading and near maximum output of the HVAC system. This nominal/strenuous approach offers a range of operating efficiencies to use for estimating average annual energy use (nominal) or planning minimum service demands (strenuous). Route modeling ultimately provides an average energy use per mile (kilowatt-hour/mile [kWh/mi]) for each route, bus size, and load case.

In addition to loading conditions, CTE modeled the impact of battery degradation on a BEB's ability to complete a block. The range of a battery electric bus is reduced over time due to battery degradation. A BEB may be able to service a given block with beginning-of-life batteries, while later it may be unable to complete the entire block at some point in the future as batteries near their end-of-life or derated capacity (typically considered 70-80% of available service energy).

Service Assessment

The Service Assessment focused on evaluating the feasibility of BEBs in Banning Connect's service area. The efficiencies calculated in the Requirements Analysis & Data Collection stage were used to estimate the energy

requirements of Banning Connect's service. The main focus of the Service Assessment is called the block analysis, which determines if generic battery electric technology can meet the service requirements of a block based on range limitations, weather conditions, levels of battery degradation and route specific requirements. The Transit Research Board's Transit Cooperative Research Program defines a block as "the work assignment for only a single vehicle for a single service workday".⁸ A block is usually comprised of several trips on various routes. The energy needed to complete a block is compared to the available energy of the bus assigned to service the block. If the bus's usable onboard energy exceeds the energy required by the block, then the conclusion is that the BEB can successfully operate on that block.

The Service Assessment projects the performance of a BEB that is charged overnight at the depot and operates on Banning Connect's service schedule at the time of the plan's writing. The results are used to determine when along the transition timeline a fleet of overnight depot-charged BEBs can feasibly serve Banning Connect's territory or if another zero-emission technology is required to maintain service. This information can then be used to inform the scale and timing of BEB procurements in the Fleet Assessment.

Modeling & Procurement Assumptions

CTE and Banning Connect defined the following assumptions and requirements used throughout the study as follows. The Service Assessment energy profile assumed a 5% improvement in battery capacity every year with a starting battery capacity of 440 kWh for a 35' bus and 580 kWh for a 40' bus, which were the average battery capacities seen in commercially-available buses in 2022. Electric cutaways are modeled to have a battery capacity of 120 kWh and were assumed to have the same 5% rate of improvement in battery capacity every year.

This analysis also assumes Banning Connect will maintain blocks in a similar distribution of distance, relative speeds, and elevation changes to pre-COVID-19 service because buses will continue to serve similar locations within the service area and general topography remains constant even if specific routes and schedules change.

Fleet size and vehicle length distribution do not change over time. The analysis assumed that buses reaching the end of their useful life would be replaced with vehicles of the same size. Total fleet size remains the same over the transition period. Buses are assumed to operate for a 12-year service life and cutaways for a 5- or 7-year service life.

Usable on-board energy is assumed to be that of a mid-life battery (10% degraded) with a reserve at both the high and low end of the battery's charge potential. As previously discussed, battery age affects range, so a mid-life battery was assumed as the average capacity of the battery's service life. Charging batteries to 100% or dropping the charge below 10% also degrades the batteries over time, which is why the analysis assumes that the top and bottom portions of the battery are unusable.

CTE accounts for battery degradation over the transition period with the assumption that Banning Connect can rotate the ZEBs to battery capacity to block energy requirements. As the zero-emission fleet transition progresses, older buses can be moved to shorter, less demanding blocks and newer buses can be assigned to longer, more demanding blocks to account for battery degradation in BEBs over time. Banning Connect can rotate the fleet to meet demand, assuming there is a steady procurement of BEBs each year to match service requirements. CTE accounts for this variability in battery age by using a mid-life usable battery capacity to determine block feasibility.

Fixed Route Results

The Service Assessment determines the timeline for when Banning Connect's service may become achievable by BEBs on a single depot charge. The block analysis determines when, or if, a full transition to BEBs may be feasible. Banning Connect and CTE can then use these results to inform ZEB procurement decisions in the Fleet Assessment. Results from this analysis are also used to determine the specific energy requirements and fuel consumption of the

⁸ TRB's Transit Cooperative Research Program. 2014. TCRP Report 30: Transit Scheduling: Basic and Advanced Manuals (Part B). https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_30-b.pdf

fleet over time. These values are then used in the Fuel Assessment to estimate the costs to operate the transitioning fleet.

While routes and block schedules are unlikely to remain the same over the course of the transition period, these projections assume the blocks will maintain a similar distribution to current service because Banning Connect will continue to serve similar destinations within the city. This core assumption affects energy use estimates and block achievability in each year.

The results of Banning Connect’s Service Assessment for fixed route service can be seen below in **Figure 5**. Based on CTE’s analysis, 0% of Banning Connect’s blocks could be served by a single charge of a depot-only BEB with a 440-kWh battery and, with the assumed 5% improvement every year, 33% of Banning Connect’s blocks could be served by this technology by 2036, which means that Banning Connect’s service is not feasible with depot-only charged BEBs within the transition period. However, service can be conducted with the addition of on-route charging.

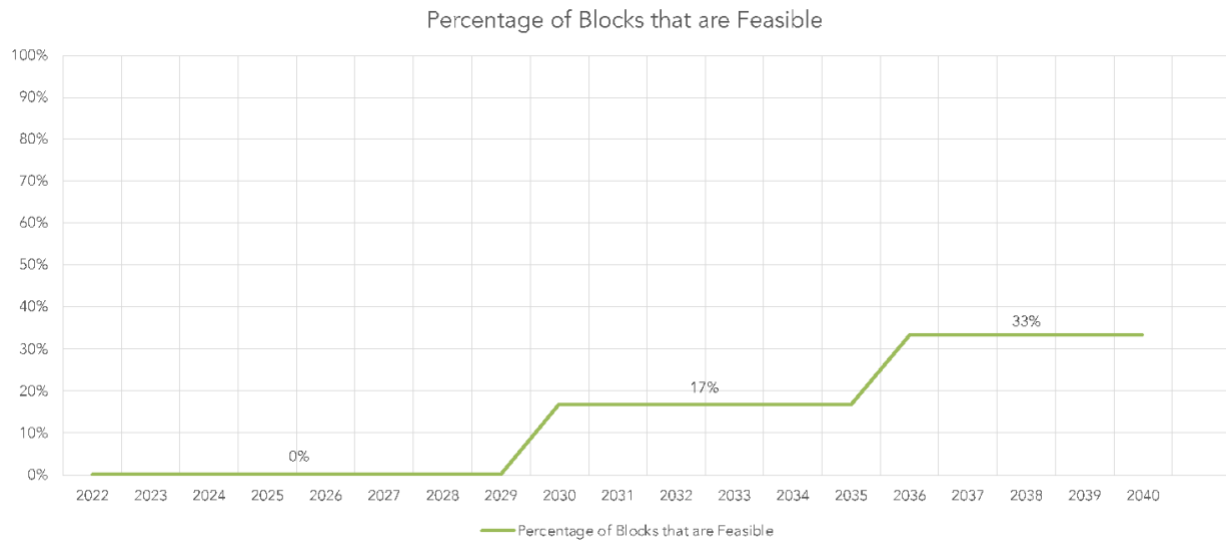


Figure 5 – BEB Block Achievability by Year

DAR Results

CTE’s modeling also included an analysis for battery electric cutaway vehicles using Banning Connect’s paratransit operational data, the results of which are shown below in **Figure 6**. It is estimated that Banning Connect’s paratransit service vehicles operate at an average daily distance of 70 miles per vehicle per day and a maximum of 104 miles per vehicle per day. CTE modeled the electric cutaway performance by calculating the energy demand for each service day and comparing to the usable capacity of a market-representative battery-electric cutaway (99 kWh). It was found that the average service day from 2022 would be feasible, given currently available battery capacity, while Banning Connect’s more strenuous days upwards of 75 miles and requiring more than 99 kWh of usable energy would be infeasible. The average service day is similarly feasible in 2030 and 2040. Assuming that the projected battery improvements continue, in 2030, service days of up to 91 miles or 120 kWh will be feasible, while the agency’s maximum DAR mileage of 104 miles is expected to only be feasible in 2040.

Based on the results of the analysis, up until 2040, battery-electric cutaways would require some form of opportunity charging throughout the day to complete their service. Pantograph and inductive charging have not yet been demonstrated to be feasible for electric cutaways, so this option was not considered. Demand response service is run sporadically throughout the day, with vehicles typically returning to the depot after completing their assignments. Based on this service pattern, it was assumed that battery-electric cutaways could be charged throughout the day when they return to the depot which would allow them to complete all of Banning Connect’s service.

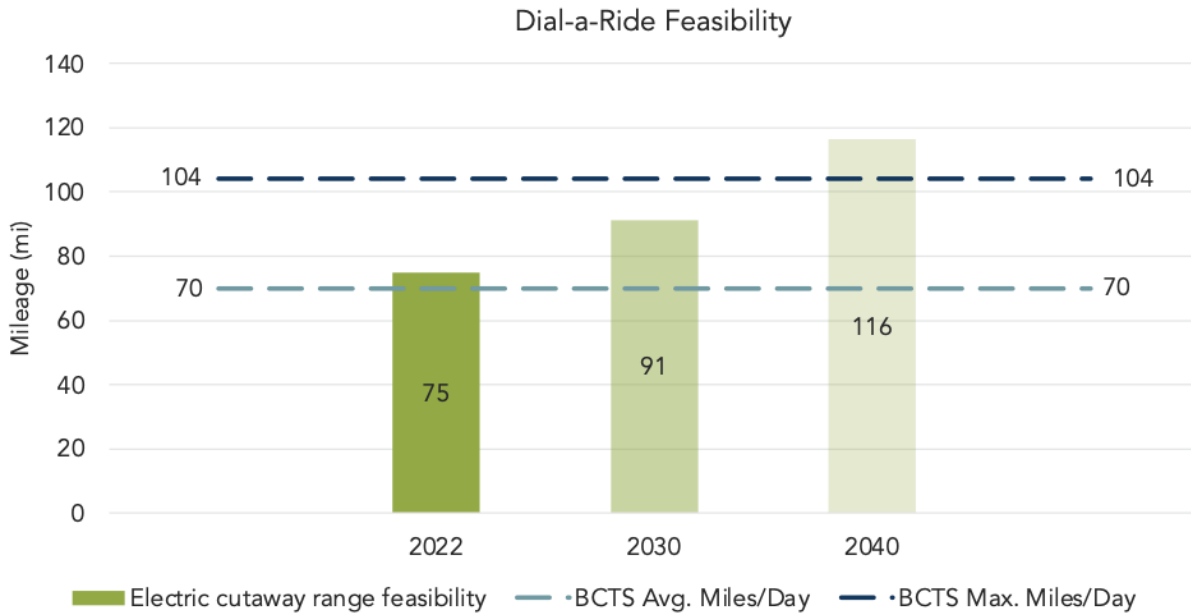


Figure 6 – Dial-a-Ride Service Feasibility by Year

Description of ZEB Technology Solutions Considered

For this study, CTE developed 3 scenarios to compare to a baseline scenario and analyze the feasibility and cost effectiveness of implementing each bus technology as well as the co-implementation of both technologies. The scenarios are referred to by the following titles and described, in detail, below. A baseline scenario was developed to represent the typical “business-as-usual” case with retention of ICE buses for cost comparison purposes.

0. Baseline (current technology)
1. BEB Only
2. Mixed Fleet – FCEB & BEBs
3. FCEB Only

In the **BEB Fleet Transition**, BEBs are purchased and deployed only on blocks that are within a BEB’s achievable range as determined by CTE’s modeling. If depot-charged BEBs are not capable of meeting a transit agency’s daily service requirements, on-route charging is utilized on fixed-routes and returning to the depot for midday opportunity charging is used on DAR service to sustain energy on-board. Based on CTE’s modeling, all of Banning Connect’s blocks are fully achievable using BEB technology by 2040.

In the **Mixed Fleet Transition**, FCEBs supplement a primarily BEB fleet to make up a fully ZEB fleet. Although there may be some exceptions, due to the higher range capacity of FCEBs, BEBs will be used for DAR service and FCEBs will be used for fixed route service. The costs for infrastructure and installation of two different charging and fueling infrastructures are taken into account. FCEBs and hydrogen fuel, however, are more expensive than BEBs and electricity, so this scenario allows Banning Connect to assign the less expensive BEB technology where possible and supplement service with FCEBs as needed in support of resilience and redundancy adaptation measures.

Finally, the **FCEB Fleet Transition** was developed to examine the costs for hydrogen fueling and transitioning to a 100% FCEB fleet. A fully FCEB fleet avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment. Fleets composed entirely of fuel cell electric buses also offer the benefit of scalability compared to battery electric technologies. Adding FCEBs to a fleet does not necessitate large complementary infrastructure upgrades. Despite this benefit, the cost of FCEBs and hydrogen fuel are still more expensive than BEBs and electricity at current market prices.

When considering the various scenarios, this study can be used to develop an understanding of the range of costs that may be expected for Banning Connect's ZEB transition, but ultimately, can only provide an estimate. Furthermore, this study aims to provide an overview of the myriad considerations the agency must take into account in selecting a transition scenario that go beyond cost, such as space requirements, safety implications, and operational changes that may differ between scenarios.

D

Current Bus Fleet Composition and Future Bus Purchases

Fleet Assessment Methodology

The Fleet Assessment projects a timeline for the replacement of existing buses with ZEBs. The timeline is consistent with Banning Connect’s fleet replacement plan that is based on the 12-year service life of transit buses and large cutaways and 7-year service life for smaller cutaways. This assessment also includes a projection of fleet capital costs over the transition timeline.

ZEB Cost Assumptions

CTE and Banning Connect developed cost assumptions for future bus purchases. Key assumptions for bus costs for the Banning Connect Transition Plan are as follows:

- CNG and gasoline vehicle prices were provided by Banning Connect and are inclusive of costs for configurable options and taxes.
- All gas cutaways were scheduled to be replaced by CNG cutaways in the baseline scenario and replacements were priced accordingly.
- Capital vehicle costs are derived from the 2022 California, Washington and New Mexico State Contracts plus the annual PPI (2%) and tax (7.75%).
- Costs for retrofits or bus conversions are not included. Procurements assume new vehicle costs.

Table 1 – Fleet Assessment Cost Assumption

	Fuel Type	
Length	CNG/Gasoline	Electric
Cutaway (26’-32’)	\$250,000	\$298,188
35’ (32’-35’)	\$550,000	\$985,531

Description of Banning Connect's Current Fleet

Banning Connect's current service and fleet composition provide the baseline for evaluating the costs of transitioning to a zero-emission fleet. Banning Connect staff provided the following key data on current service:

- Fleet composition by powertrain and fuel
- Routes and blocks
- Mileage and fuel consumption
- Maintenance costs

Fleet

As of 2022, the Banning Connect bus fleet includes 1 CNG and 2 gasoline cutaways used for DAR paratransit service and 4 CNG buses and 2 CNG cutaways used for fixed-route service. Bus services, including fueling and maintenance, operate out of one depot in Banning, CA. Customer service operations are performed at a separate facility in Banning, CA.

Routes and Blocks

Banning Connect's 2022 service consists of 5 fixed routes run on 6 blocks, 2 run on weekends and 3 run on weekdays. Blocks range in distance from 134 miles to 307 miles. Buses pull out as early as 5:00 AM and return as late as 10:15 PM. Banning Connect's service connects the cities of Banning, Cabazon, Beaumont, and the Morongo Indian Reservation.

Current Mileage and Fuel Consumption

Annual mileage of the fleet:

251,800 miles

Banning Connect's ZEB Transition Plan assumes that the amount of service miles will remain the same.

Annual fuel consumption:

71,307 GGE of CNG and gasoline

Fleet average efficiency:

6.8 miles per GGE

BANNING CONNECT current fuel expense:

\$90,453 per year

Average fuel costs:

\$1.27 per GGE

Maintenance Costs

Average maintenance costs per mile by vehicle type are estimated in **Table 2**. Buses also undergo one overhaul at midlife summarized in **Table 3**. These costs were utilized to project transition maintenance costs.

Table 2 – Labor and Materials Cost Assumptions

Vehicle Type	Estimate (Per Mile)
Gas Cutaway	\$ 0.35
CNG Cutaway	\$ 0.35
30'/35'/40' CNG Bus	\$ 0.38
Battery Electric Cutaway	\$0.32
30'/35'/40' Battery Electric Bus	\$0.34

Table 3 – Midlife Overhaul Cost Assumptions

Vehicle Type	Overhaul (FC/Transmission) Cost Per vehicle life	Battery Warranty Cost Per vehicle life
Gas Cutaway	\$0	\$0
CNG Cutaway	\$0	\$0
30'/35'/40' CNG Bus	\$30,000	\$0
Battery Electric Cutaway	\$0	\$24,000
30'/35' 40' Battery Electric Bus	\$0	\$75,000

Zero-Emission Bus Procurement Plan and Schedule

Banning Connect will provide service with a fleet made up entirely of depot-charged BEBs, while using on-route charging when able, as this vehicle composition will be sufficient for meeting the agency's service demands.

Banning Connect’s fleet transition strategy is to replace each compressed natural gas (CNG) and gasoline bus with a BEB as they reach the end of their 12-year useful life beginning in 2028. Banning Connect’s two CNG cutaways that are used for fixed route service are modeled as buses for the purpose of this analysis as they will need to be replaced with 35’ BEBs in order to maintain the same passenger capacity. **Figure 7** below provides the number of each bus type that will be purchased each year through 2040 with this replacement strategy and the total cost of that procurement.

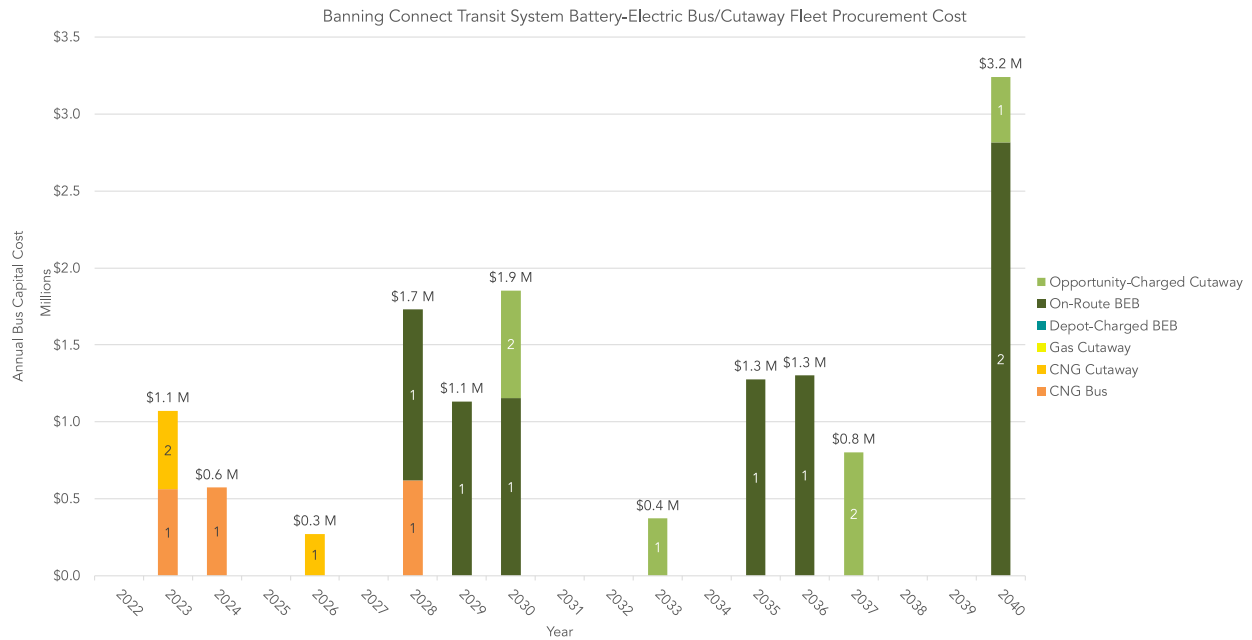


Figure 7 – Projected Fleet Procurements for Zero Emission Transition

Figure 8 demonstrates the annual composition of Banning Connect’s fleet through 2040. By 2040, Banning Connect’s bus fleet will consist entirely of BEBs. The fleet will remain the same size throughout the transition period.

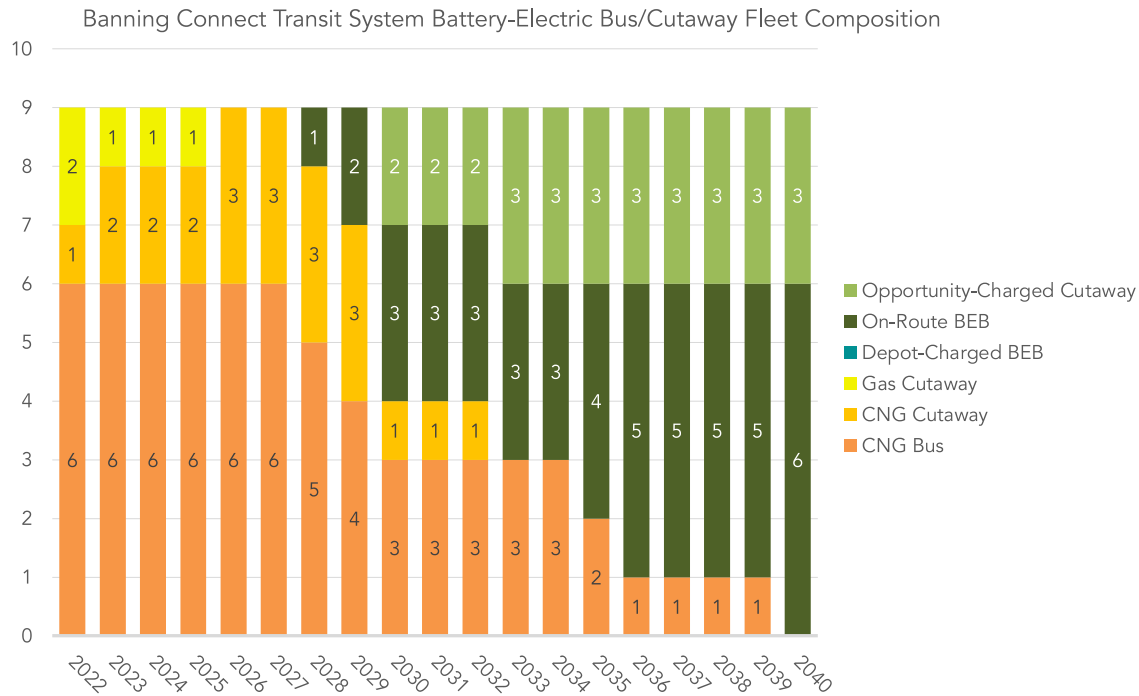


Figure 8 – Annual Fleet Composition, Zero Emission Transition

As seen in **Table 4**, the capital investment required for purchasing ZEBs is significantly higher than for CNG and Gasoline buses. This highlights the importance of staying vigilant in the search for funding opportunities to help fill this gap.

Table 4 – Banning Connect Bus Capital Investment to transition to a 100% ZEB fleet by 2040

	CNG/Gas Baseline*	ZEB Incremental Costs	Total Investment
Bus Capital Costs	\$9M	\$5M	\$14M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

Additional Considerations

When purchasing ZEBs, the process may differ slightly from the process Banning Connect currently uses to purchase vehicles. First, when contracting with ZEB manufacturers, Banning Connect should ensure expectations are clear between the bus OEM and the agency. As with CNG and gasoline purchases the agreement should be clear regarding the bus configurations, technical capabilities, build and acceptance process, production timing with infrastructure, warranties, training, and other contract requirements. Additionally, by developing and negotiating specification language collaboratively with the bus vendor(s), Banning Connect can work with the vendor(s) to customize the bus to their needs as much as is appropriate, help advance the industry based on agency requirements and recommended advancements, ensure the acceptance and payment process is fully clarified ahead of time, fully document the planned capabilities of the bus to ensure accountability, and generally preempt any unmet expectations. Special attention should be given in defining the technical capabilities of the vehicle, since defining these for ZEBs may differ from ICE buses.

When developing RFPs and contracting for ZEB procurements, Banning Connect should specify the source of funding for the vehicle purchases to ensure grant compliance, outline data access requirements, define the price and payment terms, establish a delivery timeline, and outline acceptance and performance requirements. Banning Connect should test the buses upon delivery for expected performance in range, acceleration, gradeability, highway performance, and maneuverability. Any such performance requirements must be included in the

technical specification portion of the RFP and contract to be binding for the OEM. Defining technical specifications for ZEBs will also differ slightly from their current CNG and gasoline vehicles since they will need to include requirements for battery performance. It is also recommended that Banning Connect purchase an extended battery warranty for the vehicles, which should be specified in the RFP and contract.

Banning Connect will also be able to apply for additional funding for these vehicles through zero-emission vehicle specific funding opportunities, which are discussed further in **Section H: Available Funding Opportunities.**

E

Facilities and Infrastructure Modifications

Banning Connect Facility Configuration and Depot Layout

Depot Address:

176 East Lincoln Street, Banning, CA 92220

Electric Utility:

Banning Electric

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

9+

Current Vehicle Types Supported:

Banning Connect’s depot currently supports fueling and maintenance of CNG and gasoline buses and cutaways.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Battery electric propulsion

Facilities Assessment Methodology

BEB deployments such as Banning Connect’s require installation of charging stations and improvements to existing electrical infrastructure. Planning and design work, including development of detailed electrical and construction drawings required for permitting, is also necessary once specific charging equipment has been selected.

Building off of the fleet procurement schedule that was outlaid in the Fleet Assessment, CTE then uses industry average pricing to develop infrastructure scenarios that estimate the cost of building out the infrastructure necessary to support a full fleet transition to ZEBs. This plan assumes that infrastructure projects will be completed prior to each bus delivery. To project the costs of fueling infrastructure, CTE used industry pricing provided by A&E subcontractors and an infrastructure build timeline based on the procurement timeline. This plan assumes that infrastructure projects will be completed prior to each bus delivery. These projects are described in detail below.

Infrastructure Upgrade Requirements to Support Zero-Emission Buses

Description of Depot-Charging Infrastructure Considered

In the BEB-only scenario, charging infrastructure is required to service a total of three (3) battery electric cutaways and four (4) battery electric buses to support a completely zero-emission bus fleet by 2040. The total cost for battery electric fueling infrastructure is approximately \$2M.

BEB Charging Infrastructure Summary

In order to support the BEB portion of the fleet, Banning Connect will need to work with a contractor to conduct detailed infrastructure planning, purchase chargers and dispensers, and add service capacity to their site. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building charging infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for Banning Connect’s single depot is estimated at \$200,000.
- **DISPENSERS AND CHARGERS.** Banning Connect’s BEB charging depot will consist of five chargers with two dispensers per charger and one on-route charger. Prices are estimated at \$170,000 for a 150kW charger with two dispensers. One transit bus per charger can charge at a time, and two cutaways can charge simultaneously at one charger, each charging at 75kW. On-Route charging equipment was also estimated to cost around \$900,000 per station for design and equipment.
- **ELECTRIC SERVICE UPGRADE.** Banning Connect requires an estimated 1 MW of additional electricity capacity by 2040 to accommodate charging for 9 BEVs. To meet the growing demand for electricity, the depot will need to upgrade its system to at least 1 MW of capacity by 2027. This is estimated to cost around \$200,000 over the transition period.
- **INFLATION FACTOR.** 5.4% inflation is added on all project costs per the CPI. 3% inflation is added on all maintenance costs per industry standards. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The estimated total BEB infrastructure cost for the BEB scenario is shown below in **Figure 9**, totaling to approximately \$2 M over the transition period.

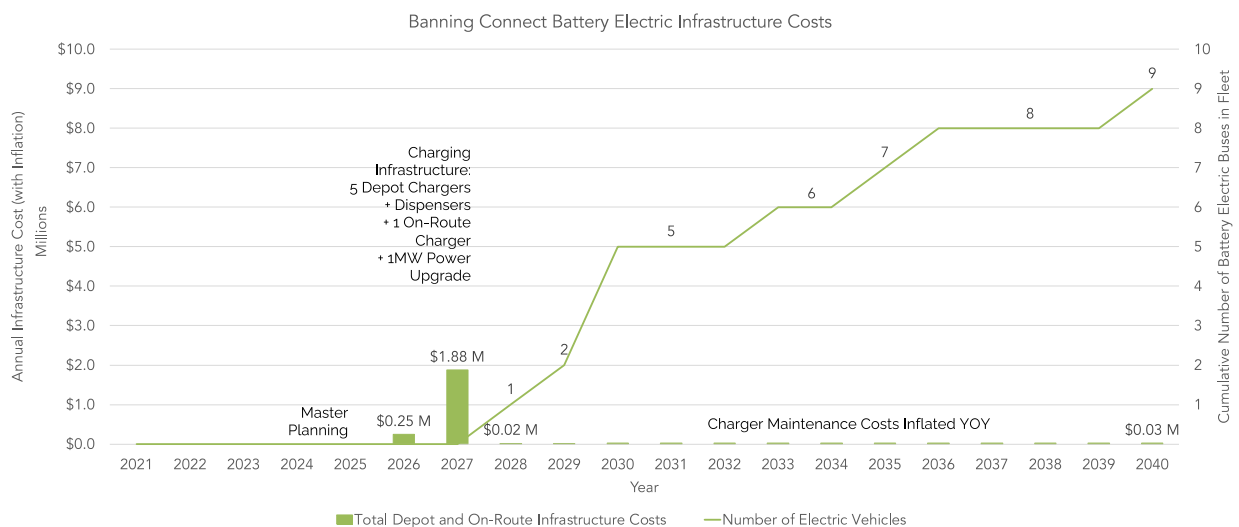


Figure 9 – Infrastructure Project and Costs, ZEB Transition

Utility Partnership Review

The City is sharing proposed planning documents to help Banning Electric understand future loads so that any required grid infrastructure improvements can be addressed prior to implementation. The City’s discussion of short- and long-term fleet goals with Banning Electric will ensure that Banning Electric can properly plan grid-side electrical infrastructure upgrades to the City’s Corporation Yard, and that the City can adequately upgrade equipment to support battery electric buses. Once the infrastructure upgrade needs are established, the City will incorporate the design and construction timelines into the overall transition plan timeline. The City recognizes

Banning Electric as a critical partner in electrification and will continue to partner with Banning Electric after the planning stages so that charge management strategies and fleet expansion efforts can be coordinated effectively.

F

Providing Service in Disadvantaged Communities

Providing Zero-Emission Service to DACs

In California, CARB defines disadvantaged communities (DACs) as communities that are both socioeconomically disadvantaged and environmentally disadvantaged due to local air quality. Lower income neighborhoods are often exposed to greater vehicle pollution levels due to proximity to freeways and the ports, which puts these communities at greater risk of health issues associated with tailpipe emissions.⁹ ZEBs will reduce energy consumption, harmful emissions, and direct carbon emissions within the disadvantaged communities Banning Connect serves. The City of Banning includes one census tract designated as a DAC. Banning's fixed routes that are in and pass through DACs, along with their stops are shown in **Figure 10** below.

Environmental impacts, both from climate change and from local pollutants, disproportionately affect transit riders. For instance, poor air quality from tailpipe emissions and extreme heat harm riders waiting for buses at roadside stops. The transition to zero-emission technology will benefit the region by reducing fine particulate pollution and improving overall air quality. In turn, the fleet transition will support better public health outcomes for residents in DACs served by the selected routes.

Public transit has the potential to improve social equity by providing mobility options to low-income residents lacking access to a personal vehicle and helping to meet their daily needs. In California, transit use is closely correlated with car-less households as they are five times more likely to use public transit than households with at least one vehicle.¹⁰ Although 21% of Californians in a zero-vehicle household are vehicle free by choice, 79% do not have a vehicle due to financial limitations. Many low-income people therefore rely solely on public transportation for their mobility needs.¹¹ Banning Connect's current fleet of fixed route and DAR CNG and gasoline buses consume 71,308 Gasoline Gallons Equivalent (GGE) of fuel per year, operating for approximately 251,800 miles per year. Moving Banning Connect's fleet to zero-emission technology will help alleviate the pollution from tailpipe emissions, which will improve the health of communities impacted by NOx and particulate matter emissions and all local communities.

Access to quality transit services provides residents with a means of transportation to go to work, to attend school, to access health care services, and run errands. By purchasing new vehicles and decreasing the overall age of its fleet, Banning Connect is also able to improve service reliability and therefore maintain the capacity to serve low-income and disadvantaged populations. Replacing CNG and diesel gasoline vehicles with zero-emission vehicles

⁹ Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

¹⁰ Grengs, Joe; Levine, Jonathan; and Shen, Qingyun. (2013). Evaluating transportation equity: An inter-metropolitan comparison of regional accessibility and urban form. FTA Report No. 0066. For the Federal Transit Administration

¹¹ Paul, J & Taylor, BD. 2021. Who Lives in Transit Friendly Neighborhoods? An Analysis of California Neighborhoods Over Time. Transportation Research Interdisciplinary Perspectives. 10 (2001) 100341. <https://reader.elsevier.com/reader/sd/pii/S2590198221000488?token=CABB49E7FF438A88A19D1137A2B1851806514EF576E9A2D9462D3FAF1F6283574907562519709F8AD53DEC3CF95ACF27&originRegion=us-east-1&originCreation=20220216190930>

will also benefit these populations by improving local air quality and reducing exposure to harmful emissions from CNG and gasoline exhaust.

Map of Disadvantaged Communities served by Banning Connect

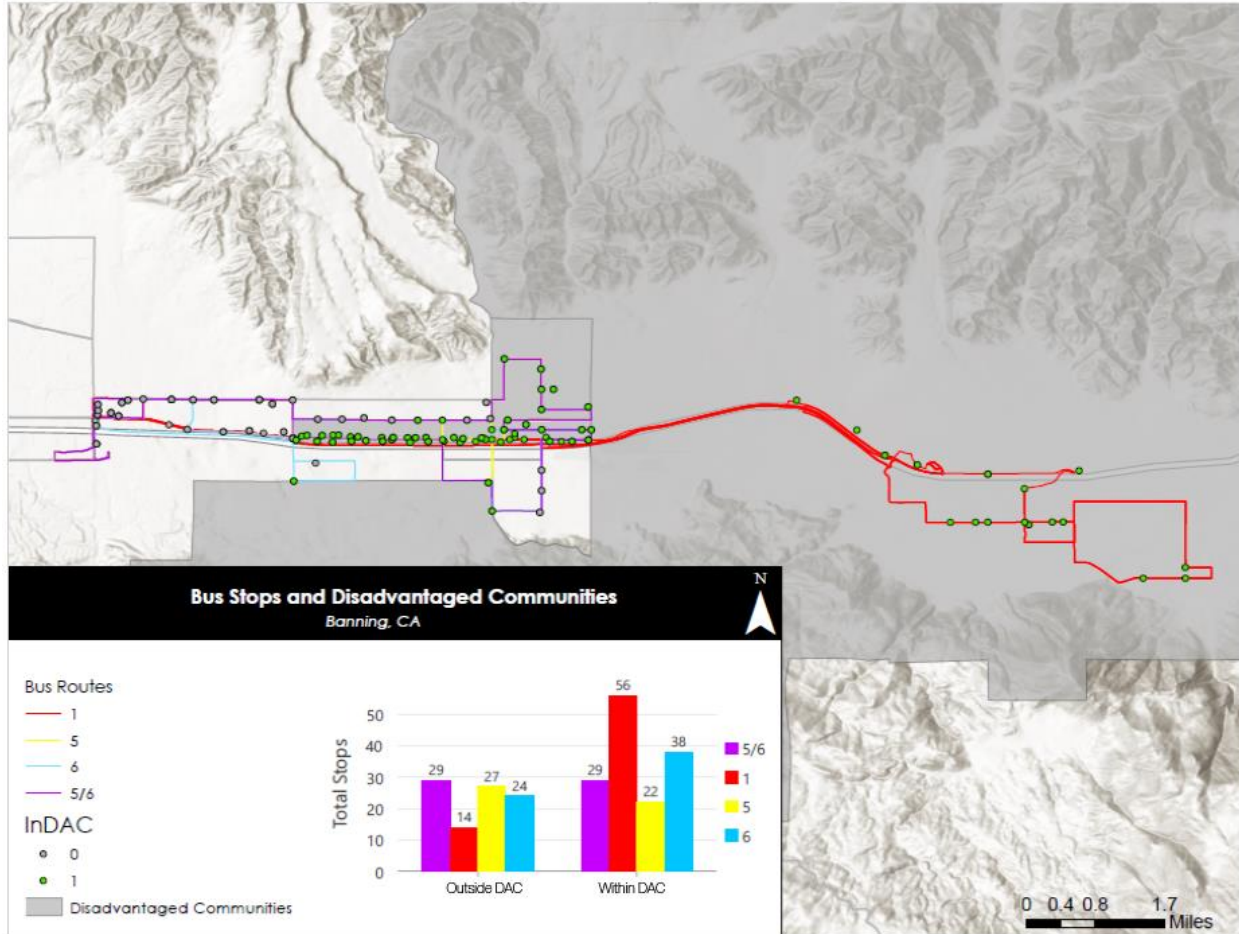


Figure 10 – Banning Connect Disadvantaged Communities Service Map

Emissions Reductions for DACs

Greenhouse gasses (GHG) are the compounds primarily responsible for atmospheric warming and include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The effects of greenhouse gasses are not localized to the immediate area where the emissions are produced. Regardless of their point of origin, greenhouse gasses contribute to overall global warming and climate change.

Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter under 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SO_x). These pollutants are considered harmful to human health because they are linked to cardiovascular issues, respiratory complications, or other adverse health effects.¹² These compounds are also commonly responsible for acid rain and smog. Criteria

¹² Institute of Medicine. *Toward Environmental Justice: Research, Education, and Health Policy Needs*. Washington, DC: National Academy Press, 1999; O'Neill MS, et al. *Health, wealth, and air pollution: Advancing theory and methods*. *Environ Health Perspect.* 2003; 111: 1861-1870; Finkelstein et al. *Relation between income, air pollution and mortality: A cohort study*.

pollutants cause economic, environmental, and health effects locally where they are emitted. CARB defines DACs in part as disadvantaged by poor air quality because polluting industries or freight routes have often been cited in these communities. The resulting decrease in air quality has led to poorer health and quality of life outcomes for residents. Banning Connect’s operational Well-to-Wheel criteria emissions are summarized in **Table 5**.

Table 5 – Annual Vehicle Operation Pollutants by Fuel Type

Overall Annual Vehicle Operation Pollutants (lbs.)								
Bus Group	CO	NOx	PM10	PM2.5	VOC	SOx	PM10 TBW	PM2.5 TBW
CNG	10,444	382.6	3.8	3.5	40.6	3.8	48.2	6.2
Gas	908	7.2	0.7	0.6	16.0	0.5	4.7	0.6

The transportation sector is the largest contributor to greenhouse gas emissions in the United States, accounting for more than 30% of total emissions, and within this sector, 25% of these emissions come from the medium- and heavy-duty markets, yet these markets account for less than 5% of the total number of vehicles. Electrifying these vehicles can have an outsized impact on pollution, fossil-fuel dependency, and climate change. ZEBs are four times more fuel efficient than comparable new Internal Combustion Engine (ICE) buses. Better fuel efficiency means less waste when converting the potential energy in the fuel to motive power. Less waste not only means less pollution, it results in more efficient use of natural resources. By transitioning to ZEBs from CNG and gasoline buses, Banning Connect’s zero-emission fleet will produce fewer carbon emissions and fewer harmful pollutants from the vehicle tailpipes. Considering DACs experience significantly more pollution from harmful emissions, communities disadvantaged by pollution served by Banning Connect’s fleet will therefore directly benefit from the reduced tailpipe emissions of ZEBs compared to ICE buses.

Estimated Ridership in DACs

As shown in **Figure 10**, of all the fixed-route stops, 73 (67%) are located within DACs. In addition, much of the DAR service area provided for Seniors 60 and older; persons with disabilities; and persons certified under the Americans with Disability Act (ADA) falls within DAC zones, but specific trips may start and/or end outside of DAC-designated areas. This includes ADA services within three-quarters of a mile of fixed-route service. Unlike fixed-route service, the DAR service does not run a set route, and so a single vehicle may provide trips both within and outside of a DAC during a single day.

CMAJ. 2003; 169: 397-402; Zeka A, Zanobetti A, Schwartz J. Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics. *Occup Environ Med.* 2006; 62: 718-725.



Workforce Training

Banning Connect's Current Training Program

Operator, Dispatcher and Mechanic Training

Banning Connect staff works closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying a new vehicle type and that these staff undergo refresher training annually and as needed. Management stays abreast of regulatory requirements and ensures that associated training takes place during annual VTT training or sooner. Banning Connect staff also brings up any issues or questions they may have about their training with their respective trainers.

Banning Connect's ZEB Training Plan

OEM Training

Banning Connect plans to take advantage of trainings from the bus manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training and other trainings that may be offered by the technology providers. OEM trainings provide critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Bus and Fueling Operations and Maintenance

The transition to a zero-emission fleet will have significant effects on Banning Connect's workforce. Meaningful investment is required to upskill maintenance staff and bus operators trained in ICE vehicle maintenance and ICE fueling infrastructure.

Banning Connect training staff will work closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying ZEB technology and that these staff undergo refresher training annually and as needed. Banning Connect staff will also be able to bring up any issues or questions they may have about their training with their trainers. Additionally, trainers will observe classes periodically to determine if any staff would benefit from further training.

ZEB Training Programs

Several early ZEB adopters have created learning centers for other agencies embarking on their ZEB transition journeys. One such agency is SunLine Transit Agency, which provides service to the Coachella Valley and hosts the West Coast Center of Excellence in Zero Emission Technology (CoEZET). The Center of Excellence supports transit agency adoption, zero-emission commercialization and investment in workforce training. Similarly, AC Transit

offers training courses covering hybrid and zero-emission technologies through their ZEB University program. Banning Connect plans to take advantage of these trainings offered by experienced agencies.

There are several transit agencies within and around Riverside County that have successfully begun their transition to zero-emission technology. In the region, Omintrans, a public transit agency serving the San Bernardino Valley recently received \$9.3 million from the Federal Transit Administration (FTA) under the FY2022 Low-No Emission Vehicle Program to develop hydrogen refueling infrastructure and launch a workforce development program. These agencies can serve a resource for Banning Connect to use when implementing zero-emission technology and supporting programs into their services.

H

Potential Funding Sources

Available Funding Opportunities

Federal

Banning Connect is ineligible for most federal funds apart from Federal Highway Administration Funds (FHWA). Banning is planning to pursue funding opportunities administered by the Federal Highway Administration such as the following:

- Federal Highway Administration (FHWA)
 - Congestion Mitigation and Air Quality Improvement Program through SCAG
 - Surface Transportation Block Grant Program through SCAG
 - Carbon Reduction Program

State

CCTS will also seek funding from state resources through grant opportunities including but not limited to Senate Bill 1 State of Good Repair (SGR), Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) funding, the California Energy Commission's Clean Transportation Program as well as Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) for bus purchases when available.

Annual Reliable Funding

- Administered by California Department of Transportation (Caltrans)
 - Transportation Development Act Funds
 - Local Transportation Funds
 - State Transit Assistance (STA)
 - State of Good Repair (SB 1 funds)
 - Low Carbon Transit Operations Program (LCTOP)

Future Funding Opportunities

- California Air Resources Board (CARB)
 - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)
 - State Volkswagen Settlement Mitigation
 - Carl Moyer Memorial Air Quality Standards Attainment Program
 - Cap-and-Trade Funding
 - Low Carbon Fuel Standard (LCFS)
- California Transportation Commission (CTC)
 - State Transportation Improvement Program (STIP)
 - Solution for Congested Corridor Programs (SCCP)
 - Local Partnership Program (LPP)
- California Department of Transportation (Caltrans)
 - Transit and Intercity Rail Capital Program
 - Transportation Development Credits
 - New Employment Credit

- California Energy Commission

Local

Additionally, Banning Connect will pursue local funding opportunities to support zero-emission bus deployment. While the aforementioned funding opportunities are mentioned by name, Banning Connect will not be limited to these sources and will regularly assess opportunities for fiscal support for the ZEB program.

Legislation Supporting the Zero-Emission Transition

Policies and regulations supporting the transition to zero-emission are proliferating as the efforts to decarbonize the transportation sector expand. The city of Banning is monitoring the implementation of relevant policies and legislation. With the passage of the *Bipartisan Infrastructure Law* and issuance of *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*, the federal government has set a renewed focus on zero-emission transit. Riverside County's goal to deploy zero-emission vehicles supports the federal administration's priorities of renewing transit systems, reducing Greenhouse Gas emissions from public transportation, equity, creation of good paying jobs, and connecting communities. State legislation such as the Innovative Clean Transit Regulation further supports the replacement of fossil-fuel vehicles on the roads of California. Moreover, on August 25, 2022, the CARB approved the Advanced Clean Cars II Rule, requiring all new vehicles sold in California to be zero-emission vehicles (ZEVs) by 2035.

Start-up and Scale-up Challenges

Financial Challenges

Challenges can arise with any new propulsion technology, its corresponding infrastructure, or in training operators and maintenance staff. Nearly all transit agencies must contend with the cost barriers posed by zero-emission technologies. The current market cost of ZEBs is between \$980,000 and \$1,310,000, which is about \$320,000 to \$650,000 more costly than traditional ICE buses. The predicted costs of zero-emission cutaways are between \$300,000 and \$370,000, which is about \$120,000 and \$200,000 more costly than traditional ICE cutaways.

Additionally, the necessary infrastructure to support these buses adds to the financial burden of transitioning to a ZEB fleet, as outlined below in **Table 6** showing the cost of the transition to BEB-only fleet. Banning Connect will seek financial support to cover the cost of their BEBs from the resources discussed in Section H.

Table 6 – Incremental Cost of ZEB Transition

Incremental cost of ZEB Transition			
	CNG/Gas Baseline*	BEB Incremental Costs	BEB Transition Scenario Costs
Bus Capital Expense	\$9M	\$5M	\$14M
Fueling Infrastructure	\$0	\$2M	\$2M
Total	\$9M	\$7M	\$16M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

As seen in **Table 6**, the costs of required fueling infrastructure and fueling operations for ZEB technologies pose another hurdle for transit agencies transitioning to zero-emission service. Continued financial support at the local, state and federal level to offset the capital cost of this new infrastructure is imperative. For alternative fuels such as hydrogen, financial support from state and federal grant opportunities for green hydrogen supply chains and increasing economies of scale on the production side will ultimately benefit transit agencies deploying and planning for BEBs.

CARB can support Banning Connect by ensuring continued funding for the incremental cost of zero-emission buses and fueling infrastructure. Funding opportunities should emphasize proper transition and deployment planning and should not preclude hiring consultants to ensure best practices and successful deployments.

Limitations of Current Technology

Beyond cost barriers, transit agencies must also ensure that available zero-emission technologies can meet basic service requirements of the agency's duty cycles. The applicability of specific zero-emission technologies will vary widely among service areas and agencies. As such, it is critical that transit agencies in need of technical and planning support have access to these resources to avoid failed deployment efforts. Support in the form of technical consultants and experienced zero-emission transit planners will be critical to turning Rollout Plans into successful deployments and tangible emissions reductions.

In addition to the uncertainty of technology improvements, there are other risks to consider in trying to estimate costs over the 18-year transition period. Although current BEB range limitations may be improved over time as a result of advancements in battery energy capacity and more efficient components, battery degradation may re-

introduce range limitations, which is a cost and performance risk to an all-BEB fleet over time. While this can be mitigated by on-route charging, there may be emergency scenarios where the buses are expected to perform off-route or atypical service. In these emergency scenarios that require use of BEBs, agencies may face challenges performing emergency response roles expected of them in support of fire and police operations. Furthermore, fleetwide energy service requirements, power redundancy, and resilience may be difficult to achieve at any given depot in an all-BEB scenario. Although FCEBs may not be subject to these same limitations, higher capital equipment costs and availability of hydrogen may constrain FCEB solutions. RCTC, Banning Connect, CTE and Arcadis IBI Group will expand upon challenge mitigation and adaptation in the Riverside County ZEB Implementation & Financial Strategy Plan.

Appendix A – Approved Board Resolution

Appendix B – Glossary

Auxiliary Energy: Energy consumed (usually as a by time measure, such as “x”kW/hour) to operate all support systems for non-drivetrain demands, such as HVAC and interior lighting.

Battery Electric Bus: Zero-emission bus that uses onboard battery packs to power all bus systems.

Battery Nameplate Capacity: The maximum rated output of a battery under specific conditions designated by the manufacturer. Battery nameplate capacity is commonly expressed in kWh and is usually indicated on a nameplate physically attached to the battery.

Block: Refers to a vehicle schedule, the daily assignment for an individual bus. One or more runs can work a block. A driver schedule is known as a “run.”

Charging Equipment: The equipment that encompasses all the components needed to convert, control and transfer electricity from the grid to the vehicle for the purpose of charging batteries. May include chargers, controllers, couplers, transformers, ventilation, etc.

Depot Charging: Centralized BEB charging at a transit agency's garage, maintenance facility, or transit center. With depot charging, BEBs are not limited to specific routes, but must be taken out of service to charge.

Energy: Quantity of work, measured in kWh for ZEBs.

Energy Efficiency: Metric to evaluate the performance of ZEBs. Defined in kWh/mi for BEBs, mi/kg of hydrogen for FCEBs, or miles per diesel gallon equivalent for any bus type.

Fuel Cell Electric Bus: Zero-emission bus that utilizes onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with the waste products of heat and water. The electricity powers the batteries, which powers the bus.

Greenhouse Gas Emissions: Zero-emission buses have no harmful emissions that result from diesel combustion. Common GHGs associated with diesel combustion include carbon dioxide (CO₂), carbon monoxide (CO), nitrous oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). These emissions negatively impact air quality and contribute to climate change impacts.

Hydrogen Fueling Station: The location that houses the hydrogen production (if produced onsite), storage, compression, and dispensing equipment to support fuel cell electric buses.

On-route Charging: BEB charging while on the route. With proper planning, on-route charged BEBs can operate indefinitely, and one charger can charge multiple buses.

Operating Range: Driving range of a vehicle using only power from its electric battery pack to travel a given driving cycle.

Route Modeling: A cost-effective method to assess the operational requirements of ZEBs by estimating the energy consumption on various routes using specific bus specifications and route features.

Useful Life: FTA definition of the amount of time a transit vehicle can be expected to operate based on vehicle size and seating capacity. The useful life defined for transit buses is 12-years. For cutaways, the useful life is 7 years.

Validation Procedure: to confirm that the actual bus performance is in line with expected performance. Results of validation testing can be used to refine bus modeling parameters and to inform deployment plans. Results of validation testing are typically not grounds for acceptance or non-acceptance of a bus.

Zero-Emission Vehicle: A vehicle that emits no tailpipe emissions from the onboard source of power. This is used to reference battery-electric and fuel cell electric vehicles, exclusively, in this report.

Well-to-wheel Emissions: Quantity of greenhouse gas, criteria pollutants, and/or other harmful emissions that includes emissions from energy use and emissions from vehicle operation. For BEBs, well-to-wheel emissions would take into account the carbon intensity of the grid used to charge the buses. For FCEBs, well-to-wheel emissions would take into account the energy to produce, transport, and deliver the hydrogen to the vehicle

RESOLUTION 2023-91

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BANNING, CALIFORNIA, APPROVING THE ZERO-EMISSION BUS ROLLOUT PLAN AND AUTHORIZING THE SUBMISSION OF SAID PLAN TO THE CALIFORNIA AIR RESOURCES BOARD (CARB) AS REQUIRED BY THE INNOVATIVE CLEAN TRANSIT REGULATION

WHEREAS, in 2018, California Air Resources Board (CARB) adopted the Innovative Clean Transit (ICT) Regulation, which requires public transit agencies to gradually transition to a 100 percent Zero Emission Bus (ZEB) fleet with a goal for full transition by 2040; and

WHEREAS, each transit agency must adopt and submit to CARB a ZEB Rollout Plan describing how the Agency will transition to a zero-emission fleet; and

WHEREAS, the City of Banning's ZEB Rollout Plan must be submitted to CARB by July 1, 2023; and

WHEREAS, per the requirements of the OCT, the Rollout Plan includes required information from the following sections:

- Section A: Transit Agency Information
- Section B: Rollout Plan General Information
- Section C: Technology Portfolio
- Section D: Current Bus Fleet Composition and Future Bus Purchases
- Section E: Facilities and Infrastructure Modifications
- Section F: Providing Service in Disadvantaged Communities
- Section G: Workforce Training
- Section H: Potential Funding Sources; and

WHEREAS, the Rollout Plan is a living document intended to guide the Agency's conversion to a ZEB fleet and may be updated based on changes in vehicle technology, fleet size and operating requirements; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Banning as follows:

SECTION 1. City Council hereby approves the City of Banning's Zero-Emission Rollout Plan and authorizes it's submittal to CARB.


SECTION 2. The City Clerk shall certify the adoption of this Resolution and shall cause a certified resolution to be filed in the book of original resolutions.

PASSED, APPROVED AND ADOPTED this 23rd day of May 2023.



Alberto Sanchez, Mayor
City of Banning

ATTEST:



Caroline Patton, Deputy City Clerk
City of Banning

**APPROVED AS TO FORM AND
LEGAL CONTENT:**



Serita Young, City Attorney

CERTIFICATION:

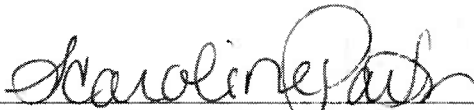
I, Caroline Patton, Deputy City Clerk of the City of Banning, California, do hereby certify that the foregoing Resolution 2023-91, was duly adopted by the City Council of the City of Banning, California, at a regular meeting thereof held on the 23rd day of May 2023 by the following vote, to wit:

AYES: Flynn, Sanchez, and Wallace.

NOES:

ABSENT: Gonzales and Minjares.

ABSTAIN:



Caroline Patton, Deputy City Clerk
City of Banning, California



Zero-Emission Bus Rollout Plan

Prepared by the City of Beaumont Transit System with support from the Center for Transportation and the Environment, Arcadis IBI Group, and the Riverside County Transportation Commission



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List of Abbreviations

ADA: Americans with Disabilities Act

A&E: Architecture and Engineering

BEB: Battery Electric Bus

CA: California

CARB: California Air Resources Board

CNG: Compressed Natural Gas

COVID/COVID-19: Coronavirus Disease 2019 (SARS-CoV-2)

CTE: Center for Transportation and the Environment

DAC: Disadvantaged Community

FCEB: Fuel Cell Electric Bus

HVAC: Heating, Ventilation, and Air Conditioning

ICE: Internal Combustion Engine

ICT: Innovative Clean Transit

kW: Kilowatt

kWh: Kilowatt-Hour

MW: Megawatt

OEM: Original Equipment Manufacturer

PM: Particulate Matter

PPI: Producer Price Index

CPI: Consumer Price Index

RFP: Request for Proposals

SCE: Southern California Edison (SoCal Edison)

TDA: Transportation Development Act

VTT: Verification of Transit Training

ZEB: Zero-Emission Bus

A glossary of useful terms can also be found in Appendix B - Glossary

Executive Summary

The City of Beaumont Transit System (Beaumont Transit) provides public transit services for the community in and around the City of Beaumont in Riverside County, operating six (6) fixed routes, two (2) commuter links, and paratransit services also known as Dial-a-Ride (DAR). Beaumont Transit's fleet as of 2023 consists of seven (7) gasoline cutaway vehicles, nine (9) CNG cutaway vehicles, one (1) CNG 32-ft. bus, three (3) CNG 40-ft. buses, and two (2) battery-electric van-style cutaways. Riverside County Transportation Commission (RCTC) awarded a contract to the Center for Transportation and the Environment (CTE) to perform a zero-emission bus (ZEB) transition study to create a plan for a 100% zero-emission fleet by 2040 on behalf of transit agencies and municipal transportation services in the cities of Banning, Beaumont, Corona and Riverside and the Palo Verde Valley Transit Agency to comply with the Innovative Clean Transit (ICT) regulation enacted by the California Air Resources Board (CARB). This report will focus on Beaumont Transit's transition plan to a zero-emission fleet composed of a mixture of fuel cell electric buses (FCEBs) and battery electric buses (BEBs).

Beaumont Transit's Rollout Plan achieves a zero-emission bus fleet in line with the 2040 target of the ICT Regulation. To achieve this goal, Beaumont Transit will replace all CNG and gas vehicles with ZEBs when the vehicles reach the end of their 7- or 12-year useful life. By 2040, 19 of the agency's vehicles are expected to be FCEBs and 3 will be BEBs. The last of the agency's CNG buses will reach end of life in 2039.

Beaumont Transit's administrative services, dispatch, and operations are located in the heart of downtown Beaumont at the Beaumont Civic Center, 550 E 6th Street, Building D. Beaumont Transit's entire fleet of operations is domiciled at the Beaumont Civic Center. However, with the assistance of municipal departments, Beaumont Transit is in the process of developing a 6-acre plot of land, next to the city's Wastewater Treatment Plant. The property is expected to house an administrative operations facility, a vehicle maintenance facility, and a CNG Fueling Station. The fleet maintenance operations are currently located at 550 California Avenue, less than 1 mile from the administrative building. Beaumont Transit plans to install both charging and hydrogen fueling infrastructure at this location to support their mixed fleet.

Beaumont Transit's bus service provides transportation opportunities to Disadvantaged Communities (DACs) and moving toward zero-emission buses will help improve the health of DACs and non-DACs alike. The agency will build upon an existing training structure for bus maintenance and operators to provide the necessary battery-electric bus (BEB) and fuel cell electric bus (FCEB) specific training that will be required for the agency to own and operate BEBs and FCEBs. The agency estimates that pursuing a ZEB fleet in place of a compressed natural gas (CNG) fleet will cost an additional \$14M in bus costs and infrastructure alone between 2021 and 2040, which will require significantly more funding opportunities. Beaumont Transit plans to pursue funding opportunities at the federal, state, and local levels to help fill this funding gap.

A

Transit Agency Information

Beaumont Transit Profile

Service Area and Bus Service

The City of Beaumont operates public transit services in and around the city of Beaumont, a suburban community located southeast of Riverside in Riverside County. The City of Beaumont operates a system that provides services on five (5) fixed routes, two (2) commuter links, and paratransit services on weekdays, and one fixed route, one commuter link and paratransit services on Saturdays. The current bus fleet consists of 22 total vehicles, including six (6) gasoline cutaway vehicles, nine (9) CNG cutaway vehicles, one (1) CNG 32-ft. bus, and three (3) CNG 40-ft. buses. The transit system provides fixed-route, commuter link, and paratransit services to passengers across 50 square miles and extends from the City of Beaumont to Redlands, San Bernardino, the Loma Linda VA Hospital, Casino Morongo, the Desert Hills Premium Outlets, and parts of unincorporated Riverside County, also known as Cherry Valley. Services provide connections to other regional transportation providers such as Banning Connect, Riverside Transit Agency (RTA), the Sunline Transit Agency, Victor Valley Transit Agency (VVTA), Mountain Transit, and Metrolink from three central locations: the Beaumont Walmart, the Redlands Transit Center, and the San Bernardino Transit Center.

The agency also provides DAR service, a specialized, reservation-based, ADA-compliant paratransit service. Beaumont provides curb-to-curb transportation services to qualified individuals certified under the Americans with Disabilities Act (ADA) that live in the City of Beaumont and parts of Cherry Valley. Additionally, DAR service is provided to persons who live within $\frac{3}{4}$ -of-a-mile from a fixed-route stop traveling to a destination also within an area of $\frac{3}{4}$ -of-a-mile from a fixed-route stop. Unlike fixed-route service, the DAR service does not run a set route, and so a single vehicle may provide trips both within and outside of a DAC during a single day. The paratransit fleet consists of one (1) gas cutaway and two (2) battery-electric van-style cutaways. Beaumont Transit's service map is illustrated in **Figure 1**.

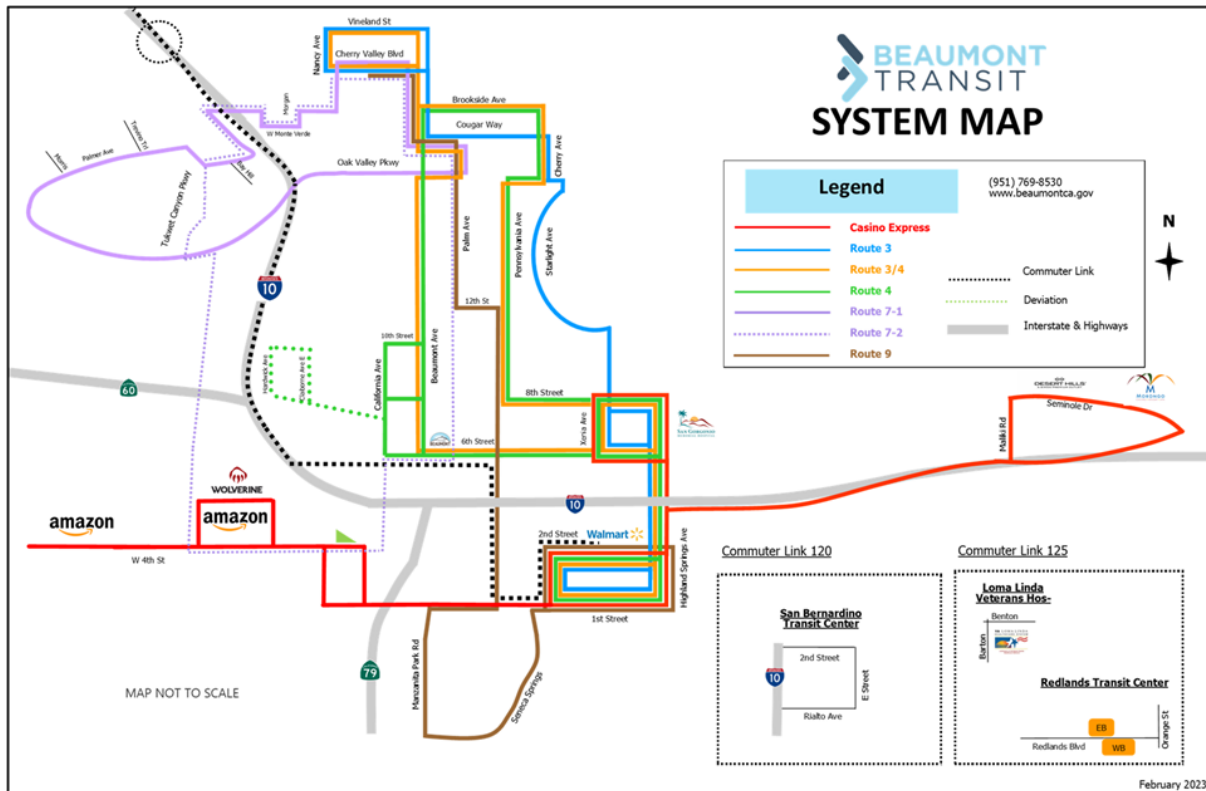


Figure 1 – Beaumont Transit Service Area

Ridership

Due to the pandemic, Beaumont Transit’s system-wide ridership reached a low in FY 21 and ended the year with 39,201 passenger trips. This is a 69% decline when compared to FY 19’s 203,660 passenger trips. In FY 22, passenger boardings increased by 75% accounting for 68,457 passenger trips. In FY 23, Beaumont projects passenger trips will reach 87,054, which represents 43% of FY 19. As services have returned to pre-pandemic levels, it is anticipated that ridership will continue to recover in the coming years.

City of Beaumont Transit System Basic Information

Transit Agency's Name:

City of Beaumont Transit System

Mailing Address:

City of Beaumont Transit System

550 E. 6th Street

Beaumont, CA 92223

Transit Agency's Air Districts:

City of Beaumont Transit System is part of the South Coast Air Quality Management District (SCAQMD).

Transit Agency's Air Basin:

South Coast Air Quality Management District is part of the South Coast Air Basin.

Total number of buses in Annual Maximum Service:

The maximum number of active buses operating fixed route and DAR services out of the Corporation Yard is twenty-two (22). The fleet is composed of four (4) low floor transit buses and eighteen (18) cutaways.

Urbanized Area:

Beaumont, CA. Beaumont is 30.32 square miles of land area with 1,823 people per square mile living within that area.¹

Population of Urbanized Area:

Over 55,280 residents¹

¹<https://www.census.gov/quickfacts/fact/table/beaumontcitycalifornia/RHI52522> 1

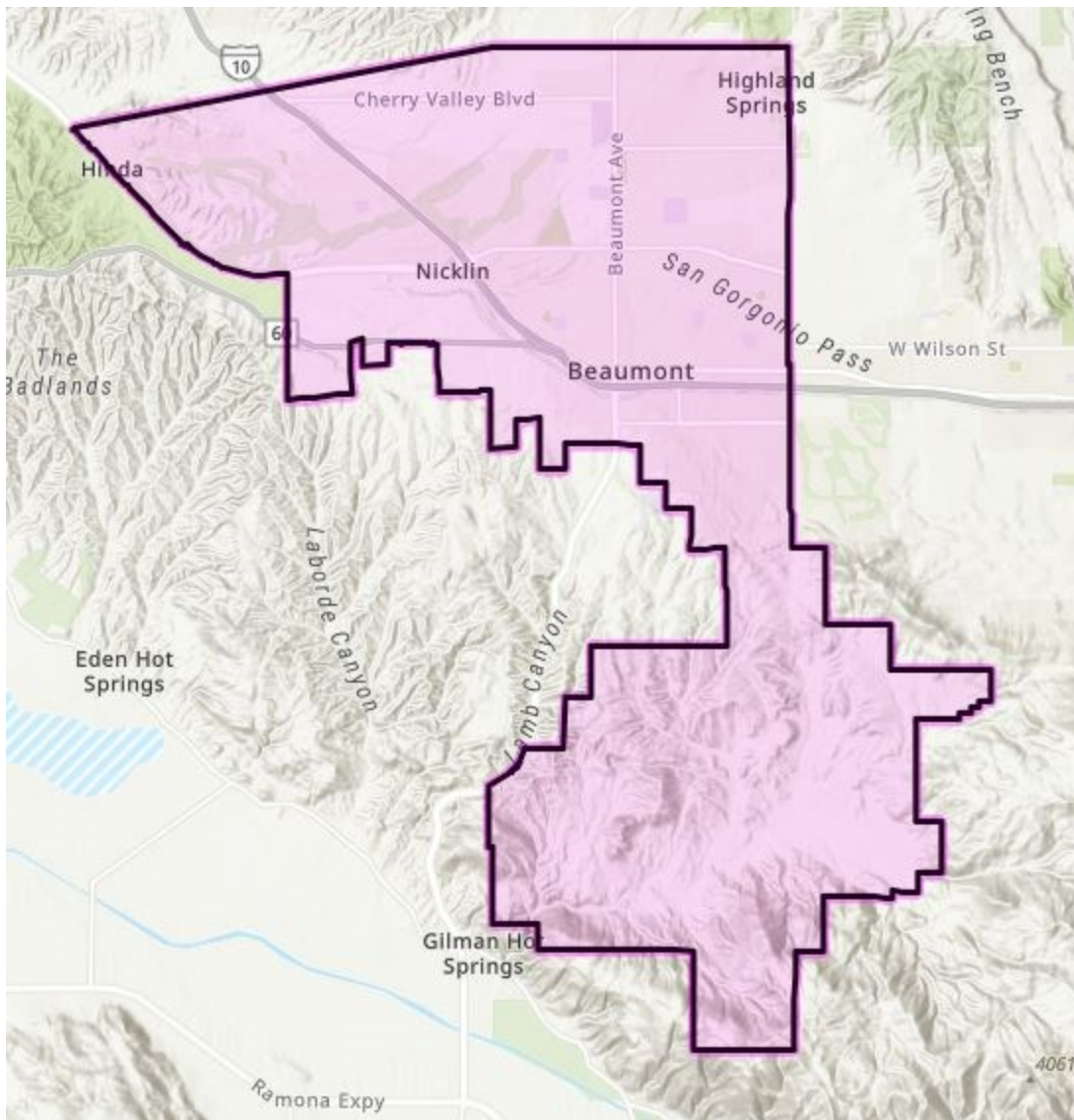


Figure 2 – City of Beaumont Urbanized and Rural Map

Contact Information for Inquiries on the City of Beaumont Transit System ICT Rollout Plan:

Kari Mendoza Administrative Services Director, City of Beaumont Transit System
 550 E. 6th Street
 Beaumont, CA 92223
 Tel: 951-769-8530
 karim@beaumontca.gov

Is your transit agency part of a Joint Group? No

Fleet Facility

Administrative services, dispatch, and operations for Beaumont Transit are located in the heart of downtown Beaumont at the Beaumont Civic Center, 550 E 6th Street, Building D. Beaumont Transit’s entire fleet of operations is domiciled at the Beaumont Civic Center, however, Beaumont Transit along with Public Works is in the process of developing a 6-acre plot of land, next to the city’s Wastewater Treatment Plant, into an operations and maintenance facility for transit. The fleet maintenance operations are located at 550 California Avenue, less than 1 mile from the administrative building. Beaumont Transit does not presently own a CNG fueling station, but is in the process of developing a CNG fueling station for both slow-fill transit buses as well as fast-fill public infrastructure on the parcel located on the corner of 4th Street and Veile Avenue in Beaumont. A map of Beaumont Transit’s administrative, maintenance, and planned fueling facilities are provided below in **Figure 3**, **Figure 4**, and **Figure 5** to better understand the locations of Beaumont Transit’s properties in relation to one another, as well as to routes and service areas. These facilities offer a starting point for the consideration of viable locations for zero-emission fueling infrastructure, chargers, and/or a hydrogen fueling station.



Figure 3 – Administrative Facility Overview



Figure 4 – Maintenance Operations Facility



Figure 5 – Planned CNG Fueling and Operations Facility

City of Beaumont Transit Service Sustainability Goals

The City of Beaumont is committed to providing a more livable, equitable, and economically vibrant community through the incorporation of energy efficiency features and reduction of greenhouse gas (GHG) emissions. According to the City of Beaumont's Roadmap to Greenhouse Gas Reductions Report on all city vehicles from October 2015, 14% of Beaumont's municipal GHG emissions come from their municipal and transit vehicle fleet, thus decarbonizing their transit vehicles will be of paramount importance to reach their emission reductions goals for 2030 (160,501 metric tons of CO2 equivalents).

Beaumont Transit has developed a plan to transition to a fully zero emission bus (ZEB) fleet composed of battery electric and fuel cell electric buses by 2040, in accordance with the Innovative Clean Transit (ICT) regulation, requiring all California transit agencies to follow zero-emission procurement guidelines with the goal of achieving 100% zero-emission fleets by 2040. Beaumont Transit has committed to purchasing zero emission buses, demonstrating the agency's commitment to reducing emissions. Beaumont Transit's transition to a fully ZEB fleet will ultimately benefit communities through cleaner air, greater independence from fossil fuels, and more environmental sustainability.

B

Rollout Plan General Information

Overview of the Innovative Clean Transit Regulation

On December 14, 2018, CARB enacted the Innovative Clean Transit (ICT) regulation, setting a goal for California public transit agencies to have zero-emission bus fleets by 2040. The regulation specifies the percentage of new bus procurements that must be zero-emission buses for each year of the transition period (2023–2040). The annual percentages for Small Transit agencies are as follows:

ICT Zero-Emission Bus Purchase Requirements for Small Agencies:

January 1, 2026 - 25% of all new bus purchases must be zero-emission

January 1, 2027 - 25% of all new bus purchases must be zero-emission

January 1, 2028 - 25% of all new bus purchases must be zero-emission

January 1, 2029+ - 100% of all new bus purchases must be zero-emission

March 2021-March 2050 – Annual compliance report due to CARB

This purchasing schedule guides agency procurements to realize the goal of zero-emission fleets in 2040 while avoiding any early retirement of vehicles that have not reached the end of their 12-year or 7-year useful life. Agencies have the opportunity to request waivers that allow purchase deferrals in the event of economic hardship or if zero-emission technology cannot meet the service requirements of a given route. These concessions recognize that zero-emission technologies may cost more than current internal combustion engine (ICE) technologies on a vehicle lifecycle basis and that zero-emission technology may not currently be able to meet all service requirements.

City of Beaumont Transit System Rollout Plan General Information

Rollout Plan's Approval Date: 6/6/2023

Resolution No: 2023-16

Is a copy of the approved resolution attached to the Rollout Plan? Yes

Contact for Rollout Plan follow-up questions:

Kari Mendoza, Administrative Services Director Beaumont Transit System

550 E. 6th Street

Beaumont, CA 92223

Tel: 951-769-8530

karim@beaumontca.gov

Who created the Rollout Plan?

This Rollout Plan was created by the City of Beaumont Transit System with assistance from the Center for Transportation and the Environment (CTE) and the Riverside County Transportation Commission (RCTC).

This document, the ICT Rollout Plan, contains the information for Beaumont Transit’s zero-emission fleet transition trajectory as requested by the ICT Regulation. It is intended to outline the high-level plan for implementing the transition. The Rollout Plan provides estimated timelines based on information on bus purchases, infrastructure upgrades, workforce training, and other developments and expenses that were available at the time of writing.

Additional Agency Resources

City of Beaumont Transit System agency website:

<https://www.beaumontca.gov/90/Transit>



Technology Portfolio

ZEB Transition Technology Selection

Based on outcomes of the zero-emission fleet transition planning study completed by CTE, Beaumont Transit plans to transition its fleet to a mix of battery electric cutaways and fuel cell electric buses and cutaways. By 2040, Beaumont Transit expects to operate a fully zero-emission fleet of 22 transit vehicles.

A mixed technology zero-emission fleet scenario provides a better range of options than a BEB-only fleet while mitigating the higher fuel cost of a FECB-only fleet. A mixed technology zero-emission fleet also offers resilience by allowing service to continue should either fuel (electricity or hydrogen) become temporarily unavailable. This plan summarizes the charging and hydrogen infrastructure costs needed to support a fleet of 3 battery electric cutaways and 15 fuel cell cutaways, and 4 fuel cell buses.

Local Developments and Regional Market

California has become a global leader for zero-emission buses, as well as the zero-emission fuel and fueling infrastructure required to support these vehicles. California is home to four bus OEMs that manufacture zero-emission buses. Although three of these OEMs do not currently build FCEBs, growing demand for this vehicle technology will likely encourage these manufacturers to enter the market.

The state legislature has fostered growth in zero-emission fuels through the state's Low-Carbon Fuel Standard (LCFS) program, which incentivizes the consumption of fuels with a lower carbon intensity than traditional combustion fuels and through funding opportunities offered by CARB and CEC. The state's electrical utility companies have also supported the transition to ZEB technology by offering incentive programs for heavy duty EV charging infrastructure and service upgrades. California BEB deployments represent 37% of the nation's BEB deployments.²

California also has one of the most mature hydrogen fueling networks in the nation. The state's hydrogen market has developed to support the growing number of fuel cell electric vehicles on the roads in the state. California has four medium-and-heavy-duty fueling stations in operation and four more in development. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. California FCEB deployments represent 75% of the nation's FCEB deployments.⁶

ZEB Transition Planning Methodology

Beaumont Transit's ICT Rollout Plan was created in combination with Beaumont Transit's Existing Conditions Report and the Riverside County ZEB Financial Strategy Plan, utilizing CTE's ZEB Transition Planning Methodology. CTE's methodology consists of a series of assessments that enable transit agencies to understand what resources and decisions are necessary to convert their fleets to zero-emission technologies. The results of the assessments

² CALSTART. 2021. THE ADVANCED TECHNOLOGY TRANSIT BUS INDEX: A NORTH AMERICAN ZEB INVENTORY REPORT. https://calstart.org/wp-content/uploads/2022/01/2021-ZIO-ZEB-Final-Report_1.3.21.pdf

help the agency decide on a step-by-step process to achieve its transition goals. These assessments consist of data collection, analysis, and modeling outcome reporting stages. These stages are sequential and build upon findings in previous steps. The assessment steps specific to Beaumont Transit's Rollout Plan are outlined below:

1. Planning and Initiation
2. Requirements Analysis & Data Collection
3. Service Assessment
4. Fleet Assessment
5. Fuel Assessment
6. Maintenance Assessment
7. Facilities Assessment
8. Total Cost of Ownership Assessment
9. Policy Assessment
10. Partnership Assessment

For **Requirements Analysis & Data Collection**, CTE collects data on the agency's fleet, routes and blocks, operational data (e.g., mileage and fuel consumption), and maintenance costs. Using this data, CTE establishes service requirements to constrain the analyses in later assessments and produce agency-specific outputs for the zero-emission fleet transition plan.

The **Service Assessment** phase initiates the technical analysis phase of the study. Using information collected in the Data Collection phase, CTE evaluates the feasibility of using zero-emission buses to provide service to the agency's routes and blocks over the transition plan timeframe from 2022 to 2040. Results from the Service Assessment are used to guide ZEB procurement plans in the Fleet Assessment and to determine energy requirements in the Fuel Assessment.

The **Fleet Assessment** projects a timeline for the replacement of existing buses with ZEBs that is consistent with Beaumont Transit's existing fleet replacement plan and known procurements. This assessment also includes a projection of fleet capital costs over the transition timeline and is optimized to meet state mandates or agency goals, such as minimizing costs or maximizing service levels.

The **Fuel Assessment** merges the results of the Service Assessment and Fleet Assessment to determine annual fuel requirements and associated costs. The Fuel Assessment calculates energy costs through the full transition timeline for each fleet scenario, including the agency's existing ICE buses. To more accurately estimate battery electric bus (BEB) charging costs, a focused Charging Analysis is performed to simulate daily system-wide energy use. As older technologies are phased out in later years of the transition, the Fuel Assessment calculates the changing fuel requirements as the fleet transitions to ZEBs. The Fuel Assessment also provides a total fuel cost over the transition timeline.

The **Maintenance Assessment** calculates all projected fleet maintenance costs over the transition timeline. Maintenance costs are calculated for each fleet scenario and include costs of maintaining existing fossil-fuel buses that remain in the fleet and maintenance costs of new BEBs and FCEBs.

The **Facilities Assessment** determines the infrastructure necessary to support the projected zero-emission fleet composition over the transition period based on results from the Fleet Assessment and Fuel Assessment. This assessment evaluates the required quantities of charging infrastructure and/or hydrogen fueling station projects and calculates the costs of infrastructure procurement and installation sequenced over the transition timeline.

The **Total Cost of Ownership Assessment** compiles results from the previous assessment stages to provide a comprehensive view of all fleet transition costs, organized by scenario, over the transition timeline.

The **Policy Assessment** considers the policies and legislation that impact the relevant technologies.

The **Partnership Assessment** describes the partnership of the agency with the utility or alternative fuel provider.

Requirements Analysis & Data Collection

The Requirements Analysis and Data Collection stage begins by compiling operational data from Beaumont Transit regarding its current fleet and operations and establishing service requirements to constrain the analyses in later assessments. CTE requested data such as fleet composition, fuel consumption and cost, maintenance costs, and annual mileage to use as the basis for analyses. CTE conducted a screening-level analysis of Beaumont Transit's routes by determining their average speed and grades, and classified them as fast or slow and flat or hilly. CTE used these classifications to model the energy efficiencies for each of Beaumont Transit's routes. The calculated efficiencies were then used in the Service Assessment to determine the energy requirements of Beaumont Transit's service.

CTE evaluated BEBs and FCEBs to support Beaumont Transit's technology selection. After collecting route and operational data, CTE determined that Beaumont Transit's longest block is 172 miles long. Based on observed performance, CTE estimates FCEBs are able to complete any block under 350 total miles, which means that FCEB technology already has the capability to meet service requirements. Although FCEBs were determined to have the capability of serving all of Beaumont Transit's routes, Beaumont Transit was interested in exploring BEB and FCEB service scenarios, so it was necessary to determine how much of Beaumont Transit's service could feasibly be served by depot-only charged BEBs in order to develop a set of ZEB transition scenarios that would allow the agency to make an informed decision on what technology or technologies would be most suitable to the agency's needs.

The energy efficiency and range of BEBs are primarily driven by bus specifications, such as on-board energy storage capacity and vehicle weight. Both metrics are affected by environmental and operating variables including the route profile (e.g., distance, dwell time, acceleration, sustained top speed over distance, average speed, and traffic conditions), topography (e.g., grades), climate (e.g., temperature), driver behavior, and operational conditions such as passenger loads and auxiliary loads. As such, BEB efficiency and range can vary dramatically from one agency to another or even from one service day to another. It was therefore critical for Beaumont Transit to determine efficiency and range estimates based on an accurate representation of its operating conditions.

To understand BEB performance on Beaumont Transit's routes, CTE modeled the impact of variations in passenger load, accessory load, and battery degradation on bus performance, fuel efficiency, and range. CTE ran models with different energy demands that represented *nominal* and *strenuous* conditions. Nominal loading conditions assume average passenger loads and moderate temperature over the course of the day, which places low demands on the motor and heating, ventilation, and air conditioning (HVAC) system. Strenuous loading conditions assume high or maximum passenger loading and near maximum output of the HVAC system. This nominal/strenuous approach offers a range of operating efficiencies to use for estimating average annual energy use (nominal) or planning minimum service demands (strenuous). Route modeling ultimately provides an average energy use per mile (kilowatt-hour/mile [kWh/mi]) for each route, bus size, and load case.

In addition to loading conditions, CTE modeled the impact of battery degradation on a BEB's ability to complete a block. The range of a battery electric bus is reduced over time due to battery degradation. A BEB may be able to service a given block with beginning-of-life batteries, while later it may be unable to complete the entire block at some point in the future as batteries near their end-of-life or derated capacity (typically considered 70-80% of available service energy).

Service Assessment

Given the conclusion that FCEBs could meet the range requirements for Beaumont Transit's service, the Service Assessment focused on evaluating the feasibility of BEBs in Beaumont Transit's service area. The efficiencies calculated in the Requirements Analysis & Data Collection stage were used to estimate the energy requirements of Beaumont Transit's service. The main focus of the Service Assessment is called the block analysis, which determines if generic battery electric technology can meet the service requirements of a block based on range limitations, weather conditions, levels of battery degradation and route specific requirements. The Transit Research Board's Transit Cooperative Research Program defines a block as "the work assignment for only a single

vehicle for a single service workday”.³ A block usually comprises several trips on various routes. The energy needed to complete a block is compared to the available energy of the bus assigned to service the block. If the bus’s usable onboard energy exceeds the energy required by the block, then the conclusion is that the BEB can successfully operate on that block.

The Service Assessment projects the performance of a BEB that is charged overnight at the depot and operates on Beaumont Transit’s service schedule at the time of the plan’s writing. The results are used to determine when along the transition timeline a fleet of overnight depot-charged BEBs can feasibly serve Beaumont Transit’s territory or whether another zero-emission technology is required to maintain service. This information can then be used to inform the scale and timing of BEB procurements in the Fleet Assessment.

Modeling & Procurement Assumptions

CTE and Beaumont Transit defined the following assumptions and requirements used throughout the study:

The Service Assessment energy profile assumed a 5% improvement in battery capacity every year with a starting battery capacity of 450 kWh for a 35’ bus, and 580kWh for a 40’ bus, which represent analogous ZEBs suitable for Beaumont Transit’ transit vehicles and is an average of battery capacities seen in commercially available buses of the same size and passenger capacity in 2022. Electric cutaways are modeled to have a battery capacity of 120 kWh and were assumed to have the same 5% rate of improvement in battery capacity every year.

This analysis also assumed Beaumont Transit will maintain blocks in a similar distribution of distance, relative speeds, and elevation changes to pre-COVID-19 service because buses will continue to serve similar locations within the service area and general topography remains constant even if specific routes and schedules change.

Fleet size and vehicle length distribution do not change over time. The analysis assumed that buses reaching the end of their useful life would be replaced with vehicles of the same size. Total fleet size remains the same over the transition period.

Buses are assumed to operate for a 12-year service life. Cutaways are assumed to operate for a 7-year service life.

Usable on-board energy is assumed to be that of a mid-life battery (10% degraded) with a reserve at both the high and low end of the battery’s charge potential. As previously discussed, battery age affects range, so a mid-life battery was assumed as the average capacity of the battery’s service life. Charging batteries to 100% or dropping the charge below 10% also degrades the batteries over time, which is why the analysis assumes that the top and bottom portions of the battery are unusable.

CTE accounts for battery degradation over the transition period with the assumption that Beaumont Transit can rotate the ZEBs to battery capacity to block energy requirements. As the zero-emission fleet transition progresses, older buses can be moved to shorter, less demanding blocks and newer buses can be assigned to longer, more demanding blocks to account for battery degradation in BEBs over time. Beaumont Transit can rotate the fleet to meet demand, assuming there is a steady procurement of BEBs each year to match service requirements. CTE accounts for this variability in battery age by using a mid-life usable battery capacity to determine block feasibility.

Results

The Service Assessment determines the timeline for when Beaumont Transit’s service may become achievable by BEBs and battery electric cutaways on a single depot charge. Coupled with the FCEB range-to-block length comparison, the block analysis determines when, or if, a full transition to BEBs or FCEBs may be feasible. Beaumont Transit and CTE can then use these results to inform ZEB procurement decisions in the Fleet Assessment. Results from this analysis are also used to determine the specific energy requirements and fuel consumption of the fleet over time. These values are then used in the Fuel Assessment to estimate the costs to operate the transitioning fleet.

³ TRB’s Transit Cooperative Research Program. 2014. TCRP Report 30: Transit Scheduling: Basic and Advanced Manuals (Part B). https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_30-b.pdf

While routes and block schedules are unlikely to remain the same over the course of the transition period, these projections assume the blocks will maintain a similar distribution to current service because Beaumont Transit will continue to serve similar destinations within the city. This core assumption affects energy use estimates and block achievability in each year.

The results of Beaumont Transit’s Service Assessment for fixed route service can be seen below in **Figure 6**. Based on CTE’s analysis, 20% of Beaumont Transit’s blocks could be served by a single charge of a depot-only BEB and, with the assumed 5% improvement every year, only 25% of Beaumont Transit’s blocks could be served by this technology by 2040, which means that Beaumont Transit’s service is not feasible with depot-only charged BEBs within the transition period. However, service can be conducted with the addition of on-route charging.

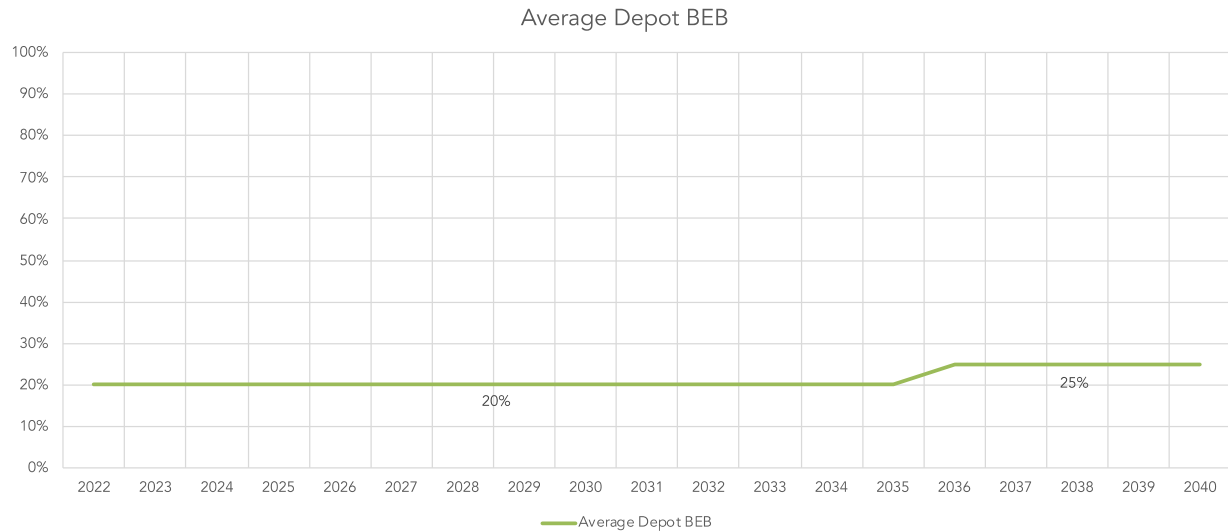


Figure 6 – BEB Block Achievability Percentage by Year

As noted previously, FCEBs are assumed to be able to complete any block under 350 total miles and Beaumont Transit’s longest block is 172 miles long, which means that FCEB technology already has the capability to meet Beaumont Transit’s service requirements.

Paratransit Modeling

CTE’s modeling also included an analysis for battery electric cutaway vehicles using Beaumont Transit’s paratransit operational data. Beaumont Transit operates their DAR program from 8:00 AM to 5:00PM on the weekdays and between 8:00 AM and 5:00 PM on weekends. The on-demand nature of the DAR service made it impractical to categorize the trips into discrete blocks along with the fixed route service. Instead, CTE assumed that the cutaway vehicle averaged 74 miles on weekdays, although the exact distribution of trip distances each day may vary. CTE also assumed that the service days could be classified as flat and low speed, mimicking the speed and topography of similar fixed routes. CTE modeled the electric cutaway performance and found that the average service day is not feasible in 2022, but will be feasible by 2030. While the average service day will be feasible by 2030, due to the variable nature of the demand response service, any single given day could be infeasible with an overnight charged battery electric cutaway.

Based on the results of the analysis, battery-electric cutaways would require some form of opportunity charging throughout the day to complete their service. Pantograph and inductive charging have not yet been demonstrated to be feasible for electric cutaways, so this option was not considered. Demand response service is run sporadically throughout the day, with vehicles typically returning to the depot after completing their assignments. Based on this service pattern, it was assumed that battery-electric cutaways could be charged throughout the day when they return to the depot which would allow them to complete all of Beaumont Transit’s service.

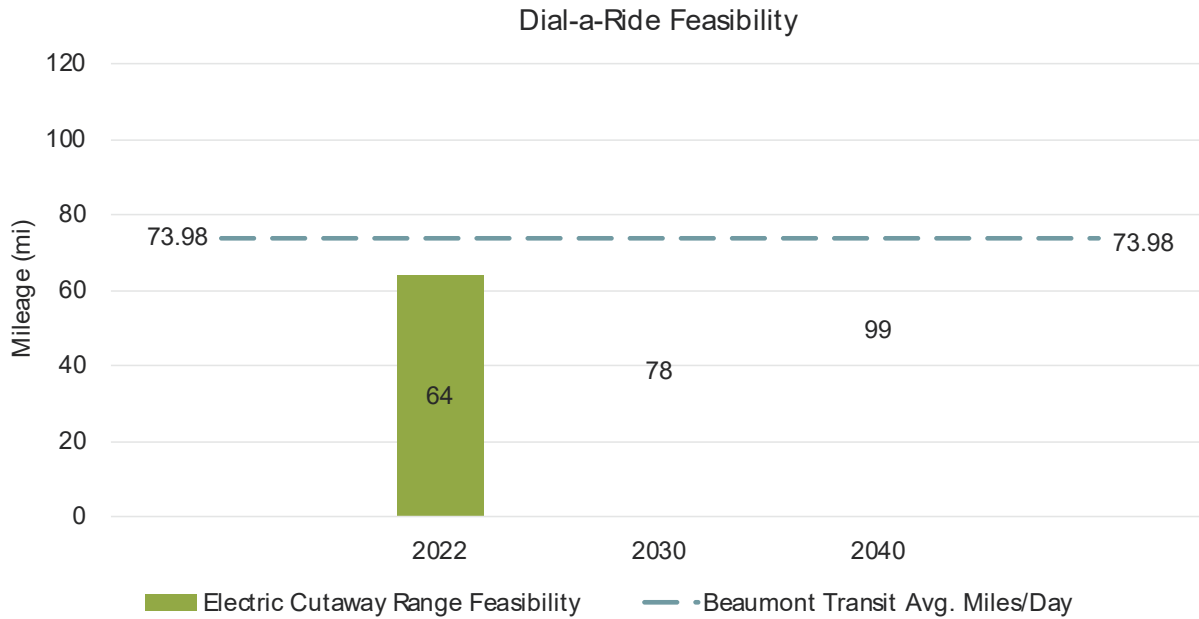


Figure 7 – Battery Electric Paratransit Service Assessment

Description of ZEB Technology Solutions Considered

For this study, CTE developed 2 scenarios to compare to a baseline scenario and analyze the feasibility and cost effectiveness of implementing each technology as well as the co-implementation of both technologies. The scenarios are referred to by the following titles and described, in detail, below. A baseline scenario was developed to represent the typical “business-as-usual” case with retention of ICE cutaways for cost comparison purposes. A battery-electric only scenario was not considered beyond the initial analyses because it is unfeasible with currently available technology.

0. Baseline (current technology)
1. Mixed Fleet – FCEB & BEBs
2. FCEB Only

In the **Mixed Fleet Transition**, battery electric cutaways supplement a primarily fuel cell fleet to make up a fully ZEB fleet. Battery electric cutaways will be used for DAR service and fuel cell cutaways and buses will be used for fixed route service. The costs for infrastructure and installation of two different charging and fueling infrastructures are taken into account. Currently, FCEBs and hydrogen fuel, are more expensive than BEBs and electricity, however, this scenario allows Beaumont Transit to assign the less expensive BEB technology where possible while performing the majority of their service with FCEBs to support resilience and redundancy adaptation measures.

The **FCEB Fleet Transition** was developed to examine the costs for hydrogen fueling and transitioning to a 100% FCEB fleet. A fully FCEB fleet avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment. Fleets composed entirely of fuel cell electric buses also offer the benefit of scalability compared to battery electric technologies. Adding FCEBs to a fleet does not necessitate large complementary infrastructure upgrades. Despite this benefit, the cost of FCEBs and hydrogen fuel are still more expensive than BEBs and electricity at current market prices.

When considering the various scenarios, this study can be used to develop an understanding of the range of costs that may be expected for Beaumont Transit’s ZEB transition, but ultimately, can only provide an estimate. Furthermore, this study aims to provide an overview of the myriad considerations the agency must take into

account in selecting a transition scenario that go beyond cost, such as space requirements, safety implications, and operational changes that may differ between scenarios.

D

Current Bus Fleet Composition and Future Bus Purchases

Fleet Assessment Methodology

The Fleet Assessment projects a timeline for the replacement of existing buses with ZEBs. The timeline is consistent with Beaumont Transit’s fleet replacement plan that is based on the 12-year service life of transit buses and larger cutaways and 7-year service life of cutaways. This assessment also includes a projection of fleet capital costs over the transition timeline.

ZEB Cost Assumptions

CTE and Beaumont Transit developed cost assumptions for future bus purchases. Key assumptions for bus costs for the Beaumont Transit Transition Plan are as follows:

- CNG vehicle prices were provided by Beaumont Transit and are inclusive of costs for configurable options and taxes.
- Capital vehicle costs are derived from the 2022 California, Washington and New Mexico State Contracts plus the annual PPI (2%) and tax (7.75%). Fuel Cell Cutaway pricing is a price estimation due to lack of market information.
- Costs for retrofits or bus conversions are not included. Procurements assume new vehicle costs.

Table 1 – Fleet Assessment Cost Assumption

	Fuel Type			
Length	CNG	Gasoline	Electric	Fuel Cell
Cutaway	\$302,888	\$247,872	\$298,188	\$372,694*
35'	\$689,670	-	\$985,531	\$1,315,306*
40'	\$682,149	-	\$1,052,390	\$1,315,306

*Bus size not currently available for this technology

Description of Beaumont Transit’s Current Fleet

Beaumont Transit’s current service and fleet composition provide the baseline for evaluating the costs of transitioning to a zero-emission fleet. Beaumont Transit staff provided the following key data on current service:

- Fleet composition by powertrain and fuel
- Routes and blocks
- Mileage and fuel consumption
- Maintenance costs

Fleet

As of 2022, the Beaumont Transit bus fleet includes two (2) electric cutaways and one (1) gas cutaway used for DAR paratransit service, six (6) gas cutaways, nine (9) CNG cutaways, one (1) 32' CNG bus, and three (3) 40' CNG buses used for fixed route service. Bus services operate out of one depot in Beaumont, CA. Beaumont Transit is in the process of developing a new operations and maintenance facility for their transit fleet, as well as a CNG fueling station.

Routes and Blocks

In FY 23, Beaumont Transit's services are mostly offered on weekdays with five fixed routes, two commuter links, and paratransit services. On Saturday, one fixed route, one commuter link and paratransit services are in operation. Blocks range in distance from 23 miles to 172 miles. Buses pull out as early as 5:15 AM and return as late as 7:00 PM. Beaumont Transit's service runs within the boundaries of the City of Beaumont, the neighboring Cherry Valley, the commercial areas of Cabazon including Casino Morongo and the Desert Hills Premium Outlet Malls, Redlands, the Loma Linda VA Hospital, and San Bernardino with connections to other regional transportation providers such as Banning Connect, Riverside Transit Agency (RTA), Sunline Transit Agency (STA), Metrolink, Omnitrans, Victor Valley Transit Agency (VVTA), and Mountain Transit.

Current Mileage and Fuel Consumption

Annual mileage of the fleet:

390,226 miles

Beaumont Transit's ZEB Transition Plan assumes that the amount of service miles will remain the same.

Annual fuel consumption:

69,643 GGE of CNG, gasoline, and electricity

Fleet average efficiency:

5.60 miles per GGE

Beaumont Transit's current fuel expense:

\$218,915 per year

Average fuel costs:

\$0.56 per GGE

Maintenance Costs

Average maintenance costs per mile by vehicle type are estimated in **Table 2**. Buses also undergo one overhaul at midlife summarized in **Table 3**. These costs were utilized to project transition maintenance costs.

Table 2 – Labor and Materials Cost Assumptions

Vehicle Type	Estimate (Per Mile)
Gas Cutaway	\$ 0.35
CNG Cutaway	\$ 0.35
30'/35'/40' CNG Bus	\$ 0.38
Battery Electric Cutaway	\$ 0.32
30'/35'/40' Battery Electric Bus	\$ 0.34
Fuel Cell Electric Cutaway	\$ 0.51
30'/35'/40' Fuel Cell Electric Bus	\$ 0.56

Table 3 – Midlife Overhaul Cost Assumptions

Vehicle Type	Overhaul (FC/Transmission) Cost Per vehicle life	Battery Warranty Cost Per vehicle life
Gas Cutaway	\$0	\$0
CNG Cutaway	\$0	\$0
30'/35'/40' CNG Bus	\$30,000	\$0
Battery Electric Cutaway	\$0	\$24,000
30'/35' 40' Battery Electric Bus	\$0	\$75,000
30'/35'/40' Fuel Cell Electric Bus	\$40,000	\$17,000
Fuel Cell Electric Cutaway	\$0	\$10,000

Zero-Emission Bus Procurement Plan and Schedule

Beaumont Transit will provide demand response service with a fleet of three (3) depot-charged and opportunity-charged battery electric cutaways. Fixed route service will be performed by fifteen (15) fuel cell cutaways, one (1)

35' FCEB and three (3) 40' FCEBs. This technology combination will be sufficient for meeting the agency's service demands. Beaumont Transit's fleet transition strategy is to replace each compressed natural gas (CNG) bus and cutaway with battery electric cutaways and fuel cell buses and cutaways as they reach the end of their minimum service life beginning in 2028. **Figure 8** below provides the number of each bus type that will be purchased each year through 2040 with this replacement strategy and the total cost of that procurement.

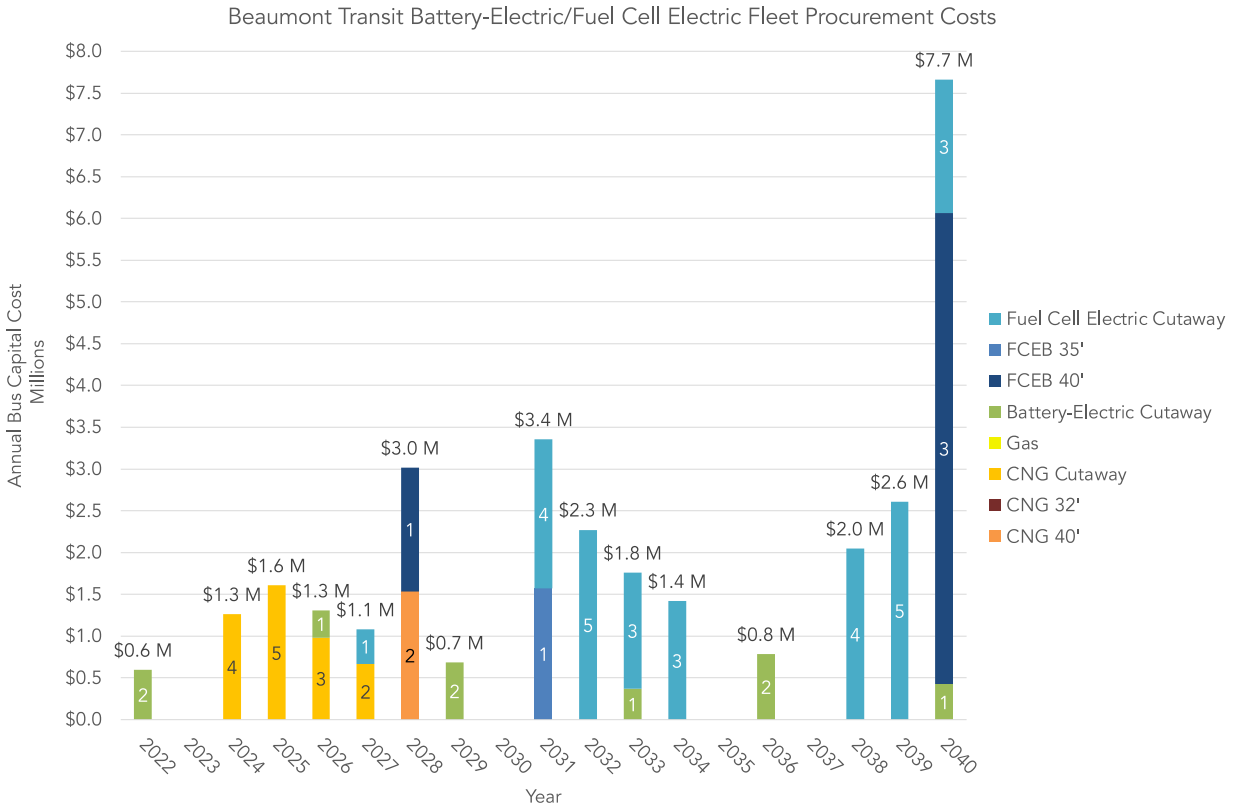


Figure 8 – Projected Bus Procurements for ZEB Transition

Figure 9 demonstrates the annual composition of Beaumont Transit's fleet through 2040. By 2040, Beaumont Transit's fleet will consist entirely of battery electric and fuel cell vehicles. The fleet will remain the same size throughout the transition period.

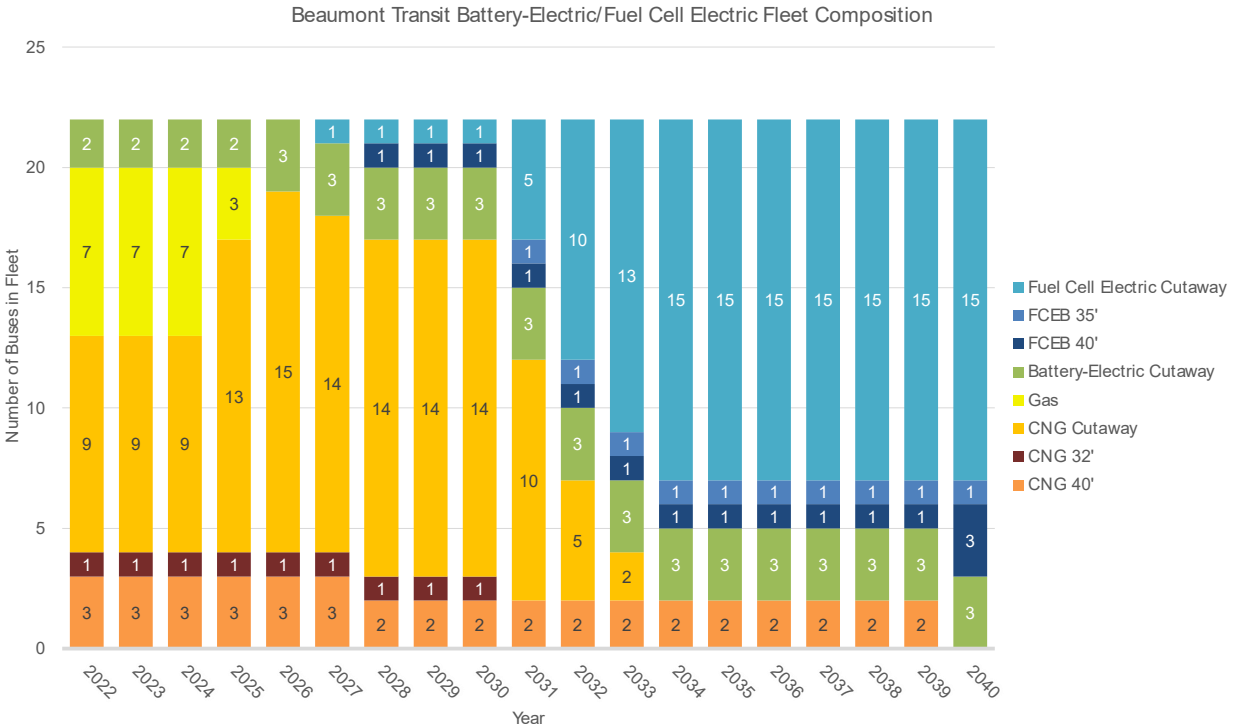


Figure 9 – Annual Fleet Composition, ZEB Transition

As seen in **Table 4**, the capital investment required for purchasing ZEBs is significantly higher than for CNG buses. This highlights the importance of staying vigilant in the search for funding opportunities to help fill this gap.

Table 4 – Beaumont Transit Bus Capital Investment to Transition to a 100% ZEB Fleet by 2040

	CNG Baseline*	ZEB Incremental Costs	Total Investment
Bus Capital Costs	\$25M	\$6M	\$31M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

Additional Considerations

When purchasing ZEBs, the process may differ slightly from the process Beaumont Transit currently uses to purchase vehicles. First, when contracting with ZEB manufacturers, Beaumont Transit should ensure expectations are clear between the bus OEM and the agency. As with CNG purchases the agreement should be clear regarding the bus configurations, technical capabilities, build and acceptance process, production timing with infrastructure, warranties, training, and other contract requirements. Additionally, by developing and negotiating specification language collaboratively with the bus vendor(s), Beaumont Transit can work with the vendor(s) to customize the bus to their needs as much as is appropriate, help advance the industry based on agency requirements and recommended advancements, ensure the acceptance and payment process is fully clarified ahead of time, fully document the planned capabilities of the bus to ensure accountability, and generally preempt any unmet expectations. Special attention should be given in defining the technical capabilities of the vehicle, since defining these for ZEBs may differ from ICE buses.

When developing RFPs and contracting for ZEB procurements, Beaumont Transit should specify the source of funding for the vehicle purchases to ensure grant compliance, outline data access requirements, define the price and payment terms, establish a delivery timeline, and outline acceptance and performance requirements. Beaumont Transit should test the buses upon delivery for expected performance in range, acceleration, gradeability, highway performance, and maneuverability. Any such performance requirements must be included in the technical specification portion of the RFP and contract to be binding for the OEM. Defining technical specifications for ZEBs will also differ slightly from their current CNG vehicles since they will need to include requirements for hydrogen fuel cell and battery performance. It is also recommended that Beaumont Transit purchase an extended battery warranty for the vehicles, which should be specified in the RFP and contract.

FCEB procurement will also differ from ICE procurements since there are fewer OEMs presently manufacturing these vehicles, although this is expected to change with increasing demand. Beaumont Transit will also be able to apply for additional funding for these vehicles through zero-emission vehicle specific funding opportunities, which are discussed further in which are discussed further in **Section H**

Potential Funding Sources.

E

Facilities and Infrastructure Modifications

Beaumont Transit Facility Configuration and Depot Layout

Current Depot Address:

550 E 6th Street, Building D, Beaumont, CA, 92223

Electric Utility:

Southern California Edison (SCE)

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

20+

Current Vehicle Types Supported:

Beaumont Transit's depot currently houses gasoline, CNG, and battery-electric buses and cutaways, but only battery-electric vehicles are fueled here. All other vehicles are fueled off site.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Battery electric propulsion will be supported at this depot.

Beaumont's Planned Depot APN No.:

417-110-018

Electric Utility:

Southern California Edison (SCE)

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

22+

Current Vehicle Types Supported:

Beaumont Transit's planned depot is expected to support CNG, battery-electric, and hydrogen buses and cutaways.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Battery electric and hydrogen fuel cell electric propulsion.

Facilities Assessment Methodology

Mixed fleet BEB and FCEB deployments such as Beaumont Transit's require installation of charging stations and improvements to existing electrical infrastructure as well as hydrogen fueling infrastructure. FCEB deployments require installation of a fueling station and may require improvements such as upgrades to the switchgear or utility service connections. Planning and design work, including development of detailed electrical and construction drawings required for permitting, is also necessary once specific charging equipment has been selected.

Building off of the fleet procurement schedule that was outlined in the Fleet Assessment, CTE then uses industry average pricing to develop infrastructure scenarios that estimate the cost of building out the infrastructure necessary to support a full fleet transition to ZEBs. This plan assumes that infrastructure projects will be completed prior to each bus delivery. To project the costs of fueling infrastructure, CTE used industry pricing provided by A&E subcontractors and an infrastructure build timeline based on the procurement timeline. This plan assumes that infrastructure projects will be completed prior to each bus delivery. These projects are described in detail below.

Infrastructure Upgrade Requirements to Support Zero-Emission Buses

Description of Depot-Charging Infrastructure Considered

With Beaumont Transit's mixed technology fleet, charging infrastructure is required to service a total of three battery electric cutaways along with hydrogen fueling infrastructure for 15 fuel cell cutaways and 4 FCEBs to support a completely zero-emission bus fleet by 2040. Because there are separate costs associated with each type of ZEB technology, the facilities assessment for this scenario is broken down by each fuel type. The total cost for mixed fleet fueling infrastructure is approximately \$10.5 M.

BEB Charging Infrastructure Summary

In order to support the battery electric portion of the fleet, Beaumont Transit will need to work with a contractor to conduct detailed infrastructure planning, purchase chargers and dispensers, and add service capacity to their site. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building charging infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for Beaumont Transit's single depot is estimated at \$200,000.
- **DISPENSERS AND CHARGERS.** Beaumont Transit's charging depot will consist of two chargers with two dispensers per charger. Prices are estimated at \$170,00 for a 150kW charger with two dispensers.
- **ELECTRIC SERVICE UPGRADE.** Beaumont Transit requires an estimated 1 MW of additional electricity capacity by 2040 to accommodate charging for three battery electric cutaways. To meet the growing demand for electricity, the depot will need to upgrade its system to at least 1 MW of capacity by 2025. This is estimated to cost around \$200,000 over the transition period.
- **INFLATION FACTOR.** 5.4% inflation is added on all planning, procurement, and construction costs per the CPI. 3% inflation is added on all maintenance costs per Riverside's maintenance cost assumptions. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The estimated total BEB infrastructure costs for the Mixed Fleet scenario with shared hydrogen infrastructure is shown below in **Figure 10**. The costs for charging equipment totals to approximately \$1M over the transition period.

FCEB Fueling Infrastructure Summary

In addition to BEB charging, hydrogen fueling is required to support the Mixed Fleet. Like BEB infrastructure, a FCEB infrastructure deployment will also require hiring an infrastructure planning contractor. A storage capacity project, a fueling infrastructure capital project will also be necessary to allow Beaumont Transit to fuel their hydrogen fuel cell vehicles on site. Infrastructure is assumed to be built out in one project that will conclude prior to the first FCEB deployment in 2027. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building hydrogen infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for Beaumont Transit's single depot will be approximately \$200,000.

- **MAINTENANCE BAY UPGRADES.** Beaumont Transit requires two upgrades to their maintenance bays. Each maintenance bay upgrade from CNG to Hydrogen is expected to cost \$14,000. The total cost for the four maintenance bays is estimated to be \$28,000.
- **HYDROGEN FUELING INFRASTRUCTURE.** Beaumont Transit’s fueling solutions were decided based on fuel consumption needs and approximately right-sized. Hydrogen infrastructure maintenance and operations are covered in the price of fuel in the fuel assessment.
- **INFLATION FACTOR.** 5.4% inflation is added on all project costs per the CPI. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

Figure 10 shows the estimated infrastructure costs for the fuel cell technology, totaling to approximately \$9.5 M.

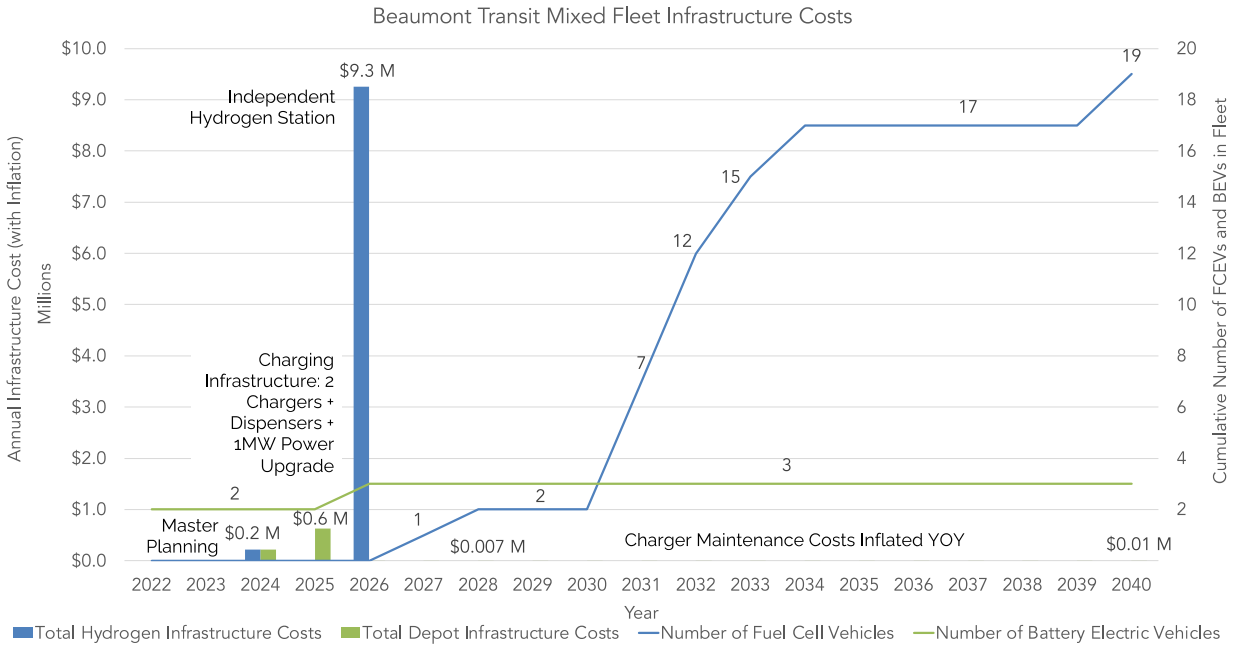


Figure 10 – Infrastructure Projects and Costs, ZEB Transition

Utility Partnership Review

Southern California Edison (SCE) the electricity provider, or utility, for the City of Beaumont offers the Charge Ready Transport ⁴(CRT) program that supports both California’s greenhouse gas (GHG)-reduction goal and local air-quality requirements. The Program assists customers with transitioning to cleaner fuels by reducing their cost for the purchase and installation of required battery-electric vehicle (EV) charging infrastructure, as well as providing rebates to offset the cost of charging stations for certain eligible customers⁵.

Primarily, the CRT program offers low- to no-cost electrical system upgrades to support the installation of EV charging equipment for qualifying vehicles – heavy-duty vehicles weighing 6000+ lbs. In addition, participants that will be acquiring school buses or transit buses within SCE territory are also eligible for a rebate against the purchase of charging equipment. Programs like this will benefit Beaumont Transit significantly in the financial sector of their transition to zero-emission technology.

The City is sharing proposed planning documents to help SCE understand future loads so that any required grid infrastructure improvements can be addressed prior to implementation. The City’s discussion of short and long-term fleet goals with SCE will ensure that SCE can properly plan grid-side electrical infrastructure upgrades, and that the City can adequately support battery electric buses at the new City Yard. The City recognizes SCE as a

⁴ <https://crt.sce.com/program-details>

⁵ Charge Ready Transport, Quick Reference Guide

critical partner in electrification and will continue to partner with SCE after the planning stages so that charge management strategies and fleet expansion efforts can be coordinated effectively. The City's current relationship with SCE is cooperative.

Further, the City understands establishing and maintaining a partnership with the alternative fuel provider is critical to successfully deploying zero-emission vehicles and maintaining operations. Hydrogen fueling requires a plan for infrastructure installation, delivery, storage, dispensing, and upgrades to maintenance facilities. While fueling operations for hydrogen may require fewer operational changes than electric bus charging, understanding the local hydrogen supply market can be its own challenge. To overcome this challenge, the City proposes a competitive bidding process for a design-build project to determine the appropriate station size and to select the most appropriate fueling technology at the best value.

F

Providing Service in Disadvantaged Communities

Providing Zero-Emission Service to DACs

In California, CARB defines disadvantaged communities (DACs) as communities that are both socioeconomically disadvantaged and environmentally disadvantaged due to local air quality. Lower income neighborhoods are often exposed to greater vehicle pollution levels due to proximity to freeways and the ports, which puts these communities at greater risk of health issues associated with tailpipe emissions.⁶ ZEBs will reduce energy consumption, harmful emissions, and direct carbon emissions within the disadvantaged communities Beaumont Transit serves. The City of Beaumont includes 4 different census tracts designated as DACs. Beaumont Transit's fixed routes that are in and pass through DACs, along with their stops are shown in **Figure 11** below.

Environmental impacts, both from climate change and from local pollutants, disproportionately affect transit riders. For instance, poor air quality from tailpipe emissions and extreme heat harm riders waiting for buses at roadside stops. The transition to zero-emission technology will benefit the region by reducing fine particulate pollution and improving overall air quality. In turn, the fleet transition will support better public health outcomes for residents in DACs served by the selected routes.

Public transit has the potential to improve social equity by providing mobility options to low-income residents lacking access to a personal vehicle and helping to meet their daily needs. In California, transit use is closely correlated with car-less households as they are five times more likely to use public transit than households with at least one vehicle.⁷ Although 21% of Californians in a zero-vehicle household are vehicle free by choice, 79% do not have a vehicle due to financial limitations. Many low-income people therefore rely solely on public transportation for their mobility needs.⁸ Beaumont Transit's current fleet of fixed route and DAR CNG and gasoline buses consume 69,643 Gasoline Gallons Equivalent (GGE) of fuel per year, operating for approximately 390,226 miles per year. Moving Beaumont Transit's fleet to zero-emission technology will help alleviate the pollution from tailpipe emissions, which will improve the health of communities impacted by NOx and particulate matter emissions and all local communities.

Access to quality transit services provides residents with a means of transportation to go to work, to attend school, to access health care services, and run errands. By purchasing new vehicles and decreasing the overall age of its fleet, Beaumont Transit is also able to improve service reliability and therefore maintain the capacity to serve low-income and disadvantaged populations. Replacing diesel vehicles with zero-emission vehicles will also benefit these populations by improving local air quality and reducing exposure to harmful emissions from diesel exhaust.

⁶ Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

⁷ Grengs, Joe; Levine, Jonathan; and Shen, Qingyun. (2013). Evaluating transportation equity: An inter-metropolitan comparison of regional accessibility and urban form. FTA Report No. 0066. For the Federal Transit Administration

⁸ Paul, J & Taylor, BD. 2021. Who Lives in Transit Friendly Neighborhoods? An Analysis of California Neighborhoods Over Time. Transportation Research Interdisciplinary Perspectives. 10 (2001) 100341. <https://reader.elsevier.com/reader/sd/pii/S2590198221000488?token=CABB49E7FF438A88A19D1137A2B1851806514EF576E9A2D9462D3FAF1F6283574907562519709F8AD53DEC3CF95ACF27&originRegion=us-east-1&originCreation=20220216190930>

Map of Disadvantaged Communities served by Beaumont Transit

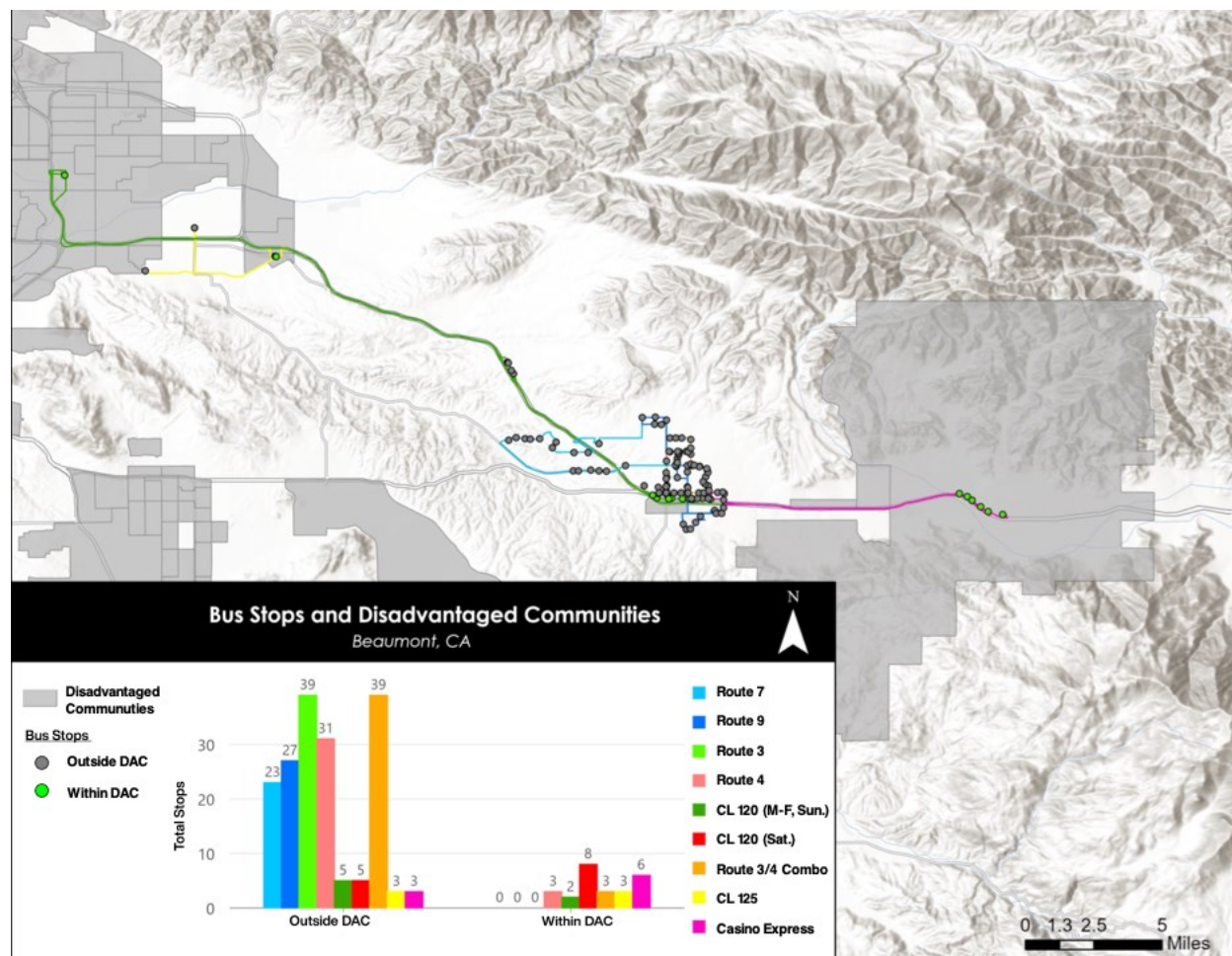


Figure 11 – Beaumont Transit Disadvantaged Communities Service Map

Emissions Reductions for DACs

Greenhouse gasses (GHG) are the compounds primarily responsible for atmospheric warming and include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The effects of greenhouse gasses are not localized to the immediate area where the emissions are produced. Regardless of their point of origin, greenhouse gasses contribute to overall global warming and climate change.

Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter under 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SO_x). These pollutants are considered harmful to human health because they are linked to cardiovascular issues, respiratory complications, or other adverse health effects.⁹ These compounds are also commonly responsible for acid rain and smog. Criteria pollutants cause economic, environmental, and health effects locally where they are emitted. CARB defines DACs

⁹ Institute of Medicine. *Toward Environmental Justice: Research, Education, and Health Policy Needs*. Washington, DC: National Academy Press, 1999; O’Neill MS, et al. *Health, wealth, and air pollution: Advancing theory and methods*. *Environ Health Perspect*. 2003; 111: 1861-1870; Finkelstein et al. *Relation between income, air pollution and mortality: A cohort study*. *CMAJ*. 2003; 169: 397-402; Zeka A, Zanobetti A, Schwartz J. *Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics*. *Occup Environ Med*. 2006; 62: 718-725.

in part as disadvantaged by poor air quality because polluting industries or freight routes have often been cited in these communities. The resulting decrease in air quality has led to poorer health and quality of life outcomes for residents. Beaumont Transit’s operational Well-to-Wheel criteria emissions are summarized in **Table 5**.

Table 5 – Annual Vehicle Operation Pollutants by Fuel Type

Overall Annual Vehicle Operation Pollutants (lbs.)								
Bus Group	CO	NOx	PM10	PM2.5	VOC	SOx	PM10 TBW	PM2.5 TBW
CNG	10354.33	196.72	2.61	2.54	29.25	3.22	55.46	7.09
Gas	6301.84	38.52	3.55	2.93	101.26	2.38	24.21	3.11
Electric	0	0	0	0	0	0	0.36	0.05

The transportation sector is the largest contributor to greenhouse gas emissions in the United States, accounting for more than 30% of total emissions, and within this sector, 25% of these emissions come from the medium- and heavy-duty markets, yet these markets account for less than 5% of the total number of vehicles. Electrifying these vehicles can have an outsized impact on pollution, fossil-fuel dependency, and climate change. ZEBs are four times more fuel efficient than comparable new diesel buses. Better fuel efficiency means less waste when converting the potential energy in the fuel to motive power. Less waste not only means less pollution, it results in more efficient use of natural resources. By transitioning to ZEBs from CNG buses, Beaumont Transit’s zero-emission fleet will produce fewer carbon emissions and fewer harmful pollutants from the vehicle tailpipes. Considering DACs experience significantly more pollution from harmful emissions, communities disadvantaged by pollution served by Beaumont Transit’s fleet will therefore directly benefit from the reduced tailpipe emissions of ZEBs compared to ICE buses.

Estimated Ridership in DACs

As shown in Figure 10, 18 (15%) of the fixed-route stops are located within DACs. In terms of route length, 41 miles (20%) of Beaumont Transit’s service miles are within DACs.

In addition, much of the DAR service area, provided to persons with disabilities certified under the Americans with Disabilities Act (ADA), falls within DAC zones, but specific trips may start and/or end outside of DAC’s. These areas include many sites within the City of Beaumont and the nearby community of Cherry Valley. This service is provided to those within three-quarters of a mile of fixed-route service. Unlike fixed-route service, the DAR service does not run a set route, and a single vehicle may provide trips both within and outside of DAC’s during a single day.



Workforce Training

Beaumont Transit Current Training Program

Beaumont Transit staff works closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying a new vehicle type and that these staff undergo refresher training annually and as needed. Management stays abreast of regulatory requirements and ensures that associated training takes place during annual VTT training or sooner. Beaumont Transit staff also brings up any issues or questions they may have about their training with their respective trainers.

Beaumont Transit ZEB Training Plan

OEM Training

Beaumont Transit plans to take advantage of training opportunities from the bus manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training and other training that may be offered by the technology providers. OEM training provides critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Bus and Fueling Operations and Maintenance

The transition to a zero-emission fleet will have significant effects on Beaumont Transit’s workforce. Meaningful investment is required to upskill maintenance staff and bus operators trained in ICE vehicle maintenance and ICE fueling infrastructure.

Beaumont Transit’s training staff will work closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying ZEB technology and that these staff undergo refresher training annually and as needed. Beaumont Transit’s staff will also be able to bring up any issues or questions they may have about their training with their trainers. Additionally, trainers will observe classes periodically to determine if any staff would benefit from further training.

ZEB Training Programs

Several early ZEB adopters have created learning centers for other agencies embarking on their ZEB transition journeys. One such agency is SunLine Transit Agency, which provides service to the Coachella Valley and hosts the West Coast Center of Excellence in Zero Emission Technology (CoEZET). The Center of Excellence supports transit agency adoption, zero-emission commercialization, and investment in workforce training. Beaumont Transit plans to take advantage of regional training opportunities offered by experienced agencies.

There are several transit agencies within and around Riverside County that have successfully begun their transition to zero-emission technology. California has at least seven heavy-duty and transit-operated fueling stations in

operation and at least four more in development¹⁰. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. At present, there are two heavy-duty, transit-operated hydrogen fueling stations in the neighboring San Bernardino and Orange counties within 40 miles of Beaumont, and two planned transit-operated hydrogen fueling stations in Los Angeles County and Pomona within 30 miles of Beaumont Transit. In addition, private hydrogen fueling stations by First Element Fuels and Stratosfuel within 80 miles of Beaumont, CA are in development and should be commissioned before the end of the fleet transition timeline.

In the region, Omintrans, a public transit agency serving the San Bernardino Valley recently received \$9.3 million from the Federal Transit Administration (FTA) under the FY2022 Low-No Emission Vehicle Program to develop hydrogen refueling infrastructure and launch a workforce development program. Similarly, Sunline Transit Agency has received \$7.8 million to upgrade their liquid hydrogen refueling infrastructure. Riverside Transit Agency has also received \$5.2 million to procure hydrogen fuel cell buses. The presence of hydrogen fueling infrastructure projects, especially in the counties of Riverside and San Bernardino, demonstrates the feasibility of fuel cell electric technology for transit in the region. These agencies can serve as a resource for Beaumont Transit to use when implementing zero-emission technology and supporting programs into their services.

¹⁰ Hydrogen Refueling Stations in California, California Energy Commission: <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/hydrogen-refueling>



Potential Funding Sources

Available Funding Opportunities

Federal

Beaumont is ineligible for most federal funds apart from Federal Highway Administration Funds (FHWA). Beaumont is planning to pursue funding opportunities administered by the Federal Highway Administration such as the following:

- Federal Highway Administration (FHWA)
 - Congestion Mitigation and Air Quality Improvement Program through SCAG
 - Surface Transportation Block Grant Program through SCAG
 - Carbon Reduction Program

State

CCTS will also seek funding from state resources through grant opportunities including but not limited to Senate Bill 1 State of Good Repair (SGR), Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) funding, the California Energy Commission's Clean Transportation Program as well as Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) for bus purchases when available.

Annual Reliable Funding

- Administered by California Department of Transportation (Caltrans)
 - Transportation Development Act Funds
 - Local Transportation Funds
 - State Transit Assistance (STA)
 - State of Good Repair (SB 1 funds)
 - Low Carbon Transit Operations Program (LCTOP)

Future Funding Opportunities

- California Air Resources Board (CARB)
 - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)
 - State Volkswagen Settlement Mitigation
 - Carl Moyer Memorial Air Quality Standards Attainment Program
 - Cap-and-Trade Funding
 - Low Carbon Fuel Standard (LCFS)
- California Transportation Commission (CTC)
 - State Transportation Improvement Program (STIP)
 - Solution for Congested Corridor Programs (SCCP)
 - Local Partnership Program (LPP)
- California Department of Transportation (Caltrans)
 - Transit and Intercity Rail Capital Program
 - Transportation Development Credits
 - New Employment Credit
- California Energy Commission

Local

Additionally, Beaumont Transit will pursue local funding opportunities to support zero-emission bus deployment. While the aforementioned funding opportunities are mentioned by name, Beaumont Transit will not be limited to these sources and will regularly assess opportunities for fiscal support for the ZEB program.

Legislation Supporting the Zero-Emission Transition

Policies and regulations supporting the transition to zero-emission are proliferating as the efforts to decarbonize the transportation sector expand. Beaumont Transit is monitoring the implementation of relevant policies and legislation. With the passage of the *Bipartisan Infrastructure Law* and issuance of *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*, the federal government has set a renewed focus on zero-emission transit. Riverside County's goal to deploy zero-emission vehicles supports the federal administration's priorities of renewing transit systems, reducing Greenhouse Gas emissions from public transportation, equity, creation of good paying jobs, and connecting communities. State legislation such as the Innovative Clean Transit Regulation further supports the replacement of fossil-fuel vehicles on the roads of California. Moreover, on August 25, 2022, the CARB approved the Advanced Clean Cars II Rule, requiring all new vehicles sold in California to be zero-emission vehicles (ZEVs) by 2035.

Start-up and Scale-up Challenges

Financial Challenges

Challenges can arise with any new propulsion technology, its corresponding infrastructure, or in training operators and maintenance staff. Nearly all transit agencies must contend with the cost barriers posed by zero-emission technologies. The current market cost of ZEBs is between \$980,000 and \$1,310,000, which is about \$320,000 to \$650,000 more costly than traditional CNG buses. The predicted costs of zero-emission cutaways are between \$300,000 and \$370,000, which is about \$120,000 to \$200,000 more than their ICE counterparts.

Additionally, the necessary infrastructure to support these buses adds to the financial burden of transitioning to a ZEB fleet, as outlined below in **Table 6**, showing the cost of the transition. Beaumont Transit will seek financial support to cover the cost of their FCEBs from the resources discussed in Section H.

Table 6 – Incremental Cost of ZEB Transition

Incremental cost of ZEB Transition			
	CNG Baseline*	ZEB Incremental Costs	ZEB Transition Scenario Costs
Bus Capital Expense	\$25M	\$6M	\$31M
Fueling Infrastructure	\$0	\$10M	\$10M
Total	\$25M	\$16M	\$41M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

As seen in **Table 6**, the costs of required fueling infrastructure and fueling operations for ZEB technologies pose another hurdle for transit agencies transitioning to zero-emission service. Continued financial support at the local, state and federal level to offset the capital cost of this new infrastructure is imperative. For alternative fuels such as hydrogen, financial support from state and federal grant opportunities for green hydrogen supply chains and increasing economies of scale on the production side will ultimately benefit transit agencies deploying and planning for FCEBs and BEBs.

CARB can support Beaumont Transit by ensuring continued funding for the incremental cost of zero-emission buses and fueling infrastructure. Funding opportunities should emphasize proper transition and deployment planning and should not preclude hiring consultants to ensure best practices and successful deployments. The price and availability of hydrogen, both renewable and not, continue to be challenges that can be allayed by legislation subsidizing and encouraging renewable fuel production.

Limitations of Current Technology

Beyond cost barriers, transit agencies must also ensure that available zero-emission technologies can meet basic service requirements of the agency’s duty cycles. The applicability of specific zero-emission technologies will vary widely among service areas and agencies. As such, it is critical that transit agencies in need of technical and planning support have access to these resources to avoid failed deployment efforts. Support in the form of technical consultants and experienced zero-emission transit planners will be critical to turning Rollout Plans into successful deployments and tangible emissions reductions.

In addition to the uncertainty of technology improvements, there are other risks to consider in trying to estimate costs over the 18-year transition period. Although current BEB range limitations may be improved over time as a result of advancements in battery energy capacity and more efficient components, battery degradation may re-introduce range limitations, which is a cost and performance risk to an all-BEB fleet over time. While this can be mitigated by on-route charging, there may be emergency scenarios where the buses are expected to perform off-route or atypical service. In these emergency scenarios that require use of BEBs, agencies may face challenges performing emergency response roles expected of them in support of fire and police operations. Furthermore, fleetwide energy service requirements, power redundancy, and resilience may be difficult to achieve at any given depot in an all-BEB scenario. Although FCEBs may not be subject to these same limitations, higher capital equipment costs and availability of hydrogen may constrain FCEB solutions. RCTC, Beaumont Transit, CTE and Arcadis IBI Group will expand upon challenge mitigation and adaptation in the Riverside County ZEB Implementation & Financial Strategy Plan.

Appendix A – Approved Board Resolution

RESOLUTION NO. 2023-16

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BEAUMONT APPROVING THE ZERO EMISSION BUS (ZEB) ROLLOUT PLAN AND AUTHORIZING THE SUBMISSION OF THE PLAN TO THE CALIFORNIA AIR RESOURCES BOARD (CARB) AS REQUIRED BY THE INNOVATIVE CLEAN TRANSIT (ICT) REGULATION

WHEREAS, per California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.3, Part 2023.1 (d) Each transit agency’s governing body must approve the Rollout Plan through the adoption of a resolution.

WHEREAS, the Rollout Plan is a living document intended to guide the agency’s transition to a ZEB fleet and may be updated based on changes in vehicle technology, fleet size, and operating requirements.

WHEREAS, the City of Beaumont Transit is a small transit agency which operates less than 100 buses in annual maximum service in the South Coast Air Basin.

WHEREAS, per the ICT regulation adopted by CARB, small transit agencies are required to submit an approved ZEB Rollout Plan and a copy of the Resolution to the Executive Officer by July 1st, 2023.

WHEREAS, the ICT regulation sets the goal of achieving a 100% ZEB fleet by 2040, and per the requirements; beginning in 2026, 25% of annual bus purchases for small transit agencies must be zero-emission, and beginning in 2029, 100% of annual bus purchases must be zero-emission.

WHEREAS, per the ICT regulation, the Rollout Plan includes required information from the following sections:

- Section A: Transit Agency Information
- Section B: Rollout Plan General Information
- Section C: Technology Portfolio
- Section D: Current Bus Fleet Composition
- Section E: Facilities and Infrastructure Modifications
- Section F: Providing Service in Disadvantaged Communities
- Section G: Workforce Training
- Section H: Potential Funding Sources

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Beaumont hereby adopts the Zero-Emission Bus Rollout Plan as a guide for the implementation of ZEB technology and approves it for submission to CARB.

PASSED, APPROVED AND ADOPTED this 6th day of June 2023.

AYES: White, Voigt, Lara, Fenn, Martinez

NOES:

ABSTAIN:

ABSENT:

By:  _____
Julio Martinez III, Mayor

ATTEST:

Nicole Wheelwright
DEPUTY CITY CLERK

By:  _____

Appendix B – Glossary

Auxiliary Energy: Energy consumed (usually as a by time measure, such as “x”kW/hour) to operate all support systems for non-drivetrain demands, such as HVAC and interior lighting.

Battery Electric Bus: Zero-emission bus that uses onboard battery packs to power all bus systems.

Battery Nameplate Capacity: The maximum rated output of a battery under specific conditions designated by the manufacturer. Battery nameplate capacity is commonly expressed in kWh and is usually indicated on a nameplate physically attached to the battery.

Block: Refers to a vehicle schedule, the daily assignment for an individual bus. One or more runs can work a block. A driver schedule is known as a “run.”

Charging Equipment: The equipment that encompasses all the components needed to convert, control and transfer electricity from the grid to the vehicle for the purpose of charging batteries. May include chargers, controllers, couplers, transformers, ventilation, etc.

Depot Charging: Centralized BEB charging at a transit agency's garage, maintenance facility, or transit center. With depot charging, BEBs are not limited to specific routes, but must be taken out of service to charge.

Energy: Quantity of work, measured in kWh for ZEBs.

Energy Efficiency: Metric to evaluate the performance of ZEBs. Defined in kWh/mi for BEBs, mi/kg of hydrogen for FCEBs, or miles per diesel gallon equivalent for any bus type.

Fuel Cell Electric Bus: Zero-emission bus that utilizes onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with the waste products of heat and water. The electricity powers the batteries, which powers the bus.

Greenhouse Gas Emissions: Zero-emission buses have no harmful emissions that result from diesel combustion. Common GHGs associated with diesel combustion include carbon dioxide (CO₂), carbon monoxide (CO), nitrous oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). These emissions negatively impact air quality and contribute to climate change impacts.

Hydrogen Fueling Station: The location that houses the hydrogen production (if produced onsite), storage, compression, and dispensing equipment to support fuel cell electric buses.

On-route Charging: BEB charging while on the route. With proper planning, on-route charged BEBs can operate indefinitely, and one charger can charge multiple buses.

Operating Range: Driving range of a vehicle using only power from its electric battery pack to travel a given driving cycle.

Route Modeling: A cost-effective method to assess the operational requirements of ZEBs by estimating the energy consumption on various routes using specific bus specifications and route features.

Useful Life: FTA definition of the amount of time a transit vehicle can be expected to operate based on vehicle size and seating capacity. The useful life defined for transit buses is 12-years. For cutaways, the useful life is 7 years.

Validation Procedure: to confirm that the actual bus performance is in line with expected performance. Results of validation testing can be used to refine bus modeling parameters and to inform deployment plans. Results of validation testing are typically not grounds for acceptance or non-acceptance of a bus.

Zero-Emission Vehicle: A vehicle that emits no tailpipe emissions from the onboard source of power. This is used to reference battery-electric and fuel cell electric vehicles, exclusively, in this report.

Well-to-wheel Emissions: Quantity of greenhouse gas, criteria pollutants, and/or other harmful emissions that includes emissions from energy use and emissions from vehicle operation. For BEBs, well-to-wheel emissions would take into account the carbon intensity of the grid used to charge the buses. For FCEBs, well-to-wheel emissions would take into account the energy to produce, transport, and deliver the hydrogen to the vehicle



Zero-Emission Bus Rollout Plan

Prepared by City of Corona Transit Service with support from the Center for Transportation and the Environment, Arcadis IBI Group, and the Riverside County Transportation Commission



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List of Abbreviations

ADA: Americans with Disabilities Act

A&E: Architecture and Engineering

BEB: Battery Electric Bus

CA: California

CARB: California Air Resources Board

CNG: Compressed Natural Gas

COVID/COVID-19: Coronavirus Disease 2019 (SARS-CoV-2)

CTE: Center for Transportation and the Environment

DAC: Disadvantaged Community

FCEB: Fuel Cell Electric Bus

HVAC: Heating, Ventilation, and Air Conditioning

ICE: Internal Combustion Engine

ICT: Innovative Clean Transit

kW: Kilowatt

kWh: Kilowatt-Hour

MW: Megawatt

OEM: Original Equipment Manufacturer

PM: Particulate Matter

PPI: Producer Price Index

CPI: Consumer Price Index

RFP: Request for Proposals

SCE: Southern California Edison (SoCal Edison)

TDA: Transportation Development Act

VTT: Verification of Transit Training

ZEB: Zero-Emission Bus

A glossary of useful terms can also be found in Appendix B - Glossary

Executive Summary

City of Corona Transit Service (CCTS) provides public transit services for the community in and around the city of Corona in Riverside County, operating two fixed routes in the city, as well as Dial-A-Ride (DAR) service. CCTS transit fleet as of 2022 consists of seven (7) Compressed Natural Gas (CNG) low-floor buses and thirteen (13) CNG cutaways. Riverside County Transportation Commission (RCTC) awarded a contract to the Center for Transportation and the Environment (CTE) to perform a zero-emission bus (ZEB) transition study to create a plan for a 100% zero-emission fleet by 2040 on behalf of transit agencies and municipal transportation services in the cities of Banning, Beaumont, Corona and Riverside and the Palo Verde Valley Transit Agency to comply with the Innovative Clean Transit (ICT) regulation enacted by the California Air Resources Board (CARB). This report will focus on CCTS transition plan to zero-emission technology.

CCTS's Rollout Plan achieves a zero-emission bus fleet in line with the 2040 target of the ICT Regulation. To achieve this goal, CCTS will replace all CNG buses with ZEBs when the vehicles reach the end of their useful life. By 2040, 13 of the agency's buses are expected to be BEBs and 7 will be FCEBs. The last of the agency's CNG buses will reach end of life in 2039.

CCTS entire transit fleet operates out of 735 Public Safety Way, termed the Corporation Yard, and is operated and dispatched by a transit operator contractor, MV Transportation. Maintenance is also performed independently by the contractor at an offsite facility located at 1930 S. Rochester Ave., in Ontario, CA, approximately 13 miles from the administrative building and bus garage. The City of Corona owns and operates a public CNG fueling station at 430 Cota Street; however, the transit fleet primarily fuels overnight at the slow-fill CNG fueling station located within the Corporation Yard at 740 Public Safety Way. CCTS plans to install both charging and hydrogen fueling infrastructure at this location to support their proposed mixed fleet.

CCTS bus service provides transportation opportunities to Disadvantaged Communities (DACs) and moving toward zero-emission buses will help improve the health of DACs and non-DACs alike. The agency will build upon an existing training structure for bus maintenance and operators to provide the necessary battery-electric bus (BEB) and fuel cell electric bus (FCEB) specific training that will be required for the agency to own and operate BEBs and FCEBs. The agency estimates that pursuing a ZEB fleet in place of a compressed natural gas (CNG) fleet will cost an additional \$14M in bus costs and infrastructure alone between 2021 and 2040, which will require significantly more funding sources. CCTS plans to pursue funding opportunities at the federal, state, and local levels to help fill this funding gap.

A

Transit Agency Information

CCTS Profile

On January 19, 1977, Corona City Council approved the name for the Corona Dial-A-Ride (demand response public transportation) and approved an Agreement with DAVE Systems to operate the Corona Dial-A-Ride. The Corona Dial-A-Ride began service in 1977 serving the general public, seniors, and people with disabilities within its service area that includes Corona and neighboring Riverside County area, like Coronita, El Cerrito, Home Gardens, including some satellite locations located within the City of Norco.

On February 2001 Corona launched the Corona Cruiser (deviated fixed route shuttle service) with two routes (Route 1 (A, Blue, bisecting Corona from east to west) and Route 2 (B, Red), serving the southwest quadrant of Corona) and in July 2001 Corona implemented Route 3 (C, Green, traveling along Hidden Valley Parkway/Norco/northwest part of Corona).

In 2004 the Corona Cruiser evolved to operate with two (2) fixed routes dubbed the Blue and Red Line, these route alignments have been slightly modified overtime but continue to serve Corona in current times; in addition to serving Corona the Corona Cruiser serves portions of El Cerrito, Home Gardens, and Norco.

On January 2, 2018, the Corona Dial-A-Ride was restructured to serve seniors (age 60 and over), persons with disabilities, and persons certified under the Americans With Disability Act of 1990 (ADA), the Corona Dial-A-Ride Service Area remained the same.

Currently, the Blue Line serves the McKinley Street retail area, travels onto Magnolia Avenue and Main Street to the River Road Area. The Red Line connects the residential areas of central Corona with commercial areas along Sixth Street, Ontario Avenue/California Avenue, and the Cajalco Rd. and Temescal Canyon Rd. retail area.

Service Area and Bus Service

City of Corona Transit Service (CCTS) public transit services in and around the city of Corona, a suburban community located southeast of Los Angeles in Riverside County. The City of Corona operates a system that provides services on two fixed routes in the city, Red Line, and Blue Line. The current bus fleet consists of seven (7) 32-ft. El Dorado National EZ Rider Compressed Natural Gas (CNG) low-floor buses. Corona's bus routes connect with Riverside Transit Agency regional bus routes, North Main Metrolink Station, and Park and Ride Lots. The Red Line also provides extended service to the Dos Lagos shopping center on Saturdays. Both the Red Line and the Blue Line have a service frequency of 60-70 minutes. The transit system transports passengers to Corona City Hall, Corona Public Library, major shopping centers and hospitals, the Senior Center, and more.

In addition to fixed-route service, Corona Transit provides dial-a-ride (DAR) service. This service is provided for Seniors 60 and older; persons with disabilities; and persons certified under the Americans with Disability Act (ADA). Service is provided within the City of Corona and adjacent unincorporated communities of Coronita, El Cerrito, and Home Gardens, as well as several satellite locations. This includes ADA services within three-quarters of a mile of fixed-route service. Unlike fixed-route service, the DAR service does not run a set route, and so a single vehicle may provide trips both within and outside of a DAC during a single day. The paratransit fleet consists of eleven (11) 25-ft. Glaval Universal E450 CNG cutaways and two (2) 26-ft. El Dorado Aerotech 240 CNG cutaways. CCTS service map is illustrated in **Figure 1**.

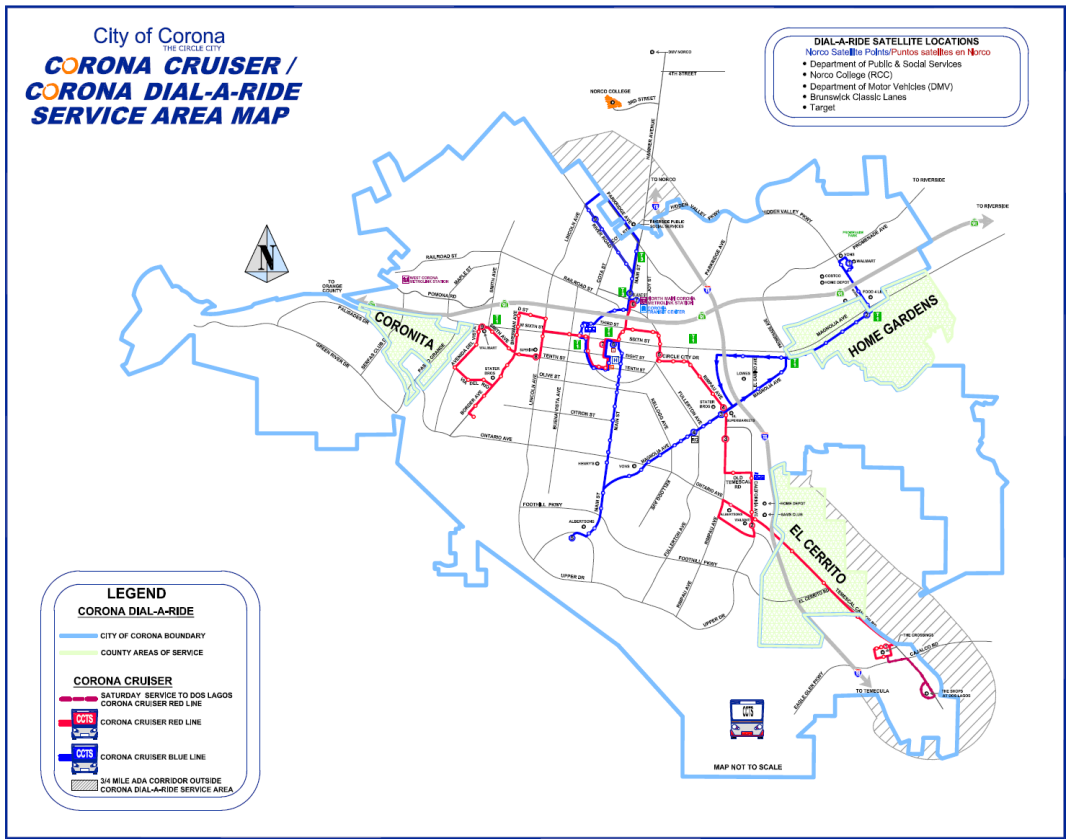


Figure 1 – CCTS Service Area

Ridership

Based on CCTS data of total ridership from July 2021 through the month of March 2022, staff estimated that there were a total of 111,257 unlinked passenger trips (UPT) throughout the year, with DAR services having 20,684 UPT and fixed route services having 90,573 UPT. In the 2020/2021 Fiscal Year, there were a total of 90,031 UPT, with DAR services having 13,386 UPT and fixed route services having 76,645. CCTS anticipates that annual ridership in the 2022/2023 Fiscal Year will be 153,283 passengers, with DAR passenger trips increasing by 62% and fixed routes by 22%. Per the CCTS Comprehensive Operations Analysis (COA), the agency is pursuing several service changes including extending fixed route services to areas in and surrounding Corona that are not currently being served, adding an additional bus to service the fixed routes, and opening DAR services to the general public.

CCTS Basic Information

Transit Agency's Name:

City of Corona Transit Service

Mailing Address: City of Corona Transit Service

735 Public Safety Way,
Corona, CA 92880

Transit Agency's Air Districts:

CCTS is part of the South Coast Air Quality Management District (SCAQMD).

Transit Agency's Air Basin:

Mojave Desert Air Quality Management District is part of the South Coast Air Basin.¹

Total number of buses in Annual Maximum Service:

The maximum number of active buses operating fixed route and DAR services out of the Corporation Yard is ten (10). The fleet is composed of seven (7) low floor transit buses and thirteen (13) cutaways.

Urbanized Area:

Corona, CA. Corona is 39.2 square miles of land area with 3,934 people per square mile living within that area.²

Population of Urbanized Area:

Over 160,000 residents³

¹ <https://www.rcrcd.org/south-coast-air-quality-management-district-scaqmd>

² <https://www.census.gov/quickfacts/fact/table/coronacitycalifornia/RHI525221#RHI525221>

³ <https://www.coronaca.gov/about-us>

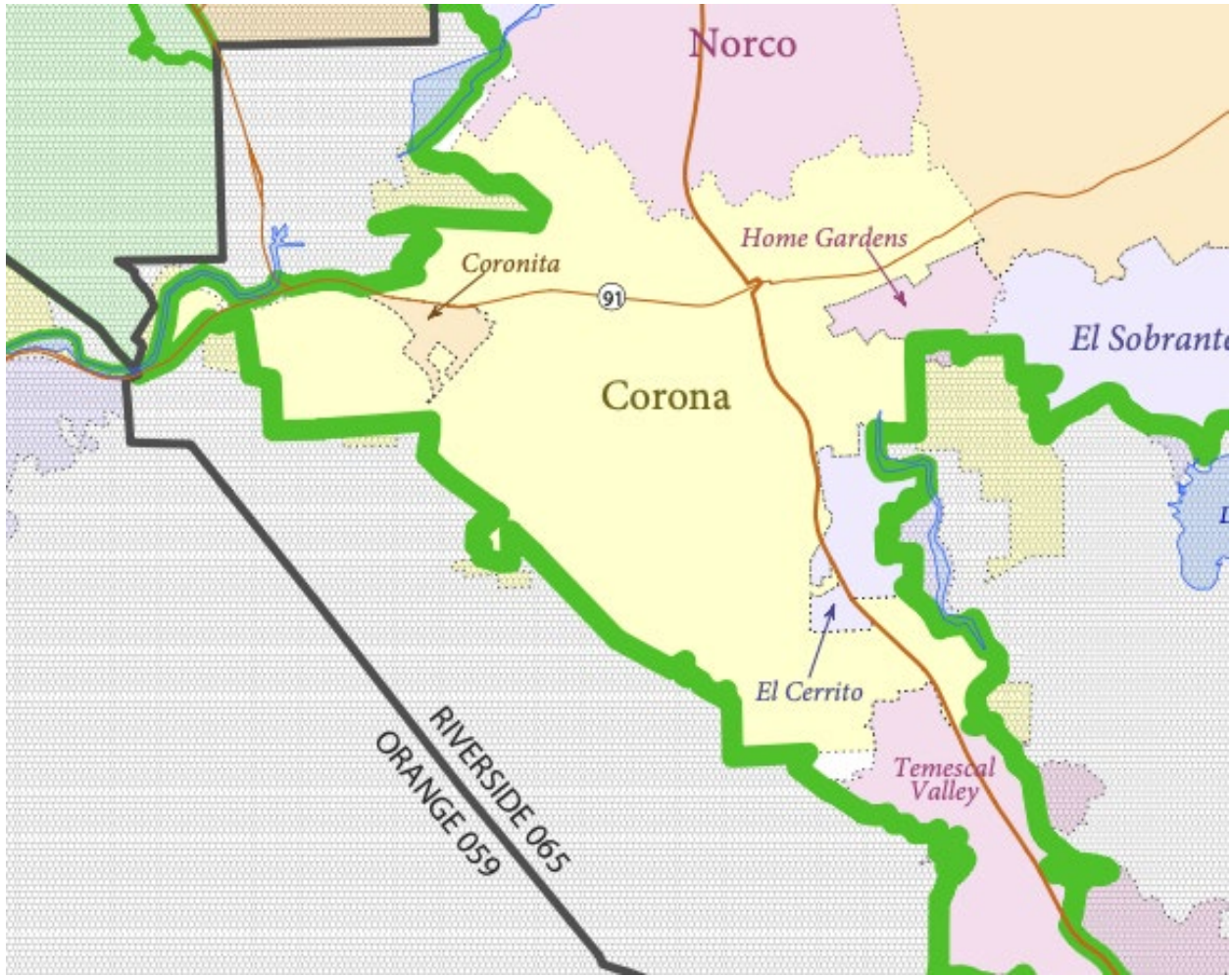


Figure 2 – City of Corona Urbanized and Rural Map⁴⁵

Contact Information for Inquiries on the CCTS ICT Rollout Plan:

Sudesh Paul, Transportation Planning Supervisor, City of Corona Transit Service

735 Public Safety Way,

Corona, CA 92880

Tel: (951) 279-3763

Sudesh.Paul@CoronaCA.gov

Is your transit agency part of a Joint Group? No

⁴ https://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua75340_riverside--san_bernardino_ca/DC10UA75340_000.pdf

⁵ Solid Green lines represent the boundaries of the urbanized area

Fleet Facility

CCTS's entire transit fleet operates out of 735 Public Safety Way, termed the Corporation Yard, and is operated and dispatched by a transit operator contractor, MV Transportation. Maintenance is also performed independently by the contractor at an offsite facility located at 1930 S. Rochester Ave., in Ontario, CA, approximately 13 miles from the administrative building and bus garage. The City owns and operates a public CNG fueling station at 430 Cota Street; however, the transit fleet primarily fuels overnight at the slow-fill CNG fueling station located within the Corporation Yard at 740 Public Safety Way. A map of the facilities and fueling locations are provided below, in **Figure 3** and **Figure 4** to understand the locations of CCTS properties in relation to one another, as well as to routes and service areas.

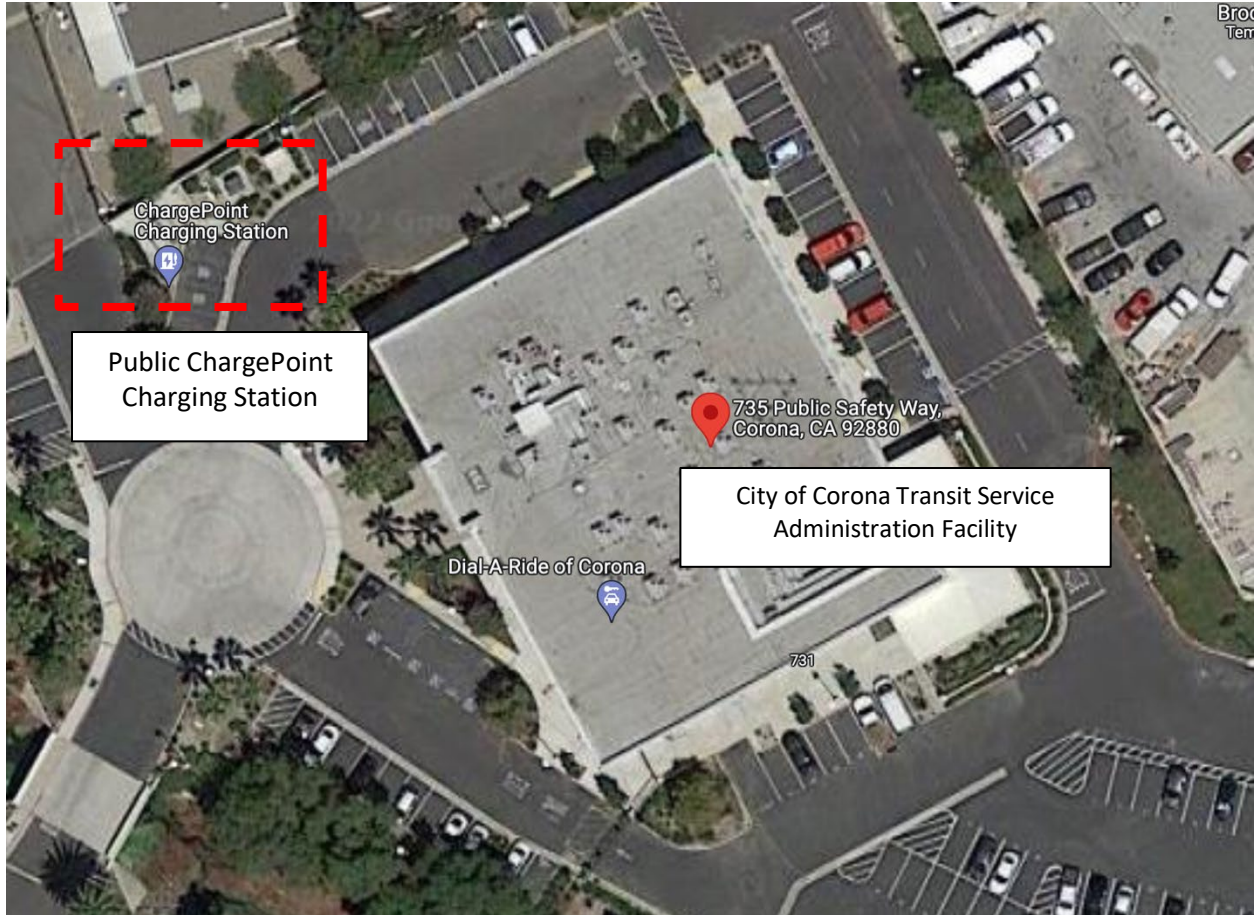


Figure 3 – CCTS Administrative and Maintenance Facility

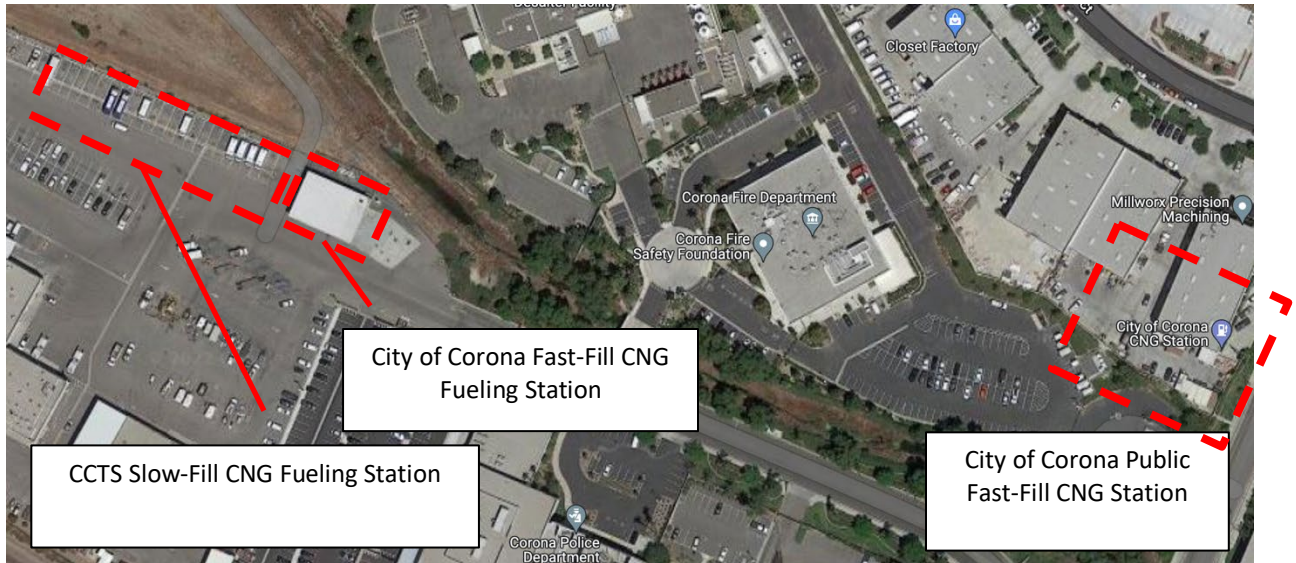


Figure 4 – Fueling Facility Overview

CCTS Sustainability Goals

The City of Corona Transit Service desires to maintain a sustainable public transportation program that offers multiple transit options that are essential to ensuring uninterrupted mobility services to the community. CCTS is dedicated to sustainability and defines sustainability as the ability of the current generation to meet its needs without compromising the ability of future generations to meet their needs. California’s plan to address public health, air quality and climate protection goals includes the Innovative Clean Transit (ICT) regulation, which aims to reduce greenhouse gas (GHG), nitrogen oxide (NOx), and diesel particulate emissions, with which, CCTS will be compliant at the conclusion of this project. To accomplish its sustainability goals, CCTS is working to replace its CNG fleet with 100% zero-emission vehicles by 2040 in accordance with ICT regulations.

CCTS has developed a plan to transition to a fully zero emission bus (ZEB) fleet composed of battery electric and fuel cell electric buses by 2040, in accordance with the Innovative Clean Transit (ICT) regulation, requiring all California transit agencies to follow zero-emission procurement guidelines with the goal of achieving 100% zero-emission fleets by 2040. CCTS has committed to purchasing zero emission buses, demonstrating the agency’s commitment to reducing emissions. CCTS transition to a fully ZEB fleet will ultimately benefit communities through cleaner air, greater independence from fossil fuels, and more environmental sustainability.

B

Rollout Plan General Information

Overview of the Innovative Clean Transit Regulation

On December 14, 2018, CARB enacted the Innovative Clean Transit (ICT) regulation, setting a goal for California public transit agencies to have zero-emission bus fleets by 2040. The regulation specifies the percentage of new bus procurements that must be zero-emission buses for each year of the transition period (2023–2040). The annual percentages for Small Transit agencies are as follows:

ICT Zero-Emission Bus Purchase Requirements for Small Agencies:

January 1, 2026 - 25% of all new bus purchases must be zero-emission

January 1, 2027 - 25% of all new bus purchases must be zero-emission

January 1, 2028 - 25% of all new bus purchases must be zero-emission

January 1, 2029+ - 100% of all new bus purchases must be zero-emission

March 2021-March 2050 – Annual compliance report due to CARB

This purchasing schedule guides agency procurements to realize the goal of zero-emission fleets in 2040 while avoiding any early retirement of vehicles that have not reached the end of their useful life (12 years for buses providing Fixed Route service and 5 years for the DAR cutaways). Agencies have the opportunity to request waivers that allow purchase deferrals in the event of economic hardship or if zero-emission technology cannot meet the service requirements of a given route. These concessions recognize that zero-emission technologies may cost more than current internal combustion engine (ICE) technologies on a vehicle lifecycle basis and that zero-emission technology may not currently be able to meet all service requirements.

CCTS Rollout Plan General Information

Rollout Plan's Approval Date: June 7, 2023

Resolution No: 2023-046

Is a copy of the approved resolution attached to the Rollout Plan? Yes

Contact for Rollout Plan follow-up questions:

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Who created the Rollout Plan?

This Rollout Plan was created by the City of Corona, with assistance from the Center for Transportation and the Environment (CTE) and the Riverside County Transportation Commission (RCTC).

This document, the ICT Rollout Plan, contains the information for CCTS zero-emission fleet transition trajectory as requested by the ICT Regulation. It is intended to outline the high-level plan for implementing the transition. The Rollout Plan provides estimated timelines based on information on bus purchases, infrastructure upgrades, workforce training, and other developments and expenses that were available at the time of writing.

Additional Agency Resources

CCTS agency website: <https://www.coronaca.gov/transit>



Technology Portfolio

ZEB Transition Technology Selection

Based on outcomes of the zero-emission fleet transition planning study completed by CTE, CCTS plans to transition its fleet to a mix of battery electric cutaways and fuel cell electric buses. By 2040, CCTS expects to operate a fully zero-emission fleet of 20 transit vehicles.

A mixed zero-emission technology fleet scenario provides a better range of options than a BEB-only fleet while mitigating the higher fuel cost of a FCEB-only fleet. A mixed technology zero-emission fleet also offers resilience by allowing service to continue should either fuel (electricity or hydrogen) become temporarily unavailable. This plan summarizes the charging and hydrogen infrastructure costs needed to support a fleet of 20 buses.

Local Developments and Regional Market

California has become a global leader for zero-emission buses, as well as the zero-emission fuel and fueling infrastructure required to support these vehicles. California is home to four bus OEMs that manufacture zero-emission buses. Although three of these OEMs do not currently build FCEBs, growing demand for this vehicle technology may encourage these manufacturers to enter the market.

The state legislature has fostered growth in zero-emission fuels through the state's Low-Carbon Fuel Standard (LCFS) program, which incentivizes the consumption of fuels with a lower carbon intensity than traditional combustion fuels and through funding opportunities offered by CARB and CEC. The state's electrical utility companies have also supported the transition to ZEB technology by offering incentive programs for heavy duty EV charging infrastructure and service upgrades. California BEB deployments represent 37% of the nation's BEB deployments.⁶

California also has one of the most mature hydrogen fueling networks in the nation. The state's hydrogen market has developed to support the growing number of fuel cell electric vehicles on the roads in the state. California has four medium-and-heavy-duty fueling stations in operation and four more in development. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. California FCEB deployments represent 75% of the nation's FCEB deployments.⁶

ZEB Transition Planning Methodology

CCTS's ICT Rollout Plan was created in combination with CCTS Existing Conditions Report and the Riverside County ZEB Financial Strategy Plan, utilizing CTE's ZEB Transition Planning Methodology. CTE's methodology consists of a series of assessments that enable transit agencies to understand what resources and decisions are necessary to convert their fleets to zero-emission technologies. The results of the assessments help the agency decide on a

⁶ CALSTART. 2021. THE ADVANCED TECHNOLOGY TRANSIT BUS INDEX: A NORTH AMERICAN ZEB INVENTORY REPORT. https://calstart.org/wp-content/uploads/2022/01/2021-ZIO-ZEB-Final-Report_1.3.21.pdf

step-by-step process to achieve its transition goals. These assessments consist of data collection, analysis, and modeling outcome reporting stages. These stages are sequential and build upon findings in previous steps. The assessment steps specific to CCTS's Rollout Plan are outlined below:

1. Planning and Initiation
2. Requirements Analysis & Data Collection
3. Service Assessment
4. Fleet Assessment
5. Fuel Assessment
6. Maintenance Assessment
7. Facilities Assessment
8. Total Cost of Ownership Assessment
9. Policy Assessment
10. Partnership Assessment

For **Requirements Analysis & Data Collection**, CTE collects data on the agency's fleet, routes and blocks, operational data (e.g., mileage and fuel consumption), and maintenance costs. Using this data, CTE establishes service requirements to constrain the analyses in later assessments and produce agency-specific outputs for the zero-emission fleet transition plan.

The **Service Assessment** phase initiates the technical analysis phase of the study. Using information collected in the Data Collection phase, CTE evaluates the feasibility of using zero-emission buses to provide service to the agency's routes and blocks over the transition plan timeframe from 2022 to 2040. Results from the Service Assessment are used to guide ZEB procurement plans in the Fleet Assessment and to determine energy requirements in the Fuel Assessment.

The **Fleet Assessment** projects a timeline for the replacement of existing buses with ZEBs that is consistent with CCTS existing fleet replacement plan and known procurements. This assessment also includes a projection of fleet capital costs over the transition timeline and is optimized to meet state mandates or agency goals, such as minimizing costs or maximizing service levels.

The **Fuel Assessment** merges the results of the Service Assessment and Fleet Assessment to determine annual fuel requirements and associated costs. The Fuel Assessment calculates energy costs through the full transition timeline for each fleet scenario, including the agency's existing ICE buses. To more accurately estimate battery electric bus (BEB) charging costs, a focused Charging Analysis is performed to simulate daily system-wide energy use. As older technologies are phased out in later years of the transition, the Fuel Assessment calculates the changing fuel requirements as the fleet transitions to ZEBs. The Fuel Assessment also provides a total fuel cost over the transition timeline.

The **Maintenance Assessment** calculates all projected fleet maintenance costs over the transition timeline. Maintenance costs are calculated for each fleet scenario and include costs of maintaining existing fossil-fuel buses that remain in the fleet and maintenance costs of new BEBs and FCEBs.

The **Facilities Assessment** determines the infrastructure necessary to support the projected zero-emission fleet composition over the transition period based on results from the Fleet Assessment and Fuel Assessment. This assessment evaluates the required quantities of charging infrastructure and/or hydrogen fueling station projects and calculates the costs of infrastructure procurement and installation sequenced over the transition timeline.

The **Total Cost of Ownership Assessment** compiles results from the previous assessment stages to provide a comprehensive view of all fleet transition costs, organized by scenario, over the transition timeline.

The **Policy Assessment** considers the policies and legislation that impact the relevant technologies.

The **Partnership Assessment** describes the partnership of the agency with the utility or alternative fuel provider.

Requirements Analysis & Data Collection

The Requirements Analysis and Data Collection stage begins by compiling operational data from CCTS regarding its current fleet and operations and establishing service requirements to constrain the analyses in later assessments. CTE requested data such as fleet composition, fuel consumption and cost, maintenance costs, and annual mileage to use as the basis for analyses. CTE conducted a screening-level analysis of CCTS routes by determining their average speed and grades, and classified them as fast or slow and flat or hilly. CTE used these classifications to model the energy efficiencies for each of CCTS routes. The calculated efficiencies were then used in the Service Assessment to determine the energy requirements of CCTS service.

CTE evaluated BEBs and FCEBs to support CCTS technology selection. After collecting route and operational data, CTE determined that CCTS longest block is 183 miles long. Based on observed performance, CTE estimates FCEBs are able to complete any block under 350 total miles, which means that FCEB technology already has the capability to meet service requirements. Although FCEBs were determined to have the capability of serving all of CCTS routes, CCTS was interested in exploring BEB and FCEB service scenarios, so it was necessary to determine how much of CCTS service could feasibly be served by depot-only charged BEBs in order to develop a set of ZEB transition scenarios that would allow the agency to make an informed decision on what technology or technologies would be most suitable to the agency's needs.

The energy efficiency and range of BEBs are primarily driven by bus specifications, such as on-board energy storage capacity and vehicle weight. Both metrics are affected by environmental and operating variables including the route profile (e.g., distance, dwell time, acceleration, sustained top speed over distance, average speed, and traffic conditions), topography (e.g., grades), climate (e.g., temperature), driver's bus operational behavior, and vehicle operational conditions such as passenger loads and auxiliary loads. As such, BEB efficiency and range can vary dramatically from one agency to another or even from one service day to another. It was therefore critical for CCTS to determine efficiency and range estimates based on an accurate representation of its operating conditions.

To understand BEB performance on CCTS routes, CTE modeled the impact of variations in passenger load, accessory load, and battery degradation on bus performance, fuel efficiency, and range. CTE ran models with different energy demands that represented *nominal* and *strenuous* conditions. Nominal loading conditions assume average passenger loads and moderate temperature over the course of the day, which places low demands on the motor and heating, ventilation, and air conditioning (HVAC) system. Strenuous loading conditions assume high or maximum passenger loading and near maximum output of the HVAC system. This nominal/strenuous approach offers a range of operating efficiencies to use for estimating average annual energy use (nominal) or planning minimum service demands (strenuous). Route modeling ultimately provides an average energy use per mile (kilowatt-hour/mile [kWh/mi]) for each route, bus size, and load case.

In addition to loading conditions, CTE modeled the impact of battery degradation on a BEB's ability to complete a block. The range of a battery electric bus is reduced over time due to battery degradation. A BEB may be able to service a given block with beginning-of-life batteries, while later it may be unable to complete the entire block at some point in the future as batteries near their end-of-life or derated capacity (typically considered 70-80% of available service energy).

Service Assessment

Given the conclusion that FCEBs could meet the range requirements for CCTS service, the Service Assessment focused on evaluating the feasibility of BEBs in CCTS service area. The efficiencies calculated in the Requirements Analysis & Data Collection stage were used to estimate the energy requirements of CCTS service. The main focus of the Service Assessment is called the block analysis, which determines if generic battery electric technology can meet the service requirements of a block based on range limitations, weather conditions, levels of battery degradation and route specific requirements. The Transit Research Board's Transit Cooperative Research Program defines a block as "the work assignment for only a single vehicle for a single service workday".⁷ A block is usually

⁷ TRB's Transit Cooperative Research Program. 2014. TCRP Report 30: Transit Scheduling: Basic and Advanced Manuals (Part B). https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_30-b.pdf

comprised of several trips on various routes. The energy needed to complete a block is compared to the available energy of the bus assigned to service the block. If the bus's usable onboard energy exceeds the energy required by the block, then the conclusion is that the BEB can successfully operate on that block.

The Service Assessment projects the performance of a BEB that is charged overnight at the depot and operates on CCTS service schedule at the time of the plan's writing. The results are used to determine when along the transition timeline a fleet of overnight depot-charged BEBs can feasibly serve CCTS territory or if another zero-emission technology is required to maintain service. This information can then be used to inform the scale and timing of BEB procurements in the Fleet Assessment.

Modeling & Procurement Assumptions

CTE and CCTS defined the following assumptions and requirements used throughout the study:

The Service Assessment energy profile assumed a 5% improvement in battery capacity every year with a starting battery capacity of 450 kWh for a 35' bus which represents an analogous ZEB suitable for CCTS transit vehicles and is an average of battery capacities seen in commercially-available buses of the same size and passenger capacity in 2022. Electric cutaways are modeled to have a battery capacity of 120 kWh and were assumed to have the same 5% rate of improvement in battery capacity every year.

This analysis also assumed CCTS will maintain blocks in a similar distribution of distance, relative speeds, and elevation changes to pre-COVID-19 service because buses will continue to serve similar locations within the service area and general topography remains constant even if specific routes and schedules change.

Fleet size and vehicle length distribution do not change over time. The analysis assumed that buses reaching the end of their useful life would be replaced with vehicles of the same size. Total fleet size remains the same over the transition period.

Buses are assumed to operate for a twelve-year service life. Cutaways are assumed to operate for a five or seven-year service life.

Usable on-board energy is assumed to be that of a mid-life battery (10% degraded) with a reserve at both the high and low end of the battery's charge potential. As previously discussed, battery age affects range, so a mid-life battery was assumed as the average capacity of the battery's service life. Charging batteries to 100% or dropping the charge below 10% also degrades the batteries over time, which is why the analysis assumes that the top and bottom portions of the battery are unusable.

CTE accounts for battery degradation over the transition period with the assumption that CCTS can rotate the ZEBs to battery capacity to block energy requirements. As the zero-emission fleet transition progresses, older buses can be moved to shorter, less demanding blocks and newer buses can be assigned to longer, more demanding blocks to account for battery degradation in BEBs over time. CCTS can rotate the fleet to meet demand, assuming there is a steady procurement of BEBs each year to match service requirements. CTE accounts for this variability in battery age by using a mid-life usable battery capacity to determine block feasibility.

Results

The Service Assessment determines the timeline for when CCTS service may become achievable by BEBs on a single depot charge. Coupled with the FCEB range-to-block length comparison, the block analysis determines when, or if, a full transition to BEBs or FCEBs may be feasible. CCTS and CTE can then use these results to inform ZEB procurement decisions in the Fleet Assessment. Results from this analysis are also used to determine the specific energy requirements and fuel consumption of the fleet over time. These values are then used in the Fuel Assessment to estimate the costs to operate the transitioning fleet.

While routes and block schedules are unlikely to remain the same over the course of the transition period, these projections assume the blocks will maintain a similar distribution to current service because CCTS will continue to serve similar destinations within the city. This core assumption affects energy use estimates and block achievability in each year.

The results of CCTS Service Assessment for fixed route service can be seen below in **Figure 5**. Based on CTE’s analysis, 0% of CCTS blocks could be served by a single charge of a depot-only BEB with a 450-kWh battery and, with the assumed 5% improvement every year, 50% of CCTS blocks could be served by this technology by 2034, which means that CCTS service is not feasible with depot-only charged BEBs within the transition period. However, service can be conducted with the addition of on-route charging.

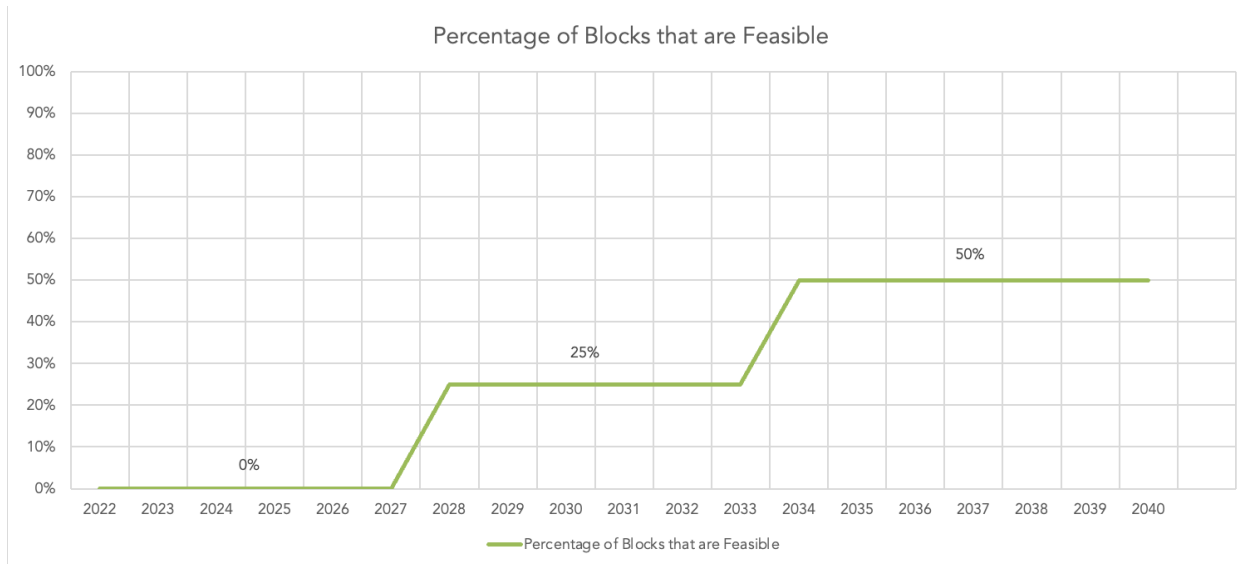


Figure 5 – BEB Block Achievability Percentage by Year

As noted previously, FCEBs are assumed to be able to complete any block under 350 total miles and CCTS longest block is 183 miles long, which means that FCEB technology already has the capability to meet CCTS service requirements.

Cutaway Modeling

CTE’s modeling also included an analysis for battery electric cutaway vehicles using CCTS paratransit operational data. CCTS paratransit service operates between 16 and 159 miles per vehicle per day, with an average daily distance of 78 miles. CTE modeled the electric cutaway performance and found that approximately 49% of CCTS service is feasible with overnight depot-only charged cutaways in 2022. By 2040, CTE’s modeling estimates that 91% of CCTS daily service will be feasible, which means that CCTS service is not feasible with overnight depot-only charged cutaways within the transition period.

Based on the results of the analysis, battery-electric cutaways would require some form of opportunity charging throughout the day to complete their service. Pantograph and inductive charging have not yet been demonstrated to be feasible for electric cutaways, so this option was not considered. Demand response service is run sporadically throughout the day, with vehicles typically returning to the depot after completing their assignments. Based on this service pattern, it was assumed that battery-electric cutaways could be charged throughout the day when they return to the depot which would allow them to complete all of CCTS service.

Description of ZEB Technology Solutions Considered

For this study, CTE developed three scenarios to compare to a baseline scenario and analyze the feasibility and cost effectiveness of implementing each bus technology as well as the co-implementation of both technologies. The scenarios are referred to by the following titles and described, in detail, below. A baseline scenario was developed to represent the typical “business-as-usual” case with retention of ICE buses for cost comparison purposes.

0. Baseline (current technology)
1. BEB Only
2. Mixed Fleet – FCEB & BEBs
3. FCEB Only

In the **BEB Fleet Transition**, BEBs are purchased and deployed only on blocks that are within a BEB’s achievable range as determined by CTE’s modeling. If depot-charged BEBs are not capable of meeting a transit agency’s daily service requirements, on-route charging is utilized on fixed-routes and returning to the depot for midday opportunity charging is used on DAR service to sustain energy on-board. Based on CTE’s modeling, all of CCTS blocks are fully achievable using BEB technology by 2040.

In the **Mixed Fleet Transition**, FCEBs supplement a primarily BEB fleet to make up a fully ZEB fleet. Although there may be some exceptions, due to the higher range capacity of FCEBs, BEBs will be used for DAR service and FCEBs will be used for fixed route service. The costs for infrastructure and installation of two different charging and fueling infrastructures are taken into account. FCEBs and hydrogen fuel, however, are more expensive than BEBs and electricity, so this scenario allows CCTS to assign the less expensive BEB technology where possible and supplement service with FCEBs as needed in support of resilience and redundancy adaptation measures.

Finally, the **FCEB Fleet Transition** was developed to examine the costs for hydrogen fueling and transitioning to a 100% FCEB fleet. A fully FCEB fleet avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment. Fleets comprised entirely of fuel cell electric buses also offer the benefit of scalability compared to battery electric technologies. Adding FCEBs to a fleet does not necessitate large complementary infrastructure upgrades. Despite this benefit, the cost of FCEBs and hydrogen fuel are still more expensive than BEBs and electricity at current market prices.

When considering the various scenarios, this study can be used to develop an understanding of the range of costs that may be expected for CCTS ZEB transition, but ultimately, can only provide an estimate. Furthermore, this study aims to provide an overview of the myriad considerations the agency must take into account in selecting a transition scenario that go beyond cost, such as space requirements, safety implications, and operational changes that may differ between scenarios.

D

Current Bus Fleet Composition and Future Bus Purchases

Fleet Assessment Methodology

The Fleet Assessment projects a timeline for the replacement of existing buses with ZEBs. The timeline is consistent with CCTS fleet replacement plan that is based on the twelve-year service life of transit buses and larger cutaways and five-year service life of van-style cutaways. This assessment also includes a projection of fleet capital costs over the transition timeline.

ZEB Cost Assumptions

CTE and CCTS developed cost assumptions for future bus purchases. Key assumptions for bus costs for the CCTS Transition Plan are as follows:

- CNG vehicle prices were provided by CCTS and are inclusive of costs for configurable options and taxes.
- Capital vehicle costs are derived from the 2022 California, Washington and New Mexico State Contracts plus the annual PPI (2%) and tax (8.75%). Fuel Cell Cutaway pricing is a price estimation due to lack of market information.
- Costs for retrofits or bus conversions are not included. Procurements assume new vehicle costs.

Table 1 - Fleet Assessment Cost Assumption

	Fuel Type		
Length	CNG	Electric	Fuel Cell
Cutaway	\$172,766	\$300,955	\$376,153*
35'	\$658,037	\$994,678	\$1,327,513*

*Bus size not currently available for this technology

Description of CCTS Current Fleet

CCTS current service and fleet composition provide the baseline for evaluating the costs of transitioning to a zero-emission fleet. CCTS staff provided the following key data on current service:

- Fleet composition by powertrain and fuel
- Routes and blocks
- Mileage and fuel consumption
- Maintenance costs

Fleet

As of 2022, the CCTS bus fleet includes thirteen (13) CNG cutaways used for DAR paratransit service and seven (7) CNG low-floor buses used for fixed-route service. Bus services operate out of one depot in Corona, CA. Operations, maintenance, and fueling functions are performed at an offsite facility in Ontario, CA.

Routes and Blocks

CCTS 2022 service consists of four fixed routes run on four blocks, two run on weekends and two run on weekdays. Blocks range in distance from 101 miles to 183 miles. Buses pull out as early as 6:25 AM and return as late as 7:20 PM. CCTS service runs within the boundaries of the City of Corona, as well as the unincorporated communities of Coronita, El Cerrito, and Home Gardens.

Current Mileage and Fuel Consumption

Annual mileage of the fleet:

318,150 miles

CCTS ZEB Transition Plan assumes that the amount of service miles will remain the same.

Annual fuel consumption:

74,126 GGE of CNG

Fleet average efficiency:

6.8 miles per GGE for Cutaways

3.2 miles per GGE for Low-floor Buses

CCTS current fuel expense:

\$132,630 per year

Average fuel costs:

\$1.79 per GGE of CNG

Maintenance Costs

Average maintenance costs per mile by vehicle type are estimated in **Table 2**. Buses also undergo one overhaul at midlife summarized in **Table 3**. These costs were utilized to project transition maintenance costs.

Table 2 – Labor and Materials Cost Assumptions

Vehicle Type (Cutaways and Low-floor Buses)	Estimate (Per Mile)
Gas Cutaway	\$ 0.35
CNG Cutaway	\$ 0.35
30'/35'/40' CNG Bus	\$ 0.38
Battery Electric Cutaway	\$0.32
30'/35'/40' Battery Electric Bus	\$0.34
Fuel Cell Electric Cutaway	\$0.51
30'/35'/40' Fuel Cell Electric Bus	\$0.56

Table 3 – Midlife Overhaul Cost Assumptions

Vehicle Type	Overhaul (FC/Transmission) Cost Per vehicle life	Battery Warranty Cost Per vehicle life
Gas Cutaway	\$0	\$0
CNG Cutaway	\$0	\$0
30'/35'/40' CNG Bus	\$30,000	\$0
Battery Electric Cutaway	\$0	\$24,000
30'/35' 40' Battery Electric Bus	\$0	\$75,000
30'/35'/40' Fuel Cell Electric Bus	\$40,000	\$17,000
Fuel Cell Electric Cutaway	\$0	\$10,000

Zero-Emission Bus Procurement Plan and Schedule

CCTS will provide demand response service with a fleet of thirteen (13) depot-charged and opportunity-charged battery electric cutaways. Fixed route service will be performed by seven (7) FCEBs. This technology combination will be sufficient for meeting the agency’s service demands. CCTS fleet transition strategy is to replace each compressed natural gas (CNG) bus with battery electric cutaways and FCEBs as they reach the end of their minimum service life beginning in 2028. **Figure 6** below provides the number of each bus type that will be purchased each year through 2040 with this replacement strategy and the total cost of that procurement.

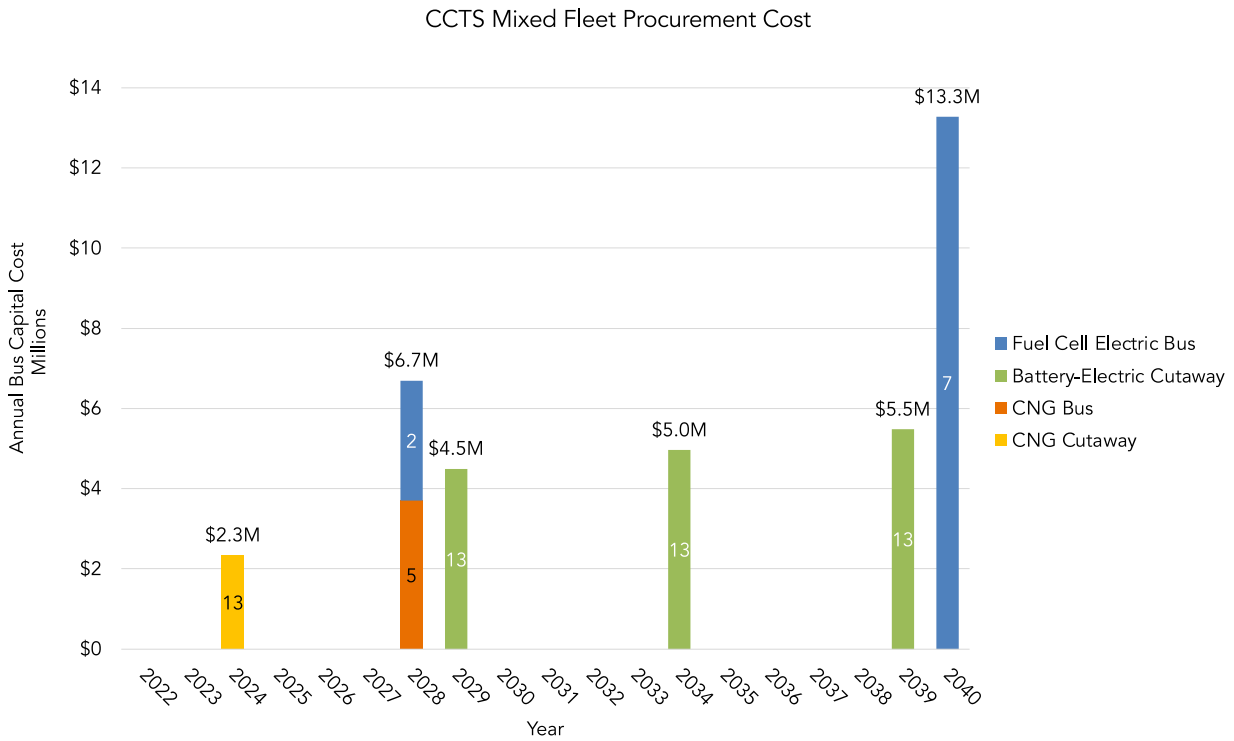


Figure 6 – Projected Bus Procurements for ZEB Transition

Figure 7 demonstrates the annual composition of CCTS fleet through 2040. By 2040, CCTS bus fleet will consist entirely of BEB and FCEBs. The fleet will remain the same size throughout the transition period.

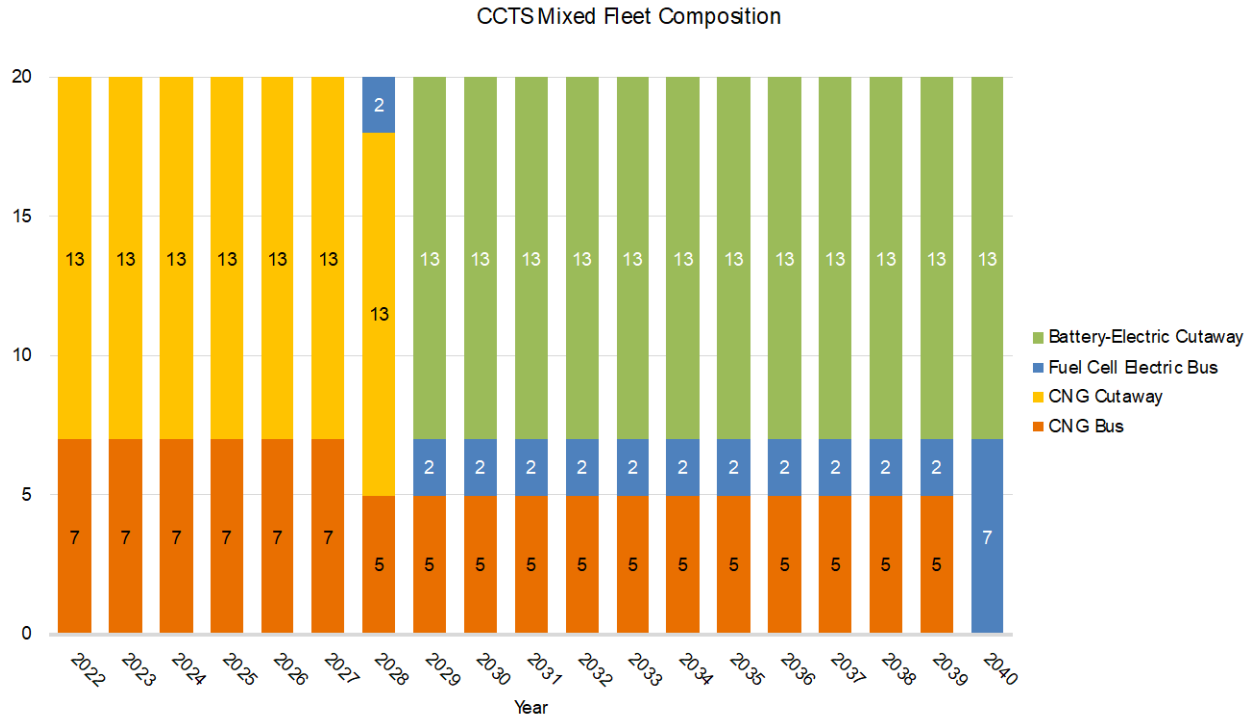


Figure 7 – Annual Fleet Composition, ZEB Transition

As seen in **Table 4** the capital investment required for purchasing ZEBs is significantly higher than for CNG buses. This highlights the importance of staying vigilant in the search for funding opportunities to help fill this gap.

Table 4 – CCTS Bus Capital Investment to Transition to a 100% ZEB fleet by 2040

	CNG Baseline*	ZEB Incremental Costs	Total Investment
Bus Capital Costs	\$23M	\$14M	\$37M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

Additional Considerations

When purchasing ZEBs, the process may differ slightly from the process CCTS currently uses to purchase vehicles. First, when contracting with ZEB manufacturers, CCTS should ensure expectations are clear between the bus OEM and the agency. As with CNG purchases the agreement should be clear regarding the bus configurations, technical capabilities, build and acceptance process, production timing with infrastructure, warranties, training, and other contract requirements. Additionally, by developing and negotiating specification language collaboratively with the bus vendor(s), CCTS can work with the vendor(s) to customize the bus to their needs as much as is appropriate, help advance the industry based on agency requirements and recommended advancements, ensure the acceptance and payment process is fully clarified ahead of time, fully document the planned capabilities of the bus to ensure accountability, and generally preempt any unmet expectations. Special attention should be given in defining the technical capabilities of the vehicle, since defining these for ZEBs may differ from ICE buses.

When developing RFPs and contracting for ZEB procurements, CCTS should specify the source of funding for the vehicle purchases to ensure grant compliance, outline data access requirements, define the price and payment terms, establish a delivery timeline, and outline acceptance and performance requirements. CCTS should test the buses upon delivery for expected performance in range, acceleration, gradeability, highway performance, and maneuverability. Any such performance requirements must be included in the technical specification portion of the RFP and contract to be binding for the OEM. Defining technical specifications for ZEBs will also differ slightly

from their current CNG vehicles since they will need to include requirements for hydrogen fuel cell and battery performance. It is also recommended that CCTS purchase an extended battery warranty for the vehicles, which should be specified in the RFP and contract.

FCEB procurement will also differ from ICE procurements since there are fewer OEMs presently manufacturing these vehicles, although this is expected to change with increasing demand. CCTS will also be able to apply for additional funding for these vehicles through zero-emission vehicle specific funding opportunities, which are discussed further in which are discussed further in **Section H: Potential Funding Sources**.

E

Facilities and Infrastructure Modifications

CCTS Facility Configuration and Depot Layout

Depot Address:

735 Public Safety Way, Corona, CA 92880

Electric Utility:

Southern California Edison (SCE)

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

20+

Current Vehicle Types Supported:

CCTS depot currently supports fueling and maintenance of CNG buses and cutaways.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Battery electric and hydrogen fuel cell electric propulsion

Facilities Assessment Methodology

Mixed fleet BEB and FCEB deployments such as CCTS require installation of charging stations and improvements to existing electrical infrastructure as well as hydrogen fueling infrastructure. FCEB deployments require installation of a fueling station and may require improvements such as upgrades to the switchgear or utility service connections. Planning and design work, including development of detailed electrical and construction drawings required for permitting, is also necessary once specific charging equipment has been selected.

Building off of the fleet procurement schedule that was outlined in the Fleet Assessment, CTE then uses industry average pricing to develop infrastructure scenarios that estimate the cost of building out the infrastructure necessary to support a full fleet transition to ZEBs. This plan assumes that infrastructure projects will be completed prior to each bus delivery. To project the costs of fueling infrastructure, CTE used industry pricing provided by A&E subcontractors and an infrastructure build timeline based on the procurement timeline. This plan assumes that infrastructure projects will be completed prior to each bus delivery. These projects are described in detail below.

Infrastructure Upgrade Requirements to Support Zero-Emission Buses

Description of Depot-Charging Infrastructure Considered

With Corona's mixed technology fleet, charging infrastructure is required to service a total of 13 battery electric cutaways along with hydrogen fueling infrastructure for seven (7) FCEBs to support a completely zero-emission bus fleet by 2040. Because there are separate costs associated with each type of ZEB technology, the facilities assessment for this scenario is broken down by each fuel type. In addition, CCTS has the opportunity to share hydrogen infrastructure with a neighboring transit operator in the City of Riverside, Riverside Connect, to decrease

overall costs, but can implement independent hydrogen infrastructure if more desirable. The total cost for mixed fleet fueling infrastructure with shared hydrogen infrastructure is approximately \$9.8 M and the scenario with independent hydrogen infrastructure is approximately \$13.2 M.

BEB Charging Infrastructure Summary

In order to support the BEB portion of the fleet, CCTS will need to work with a contractor to conduct detailed infrastructure planning, purchase chargers and dispensers, and add service capacity to their site. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building charging infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for CCTS single depot is estimated at \$200,000.
- **DISPENSERS AND CHARGERS.** CCTS BEB charging depot will consist of seven chargers with two dispensers per charger. Prices are estimated at \$170,00 for a 150kW charger with two dispensers.
- **ELECTRIC SERVICE UPGRADE.** CCTS requires an estimated 1 MW of additional electricity capacity by 2040 to accommodate charging for 13 BEBs. To meet the growing demand for electricity, the depot will need to upgrade its system to at least 1 MW of capacity by 2027. This is estimated to cost around \$200,000 over the transition period.
- **INFLATION FACTOR.** 5.4% inflation is added on all planning, procurement, and construction costs per the CPI. 3% inflation is added on all maintenance costs per Riverside's maintenance cost assumptions. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The estimated total BEB infrastructure costs for the Mixed Fleet scenario with shared hydrogen infrastructure is shown below in **Figure 8** and with independent hydrogen in **Figure 9**. The costs for charging equipment will stay the same whether CCTS shares hydrogen fueling infrastructure with Riverside Connect or not and totals approximately \$2M over the transition period.

FCEB Fueling Infrastructure Summary

In addition to BEB charging, hydrogen fueling is required to support the Mixed Fleet. Like BEB infrastructure, a FCEB infrastructure deployment will also require hiring an infrastructure planning contractor. A storage capacity project, a fueling infrastructure capital project will also be necessary to allow CCTS to fuel their hydrogen fuel cell vehicles on site. Because CCTS contracts some maintenance services out, maintenance bay upgrades are not included as a cost to CCTS but are required for the contractor to safely maintain the new FCEB fleet. Infrastructure is assumed to be built out in one project that will conclude prior to the first FCEB deployment in 2028. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building hydrogen infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for CCTS single depot will be approximately \$200,000.
- **MAINTENANCE BAY UPGRADES.** Maintenance bay upgrades are not included in CCTS costs.
- **HYDROGEN FUELING INFRASTRUCTURE.** CCTS fueling solutions were decided based on fuel consumption needs and approximately right-sized. Hydrogen infrastructure maintenance and operations are covered in the price of fuel in the fuel assessment. CCTS has the option of implementing an independent hydrogen fueling station or utilizing a shared hydrogen station with Riverside Connect.
- **INFLATION FACTOR.** 5.4% inflation is added on all project costs per the CPI. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

Figure 8 shows the estimated infrastructure costs for the FCEB technology with shared hydrogen infrastructure, totaling to approximately \$6.5 M and **Figure 9** shows the estimated infrastructure costs for the FCEB technology with independent hydrogen infrastructure, totaling to approximately \$10 M.

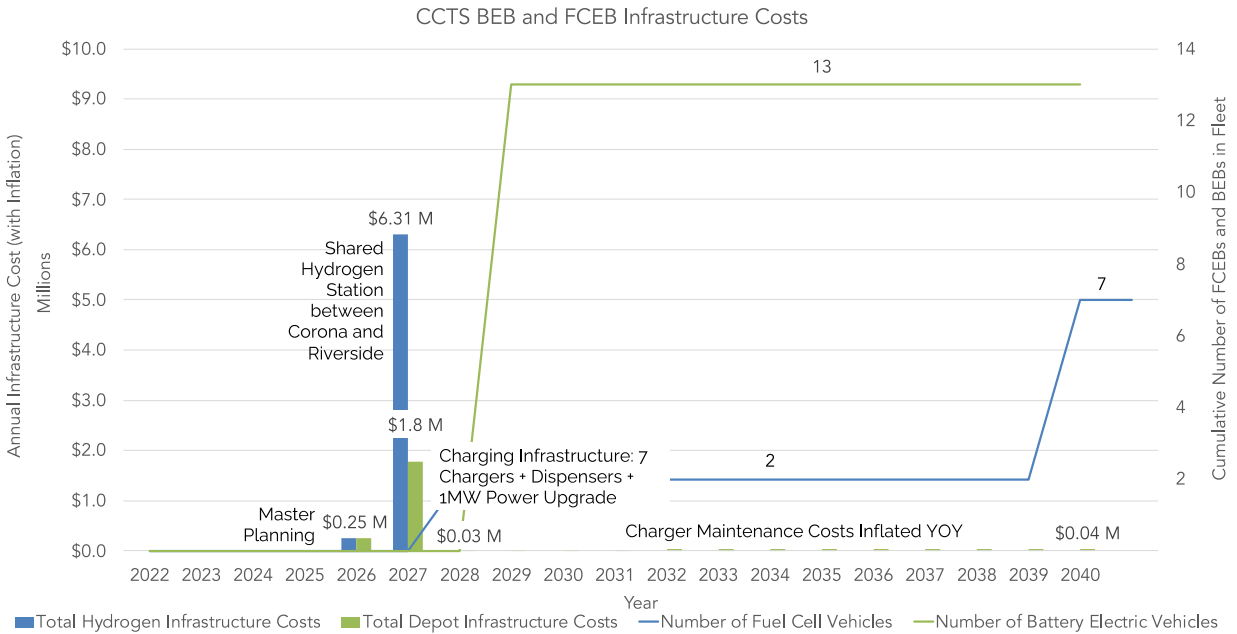


Figure 8 – Infrastructure Projects & Costs, ZEB Transition with Shared Hydrogen Infrastructure

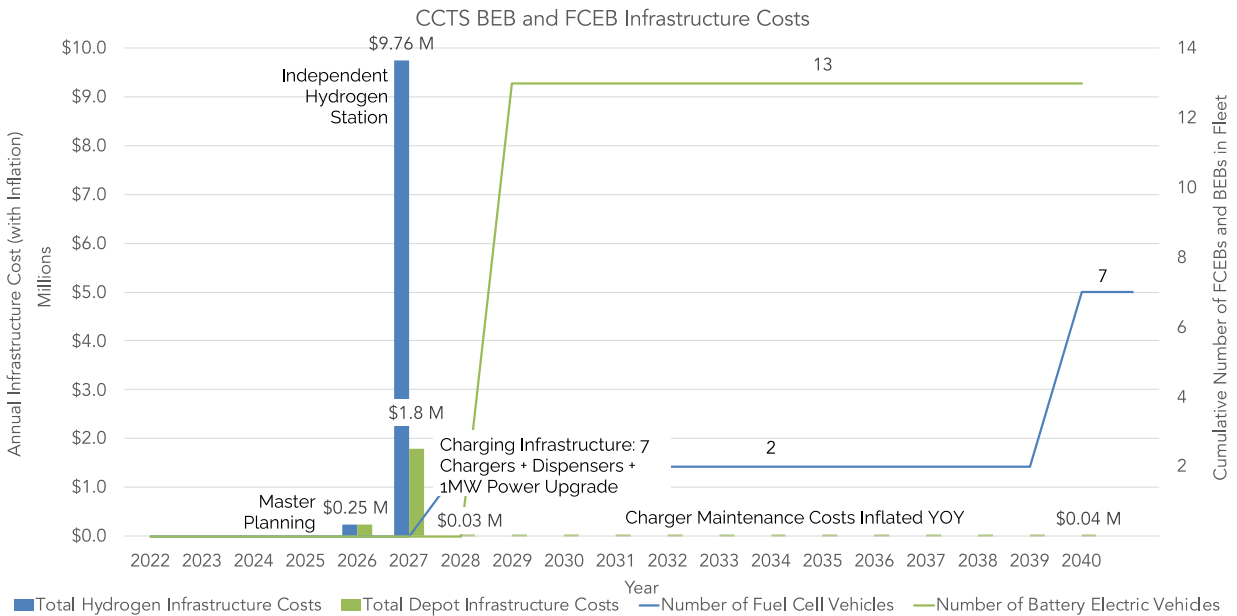


Figure 9 – Infrastructure Projects & Costs, ZEB Transition with Independent Hydrogen Infrastructure

Utility Partnership Review

The City of Corona is working with the Utility provider, Southern California Edison (SCE) who currently serves the Corporation yard where the buses are stored and charged. SCE has been active in sharing information related to its EV rates and incentives offered and the City is aware that taking advantage of these benefits and ensuring a successful battery electric bus deployment requires close, ongoing coordination with SCE.

SCE offers the Charge Ready Transport ⁸(CRT) program that supports both California’s greenhouse gas (GHG)-reduction goal and local air-quality requirements. The Program assists customers with transitioning to cleaner fuels by reducing their cost for the purchase and installation of required battery-electric vehicle (EV) charging infrastructure, as well as providing rebates to offset the cost of charging stations for certain eligible customers⁹.

Primarily, the CRT program offers low- to no-cost electrical system upgrades to support the installation of EV charging equipment for qualifying vehicles – heavy-duty vehicles weighing 6000+ lbs. In addition, participants that will be acquiring school buses or transit buses within SCE territory are also eligible for a rebate against the purchase of charging equipment. Programs like this will benefit CCTS significantly in the financial sector of their transition to zero-emission technology.

The City is sharing proposed planning documents to help SCE understand future loads so that any required grid infrastructure improvements can be addressed prior to implementation. The City’s discussion of short- and long-term fleet goals with SCE will ensure that SCE can properly plan grid-side electrical infrastructure upgrades to the City’s Corporation Yard, and that the City can adequately upgrade equipment to support battery electric buses. Once the infrastructure upgrade needs are established, the City will incorporate the design and construction timelines into the overall transition plan timeline. The City recognizes SCE as a critical partner in electrification and will continue to partner with SCE after the planning stages so that charge management strategies and fleet expansion efforts can be coordinated effectively. The City’s current relationship with SCE is excellent and cooperative, the City of Corona serves a small portion of the City with electric service and meets regularly with SCE to discuss and address issues of concern.

Further, the City understands establishing and maintaining a partnership with the alternative fuel provider is critical to successfully deploying zero-emission vehicles and maintaining operations. Hydrogen fueling requires a plan for infrastructure installation, delivery, storage, dispensing, and upgrades to maintenance facilities. While fueling operations for hydrogen may require fewer operational changes than electric bus charging, understanding the local hydrogen supply market can be its own challenge. To overcome this challenge, the City may consider a competitive bid process for a design/build project as a reasonable approach to determining the appropriately sized station and selecting the most appropriate fueling technology at the best price.

⁸ <https://crt.sce.com/program-details>

⁹ Charge Ready Transport, Quick Reference Guide

F

Providing Service in Disadvantaged Communities

Providing Zero-Emission Service to DACs

In California, CARB defines disadvantaged communities (DACs) as communities that are both socioeconomically disadvantaged and environmentally disadvantaged due to local air quality. Lower income neighborhoods are often exposed to greater vehicle pollution levels due to proximity to freeways and the ports, which puts these communities at greater risk of health issues associated with tailpipe emissions.¹⁰ ZEBs will reduce energy consumption, harmful emissions, and direct carbon emissions within the disadvantaged communities CCTS serves. The City of Corona includes 10 different census tracts designated as DACs. Corona's fixed routes that are in and pass through DACs, along with their stops are shown in **Figure 10** below.

Environmental impacts, both from climate change and from local pollutants, disproportionately affect transit riders. For instance, poor air quality from tailpipe emissions and extreme heat harm riders waiting for buses at roadside stops. The transition to zero-emission technology will benefit the region by reducing fine particulate pollution and improving overall air quality. In turn, the fleet transition will support better public health outcomes for residents in DACs served by the selected routes.

Public transit has the potential to improve social equity by providing mobility options to low-income residents lacking access to a personal vehicle and helping to meet their daily needs. In California, transit use is closely correlated with car-less households as they are five times more likely to use public transit than households with at least one vehicle.¹¹ Although 21% of Californians in a zero-vehicle household are vehicle free by choice, 79% do not have a vehicle due to financial limitations. Many low-income people therefore rely solely on public transportation for their mobility needs.¹² CCTS current fleet of fixed route and DAR CNG buses consume 74,126 Gasoline Gallons Equivalent (GGE) of fuel per year, operating for approximately 318,150 miles per year. Moving CCTS fleet to zero-emission technology will help alleviate the pollution from tailpipe emissions, which will improve the health of communities impacted by NOx and particulate matter emissions and all local communities.

Access to quality transit services provides residents with a means of transportation to go to work, to attend school, to access health care services, and run errands. By purchasing new vehicles and decreasing the overall age of its fleet, CCTS is also able to improve service reliability and therefore maintain the capacity to serve low-income and disadvantaged populations. Replacing diesel vehicles with zero-emission vehicles will also benefit these populations by improving local air quality and reducing exposure to harmful emissions from diesel exhaust.

¹⁰ Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

¹¹ Grengs, Joe; Levine, Jonathan; and Shen, Qingyun. (2013). Evaluating transportation equity: An inter-metropolitan comparison of regional accessibility and urban form. FTA Report No. 0066. For the Federal Transit Administration

¹² Paul, J & Taylor, BD. 2021. Who Lives in Transit Friendly Neighborhoods? An Analysis of California Neighborhoods Over Time. Transportation Research Interdisciplinary Perspectives. 10 (2001) 100341. <https://reader.elsevier.com/reader/sd/pii/S2590198221000488?token=CABB49E7FF438A88A19D1137A2B1851806514EF576E9A2D9462D3FAF1F6283574907562519709F8AD53DEC3CF95ACF27&originRegion=us-east-1&originCreation=20220216190930>

Map of Disadvantaged Communities served by CCTS

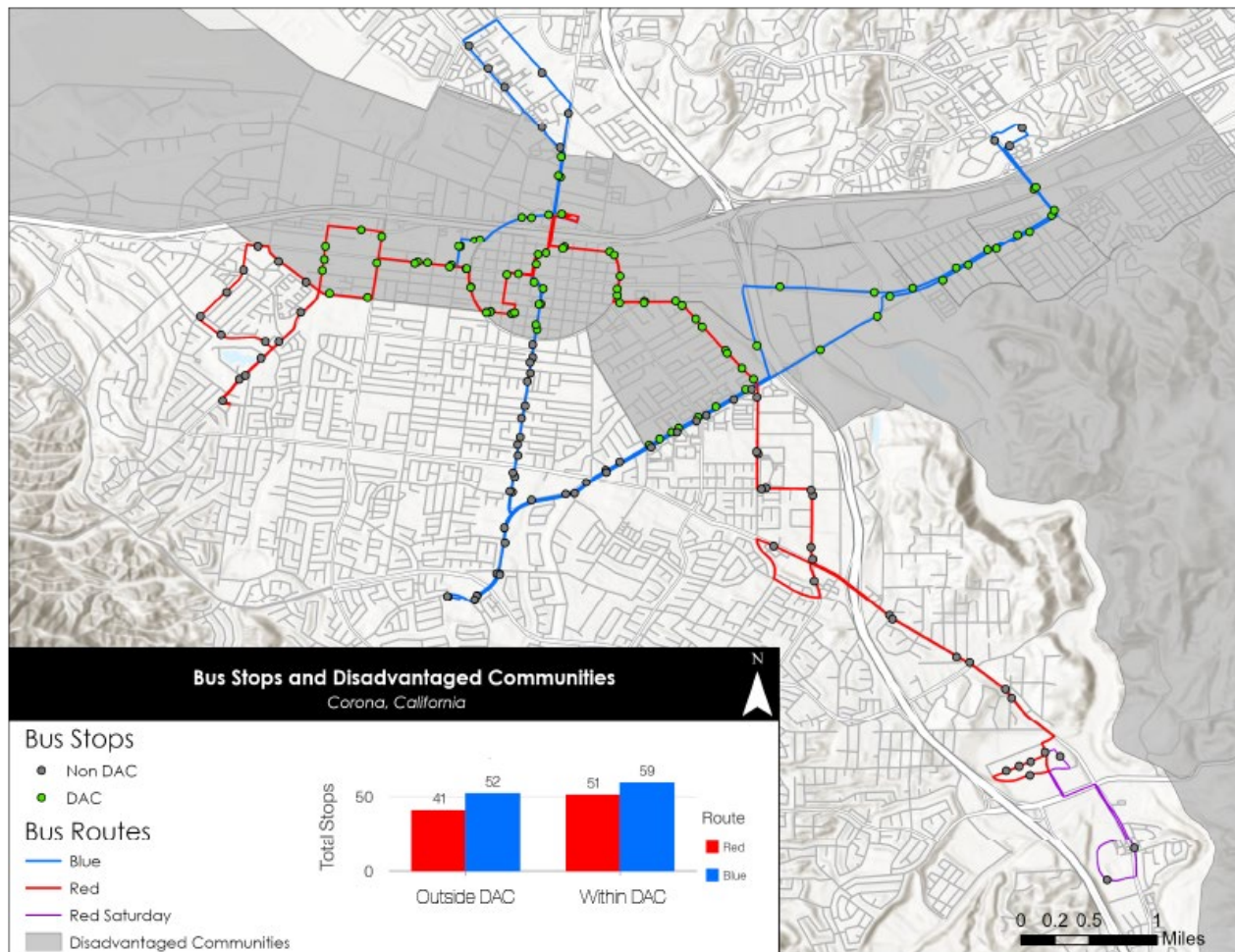


Figure 10 – CCTS Disadvantaged Communities Service Map

Emissions Reductions for DACs

Greenhouse gasses (GHG) are the compounds primarily responsible for atmospheric warming and include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The effects of greenhouse gasses are not localized to the immediate area where the emissions are produced. Regardless of their point of origin, greenhouse gasses contribute to overall global warming and climate change.

Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter under 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SO_x). These pollutants are considered harmful to human health because they are linked to cardiovascular issues, respiratory complications, or other adverse health effects.¹³ These compounds are also commonly responsible for acid rain and smog. Criteria pollutants cause economic, environmental, and health effects locally where they are emitted. CARB defines DACs

¹³ Institute of Medicine. *Toward Environmental Justice: Research, Education, and Health Policy Needs*. Washington, DC: National Academy Press, 1999; O'Neill MS, et al. *Health, wealth, and air pollution: Advancing theory and methods*. *Environ Health Perspect.* 2003; 111: 1861-1870; Finkelstein et al. *Relation between income, air pollution and mortality: A cohort study*. *CMAJ.* 2003; 169: 397-402; Zeka A, Zanobetti A, Schwartz J. *Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics*. *Occup Environ Med.* 2006; 62: 718-725.

in part as disadvantaged by poor air quality because polluting industries or freight routes have often been cited in these communities. The resulting decrease in air quality has led to poorer health and quality of life outcomes for residents. CCTS operational Well-to-Wheel criteria emissions are summarized in **Table 5**.

Table 5 – Annual Vehicle Operation Pollutants by Fuel Type

Overall Annual Vehicle Operation Pollutants (lbs.)								
Bus Group	CO	NOx	PM10	PM2.5	VOC	SOx	PM10 TBW	PM2.5 TBW
CNG	13,477.13	80.56	2.49	2.49	28.69	4.92	71.54	9.12

The transportation sector is the largest contributor to greenhouse gas emissions in the United States, accounting for more than 30% of total emissions, and within this sector, 25% of these emissions come from the medium- and heavy-duty markets, yet these markets account for less than 5% of the total number of vehicles. Electrifying these vehicles can have an outsized impact on pollution, fossil-fuel dependency, and climate change. ZEBs are four times more fuel efficient than comparable new diesel buses. Better fuel efficiency means less waste when converting the potential energy in the fuel to motive power. Less waste not only means less pollution, it results in more efficient use of natural resources. By transitioning to ZEBs from diesel buses, CCTS zero-emission fleet will produce fewer carbon emissions and fewer harmful pollutants from the vehicle tailpipes. Considering DACs experience significantly more pollution from harmful emissions, communities disadvantaged by pollution served by CCTS fleet will therefore directly benefit from the reduced tailpipe emissions of ZEBs compared to ICE buses.

Estimated Ridership in DACs

As shown in Figure 10, 110 (54%) of the fixed-route stops are located within DACs. By line, 55% of the Red Line stops and 53% of the Blue Line stops fall within DACs. In terms of route length, 9 miles (40%) of the Red Line and 14 miles (59%) of the Blue Line lie within DACs.

In addition, much of the DAR service area provided for Seniors 60 and older; persons with disabilities; and persons certified under the Americans with Disability Act (ADA) falls within DAC zones, but specific trips may start and/or end outside of DAC-designated areas. These areas include many sites within the City of Corona and adjacent unincorporated communities of Coronita, El Cerrito, and Home Gardens, as well as several satellite locations. This includes ADA services within three-quarters of a mile of fixed-route service. Unlike fixed-route service, the DAR service does not run a set route, and so a single vehicle may provide trips both within and outside of a DAC during a single day.



Workforce Training

CCTS Current Training Program

City of Corona's transit services (CCTS) are contracted out which includes dispatching, operations, and maintenance of the vehicles and bus stops. The transit contractor is responsible for all training pertaining to the operations of CCTS. While the city may coordinate/arrange the training necessary for the operation of the service, the contractor is ultimately responsible for ensuring their staff is up-to-date based on their core responsibilities. Contractor staff includes administration (general managers and safety managers), dispatchers, drivers, and maintenance staff (maintenance manager, mechanics, and utility workers). The contractor must adapt to changes in service levels, policies and procedures, and introduction to new technologies and adopt any and all changes into its' driver training program.

Operator Training

The transit contractor is responsible for all training of drivers including City's service policies, passenger fares and overview of the City's fleet. The contractor is responsible for the provision of qualified training staff to conduct behind-the-wheel driver training and other training determined by the contractor or the City. Hands-on training on the bus and bus-related equipment are required to ensure safe vehicle operations. The contractor is required to provide ongoing training and prepare all drivers assigned to the City's contract in a manner that conforms to all local, state, and federal laws.

Mechanics Training

The mechanics assigned to the City's contract must meet the requirements for vehicle maintenance as outlined in the scope of work. They must have knowledge of the city's fleet in order to perform complete, reliable, and safe inspections and repairs. They must be able to diagnose, repair, and maintain the vehicles listed in the City's revenue vehicle fleet. The contractor must comply with regulations pertaining to licensing and operations and maintenance of vehicles as contained in the California Vehicle Code, California Administrative Code, Title 13, and The Federal Motor Carrier Safety Regulations.

Dispatchers and Supervisors Training

Dispatchers are required to schedule and assign drivers and vehicles in accordance with the service hours schedule and scheduled trips for each day. The dispatchers are trained to assist drivers while they are in service and monitor the performance of the scheduled trips. They are trained to handle unanticipated service demands, passenger and/or vehicle accidents, and road calls in accordance with the City's policies and procedures which are outlined in detail in the scope of work. Further, the contract requires the transit contractor to provide a Safety and Training Supervisor who is licensed and certified to conduct classroom training of all drivers as well as behind-the-wheel driver training and other trainings determined necessary by the Contractor or the City

CCTS ZEB Training Plan

OEM Training

CCTS plans to take advantage of trainings from the bus manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training and other trainings that may be offered by the technology providers. OEM trainings provide critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Bus and Fueling Operations and Maintenance

The transition to a zero-emission fleet will have significant effects on CCTS workforce. Meaningful investment is required to upskill maintenance staff and bus operators trained in ICE vehicle maintenance and ICE fueling infrastructure.

CCTS training staff will work closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying ZEB technology and that these staff undergo refresher training annually and as needed. CCTS staff will also be able to bring up any issues or questions they may have about their training with their trainers. Additionally, trainers will observe classes periodically to determine if any staff would benefit from further training.

ZEB Training Programs

Several early ZEB adopters have created learning centers for other agencies embarking on their ZEB transition journeys. One such agency is SunLine Transit Agency, which provides service to the Coachella Valley and hosts the West Coast Center of Excellence in Zero Emission Technology (CoEZET). The Center of Excellence supports transit agency adoption, zero-emission commercialization and investment in workforce training. Similarly, AC Transit offers training courses covering hybrid and zero-emission technologies through their ZEB University program. CCTS plans to take advantage of these trainings offered by experienced agencies.

There are several transit agencies within and around Riverside County that have successfully begun their transition to zero-emission technology. California has at least seven heavy-duty and transit-operated fueling stations in operation and at least four more in development¹⁴. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. At present, there are two heavy-duty, transit-operated hydrogen fueling stations in the neighboring San Bernadino and Orange counties within 40 miles of CCTS, and two planned transit-operated hydrogen fueling stations in Los Angeles County and Pomona within 30 miles of CCTS. In addition, private hydrogen fueling stations by First Element Fuels and Stratosfuel within 80 miles of Corona, CA are in development and should be commissioned before the end of the fleet transition timeline.

In the region, Omintrans, a public transit agency serving the San Bernadino Valley recently received \$9.3 million from the Federal Transit Administration (FTA) under the FY2022 Low-No Emission Vehicle Program to develop hydrogen refueling infrastructure and launch a workforce development program. Similarly, Sunline Transit Agency has received \$7.8 million to upgrade their liquid hydrogen refueling infrastructure. Riverside Transit Agency has also received \$5.2 million to procure hydrogen fuel cell buses. The presence of hydrogen fueling infrastructure projects, especially in the counties of Riverside and San Bernadino, demonstrates the feasibility of fuel cell electric

¹⁴ Hydrogen Refueling Stations in California, California Energy Commission: <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/hydrogen-refueling>

technology for transit in the region. These agencies can serve as a resource for CCTS to use when implementing zero-emission technology and supporting programs into their services.



Potential Funding Sources

Available Funding Opportunities

Federal

CCTS is exploring federal grants through the following funding programs: Federal Transit Administration’s (FTA) Urbanized Area Formula program; discretionary grant programs such as the Bus and Bus Facilities (B&BF) program, Low or No Emission Vehicle Deployment Program (Low-No), and Better Utilizing Investments to Leverage Development (BUILD) grant; and other available federal discretionary grant programs.

Annual Reliable Funding

- Federal Transportation Administration (FTA)
 - Urbanized Area Formula program
 - State of Good Repair Grants
 - Bus and Bus Facilities Formula grants

Future Funding Opportunities

- United States Department of Transportation (USDOT)
 - Better Utilizing Investments to Leverage Development (BUILD) Grants
- Federal Transportation Administration (FTA)
 - Bus and Bus Facilities Discretionary Grant
 - State of Good Repair Grants
 - Capital Investment Grants – New Starts
 - Capital Investment Grants – Small Starts
 - Low-or No-Emission Vehicle Grant
 - Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning
- Federal Highway Administration (FHWA)
 - Congestion Mitigation and Air Quality Improvement Program through SCAG
 - Surface Transportation Block Grant Program through SCAG
 - Carbon Reduction Program
- Environmental Protection Agency (EPA)
 - Environmental Justice Collaborative Program-Solving Cooperative Agreement Program

State

CCTS will also seek funding from state resources through grant opportunities including but not limited to Senate Bill 1 State of Good Repair (SGR), Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) funding, the California Energy Commission’s Clean Transportation Program as well as Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) for bus purchases when available.

Annual Reliable Funding

- Administered by California Department of Transportation (Caltrans)
 - Transportation Development Act Funds
 - Local Transportation Funds

- State Transit Assistance (STA)
 - State of Good Repair (SB 1 funds)
 - Low Carbon Transit Operations Program (LCTOP)

Future Funding Opportunities

- California Air Resources Board (CARB)
 - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)
 - State Volkswagen Settlement Mitigation
 - Carl Moyer Memorial Air Quality Standards Attainment Program
 - Cap-and-Trade Funding
 - Low Carbon Fuel Standard (LCFS)
- California Transportation Commission (CTC)
 - State Transportation Improvement Program (STIP)
 - Solution for Congested Corridor Programs (SCCP)
 - Local Partnership Program (LPP)
- California Department of Transportation (Caltrans)
 - Transit and Intercity Rail Capital Program
 - Transportation Development Credits
 - New Employment Credit
- California Energy Commission

Local

Additionally, CCTS will pursue local funding opportunities to support zero-emission bus deployment. While the aforementioned funding opportunities are mentioned by name, CCTS will not be limited to these sources and will regularly assess opportunities for fiscal support for the ZEB program.

Legislation Supporting the Zero-Emission Transition

Policies and regulations supporting the transition to zero-emission are proliferating as the efforts to decarbonize the transportation sector expand. CCTS is monitoring the implementation of relevant policies and legislation. With the passage of the *Bipartisan Infrastructure Law* and issuance of *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*, the federal government has set a renewed focus on zero-emission transit. Riverside County’s goal to deploy zero-emission vehicles supports the federal administration’s priorities of renewing transit systems, reducing Greenhouse Gas emissions from public transportation, equity, creation of good paying jobs, and connecting communities. State legislation such as the Innovative Clean Transit Regulation further supports the replacement of fossil-fuel vehicles on the roads of California. Moreover, on August 25, 2022, the CARB approved the Advanced Clean Cars II Rule, requiring all new vehicles sold in California to be zero-emission vehicles (ZEVs) by 2035.

Start-up and Scale-up Challenges

Financial Challenges

Challenges can arise with any new propulsion technology, its corresponding infrastructure, or in training operators and maintenance staff. Nearly all transit agencies must contend with the cost barriers posed by zero-emission technologies. The current market cost of ZEBs is between \$980,000 and \$1,310,000, which is about \$320,000 to \$650,000 more costly than traditional CNG buses. The predicted costs of zero-emission cutaways are between \$300,000 and \$370,000, which is about \$120,000 and \$200,000 more costly than traditional ICE cutaways.

Additionally, the necessary infrastructure to support these buses adds to the financial burden of transitioning to a ZEB fleet, as outlined below in **Table 6**, showing the cost of the transition. CCTS will seek financial support to cover the cost of their FCEBs from the resources discussed in Section H.

Table 6 – Incremental Cost of ZEB Transition

Incremental cost of ZEB Transition			
	CNG Baseline*	ZEB Incremental Costs	ZEB Transition Scenario Costs
Bus Capital Expense	\$23M	\$14M	\$37M
Fueling Infrastructure	\$0	\$10-13M	\$10-13M
Total	\$23M	\$24-27M	\$47-50M

**Represents the capital costs that would have been incurred in the absence of the ICT Regulation*

As seen in **Table 6**, the costs of required fueling infrastructure and fueling operations for ZEB technologies pose another hurdle for transit agencies transitioning to zero-emission service. Continued financial support at the local, state and federal level to offset the capital cost of this new infrastructure is imperative. For alternative fuels such as hydrogen, financial support from state and federal grant opportunities for green hydrogen supply chains and increasing economies of scale on the production side will ultimately benefit transit agencies deploying and planning for FCEBs and BEBs.

CARB can support CCTS by ensuring continued funding for the incremental cost of zero-emission buses and fueling infrastructure. Funding opportunities should emphasize proper transition and deployment planning and should not preclude hiring consultants to ensure best practices and successful deployments. The price and availability of hydrogen, both renewable and not, continue to be challenges that can be allayed by legislation subsidizing and encouraging renewable fuel production.

Agency Specific Challenges

In March 2021, the City had undergone a restructuring and the transit division was moved from the Public Works Department to the Community Services Department under the newly created Community Assistance Division. During the reorganization, transit staffing was reduced in half, whereas the transit services are now being managed by one individual. Staff shortages create challenges in balancing increased day-to-day operations including, transit contractor oversight, budgeting, grant administration, regulatory compliance, etc. Further, staffing constraints and competing priorities will make it difficult to pursue grant opportunities, initiate capital improvement projects, and project management. Should this trend continue, staffing shortages will play a big role

in the timeliness of this project and the ability of the City to meet the purchasing mandate and the ICT regulation of achieving a 100% zero-emission fleet by 2040.

Limitations of Current Technology

Beyond cost barriers, transit agencies must also ensure that available zero-emission technologies can meet basic service requirements of the agency's duty cycles. The applicability of specific zero-emission technologies will vary widely among service areas and agencies. As such, it is critical that transit agencies in need of technical and planning support have access to these resources to avoid failed deployment efforts. Support in the form of technical consultants and experienced zero-emission transit planners will be critical to turning Rollout Plans into successful deployments and tangible emissions reductions.

In addition to the uncertainty of technology improvements, there are other risks to consider in trying to estimate costs over the 18-year transition period. Although current BEB range limitations may be improved over time as a result of advancements in battery energy capacity and more efficient components, battery degradation may re-introduce range limitations, which is a cost and performance risk to an all-BEB fleet over time. While this can be mitigated by on-route charging, there may be emergency scenarios where the buses are expected to perform off-route or atypical service. In these emergency scenarios that require use of BEBs, agencies may face challenges performing emergency response roles expected of them in support of fire and police operations. Furthermore, fleetwide energy service requirements, power redundancy, and resilience may be difficult to achieve at any given depot in an all-BEB scenario. Although FCEBs may not be subject to these same limitations, higher capital equipment costs and availability of hydrogen may constrain FCEB solutions. RCTC, CCTS, CTE and IBI Group will expand upon challenge mitigation and adaptation in the Riverside County ZEB Implementation & Financial Strategy Plan.

Appendix A – Approved Board Resolution

RESOLUTION NO. 2023-046

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA, AUTHORIZING THE SUBMISSION OF THE ZERO-EMISSION BUS ROLLOUT PLAN TO THE CALIFORNIA AIR RESOURCES BOARD AS REQUIRED BY THE INNOVATIVE CLEAN TRANSIT REGULATION.

WHEREAS, in 2018, California Air Resources Board (CARB) adopted the Innovative Clean Transit (ICT) Regulation, which requires public transit agencies to gradually transition to a 100 percent Zero-Emission Bus (ZEB) fleet with a goal for the full transition by 2040; and

WHEREAS, the main provisions of the ICT regulation include the following:

1. Small transit agencies which operate less than 100 buses in annual maximum service are required to submit a Board approved ZEB Rollout Plan by June 30, 2023
2. Small transit agencies must purchase a minimum number of ZEBs during future procurements, according to the following schedule:
 - a. Starting in calendar years 2026 through 2028, 25 percent of new bus purchases in each year must be ZEBs.
 - b. Starting in calendar year 2029, 100 percent of all new bus purchases must be ZEBs; and

WHEREAS, the City of Corona's ZEB Rollout Plan, currently being presented to the City Council for adoption, is a living document intended to guide the City's conversion to a ZEB fleet and may be updated based on changes in vehicle technology, fleet size, and operating requirements; and

WHEREAS, the Rollout Plan must be approved by the City governing body through the adoption of a resolution prior to submission to CARB; and

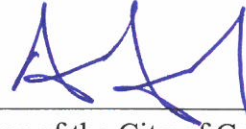
WHEREAS, per the requirements of the ICT, the Rollout Plan includes the required information in the following sections:

1. Transit Agency Information
2. Rollout Plan General Information
3. Technology Portfolio
4. Current Bus Fleet Composition and Future Bus Purchases
5. Facilities and Infrastructure Modifications

6. Providing Service in Disadvantaged Communities
7. Workforce Training
8. Potential Funding Sources.

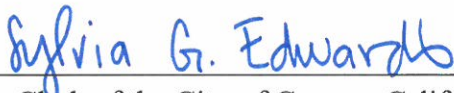
NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA, AS FOLLOWS: hereby adopts the presented ZEB Rollout Plan as a guide for the implementation of ZEB technology and approves it for submission to CARB.

PASSED, APPROVED, AND ADOPTED this 7th day of June 2023.



Mayor of the City of Corona, California

ATTEST:



City Clerk of the City of Corona, California

CERTIFICATION

I, Sylvia Edwards, City Clerk of the City of Corona, California, do hereby certify that the foregoing resolution was regularly introduced and adopted by the City Council of the City of Corona, California, at an adjourned regular meeting thereof held on the 7th day of June, 2023 by the following vote:

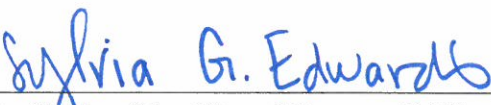
AYES: CASILLAS, DADDARIO, RICHINS, SPEAKE, STEINER

NOES: NONE

ABSENT: NONE

ABSTAINED: NONE

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Corona, California, this 7th day of June, 2023.



City Clerk of the City of Corona, California

[SEAL]

Appendix B – Glossary

Auxiliary Energy: Energy consumed (usually as a by time measure, such as “x”kW/hour) to operate all support systems for non-drivetrain demands, such as HVAC and interior lighting.

Battery Electric Bus: Zero-emission bus that uses onboard battery packs to power all bus systems.

Battery Nameplate Capacity: The maximum rated output of a battery under specific conditions designated by the manufacturer. Battery nameplate capacity is commonly expressed in kWh and is usually indicated on a nameplate physically attached to the battery.

Block: Refers to a vehicle schedule, the daily assignment for an individual bus. One or more runs can work a block. A driver schedule is known as a “run.”

Charging Equipment: The equipment that encompasses all the components needed to convert, control and transfer electricity from the grid to the vehicle for the purpose of charging batteries. May include chargers, controllers, couplers, transformers, ventilation, etc.

Depot Charging: Centralized BEB charging at a transit agency's garage, maintenance facility, or transit center. With depot charging, BEBs are not limited to specific routes, but must be taken out of service to charge.

Energy: Quantity of work, measured in kWh for ZEBs.

Energy Efficiency: Metric to evaluate the performance of ZEBs. Defined in kWh/mi for BEBs, mi/kg of hydrogen for FCEBs, or miles per diesel gallon equivalent for any bus type.

Fuel Cell Electric Bus: Zero-emission bus that utilizes onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with the waste products of heat and water. The electricity powers the batteries, which powers the bus.

Greenhouse Gas Emissions: Zero-emission buses have no harmful emissions that result from diesel combustion. Common GHGs associated with diesel combustion include carbon dioxide (CO₂), carbon monoxide (CO), nitrous oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). These emissions negatively impact air quality and contribute to climate change impacts.

Hydrogen Fueling Station: The location that houses the hydrogen production (if produced onsite), storage, compression, and dispensing equipment to support fuel cell electric buses.

On-route Charging: BEB charging while on the route. With proper planning, on-route charged BEBs can operate indefinitely, and one charger can charge multiple buses.

Operating Range: Driving range of a vehicle using only power from its electric battery pack to travel a given driving cycle.

Route Modeling: A cost-effective method to assess the operational requirements of ZEBs by estimating the energy consumption on various routes using specific bus specifications and route features.

Useful Life: FTA definition of the amount of time a transit vehicle can be expected to operate based on vehicle size and seating capacity. The useful life defined for transit buses is 12-years. For cutaways, the useful life is 7 years.

Validation Procedure: to confirm that the actual bus performance is in line with expected performance. Results of validation testing can be used to refine bus modeling parameters and to inform deployment plans. Results of validation testing are typically not grounds for acceptance or non-acceptance of a bus.

Zero-Emission Vehicle: A vehicle that emits no tailpipe emissions from the onboard source of power. This is used to reference battery-electric and fuel cell electric vehicles, exclusively, in this report.

Well-to-wheel Emissions: Quantity of greenhouse gas, criteria pollutants, and/or other harmful emissions that includes emissions from energy use and emissions from vehicle operation. For BEBs, well-to-wheel emissions would take into account the carbon intensity of the grid used to charge the buses. For FCEBs, well-to-wheel emissions would take into account the energy to produce, transport, and deliver the hydrogen to the vehicle



Zero-Emission Bus Rollout Plan

Prepared by Riverside Connect with support from the Center for Transportation and the Environment, Arcadis IBI Group, and the Riverside County Transportation Commission



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List of Abbreviations

ADA: Americans with Disabilities Act

A&E: Architecture and Engineering

BEB: Battery Electric Bus

CA: California

CARB: California Air Resources Board

CNG: Compressed Natural Gas

COVID/COVID-19: Coronavirus Disease 2019 (SARS-CoV-2)

CTE: Center for Transportation and the Environment

DAC: Disadvantaged Community

FCEB: Fuel Cell Electric Bus

HVAC: Heating, Ventilation, and Air Conditioning

ICE: Internal Combustion Engine

ICT: Innovative Clean Transit

kW: Kilowatt

kWh: Kilowatt-Hour

MW: Megawatt

OEM: Original Equipment Manufacturer

PM: Particulate Matter

PPI: Producer Price Index

CPI: Consumer Price Index

RFP: Request for Proposals

SCE: Southern California Edison (SoCal Edison)

TDA: Transportation Development Act

VTT: Verification of Transit Training

ZEB: Zero-Emission Bus

A glossary of useful terms can also be found in Appendix B - Glossary

Executive Summary

Riverside Connect operates a paratransit service for seniors over the age of 60 and disabled residents within the City of Riverside. It is a program within the Special Transportation division of the City Riverside's Parks, Recreation and Community Services Department. Riverside Connect's service area is within the 81 square mile area within the city limits of the City of Riverside. As of July 2022, Riverside Connect's fleet included thirty-four (34) 26-ft Compressed Natural Gas (CNG) cutaways, (2) NOR CAL VAN, TYPE V Ford Transit 350EL, all of which are allocated for paratransit service. Riverside County Transportation Commission (RCTC) awarded a contract to the Center for Transportation and the Environment (CTE) to perform a zero-emission bus (ZEB) transition study to create a plan for a 100% zero-emission fleet by 2040 on behalf of transit agencies and municipal transportation services in the cities of Banning, Beaumont, Corona and Riverside and the Palo Verde Valley Transit Agency to comply with the Innovative Clean Transit (ICT) regulation enacted by the California Air Resources Board (CARB). This report will focus on Riverside Connect's transition to zero-emission technology.

Riverside Connect's Rollout Plan achieves a zero-emission fleet in line with the 2040 target of the ICT Regulation. To achieve this goal, Riverside Connect will replace all CNG cutaways with zero emission cutaways when the vehicles reach the end of their 7-year useful life. By 2040, 17 of the agency's cutaways are expected to be battery electric cutaways that will recharge midday and 17 will be fuel cell electric cutaways. The last of the agency's CNG cutaways will reach end of life in 2033.

Riverside Connect's entire on demand or "Dial-A-Ride" (DAR) paratransit fleet operates out of 8095 Lincoln Avenue, within the City of Riverside's Corporation Yard. The administrative facility includes administrative offices, a dispatch area, restrooms, and a break room. The facility also includes a parking lot for the agency's fleet, a CNG slow fill station, and a CNG Maintenance Bay. The Maintenance Bay facility has four maintenance bays for CNG vehicles, an administrative office, and multiple storage compartments for vehicle parts and equipment. Riverside Connect plans to install both charging and hydrogen fueling infrastructure at this location to support their mixed fleet.

Riverside Connect's DAR service provides transportation opportunities to Disadvantaged Communities (DACs) and moving toward zero-emission vehicles will help improve the health of DACs and non-DACs alike. The agency will build upon an existing training structure for vehicle maintenance and operators to provide the necessary battery-electric cutaway and fuel cell electric cutaway specific training that will be required for the agency to own and operate battery electric and fuel cell electric cutaways. The agency estimates that pursuing a zero-emission fleet in place of a compressed natural gas (CNG) fleet will cost an additional \$23M in vehicle costs and infrastructure alone between 2021 and 2040, which will require significantly more funding opportunities. Riverside Connect plans to pursue funding opportunities at the federal, state, and local levels to help fill this funding gap.

A

Transit Agency Information

Riverside Connect Profile

History

Owned and operated by the City of Riverside, Riverside Connect is an origin-to-destination shared ride service available to senior citizens (60 years of age and older) and persons with disabilities. Documentation from a physician is required for individuals with a disability.

Riverside Connect operates 362 days per year, only suspending service on Thanksgiving Day, Christmas Day and New Year's Day. Hours of operation are 8:00 a.m. – 5:30 p.m. Monday through Friday and 9:00 a.m. – 4:00 p.m. on weekends and holidays. To schedule a ride, passengers must call Riverside Connects' reservation telephone number, during the business hours of 8:00 a.m. – 5:00 p.m., Monday through Friday, and 9:00 a.m. – 3:00 p.m. on weekends and holidays. An answering machine is available before and after business hours for cancellations.

Service Area and Bus Service

Riverside Connect offers service within an 81 square mile area within the city limits of the City of Riverside. The city of Riverside is served by both Riverside Transit Agency (RTA) and Riverside Connect. Riverside Connect is operated by the City of Riverside, separately from the transit agency, under a Memorandum of Understanding (MOU) in order to provide solely paratransit, demand response services within the City limits. RTA provides fixed route service to the area and paratransit service outside the City limits. The current paratransit fleet consists of thirty-four (34) Glaval Bus Type C Ford E-450 CNG cutaways, and (2) NOR CAL VAN, TYPE V Ford Transit 350EL. Riverside Connect's DAR service is reserved for seniors of age 60 and older and people with disabilities, including those covered by the Americans with Disabilities Act (ADA). The DAR service may be primarily used for rides to grocery stores and medical facilities currently, however, as COVID-19 infection rates decrease, Riverside Connect anticipates that workshops, senior centers, and other programs will reopen and service will eventually return to pre-COVID levels.

Riverside Connect's service map is illustrated in **Figure 1**.

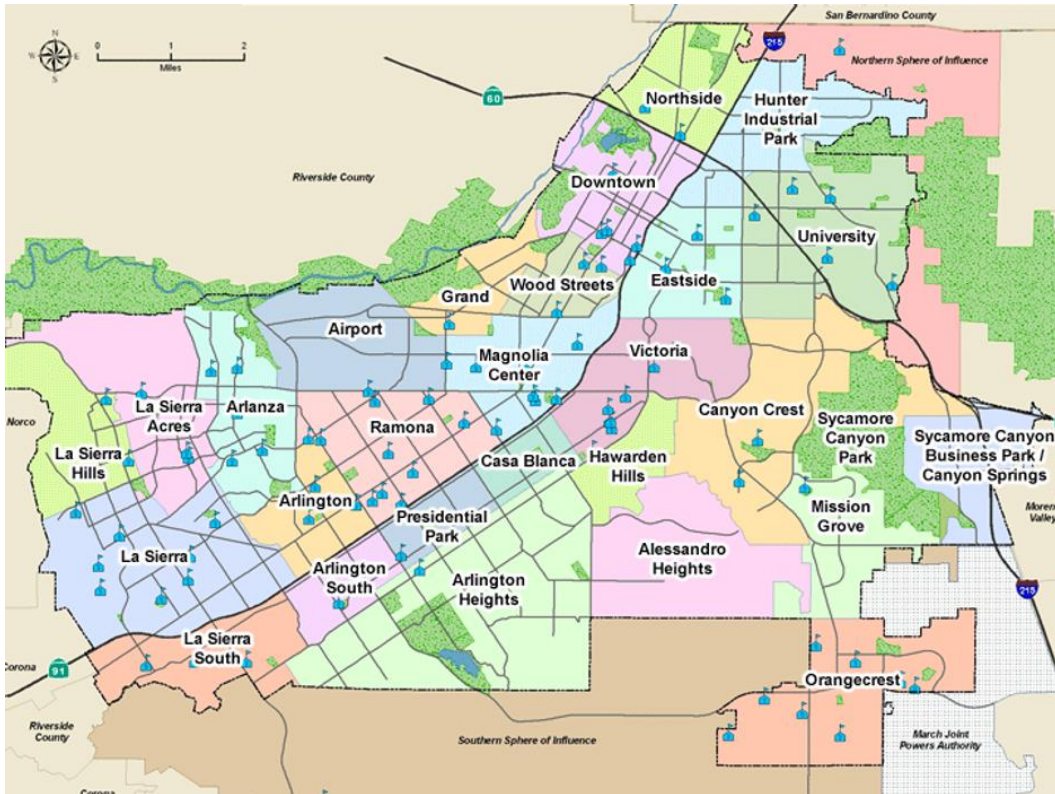


Figure 1 – Riverside Connect Service area

Ridership

Based on Riverside Connect data of total ridership from fiscal year 2021/2022, staff estimated that there were a total of 38,900 passengers throughout the year. In the 2020/2021 Fiscal Year, there were a total of 26,518 passengers. Riverside Connect anticipates that annual ridership in the 2022/2023 Fiscal Year will be 80,000 passengers, an increase of 106% over the 2021/2022 ridership.

Riverside Connect Basic Information

Transit Agency's Name:

Riverside Connect

Mailing Address: Riverside Connect

6927 Magnolia Ave,
Riverside, CA 92506

Transit Agency's Air Districts:

Riverside Connect is part of the South Coast Air Quality Management District (SCAQMD).

Transit Agency's Air Basin:

Mojave Desert Air Quality Management District is part of the South Coast Air Basin.¹

Total number of buses in Annual Maximum Service:

The maximum number of active buses operating demand response services out of the Corporation Yard is thirty-four (34). The fleet is composed of 34 26' CNG cutaways.

Urbanized Area:

Riverside, CA. Riverside is 81.23 square miles of land area with 3,878 people per square mile living within that area.²

Population of Urbanized Area:

317,261 residents.²

¹ <https://www.rcrcd.org/south-coast-air-quality-management-district-scaqmd>

² <https://www.census.gov/quickfacts/fact/table/riversidecitycalifornia/RHI525221>

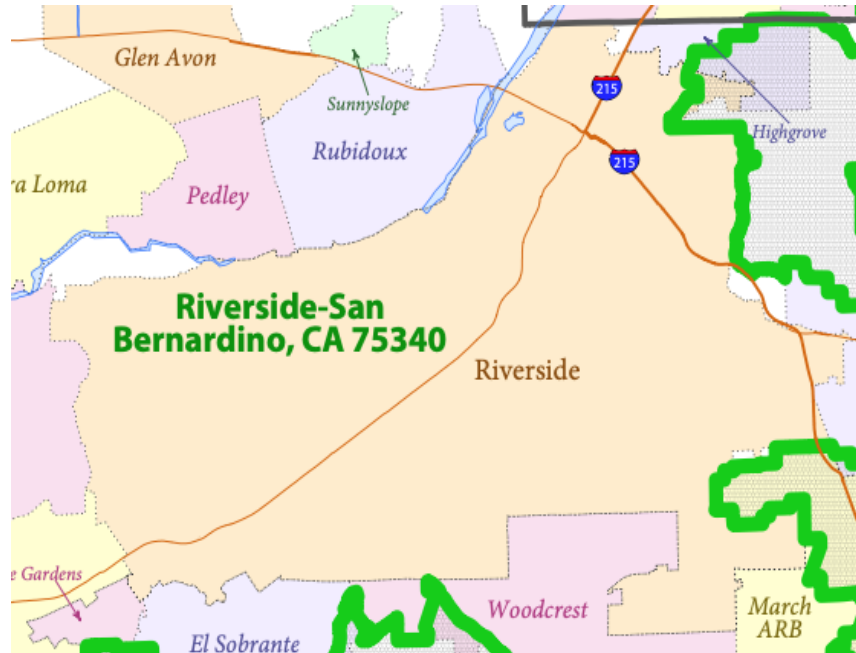


Figure 2 – City of Riverside Urbanized Rural Map³⁴

Contact Information for Inquiries on the Riverside Connect ICT Rollout Plan:

Ron Profeta, Transit Manager, City of Riverside

3900 Main St,

Riverside, CA 92522

Tel: (951)-826-2000

RProfeta@riversideca.gov

Is your transit agency part of a Joint Group? No

Fleet Facility

Riverside Connect’s entire DAR paratransit fleet operates out of 8095 Lincoln Avenue, within the City of Riverside’s Corporation Yard. The administrative facility includes administrative offices, a dispatch area, restrooms, and a break room. The facility also includes a parking lot for the agency’s fleet, a CNG slow fill station, and a CNG Maintenance Bay. The Maintenance Bay facility has four maintenance bays for CNG vehicles, an administrative office, and multiple storage compartments for vehicle parts and equipment. A map of the Corporation Yard is shown in **Figure 3**. These facilities offer a starting point for the consideration of viable locations for zero-emission fueling infrastructure, chargers and/or a **hydrogen fueling station**.

³https://www2.census.gov/geo/maps/dc10map/JAUC_RefMap/ua/ua75340_riverside--san_bernardino_ca/DC10UA75340_000.pdf

⁴ Solid Green lines represent the boundaries of the urbanized area



Figure 3 – Fueling, Administrative, and Storage Facility Overview

Riverside Connect Sustainability Goals

Per their City Strategic Plan, Envision Riverside 2025⁵ The City of Riverside has dedicated themselves to the strategic priorities of “Environmental Stewardship” and “Infrastructure, Mobility & Connectivity.” The City of Riverside defines Environmental Stewardship as “Champion[ing] proactive and equitable climate solutions based in science to ensure clean air, safe water, a vibrant natural world, and a resilient green new economy for current and future generations.” To this end, relevant goals that they are working to fulfill are “rapidly decrease[ing] Riverside’s carbon footprint by acting urgently to reach a zero carbon electric grid with the goal of reaching 100% renewable energy production by 2040 while continuing to ensure safe, reliable and affordable energy for all residents,” “implement[ing] proactive policies and inclusive decision-making processes to deliver environmental justice and ensure that all residents breath healthy and clean air with the goal of having zero days of unhealthy air quality per the CalEnviroScreen by 2030,” and “implement[ing] the requisite measures to achieve citywide carbon neutrality no later than 2040.” The City’s goals within their Strategic Priority of Infrastructure, Mobility & Connectivity are to “provide, expand and ensure equitable access to sustainable modes of transportation that connect people to opportunities such as employment, education, healthcare, and community amenities,” “maintain, protect and improve assets and infrastructure within the City’s built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity,” “Identify and pursue new and unique funding opportunities to develop, operate, maintain, and renew infrastructure and programs that meet the community’s needs,” and “Incorporate Smart City strategies into the planning and development of local infrastructure projects.”

Riverside Connect has developed a plan to transition to a fully zero emission vehicle (ZEV) fleet composed of battery electric and fuel cell electric cutaways by 2040, in accordance with the Innovative Clean Transit (ICT) regulation, requiring all California transit agencies to follow zero-emission procurement guidelines with the goal of achieving 100% zero-emission fleets by 2040. Riverside Connect has committed to purchasing zero emission cutaways, demonstrating the agency’s commitment to reducing emissions. Riverside Connect’s transition to a fully zero emission fleet will ultimately benefit communities through cleaner air, greater independence from fossil fuels, and more environmental sustainability.

⁵ https://www.riversideca.gov/sites/default/files/City%20Strategic%20Plan_Digital_2021_Spreads.pdf

B

Rollout Plan General Information

Overview of the Innovative Clean Transit Regulation

On December 14, 2018, CARB enacted the Innovative Clean Transit (ICT) regulation, setting a goal for California public transit agencies to have zero-emission bus fleets by 2040. The regulation specifies the percentage of new bus procurements that must be zero-emission buses for each year of the transition period (2023–2040). The annual percentages for Small Transit agencies are as follows:

ICT Zero-Emission Bus Purchase Requirements for Small Agencies:

January 1, 2026 - 25% of all new bus purchases must be zero-emission

January 1, 2027 - 25% of all new bus purchases must be zero-emission

January 1, 2028 - 25% of all new bus purchases must be zero-emission

January 1, 2029+ - 100% of all new bus purchases must be zero-emission

March 2021-March 2050 – Annual compliance report due to CARB

This purchasing schedule guides agency procurements to realize the goal of zero-emission fleets in 2040 while avoiding any early retirement of vehicles that have not reached the end of their 12-year useful life. Agencies have the opportunity to request waivers that allow purchase deferrals in the event of economic hardship or if zero-emission technology cannot meet the service requirements of a given route. These concessions recognize that zero-emission technologies may cost more than current internal combustion engine (ICE) technologies on a vehicle lifecycle basis and that zero-emission technology may not currently be able to meet all service requirements.

Riverside Connect Rollout Plan General Information

Rollout Plan's Approval Date: June 20, 2023

Resolution No: 24002

Contact for Rollout Plan follow-up questions:

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Riverside, CA 92522

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RProfeta@riversideca.gov

Who created the Rollout Plan?

This Rollout Plan was created by Riverside Connect, with assistance from the Center for Transportation and the Environment (CTE) and the Riverside County Transportation Commission (RCTC).

This document, the ICT Rollout Plan, contains the information for Riverside Connect’s zero-emission fleet transition trajectory as requested by the ICT Regulation. It is intended to outline the high-level plan for implementing the transition. The Rollout Plan provides estimated timelines based on information on bus purchases, infrastructure upgrades, workforce training, and other developments and expenses that were available at the time of writing.

Additional Agency Resources

Riverside Connect agency website: https://riversideca.gov/park_rec/programs-sports/seniors/special-transportation-division



Technology Portfolio

Zero Emission Transition Technology Selection

Based on outcomes of the zero-emission fleet transition planning study completed by CTE, Riverside Connect plans to transition its fleet to a mix of battery electric and fuel cell electric cutaways. By 2040, Riverside Connect expects to operate a fully zero-emission fleet of 34 cutaways.

A mixed technology zero-emission fleet scenario provides more service energy while avoiding as much opportunity charging and mitigating the higher fuel cost of a fuel cell electric-only fleet. A mixed technology zero-emission fleet also offers resilience by allowing service to continue should either fuel (electricity or hydrogen) become temporarily unavailable. This plan summarizes the charging and hydrogen infrastructure costs needed to support a fleet of 17 battery electric cutaways and 17 fuel cell electric cutaways.

Local Developments and Regional Market

California has become a global leader for zero-emission buses, as well as the zero-emission fuel and fueling infrastructure required to support these vehicles. California is home to four bus OEMs that manufacture zero-emission buses. Although three of these OEMs do not currently build FCEBs, growing demand for this vehicle technology may encourage these manufacturers to enter the market.

The state legislature has fostered growth in zero-emission fuels through the state's Low-Carbon Fuel Standard (LCFS) program, which incentivizes the consumption of fuels with a lower carbon intensity than traditional combustion fuels and through funding opportunities offered by CARB and CEC. The state's electrical utility companies have also supported the transition to ZEB technology by offering incentive programs for heavy duty EV charging infrastructure and service upgrades. California BEB deployments represent 37% of the nation's BEB deployments.⁶

California also has one of the most mature hydrogen fueling networks in the nation. The state's hydrogen market has developed to support the growing number of fuel cell electric vehicles on the roads in the state. California has four medium-and-heavy-duty fueling stations in operation and four more in development. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. California fuel cell electric bus (FCEB) deployments represent 75% of the nation's FCEB deployments.⁶

ZEB Transition Planning Methodology

Riverside Connect's ICT Rollout Plan was created in combination with Riverside Connect's Existing Conditions Report and the Riverside County ZEB Financial Strategy Plan, utilizing CTE's ZEB Transition Planning Methodology. CTE's methodology consists of a series of assessments that enable transit agencies to understand what resources and decisions are necessary to convert their fleets to zero-emission technologies. The results of the assessments

⁶ CALSTART. 2021. THE ADVANCED TECHNOLOGY TRANSIT BUS INDEX: A NORTH AMERICAN ZEB INVENTORY REPORT. https://calstart.org/wp-content/uploads/2022/01/2021-ZIO-ZEB-Final-Report_1.3.21.pdf

help the agency decide on a step-by-step process to achieve its transition goals. These assessments consist of data collection, analysis, and modeling outcome reporting stages. These stages are sequential and build upon findings in previous steps. The assessment steps specific to Riverside Connect’s Rollout Plan are outlined below:

1. Planning and Initiation
2. Requirements Analysis & Data Collection
3. Service Assessment
4. Fleet Assessment
5. Fuel Assessment
6. Maintenance Assessment
7. Facilities Assessment
8. Total Cost of Ownership Assessment
9. Policy Assessment
10. Partnership Assessment

For **Requirements Analysis & Data Collection**, CTE collects data on the agency’s fleet, routes and blocks, operational data (e.g., mileage and fuel consumption), and maintenance costs. Using this data, CTE establishes service requirements to constrain the analyses in later assessments and produce agency-specific outputs for the zero-emission fleet transition plan.

The **Service Assessment** phase initiates the technical analysis phase of the study. Using information collected in the Data Collection phase, CTE evaluates the feasibility of using zero-emission buses to provide service to the agency’s routes and blocks over the transition plan timeframe from 2022 to 2040. Results from the Service Assessment are used to guide zero emissions vehicle procurement plans in the Fleet Assessment and to determine energy requirements in the Fuel Assessment.

The **Fleet Assessment** projects a timeline for the replacement of existing buses with zero emission vehicles that is consistent with Riverside Connect’s existing fleet replacement plan and known procurements. This assessment also includes a projection of fleet capital costs over the transition timeline and is optimized to meet state mandates or agency goals, such as minimizing costs or maximizing service levels.

The **Fuel Assessment** merges the results of the Service Assessment and Fleet Assessment to determine annual fuel requirements and associated costs. The Fuel Assessment calculates energy costs through the full transition timeline for each fleet scenario, including the agency’s existing ICE vehicles. To more accurately estimate battery electric cutaway charging costs, a focused Charging Analysis is performed to simulate daily system-wide energy use. As older technologies are phased out in later years of the transition, the Fuel Assessment calculates the changing fuel requirements as the fleet transitions to zero emission vehicles. The Fuel Assessment also provides a total fuel cost over the transition timeline.

The **Maintenance Assessment** calculates all projected fleet maintenance costs over the transition timeline. Maintenance costs are calculated for each fleet scenario and include costs of maintaining existing fossil-fuel cutaways that remain in the fleet and maintenance costs of new battery electric cutaways and fuel cell electric cutaways.

The **Facilities Assessment** determines the infrastructure necessary to support the projected zero-emission fleet composition over the transition period based on results from the Fleet Assessment and Fuel Assessment. This assessment evaluates the required quantities of charging infrastructure and/or hydrogen fueling station projects and calculates the costs of infrastructure procurement and installation sequenced over the transition timeline.

The **Total Cost of Ownership Assessment** compiles results from the previous assessment stages to provide a comprehensive view of all fleet transition costs, organized by scenario, over the transition timeline.

The **Policy Assessment** considers the policies and legislation that impact the relevant technologies.

The **Partnership Assessment** describes the partnership of the agency with the utility or alternative fuel provider.

Requirements Analysis & Data Collection

The Requirements Analysis and Data Collection stage begins by compiling operational data from Riverside Connect regarding its current fleet and operations and establishing service requirements to constrain the analyses in later assessments. CTE requested data such as fleet composition, fuel consumption and cost, maintenance costs, and annual mileage to use as the basis for analyses. Riverside Connect self-assigned topography and speed characteristics to each service day, which were utilized to better define efficiencies. The calculated efficiencies were then used in the Service Assessment to determine the energy requirements of Riverside Connect's service.

CTE evaluated battery electric and fuel cell electric vehicles to support Riverside Connect's technology selection. After collecting route and operational data, CTE determined that Riverside Connect's longest day in service is 122 miles and the average distance is 105 miles. Based on observed performance, CTE estimates FCEBs are able to complete any block under 350 total miles. Although there are currently no fuel cell electric cutaways on the market, CTE assumed that when fuel cell electric cutaways enter the market, they will perform similarly to FCEBs, and therefore Riverside Connect's service will likely be feasible with fuel cell cutaways. Although fuel cell cutaways were determined to have the capability of serving all of Riverside Connect's routes, Riverside Connect was interested in exploring battery electric and fuel cell electric cutaway service scenarios, so it was necessary to determine how much of Riverside Connect's service could feasibly be served by depot-only charged battery electric cutaways on a single charge and with midday charging in order to develop a set of zero emission transition scenarios that would allow the agency to make an informed decision on what technology or technologies would be most suitable to the agency's needs.

The energy efficiency and range of battery electric cutaways are primarily driven by vehicle specifications, such as on-board energy storage capacity and vehicle weight. Both metrics are affected by environmental and operating variables including the route profile (e.g., distance, dwell time, acceleration, sustained top speed over distance, average speed, and traffic conditions), topography (e.g., grades), climate (e.g., temperature), driver behavior, and operational conditions such as passenger loads and auxiliary loads. As such, BEB efficiency and range can vary dramatically from one agency to another or even from one service day to another. It was therefore critical for Riverside Connect to determine efficiency and range estimates based on an accurate representation of its operating conditions.

To understand battery electric cutaway performance on Riverside Connect routes, CTE modeled the impact of variations in passenger load, accessory load, and battery degradation on vehicle performance, fuel efficiency, and range. CTE ran models with different energy demands that represented *nominal* and *strenuous* conditions. Nominal loading conditions assume average passenger loads and moderate temperature over the course of the day, which places low demands on the motor and heating, ventilation, and air conditioning (HVAC) system. Strenuous loading conditions assume high or maximum passenger loading and near maximum output of the HVAC system. This nominal/strenuous approach offers a range of operating efficiencies to use for estimating average annual energy use (nominal) or ensuring that a vehicle will be able to meet service demands (strenuous). Route modeling ultimately provides an average energy use per mile (kilowatt-hour/mile [kWh/mi]) for each load case.

In addition to loading conditions, CTE modeled the impact of battery degradation on a battery electric cutaway's ability to complete a block. The range of a battery electric cutaway is reduced over time due to battery degradation. A battery electric cutaway may be able to complete a given trip with beginning-of-life batteries, while later it may be unable to complete the entire trip at some point in the future as batteries near their end-of-life or derated capacity (typically considered 70-80% of available service energy).

Service Assessment

Given the conclusion that fuel cell electric cutaways can meet the range requirements for Riverside Connect's service, the Service Assessment focused on evaluating the feasibility of battery electric cutaways in Riverside Connect's service area. The efficiencies calculated in the Requirements Analysis & Data Collection stage were used to estimate the energy requirements of Riverside Connect's service. The main focus of the Service Assessment is called the block analysis, which determines whether generic battery electric technology can meet the service requirements of a block based on range limitations, weather conditions, levels of battery degradation and route

specific requirements. The Transit Research Board's Transit Cooperative Research Program defines a block as "the work assignment for only a single vehicle for a single service workday".⁷ In Riverside Connect's case, because they operate DAR paratransit service only, a block refers to the mileage performed by each vehicle across a series of unique trips throughout its service day. The energy needed to complete a block is compared to the available energy of the cutaway assigned to service the block. If the cutaway's usable onboard energy exceeds the energy required by the block, then the conclusion is that the battery electric cutaway can successfully complete that block on a single charge.

The Service Assessment projects the performance of a battery electric cutaway on a single overnight charge and operates on Riverside Connect's service schedule at the time of the plan's writing. The results are used to determine when along the transition timeline a fleet of overnight depot-charged battery electric cutaways can feasibly serve Riverside Connect's territory or if another zero-emission technology or midday charging is required to maintain service. This information can then be used to inform the scale and timing of battery electric cutaway procurements in the Fleet Assessment.

Modeling & Procurement Assumptions

CTE and Riverside Connect defined the following assumptions and requirements used throughout the study:

The Service Assessment energy profile assumed a 5% improvement in battery capacity every year with a starting battery capacity of 120 kWh for a 25' cutaway which represents an analogous zero emission cutaway suitable for Riverside Connect's transit vehicles and is an average of battery capacities seen in commercially-available cutaways of the same size and passenger capacity in 2022.

This analysis also assumed Riverside Connect will maintain their service in a similar distribution of distance, relative speeds, and elevation changes to pre-COVID-19 service because their cutaways will continue to serve similar locations within the service area and general topography remains constant even if specific routes and schedules change.

Fleet size and vehicle length distribution do not change over time. The analysis assumed that vehicles reaching the end of their useful life would be replaced with vehicles of the same size. Total fleet size remains the same over the transition period.

Cutaways are assumed to operate for a 7-year service life.

Usable on-board energy is assumed to be that of a mid-life battery (10% degraded) with a reserve at both the high and low end of the battery's charge potential. As previously discussed, battery age affects range, so a mid-life battery was assumed as the average capacity of the battery's service life. Charging batteries to 100% or dropping the charge below 10% also degrades the batteries over time, which is why the analysis assumes that the top and bottom portions of the battery are unusable.

CTE accounts for battery degradation over the transition period with the assumption that Riverside Connect can rotate the cutaways to match battery capacity to block energy requirements. As the zero-emission fleet transition progresses, older vehicles can be moved to shorter, less demanding blocks and newer vehicles can be assigned to longer, more demanding blocks to account for battery degradation in battery electric cutaways over time.

Riverside Connect can rotate the fleet to meet demand, assuming there is a steady procurement of battery electric cutaways each year to match service requirements. CTE accounts for this variability in battery age by using a mid-life usable battery capacity to determine block feasibility.

Results

The Service Assessment determines the timeline for when Riverside Connect's service may become achievable by battery electric cutaways on a single depot charge. After determining what proportion of Riverside Connect's service could be completed by battery electric cutaways on a single charge, CTE was also able to determine the

⁷ TRB's Transit Cooperative Research Program. 2014. TCRP Report 30: Transit Scheduling: Basic and Advanced Manuals (Part B). https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_30-b.pdf

proportion of service that would require midday charged battery electric cutaways or longer range fuel cell electric cutaways in order to reach 100% ZEB service. Riverside Connect and CTE can then use these results to inform zero emission cutaway procurement decisions in the Fleet Assessment. Results from this analysis are also used to determine the specific energy requirements and fuel consumption of the fleet over time. These values are then used in the Fuel Assessment to estimate the cost to operate the transitioning fleet.

These projections assume the average service days will maintain a similar distribution to current service because Riverside Connect will continue to serve similar destinations within the city. This core assumption affects energy use estimates and service achievability in each year.

The results of Riverside Connect’s Service Assessment for Dial-a-Ride service on a single charge can be found below in **Figure 4**. Based on CTE’s analysis, Riverside Connect’s average service day does not become feasible for a depot charged battery-electric cutaway on a single charge by 2040, which means that battery-electric cutaways would require some form of opportunity charging throughout the day to complete their service.

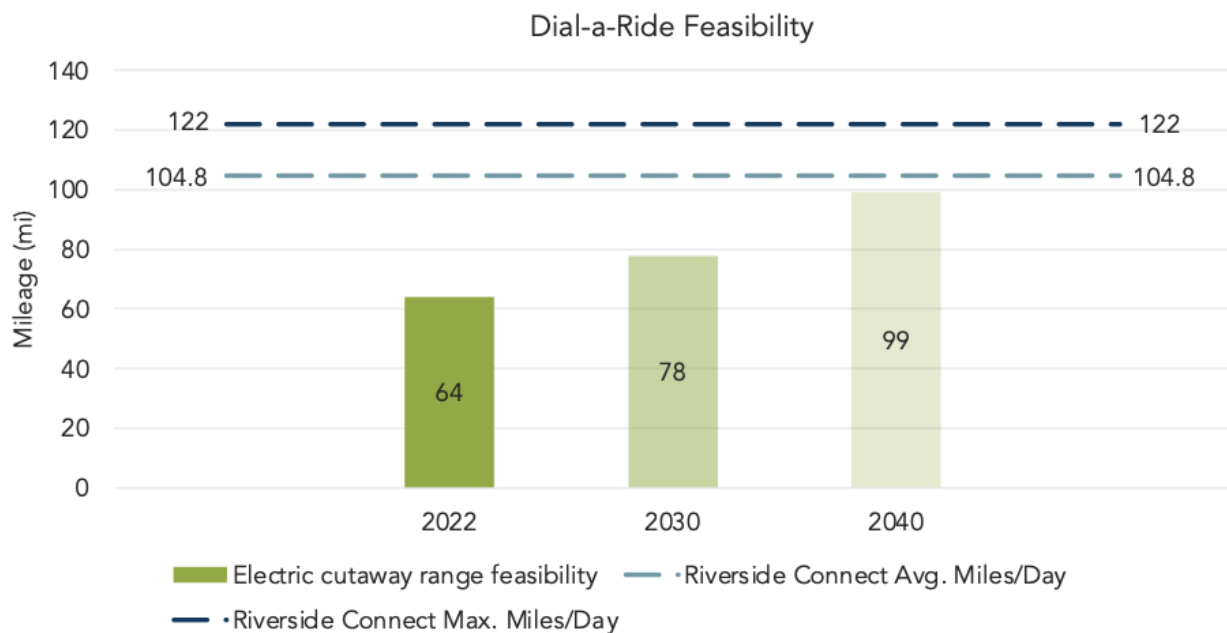


Figure 4 – Dial-A-Ride Feasibility

Pantograph and inductive charging have not yet been demonstrated on the market for electric cutaways, so this option was not considered. Demand response service is run sporadically throughout the day, with vehicles typically returning to the depot after completing their assignments. Based on this service pattern, it was assumed that battery-electric cutaways could be charged throughout the day when they return to the depot which would allow them to complete all of Riverside Connect’s service. Also, as noted previously, fuel cell cutaways are assumed to be able to complete any trip under 350 total miles and Riverside Connect’s longest service day is 122 miles long, which means that fuel cell technology will have the capability to meet Riverside Connect’s service requirements. Therefore, battery electric cutaways with opportunity charging at the depot and fuel cell electric cutaways are viable options for Riverside Connect.

Description of Zero Emission Technology Solutions Considered

For this study, CTE developed 3 scenarios to compare to a baseline scenario and analyze the feasibility and cost effectiveness of implementing each technology as well as the co-implementation of both technologies. A baseline scenario was also developed to represent the typical “business-as-usual” case with retention of ICE cutaways for cost comparison purposes.

The scenarios are referred to by the following titles and described, in detail, below:

0. Baseline (current technology)
1. Battery Electric Cutaways Only
2. Mixed Fleet – Fuel Cell and Battery Electric Cutaways
3. Fuel Cell Cutaways Only

In the **Battery Electric Fleet Transition**, battery electric cutaways are to replace CNG vehicles as they reach end of life according to the purchasing requirements in the ICT Regulation. As previously noted, battery electric cutaways are not capable of meeting Riverside Connect's daily service requirements on a single charge, so midday opportunity charging is utilized on DAR service to sustain energy on-board. Based on CTE's modeling, all of Riverside Connect's service is fully achievable using opportunity-charged battery electric technology by 2040.

In the **Mixed Fleet Transition**, fuel cell cutaways and battery electric cutaways are purchased in equal numbers to make up a fully zero emission fleet. The costs for infrastructure and installation of two different charging and fueling infrastructures are taken into account. Fuel cell vehicles and hydrogen fuel, however, are more expensive than battery electric vehicles and electricity, so this scenario allows Riverside Connect to use the less expensive battery technology where possible and supplement service with fuel cell vehicles as needed, particularly in cases where the vehicle may not be able to return to the depot to charge midday, and support resilience and redundancy adaptation measures.

Finally, the **Fuel Cell Fleet Transition** was developed to examine the costs for hydrogen fueling and transitioning to a 100% fuel cell cutaway fleet. A fully fuel cell fleet avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment. Fleets composed entirely of fuel cell electric cutaways also offer the benefit of scalability compared to battery electric technologies. Adding fuel cell vehicles to a fleet after the initial facility build out does not necessitate large complementary infrastructure upgrades as long as the fueling station was appropriately sized for the fleet. Despite this benefit, the cost of fuel cell cutaways and hydrogen fuel are still more expensive than battery electric cutaways and electricity at current market prices.

When considering the various scenarios, this study can be used to develop an understanding of the range of costs that may be expected for Riverside Connect's zero emission transition, but ultimately, can only provide an estimate. Furthermore, this study aims to provide an overview of the myriad considerations the agency must take into account in selecting a transition scenario that go beyond cost, such as space requirements, safety implications, and operational changes that may differ between scenarios.

D

Current Fleet Composition and Future Vehicle Purchases

Fleet Assessment Methodology

The Fleet Assessment projects a timeline for the replacement of existing cutaways with zero emission cutaways. The timeline is consistent with Riverside Connect’s fleet replacement plan that is based on the 7-year service life of truck-style cutaways. This assessment also includes a projection of fleet capital costs over the transition timeline.

Zero Emission Vehicle Cost Assumptions

CTE and Riverside Connect developed cost assumptions for future cutaway purchases. Key assumptions for cutaway costs for the Riverside Connect Transition Plan are as follows:

- CNG vehicle prices were provided by Riverside Connect and are inclusive of costs for configurable options and taxes.
- Capital vehicle costs are derived from the 2022 California, Washington and New Mexico State Contracts plus the annual PPI (2%) and tax (8.75%). Fuel Cell Cutaway pricing is a price estimation due to lack of market information.
- Costs for retrofits or bus conversions are not included. Procurements assume new vehicle costs.

Table 1 - Fleet Assessment Cost Assumption

	Fuel Type		
Length	CNG	Electric	Fuel Cell
Cutaway	\$157,537	\$300,955	\$376,153*

*Bus size not currently available for this technology

Description of Riverside Connect’s Current Fleet

Riverside Connect’s current service and fleet composition provide the baseline for evaluating the costs of transitioning to a zero-emission fleet. Riverside Connect staff provided the following key data on current service:

- Fleet composition by powertrain and fuel
- Daily paratransit service
- Mileage and fuel consumption
- Maintenance costs

Fleet

As of 2022, the Riverside Connect fleet includes 34 CNG 26' cutaways used for DAR paratransit service. Transit services, including operations, maintenance, and fueling, operate out of one depot in Riverside, CA.

Routes and Blocks

Riverside Connect's 2022 service exclusively consists of Dial-a-Ride paratransit service. Daily distances range from 82 miles to 122 miles. Vehicles pull out as early as 6:35 AM and return as late as 5:25 PM. Riverside Connect service runs within the boundaries of the City of Riverside.

Current Mileage and Fuel Consumption

Annual mileage of the fleet:

887,698 miles

Riverside Connect's ZEB Transition Plan assumes that the amount of service miles will remain the same.

Annual fuel consumption:

130,544 GGE of CNG

Fleet average efficiency:

6.8 miles per GGE

Riverside Connect current fuel expense:

\$205,000 per year

Average fuel costs:

\$1.57 per GGE of CNG

Maintenance Costs

Average maintenance costs per mile by vehicle type are estimated in **Table 2**. Vehicles also do not undergo any midlife overhauls due to their short usable life period as summarized in **Table 3**. These costs were utilized to project transition maintenance costs.

Table 2 – Labor and Materials Cost Assumptions

Vehicle Type	Estimate (Per Mile)
CNG Cutaway	\$ 0.35
Battery Electric Cutaway	\$0.32
Fuel Cell Electric Cutaway	\$0.51

Table 3 – Midlife Overhaul Cost Assumptions

Vehicle Type	Overhaul (FC/Transmission) Cost Per vehicle life	Battery Warranty Cost Per vehicle life
CNG Cutaway	\$0	\$0
Battery Electric Cutaway	\$0	\$24,000
Fuel Cell Electric Cutaway	\$0	\$10,000

Zero-Emission Bus Procurement Plan and Schedule

Riverside Connect will provide demand response service with a fleet of seventeen (17) depot-charged and opportunity-charged battery electric cutaways and seventeen (17) fuel cell cutaways. This technology combination will be sufficient for meeting the agency’s service demands. Riverside Connect’s fleet transition strategy is to replace each compressed natural gas (CNG) cutaway as they reach the ends of their service lives with battery electric cutaways until 2029, and a mix of battery electric and fuel cell cutaways beginning in 2030. **Figure 5** below provides the number of each vehicle type that will be purchased each year through 2040 with this replacement strategy and the total cost of that procurement.

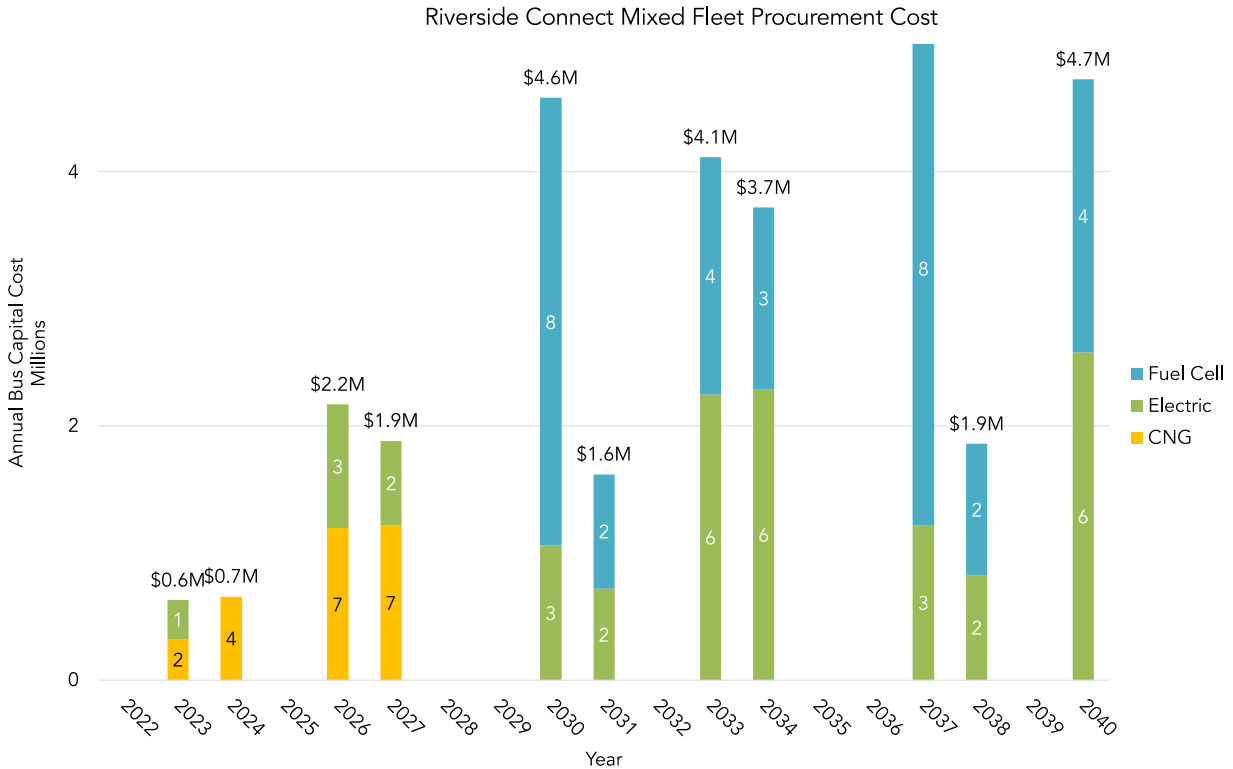


Figure 5 – Projected Fleet Procurements for Zero Emission Transition

Figure 6 demonstrates the annual composition of Riverside Connect’s fleet through 2040. By 2034, Riverside Connect’s fleet will consist entirely of battery electric and fuel cell cutaways. The fleet will remain the same size throughout the transition period.

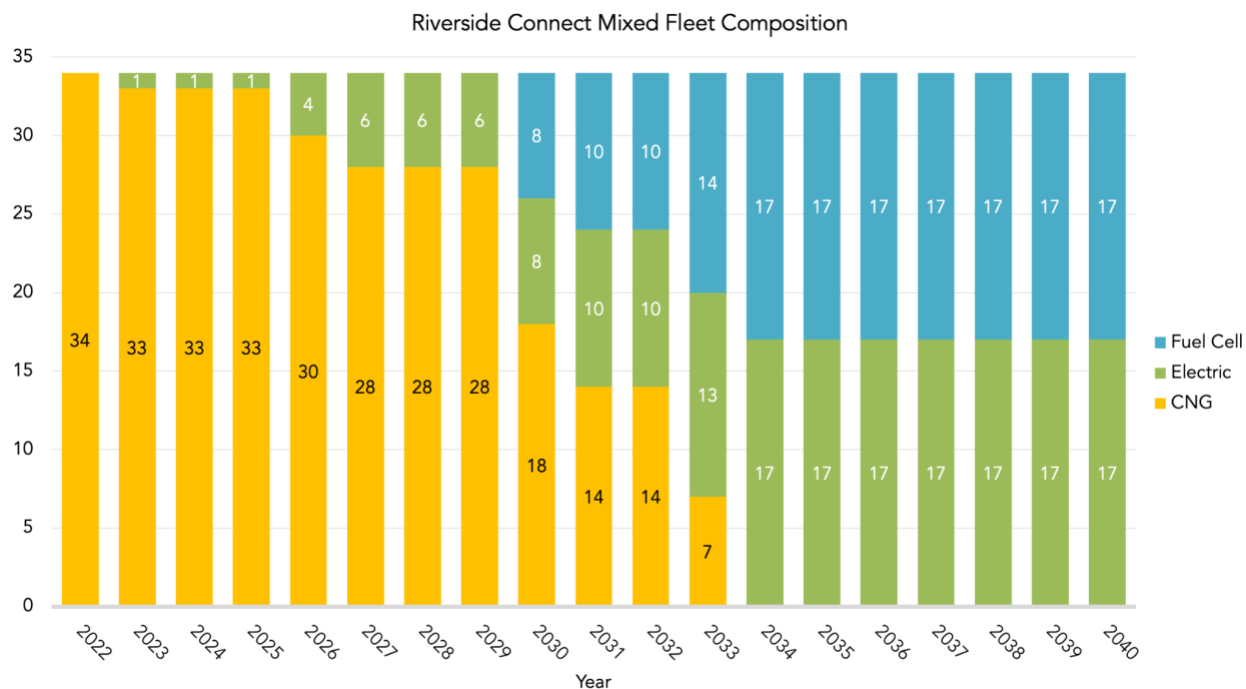


Figure 6 – Annual Fleet Composition, Zero Emission Transition

As seen in **Table 4** the capital investment required for purchasing zero-emission cutaways is significantly higher than for CNG cutaways. This highlights the importance of staying vigilant in the search for funding opportunities to help fill this gap.

Table 4 – Riverside Connect Vehicle Capital Investment to Transition to a 100% Zero Emission Fleet by 2040

	CNG Baseline*	Zero Emission Incremental Costs	Total Investment
Vehicle Capital Costs	\$19M	\$12M	\$31M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

Additional Considerations

When purchasing zero emission vehicles, the process may differ slightly from the process Riverside Connect currently uses to purchase vehicles. First, when contracting with zero emission vehicle manufacturers, Riverside Connect should ensure expectations are clear between the OEM and the agency. As with CNG purchases the agreement should be clear regarding the vehicle’s configurations, technical capabilities, build and acceptance process, production timing with infrastructure, warranties, training, and other contract requirements. Additionally,

by developing and negotiating specification language collaboratively with the vendor(s), Riverside Connect can work with the vendor(s) to customize the cutaway to their needs as much as is appropriate, help advance the industry based on agency requirements and recommended advancements, ensure the acceptance and payment process is fully clarified ahead of time, fully document the planned capabilities of the cutaway to ensure accountability, and generally preempt any unmet expectations. Special attention should be given in defining the technical capabilities of the vehicle, since defining these for zero emission vehicles may differ from ICE vehicles.

When developing RFPs and contracting for zero emission vehicle procurements, Riverside Connect should specify the source of funding for the vehicle purchases to ensure grant compliance, outline data access requirements, define the price and payment terms, establish a delivery timeline, and outline acceptance and performance requirements. Riverside Connect should test the vehicles upon delivery for expected performance in range, acceleration, gradeability, highway performance, and maneuverability. Any such performance requirements must be included in the technical specification portion of the RFP and contract to be binding for the OEM. Defining technical specifications for zero emission vehicles will also differ slightly from their current CNG vehicles since they will need to include requirements for hydrogen fuel cell and battery performance. It is also recommended that Riverside Connect purchase an extended battery warranty for the vehicles, which should be specified in the RFP and contract.

Fuel cell procurement will also differ from ICE procurements since there are fewer OEMs presently manufacturing fuel cell buses and no OEMs presently manufacturing fuel cell cutaways, although this is expected to change with increasing demand. Riverside Connect will also be able to apply for additional funding for these vehicles through zero-emission vehicle specific funding opportunities, which are discussed further in which are discussed further in **Section H: Potential Funding Sources.**

E

Facilities and Infrastructure Modifications

Riverside Connect Facility Configuration and Depot Layout

Depot Address:

8095 Lincoln Avenue, Riverside, CA 92504

Electric Utility:

Riverside Public Utilities

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

34+

Current Vehicle Types Supported:

Riverside Connect's depot currently supports fueling and maintenance of CNG cutaways.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Battery electric and hydrogen fuel cell electric propulsion

Facilities Assessment Methodology

Mixed fleet battery electric and fuel cell deployments such as Riverside Connect's require installation of charging stations and improvements to existing electrical infrastructure as well as hydrogen fueling infrastructure. Fuel cell deployments require installation of a fueling station and may require improvements such as upgrades to the switchgear or utility service connections. Planning and design work, including development of detailed electrical and construction drawings required for permitting, is also necessary once specific charging equipment has been selected.

Building off of the fleet procurement schedule that was outlined in the Fleet Assessment, CTE then uses industry average pricing to develop infrastructure scenarios that estimate the cost of building out the infrastructure necessary to support a full fleet transition to zero emission vehicles. This plan assumes that infrastructure projects will be completed prior to each cutaway delivery. To project the costs of fueling infrastructure, CTE used industry pricing observed in active projects and an infrastructure build timeline based on the procurement timeline. This plan assumes that infrastructure projects will be completed prior to each vehicle delivery. These projects are described in detail below.

Infrastructure Upgrade Requirements to Support Zero-Emission Buses

Description of Depot-Charging Infrastructure Considered

With Riverside Connect's mixed technology fleet, charging infrastructure is required to service a total of 17 battery electric cutaways along with hydrogen fueling infrastructure for 17 fuel cell cutaways to support a completely zero-emission fleet by 2040. Because there are separate costs associated with each type of zero emission technology,

the facilities assessment for this scenario is broken down by each fuel type. The total cost for mixed fleet fueling infrastructure is approximately \$7.5 M.

Battery Electric Charging Infrastructure Summary

In order to support the battery electric portion of the fleet, Riverside Connect will need to work with a contractor to conduct detailed infrastructure planning, purchase chargers and dispensers, and add service capacity to their site. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building charging infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for Riverside Connect’s single depot is estimated at \$200,000.
- **DISPENSERS AND CHARGERS.** Riverside Connect’s battery electric charging depot will consist of nine chargers with two dispensers per charger. Prices are estimated at \$170,000 for a 150kW charger with two dispensers.
- **ELECTRIC SERVICE UPGRADE.** Riverside Connect requires an estimated 2 MW of additional electricity capacity by 2040 to accommodate charging for 17 battery electric cutaways. To meet the growing demand for electricity, the depot will need to upgrade its system to at least 2 MW of capacity by 2027. This is estimated to cost around \$300,00 over the transition period.
- **CHARGER MAINTENANCE.** Riverside Connect’s chargers are estimated to require annual maintenance with an estimated cost of \$3,000 per year.
- **INFLATION FACTOR.** 5.4% inflation is added on all planning, procurement, and construction costs per the CPI. 3% inflation is added on all maintenance costs per industry standard inflation assumptions. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The cost of battery electric infrastructure is approximately \$3M over the transition period.

FCEB Fueling Infrastructure Summary

In addition to battery electric charging, hydrogen fueling is required to support the Mixed Fleet. Like battery electric infrastructure, a fuel cell infrastructure deployment will also require hiring an infrastructure planning contractor. A storage capacity project, a fueling infrastructure capital project will also be necessary to allow Riverside Connect to fuel their hydrogen fuel cell vehicles on site. Infrastructure is assumed to be built out in one project that will conclude prior to the first fuel cell cutaway deployment in 2030. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building hydrogen infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for Riverside Connect’s single depot will be approximately \$200,000.
- **MAINTENANCE BAY UPGRADES.** Riverside Connect requires four upgrades to their maintenance bays. Each maintenance bay upgrade from CNG to Hydrogen is expected to cost \$14,000. The total cost for the four maintenance bays is estimated to be \$56,000.
- **HYDROGEN FUELING INFRASTRUCTURE.** Riverside Connect’s fueling solutions were decided based on fuel consumption needs and approximately right-sized. Hydrogen infrastructure maintenance and operations are covered in the price of fuel in the fuel assessment. Cooperation with the adjacently located public hydrogen station located at 3044 St Lawrence St could decrease construction costs due to economies of scale. This project price is based on partnership and expansion of existing hydrogen infrastructure. A new build would increase the cost significantly.
- **INFLATION FACTOR.** 5.4% inflation is added on all project costs per the CPI. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The cost of fuel cell infrastructure is approximately \$4.5 M over the transition period. **Figure 7** shows the estimated total costs for the fuel cell and battery electric infrastructure over the transition period. The combined total cost is approximately \$7.5 M.

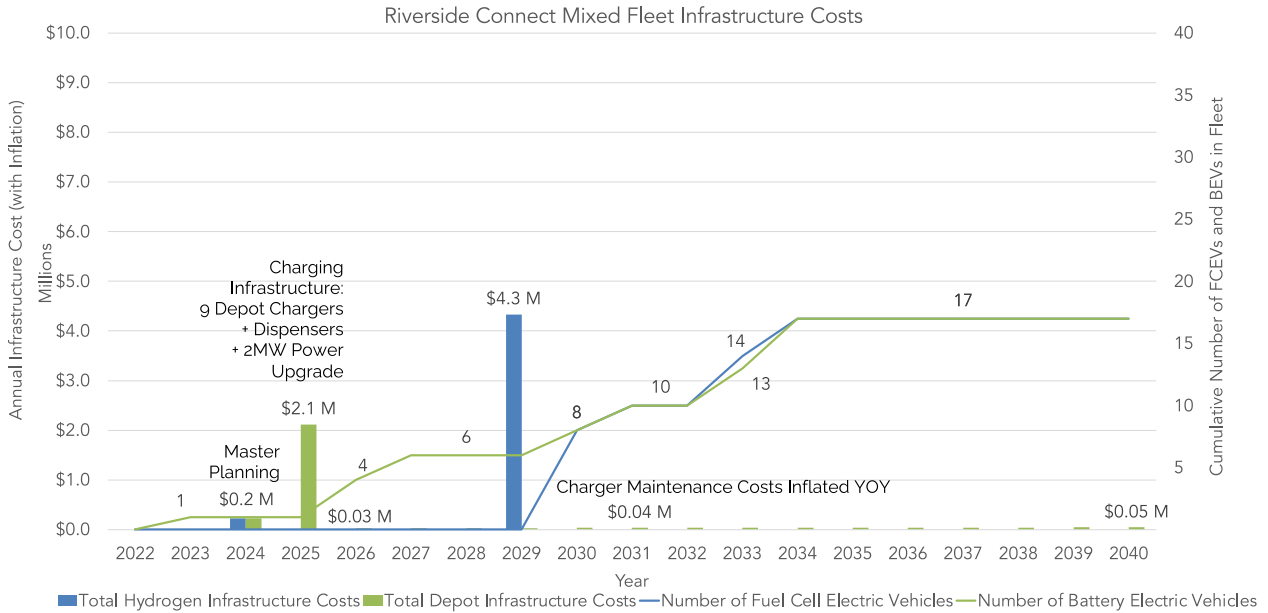


Figure 7 – Infrastructure Projects & Costs, Zero Emission Transition with Hydrogen and Electric Infrastructure

Utility Partnership Review

Riverside Public Utilities is a consumer-owned utility that provides both water and electricity to Riverside. Riverside Public Utilities is a founding member of the Southern California Public Power Authority (SCPPA), enjoying the benefits of joint action through cost-effective planning, construction, management, and operations of electrical energy resources. Riverside Public Utilities currently offers several EV incentives and rebates, although none of them are catered toward public transit applications⁸. Riverside Connect may be able to leverage their relationships with other agencies in the Commission to develop and maintain shared electric vehicle charging infrastructure by locating sites within Southern California Edison (SCE) territory.

Riverside Connect may also have access to local incentive programs aimed at reducing air pollution in Southern California; as the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties, the South Coast Air Quality Management District (SCAQMD) provides a variety of financial incentives to encourage the immediate use of commercially available, low- or zero-emission technologies⁹. Of note is the Carl Moyer Program, that provides funding for alternative fueling infrastructure and heavy-duty vehicle replacement/conversion projects.

The City is sharing proposed planning documents to help the utility understand future loads so that any required grid infrastructure improvements can be addressed prior to implementation. The City’s discussion of short- and long-term fleet goals with their utility will ensure that the utility can properly plan grid-side electrical infrastructure

⁸ <https://riversideca.gov/utilities/residents/rebates/electrify-riverside>

⁹ <http://www.aqmd.gov/home/programs/business>

upgrades to the City's Corporation Yard, and that the City can adequately upgrade equipment to support battery electric buses. Once the infrastructure upgrade needs are established, the City will incorporate the design and construction timelines into the overall transition plan timeline. The City recognizes the utility as a critical partner in electrification and will continue to partner with the utility after the planning stages so that charge management strategies and fleet expansion efforts can be coordinated effectively. The City has its own utilities department, Riverside Public Utilities (RPU), that provides service to all of the City.

Further, the City understands establishing and maintaining a partnership with the alternative fuel provider is critical to successfully deploying zero-emission vehicles and maintaining operations. Hydrogen fueling requires a plan for infrastructure installation, delivery, storage, dispensing, and upgrades to maintenance facilities. While fueling operations for hydrogen may require fewer operational changes than electric bus charging, understanding the local hydrogen supply market can be its own challenge. To overcome this challenge, the City may consider a competitive bid process for a design/build project as a reasonable approach to determining the appropriately sized station and selecting the most appropriate fueling technology at the best price.

F

Providing Service in Disadvantaged Communities

Providing Zero-Emission Service to DACs

In California, CARB defines disadvantaged communities (DACs) as communities that are both socioeconomically disadvantaged and environmentally disadvantaged due to local air quality. Lower income neighborhoods are often exposed to greater vehicle pollution levels due to proximity to freeways and ports, which puts these communities at greater risk of health issues associated with tailpipe emissions.¹⁰ Zero emission vehicles will reduce energy consumption, harmful emissions, and direct carbon emissions within the disadvantaged communities Riverside Connect serves. The City of Riverside includes 38 distinct census tracts designated as DACs.

Environmental impacts, both from climate change and from local pollutants, disproportionately affect transit riders. For instance, poor air quality from tailpipe emissions and extreme heat harm riders waiting for buses at roadside stops. The transition to zero-emission technology will benefit the region by reducing fine particulate pollution and improving overall air quality. In turn, the fleet transition will support better public health outcomes for residents in DACs served by the selected routes.

Public transit has the potential to improve social equity by providing mobility options to low-income residents lacking access to a personal vehicle and helping to meet their daily needs. In California, transit use is closely correlated with car-less households as they are five times more likely to use public transit than households with at least one vehicle.¹¹ Although 21% of Californians in a zero-vehicle household are vehicle free by choice, 79% do not have a vehicle due to financial limitations. Many low-income people therefore rely solely on public transportation for their mobility needs.¹² Riverside Connect's current fleet of CNG cutaways consume 130,550 Gasoline Gallons Equivalent (GGE) of fuel per year, operating for approximately 887,700 miles per year. Moving Riverside Connect's fleet to zero-emission technology will help alleviate the pollution from tailpipe emissions, which will improve the health of communities impacted by NOx and particulate matter emissions and all local communities.

Access to quality transit services provides residents with a means of transportation to go to work, to attend school, to access health care services, and run errands. By purchasing new vehicles and decreasing the overall age of its fleet, Riverside Connect is also able to improve service reliability and therefore maintain the capacity to serve low-income and disadvantaged populations.

¹⁰ Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

¹¹ Grengs, Joe; Levine, Jonathan; and Shen, Qingyun. (2013). Evaluating transportation equity: An inter-metropolitan comparison of regional accessibility and urban form. FTA Report No. 0066. For the Federal Transit Administration

¹² Paul, J & Taylor, BD. 2021. Who Lives in Transit Friendly Neighborhoods? An Analysis of California Neighborhoods Over Time. Transportation Research Interdisciplinary Perspectives. 10 (2001) 100341. <https://reader.elsevier.com/reader/sd/pii/S2590198221000488?token=CABB49E7FF438A88A19D1137A2B1851806514EF576E9A2D9462D3FAF1F6283574907562519709F8AD53DEC3CF95ACF27&originRegion=us-east-1&originCreation=20220216190930>

Map of Disadvantaged Communities served by Riverside Connect

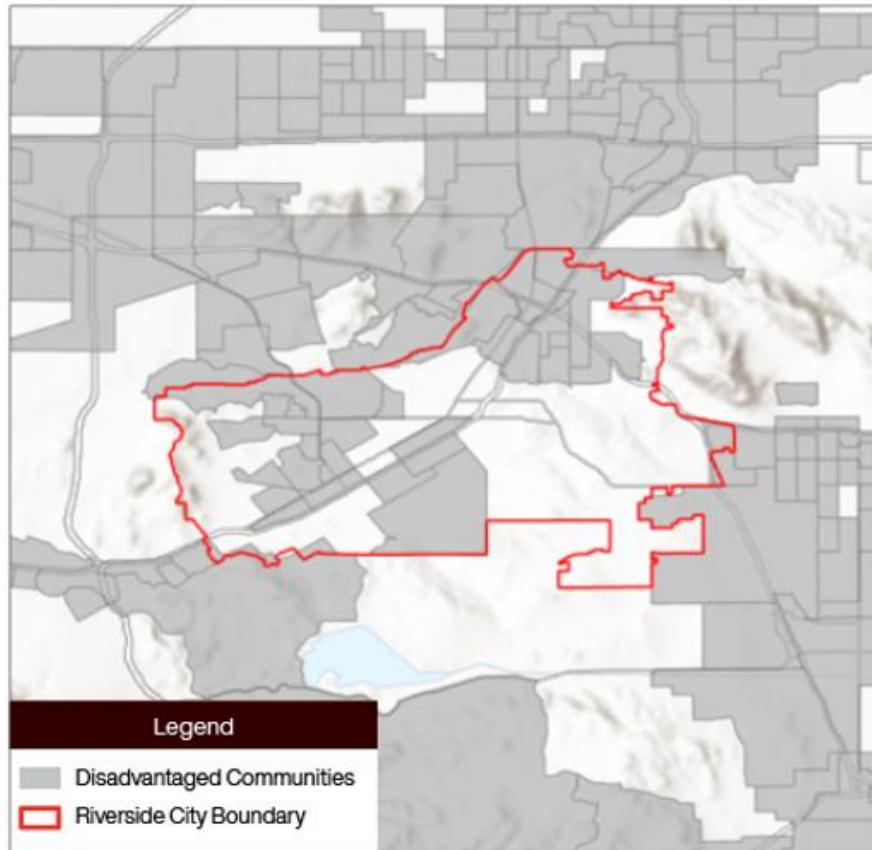


Figure 8 – Riverside Connect Disadvantaged Communities Service Map

Emissions Reductions for DACs

Greenhouse gasses (GHG) are the compounds primarily responsible for atmospheric warming and include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The effects of greenhouse gasses are not localized to the immediate area where the emissions are produced. Regardless of their point of origin, greenhouse gasses contribute to overall global warming and climate change.

Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter under 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SO_x). These pollutants are considered harmful to human health because they are linked to cardiovascular issues, respiratory complications, or other adverse health effects.¹³ These compounds are also commonly responsible for acid rain and smog. Criteria pollutants cause economic, environmental, and health effects locally where they are emitted. CARB defines DACs in part as disadvantaged by poor air quality because polluting industries or freight routes have often been cited in

¹³ Institute of Medicine. *Toward Environmental Justice: Research, Education, and Health Policy Needs*. Washington, DC: National Academy Press, 1999; O'Neill MS, et al. *Health, wealth, and air pollution: Advancing theory and methods*. *Environ Health Perspect.* 2003; 111: 1861-1870; Finkelstein et al. *Relation between income, air pollution and mortality: A cohort study*. *CMAJ.* 2003; 169: 397-402; Zeka A, Zanobetti A, Schwartz J. *Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics*. *Occup Environ Med.* 2006; 62: 718-725.

these communities. The resulting decrease in air quality has led to poorer health and quality of life outcomes for residents. Riverside Connect’s operational Well-to-Wheel criteria emissions are summarized in **Table 5**.

Table 5 – Annual Vehicle Operation Pollutants by Fuel Type

Overall Annual Vehicle Operation Pollutants (lbs.)								
	CO	NOx	PM10	PM2.5	VOC	SOx	PM10 TBW	PM2.5 TBW
CNG	39,541.72	1,352.97	48.60	44.40	132.32	8.67	189.09	23.48

The transportation sector is the largest contributor to greenhouse gas emissions in the United States, accounting for more than 30% of total emissions, and within this sector, 25% of these emissions come from the medium- and heavy-duty markets, yet these markets account for less than 5% of the total number of vehicles. Electrifying these vehicles can have an outsized impact on pollution, fossil-fuel dependency, and climate change. Zero emission buses are four times more fuel efficient than comparable new diesel buses. Better fuel efficiency means less waste when converting the potential energy in the fuel to motive power. Less waste not only means less pollution, it results in more efficient use of natural resources. By transitioning to zero emission cutaways from CNG cutaways, Riverside Connect’s zero-emission fleet will produce fewer carbon emissions and fewer harmful pollutants from the vehicle tailpipes. Considering DACs experience significantly more pollution from harmful emissions, communities disadvantaged by pollution served by Riverside Connect’s fleet will therefore directly benefit from the reduced tailpipe emissions of zero emission vehicles compared to ICE vehicles.

Estimated Ridership in DACs

The City of Riverside includes 38 distinct census tracts designated as DACs. In addition, nearly 44% (35.64 square miles) of the city’s land area is designated as a DAC. The City of Riverside’s Special Transportation Division provides dial-a-ride (DAR) service within the city boundaries for seniors 60 and older, persons with disabilities, and other persons certified under the Americans with Disability Act (ADA). Some of the Riverside dial-a-ride service area falls within the DAC zones but specific trips may start and/or end outside of the DAC designated areas.



Workforce Training

Riverside Current Training Program

Riverside Connect's Current Training Program

Riverside Connect's transit services are contracted out which includes dispatching, operations, and maintenance of the vehicles and bus stops. The transit contractor is responsible for all training pertaining to the operations of Riverside Connect. While the city may coordinate/arrange the training necessary for the operation of the service, the contractor is ultimately responsible for ensuring their staff is up-to-date based on their core responsibilities. Contractor staff includes administration (general managers and safety managers), dispatchers, drivers, and maintenance staff (maintenance manager, mechanics, and utility workers). The contractor must adapt to changes in service levels, policies and procedures, and introduction to new technologies and adopt any and all changes into its' driver training program.

Operator Training

The transit contractor is responsible for all training of drivers including City's service policies, passenger fares and overview of the City's fleet. The contractor is responsible for the provision of qualified training staff to conduct behind-the-wheel driver training and other training determined by the contractor or the City. Hands-on training on the bus and bus-related equipment are required to ensure safe vehicle operations. The contractor is required to provide ongoing training and prepare all drivers assigned to the City's contract in a manner that conforms to all local, state, and federal laws.

Mechanics Training

The mechanics assigned to the City's contract must meet the requirements for vehicle maintenance as outlined in the scope of work. They must have knowledge of the city's fleet in order to perform complete, reliable, and safe inspections and repairs. They must be able to diagnose, repair, and maintain the vehicles listed in the City's revenue vehicle fleet. The contractor must comply with regulations pertaining to licensing and operations and maintenance of vehicles as contained in the California Vehicle Code, California Administrative Code, Title 13, and The Federal Motor Carrier Safety Regulations.

Dispatchers and Supervisors Training

Dispatchers are required to schedule and assign drivers and vehicles in accordance with the service hours schedule and scheduled trips for each day. The dispatchers are trained to assist drivers while they are in service and monitor the performance of the scheduled trips. They are trained to handle unanticipated service demands, passenger and/or vehicle accidents, and road calls in accordance with the City's policies and procedures which are outlined in detail in the scope of work. Further, the contract requires the transit contractor to provide a Safety and Training Supervisor who is licensed and certified to conduct classroom training of all drivers as well as behind-the-wheel driver training and other trainings determined necessary by the Contractor or the City

Riverside Connect Zero Emission Vehicle Training Plan

OEM Training

Riverside Connect plans to take advantage of trainings from the vehicle manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training and other trainings that may be offered by the technology providers. OEM trainings provide critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Bus and Fueling Operations and Maintenance

The transition to a zero-emission fleet will have significant effects on Riverside Connect's workforce. Meaningful investment is required to upskill maintenance staff and bus operators trained in ICE vehicle maintenance and ICE fueling infrastructure.

Riverside Connect training staff will work closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying zero emission technology and that these staff undergo refresher training annually and as needed. Riverside Connect staff will also be able to bring up any issues or questions they may have about their training with their trainers. Additionally, trainers will observe classes periodically to determine if any staff would benefit from further training.

ZEB Training Programs

Several early zero emission bus (ZEB) adopters have created learning centers for other agencies embarking on their ZEB transition journeys. One such agency is SunLine Transit Agency, which provides service to the Coachella Valley and hosts the West Coast Center of Excellence in Zero Emission Technology (CoEZET). The Center of Excellence supports transit agency adoption, zero-emission commercialization and investment in workforce training. Similarly, AC Transit offers training courses covering hybrid and zero-emission technologies through their ZEB University program. Riverside Connect plans to take advantage of these trainings offered by experienced agencies.

There are several transit agencies within and around Riverside County that have successfully begun their transition to zero-emission technology. California has at least seven heavy-duty and transit-operated fueling stations in operation and at least four more in development¹⁴. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. At present, there are two heavy-duty, transit-operated hydrogen fueling stations in the neighboring San Bernardino and Orange counties within 40 miles of Riverside Connect, and two planned transit-operated hydrogen fueling stations in Los Angeles County and Pomona within 30 miles of Riverside Connect. In addition, private hydrogen fueling stations by First Element Fuels and Stratosfuel within 80 miles of Riverside, CA are in development and should be commissioned before the end of the fleet transition timeline.

In the region, Omintrans, a public transit agency serving the San Bernardino Valley recently received \$9.3 million from the Federal Transit Administration (FTA) under the FY2022 Low-No Emission Vehicle Program to develop hydrogen refueling infrastructure and launch a workforce development program. Similarly Sunline Transit Agency has received \$7.8 million to upgrade their liquid hydrogen refueling infrastructure. Riverside Transit Agency has also received \$5.2 million to procure hydrogen fuel cell buses. The presence of hydrogen fueling infrastructure projects, especially in the counties of Riverside and San Bernardino, demonstrates the feasibility of fuel cell electric

¹⁴ Hydrogen Refueling Stations in California, California Energy Commission: <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/hydrogen-refueling>

technology for transit in the region. These agencies can serve as a resource for Riverside Connect to use when implementing zero-emission technology and supporting programs into their services.



Potential Funding Sources

Available Funding Opportunities

Federal

Riverside Connect is exploring federal grants through the following funding programs: Federal Transit Administration’s (FTA) Urbanized Area Formula program; discretionary grant programs such as the Bus and Bus Facilities (B&BF) program, Low or No Emission Vehicle Deployment Program (Low-No), and Better Utilizing Investments to Leverage Development (BUILD) grant; and other available federal discretionary grant programs.

Annual Reliable Funding

- Federal Transportation Administration (FTA)
 - Urbanized Area Formula program
 - State of Good Repair Grants
 - Bus and Bus Facilities Formula grants

Future Funding Opportunities

- United States Department of Transportation (USDOT)
 - Better Utilizing Investments to Leverage Development (BUILD) Grants
- Federal Transportation Administration (FTA)
 - Bus and Bus Facilities Discretionary Grant
 - State of Good Repair Grants
 - Capital Investment Grants – New Starts
 - Capital Investment Grants – Small Starts
 - Low-or No-Emission Vehicle Grant
 - Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning
- Federal Highway Administration (FHWA)
 - Congestion Mitigation and Air Quality Improvement Program through SCAG
 - Surface Transportation Block Grant Program through SCAG
 - Carbon Reduction Program
- Environmental Protection Agency (EPA)
 - Environmental Justice Collaborative Program-Solving Cooperative Agreement Program

State

Riverside Connect will also seek funding from state resources through grant opportunities including but not limited to Senate Bill 1 State of Good Repair (SGR), Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) funding, the California Energy Commission’s Clean Transportation Program as well as Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) for bus purchases when available.

Annual Reliable Funding

- Administered by California Department of Transportation (Caltrans)
 - Transportation Development Act Funds
 - Local Transportation Funds

- State Transit Assistance (STA)
- State of Good Repair (SB 1 funds)
- Low Carbon Transit Operations Program (LCTOP)

Future Funding Opportunities

- California Air Resources Board (CARB)
 - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)
 - State Volkswagen Settlement Mitigation
 - Carl Moyer Memorial Air Quality Standards Attainment Program
 - Cap-and-Trade Funding
 - Low Carbon Fuel Standard (LCFS)
- California Transportation Commission (CTC)
 - State Transportation Improvement Program (STIP)
 - Solution for Congested Corridor Programs (SCCP)
 - Local Partnership Program (LPP)
- California Department of Transportation (Caltrans)
 - Transit and Intercity Rail Capital Program
 - Transportation Development Credits
 - New Employment Credit
- California Energy Commission

Local

Additionally, Riverside Connect will pursue local funding opportunities to support zero-emission bus deployment. While the aforementioned funding opportunities are mentioned by name, Riverside Connect will not be limited to these sources and will regularly assess opportunities for fiscal support for the zero-emission program.

Legislation Supporting the Zero-Emission Transition

Policies and regulations supporting the transition to zero-emission are proliferating as the efforts to decarbonize the transportation sector expand. Riverside Connect is monitoring the implementation of relevant policies and legislation. With the passage of the *Bipartisan Infrastructure Law* and issuance of *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*, the federal government has set a renewed focus on zero-emission transit. Riverside County's goal to deploy zero-emission vehicles supports the federal administration's priorities of renewing transit systems, reducing Greenhouse Gas emissions from public transportation, equity, creation of good paying jobs, and connecting communities. State legislation such as the Innovative Clean Transit Regulation further supports the replacement of fossil-fuel vehicles on the roads of California. Moreover, on August 25, 2022, the CARB approved the Advanced Clean Cars II Rule, requiring all new vehicles sold in California to be zero-emission vehicles (ZEVs) by 2035.



Start-up and Scale-up Challenges

Financial Challenges

Challenges can arise with any new propulsion technology, its corresponding infrastructure, or in training operators and maintenance staff. Nearly all transit agencies must contend with the cost barriers posed by zero-emission technologies. The predicted costs of zero-emission cutaways are between \$300,000 and \$370,000, which is about \$120,000 and \$200,000 more costly than traditional CNG cutaways.

Additionally, the necessary infrastructure to support these vehicles adds to the financial burden of transitioning to a zero-emission fleet, as outlined below in **Table 6**, showing the cost of the transition. Riverside Connect will seek financial support to cover the cost of their fuel cell and battery electric cutaways from the resources discussed in Section H.

Table 6 – Incremental Cost of Zero Emission Transition

Incremental cost of Zero Emission Transition			
	CNG Baseline*	Zero Emission Incremental Costs	Zero Emission Transition Scenario Costs
Vehicle Capital Expense	\$19M	\$12M	\$31M
Fueling Infrastructure	\$0	\$8M	\$8M
Total	\$19M	\$20M	\$39M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

As seen in **Table 6**, the costs of required fueling infrastructure and fueling operations for zero emission technologies pose another hurdle for transit agencies transitioning to zero-emission service. Continued financial support at the local, state and federal level to offset the capital cost of this new infrastructure is imperative. For alternative fuels such as hydrogen, financial support from state and federal grant opportunities for green hydrogen supply chains and increasing economies of scale on the production side will ultimately benefit transit agencies deploying and planning for fuel cell and battery electric vehicles.

CARB can support Riverside Connect by ensuring continued funding for the incremental cost of zero-emission vehicles and fueling infrastructure. Funding opportunities should emphasize proper transition and deployment planning and should not preclude hiring consultants to ensure best practices and successful deployments. The price and availability of hydrogen, both renewable and not, continue to be challenges that can be allayed by legislation subsidizing and encouraging renewable fuel production.

Limitations of Current Technology

Beyond cost barriers, transit agencies must also ensure that available zero-emission technologies can meet basic service requirements of the agency’s duty cycles. The applicability of specific zero-emission technologies will vary widely among service areas and agencies. As such, it is critical that transit agencies in need of technical and planning support have access to these resources to avoid failed deployment efforts. Support in the form of technical consultants and experienced zero-emission transit planners will be critical to turning Rollout Plans into successful deployments and tangible emissions reductions.

In addition to the uncertainty of technology improvements, there are other risks to consider in trying to estimate costs over the 18-year transition period. Although current battery electric range limitations may be improved over time as a result of advancements in battery energy capacity and more efficient components, battery degradation may re-introduce range limitations, which is a cost and performance risk to an all-battery electric fleet over time. While this can be mitigated by midday opportunity charging, there may be emergency scenarios where the cutaways are expected to perform off-route or atypical service. In these emergency scenarios that require use of battery electric vehicles, agencies may face challenges performing emergency response roles expected of them in support of fire and police operations. Furthermore, fleetwide energy service requirements, power redundancy, and resilience may be difficult to achieve at any given depot in an all-battery electric scenario. Although fuel cell vehicles may not be subject to these same limitations, higher capital equipment costs and availability of hydrogen may constrain fuel cell solutions. RCTC, Riverside Connect, CTE and Arcadis IBI Group will expand upon challenge mitigation and adaptation in the Riverside County ZEB Implementation & Financial Strategy Plan.

Appendix A – Approved Board Resolution

1 RESOLUTION NO. 24002

2 A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERSIDE,
3 CALIFORNIA, AUTHORIZING THE SUBMISSION OF THE ZERO-EMISSION BUS
4 (ZEB) ROLLOUT PLAN TO THE CALIFORNIA AIR RESOURCES BOARD (CARB)
5 AS REQUIRED BY THE INNOVATIVE CLEAN TRANSIT (ICT) REGULATION.

6 WHEREAS, in 2018, CARB adopted the ICT Regulation, which requires public transit
7 agencies to gradually transition to a 100 percent ZEB fleet with a goal of full transition by 2040;

8 WHEREAS, the ICT Regulation's requirements include, but are not limited, to the following:

9 1. Small Transit Agencies which operate fewer than 100 buses in annual maximum service
10 shall submit to CARB a governing body-approved ZEB Rollout Plan by July 1, 2023.

11 2. Small Transit Agencies must purchase a minimum number of ZEBs during future
12 procurements, according to the following schedule:

13 i) Starting in calendar year 2026, 25 percent of new bus purchases must be ZEBs.

14 ii) Starting in calendar year 2029, 100 percent of all new bus purchases must be ZEBs;

15 WHEREAS, the City of Riverside's ZEB Rollout Plan, currently being presented to the City
16 Council for adoption, is a living document intended to guide Riverside Connects' conversion to a ZEB
17 fleet and may be updated based on changes in vehicle technology, fleet size and operating
18 requirements;

19 WHEREAS, the presented ZEB Rollout Plan must be approved by the City Council through
20 the adoption of a resolution prior to submission to CARB; and

21 WHEREAS, the presented ZEB Rollout Plan includes, in the following sections, information
22 required by the ICT Regulation:

- 23 1. Transit Agency Information
24 2. Rollout Plan General Information
25 3. Technology Portfolio
26 4. Current Bus Fleet Composition and Future Bus Purchases
27 5. Facilities and Infrastructure Modifications
28 6. Providing Service in Disadvantaged Communities

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- 7. Workforce Training
- 8. Potential Funding Sources.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Riverside, California, as follows: The City Council of the City of Riverside, California, hereby adopts the presented ZEB Rollout Plan as a guide for the City of Riverside’s implementation of ZEB technology and approves it for submission to CARB.

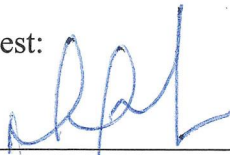
Section 1: The above recitals set forth above are incorporated herein as findings by the City Council.

Section 2: That the City Council of the City of Riverside, California, hereby adopts the presented ZEB Rollout Plan as a guide for the implementation of ZEB technology and approves it for submission to CARB.

ADOPTED by the City Council this 20th day of June, 2023.


 PATRICIA LOCK DAWSON
 Mayor of the City of Riverside

Attest:



 DONESIA GAUSE
 City Clerk of the City of Riverside

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1 I, Donesia Gause, City Clerk of the City of Riverside, California, hereby certify that the
2 foregoing resolution was duly and regularly adopted at a meeting of the City Council on the 20th day
3 of June, 2023, by the following vote, to wit:


4 Ayes: Edwards, Cervantes, Fierro, Conder, Plascencia, Perry, and Hemenway

5 Noes:

6 Absent:

7 Abstain:

8 IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the
9 City of Riverside, California, this 21st day of June, 2023.



10
11 _____
12 DONESIA GAUSE
13 City Clerk of the City of Riverside

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27 23-0608 BGS 05/16/23

Appendix B – Glossary

Auxiliary Energy: Energy consumed (usually as a by time measure, such as “x”kW/hour) to operate all support systems for non-drivetrain demands, such as HVAC and interior lighting.

Battery Electric Bus: Zero-emission bus that uses onboard battery packs to power all bus systems.

Battery Nameplate Capacity: The maximum rated output of a battery under specific conditions designated by the manufacturer. Battery nameplate capacity is commonly expressed in kWh and is usually indicated on a nameplate physically attached to the battery.

Block: Refers to a vehicle schedule, the daily assignment for an individual bus. One or more runs can work a block. A driver schedule is known as a “run.”

Charging Equipment: The equipment that encompasses all the components needed to convert, control and transfer electricity from the grid to the vehicle for the purpose of charging batteries. May include chargers, controllers, couplers, transformers, ventilation, etc.

Depot Charging: Centralized BEB charging at a transit agency's garage, maintenance facility, or transit center. With depot charging, BEBs are not limited to specific routes, but must be taken out of service to charge.

Energy: Quantity of work, measured in kWh for ZEBs.

Energy Efficiency: Metric to evaluate the performance of ZEBs. Defined in kWh/mi for BEBs, mi/kg of hydrogen for FCEBs, or miles per diesel gallon equivalent for any bus type.

Fuel Cell Electric Bus: Zero-emission bus that utilizes onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with the waste products of heat and water. The electricity powers the batteries, which powers the bus.

Greenhouse Gas Emissions: Zero-emission buses have no harmful emissions that result from diesel combustion. Common GHGs associated with diesel combustion include carbon dioxide (CO₂), carbon monoxide (CO), nitrous oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). These emissions negatively impact air quality and contribute to climate change impacts.

Hydrogen Fueling Station: The location that houses the hydrogen production (if produced onsite), storage, compression, and dispensing equipment to support fuel cell electric buses.

On-route Charging: BEB charging while on the route. With proper planning, on-route charged BEBs can operate indefinitely, and one charger can charge multiple buses.

Operating Range: Driving range of a vehicle using only power from its electric battery pack to travel a given driving cycle.

Route Modeling: A cost-effective method to assess the operational requirements of ZEBs by estimating the energy consumption on various routes using specific bus specifications and route features.

Useful Life: FTA definition of the amount of time a transit vehicle can be expected to operate based on vehicle size and seating capacity. The useful life defined for transit buses is 12-years. For cutaways, the useful life is 7 years.

Validation Procedure: to confirm that the actual bus performance is in line with expected performance. Results of validation testing can be used to refine bus modeling parameters and to inform deployment plans. Results of validation testing are typically not grounds for acceptance or non-acceptance of a bus.

Zero-Emission Vehicle: A vehicle that emits no tailpipe emissions from the onboard source of power. This is used to reference battery-electric and fuel cell electric vehicles, exclusively, in this report.

Well-to-wheel Emissions: Quantity of greenhouse gas, criteria pollutants, and/or other harmful emissions that includes emissions from energy use and emissions from vehicle operation. For BEBs, well-to-wheel emissions would take into account the carbon intensity of the grid used to charge the buses. For FCEBs, well-to-wheel emissions would take into account the energy to produce, transport, and deliver the hydrogen to the vehicle



Zero-Emission Bus Rollout Plan

Prepared by the Palo Verde Valley Transit Agency with support from the Center for Transportation and the Environment, Arcadis IBI Group, and the Riverside County Transportation Commission



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List of Abbreviations

ADA: Americans with Disabilities Act

A&E: Architecture and Engineering

BEB: Battery Electric Bus

CA: California

CARB: California Air Resources Board

CNG: Compressed Natural Gas

COVID/COVID-19: Coronavirus Disease 2019 (SARS-CoV-2)

CTE: Center for Transportation and the Environment

DAC: Disadvantaged Community

FCEB: Fuel Cell Electric Bus

HVAC: Heating, Ventilation, and Air Conditioning

ICE: Internal Combustion Engine

ICT: Innovative Clean Transit

kW: Kilowatt

kWh: Kilowatt-Hour

MW: Megawatt

OEM: Original Equipment Manufacturer

PM: Particulate Matter

PPI: Producer Price Index

CPI: Consumer Price Index

RFP: Request for Proposals

SCE: Southern California Edison (SoCal Edison)

TDA: Transportation Development Act

VTT: Verification of Transit Training

ZEB: Zero-Emission Bus

A glossary of useful terms can also be found in Appendix B - Glossary

Executive Summary

The Palo Verde Valley Transit Agency (PVVTA) is the sole Public Transit Operator in eastern Riverside County, serving over 18,000 residents in the City of Blythe and the unincorporated Riverside County areas of the Mesa Verde and Ripley. The agency operates six (6) deviated fixed routes, deviating up to 0.75 miles from mapped routes, serving Blythe, Ripley, Mesa Verde, Palo Verde College, the California Department of Corrections Facilities, and a premier route to the Coachella Valley called the Blythe Wellness Express (BWE). As of 2022, PVVTA's fleet included eight (8) total vehicles: three (3) 25-ft CNG cutaways, one (1) 32-ft CNG cutaway, and four (4) 25-ft gas cutaways. Riverside County Transportation Commission (RCTC) awarded a contract to the Center for Transportation and the Environment (CTE) to perform a zero-emission bus (ZEB) transition study to create a plan for a 100% zero-emission fleet by 2040 on behalf of transit agencies and municipal transportation services in the cities of Banning, Beaumont, Corona and Riverside and the Palo Verde Valley Transit Agency to comply with the Innovative Clean Transit (ICT) regulation enacted by the California Air Resources Board (CARB). This report will focus on PVVTA's transition to zero-emission technology.

PVVTA's Rollout Plan achieves a zero-emission fleet in line with the 2040 target of the ICT Regulation. To achieve this goal, PVVTA will replace all CNG and gasoline cutaways with zero emission cutaways when the vehicles reach the end of their 5- or 7-year useful life. By 2040, all 8 of the agency's vehicles are expected to be fuel cell electric cutaways. The last of the agency's internal combustion engine (ICE) cutaways will reach end of life in 2032.

PVVTA's entire transit fleet operates out of one primary division located at 415 North Main Street Blythe, California, and a secondary address at 175 West 14th Avenue. Maintenance is performed by PVVTA at a maintenance shop co-located with central operations at 415 N Main Street. PVVTA plans to install hydrogen fueling infrastructure at this location to support their fully FCEB fleet.

PVVTA's transit service provides transportation opportunities to Disadvantaged Communities (DACs) and moving toward zero-emission vehicles will help improve the health of DACs and non-DACs alike. The agency will build upon an existing training structure for vehicle maintenance and operators to provide the necessary fuel cell electric cutaway specific training that will be required for the agency to own and operate fuel cell electric cutaways. The agency estimates that pursuing a zero-emission fleet in place of an internal combustion engine (ICE) fleet will cost an additional \$5M in vehicle costs and infrastructure alone between 2022 and 2040, which will require significantly more funding opportunities. PVVTA plans to pursue funding opportunities utilizing partnerships at the federal, state, and local levels to help fill this funding gap.

A

Transit Agency Information

PVVTA Profile

History

PVVTA was formed in 1978 in order to provide service to the City of Blythe and the unincorporated Riverside County areas of the Mesa Verde and Ripley. Over the last 45 years, PVVTA services have changed from a modest fixed route system into a Dial-A-Ride only program and in 2002 into the Deviated Fixed Route system that operates currently. In 2022, a Comprehensive Operational Analysis (COA) was conducted to provide a road map to PVVTA and transit stakeholders towards the future. This would include; Ride sharing opportunities, expansion of regional routing and improvement on schedule and frequency throughout the system.

Service Area and Bus Service

PVVTA operates six (6) deviated fixed routes, deviating up to 0.75 miles from mapped routes, serving Blythe, Ripley, Mesa Verde, Palo Verde College, the California Department of Corrections Facilities, and a premier route to the Coachella Valley called the Blythe Wellness Express (BWE). Two routes, the Red Route and the Wellness Express, travel at relatively high speed, and the other four are relatively low speed. PVVTA provides regional and local public transit services in eastern Riverside County. The current bus fleet consists of 8 cutaways: three (3) 25-ft CNG cutaways, one (1) 32-ft CNG cutaway, and four (4) 25-ft gasoline cutaways.

PVVTA's micro-transit service, the X-Tend-A-Ride, provides community-based, on-demand service to seniors, persons with disabilities, and the general public. In addition, PVVTA provides a mileage reimbursement service known as Desert RoadTRIP. This service is provided to seniors 60-years-and-older, persons with disabilities, and other persons certified under the Americans with Disability Act (ADA). Along with the PVVTA service area, the Desert RoadTRIP reaches areas such as the Desert Center, southern Palo Verde Valley, and the resort communities along US Highway 95. Since the X-Tend-A-Ride is performed by light-duty vehicles and Desert RoadTRIP provides this service through volunteers and volunteered vehicles, they will not be included in this transition plan.

PVVTA's service map is illustrated in **Figure 1**.

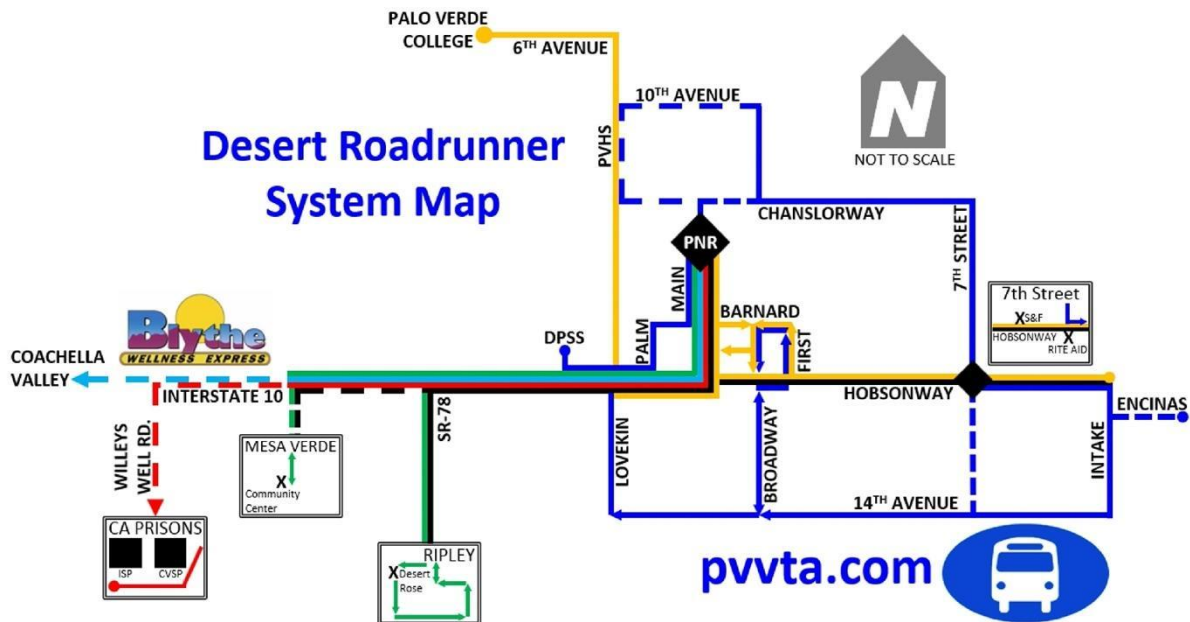


Figure 1 – PVVTA Service Area

Ridership

Based on PVVTA’s data of total ridership from July 2021 through the month of March 2022, there were 15,072 passengers. In the 2020/2021 Fiscal Year, there were 17,892 passengers. PVVTA anticipates that annual ridership in the 2022/2023 Fiscal Year will be 21,110 passengers. Per the PVVTA Comprehensive Operations Analysis (COA), the agency is pursuing several service changes: PVVTA plans to increase operation of the Blythe Wellness Express to five days a week, double the service of the Blue Route to every 30 minutes, and extend the micro-transit service area and its operations during the evenings and on weekends.

PVVTA Basic Information

Transit Agency's Name:

Palo Verde Valley Transit Agency

Mailing Address:

Palo Verde Valley Transit Agency
415 N Main St,
Blythe, CA 92225

Transit Agency's Air Districts:

PVVTA is part of the Mojave Desert Air Quality Management District.

Transit Agency's Air Basin:

Mojave Desert Air Quality Management District is part of the Mojave Desert Air Basin.¹

Total number of buses in Annual Maximum Service:

The maximum number of active buses operating fixed-route service out of PVVTA's primary transit facility is eight (8). The fleet is composed of 8 cutaways total: three (3) 25-ft CNG cutaways, one (1) 32-ft CNG cutaway, and four (4) 25-ft gas cutaways.

Urbanized Area:

PVVTA's service area is a non-urbanized, rural area, but their service is heavily concentrated in Blythe, CA. Blythe is 25.8 square miles of land area with most residents living near the core of the city proper. **There are 17,793** residents in Blythe which is made up of local full-time residents, seasonal residents and those housed at the California State facilities near Blythe.

¹ <https://www.mdaqmd.ca.gov/about-us>

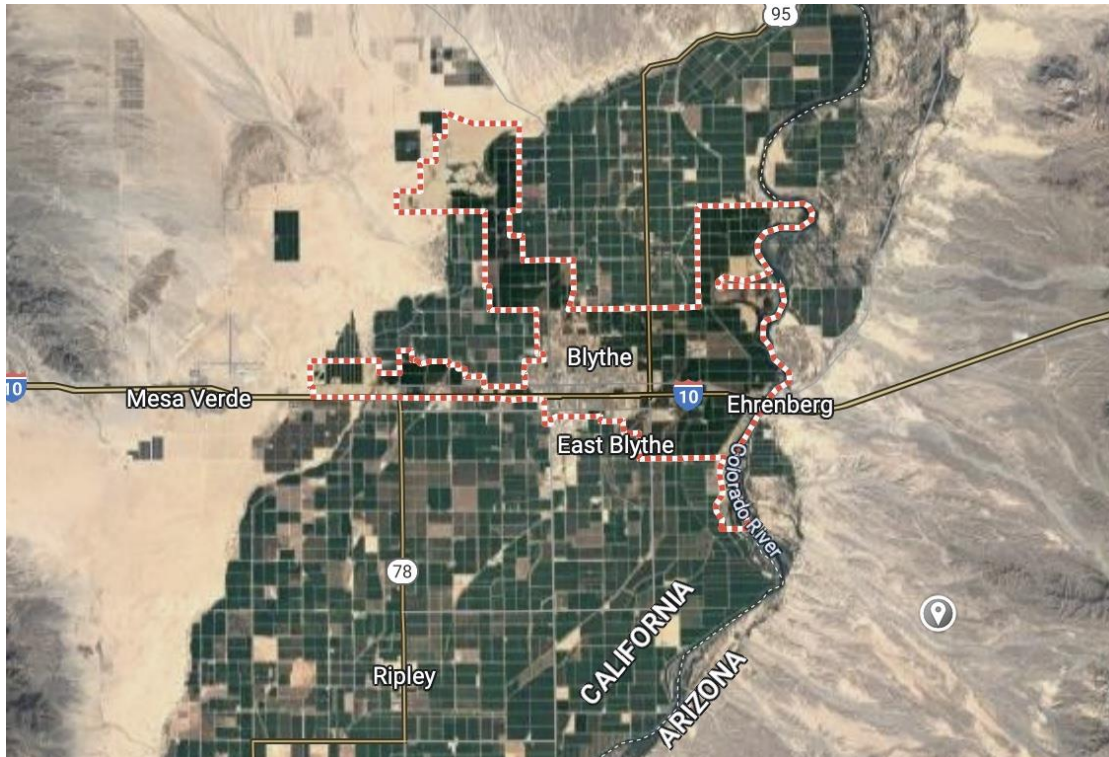


Figure 2 – City of Blythe Map²

Contact Information for Inquiries on the PVVTA ICT Rollout Plan:

George Colangeli, General Manager, Palo Verde Valley Transit Agency
 415 North Main Street
 Blythe, CA 92225
 Tel: (760) 922-4900
 gmanager@pvvta.com

Is your transit agency part of a Joint Group? No

Fleet Facility

PVVTA’s entire transit fleet operates out of one primary division located at 415 North Main Street, Blythe, California, and a secondary address at 175 West 14th Avenue. Maintenance is performed by PVVTA at a maintenance shop co-located with central operations at 415 N Main Street. PVVTA owns and operates a public CNG fueling station adjacent to the City of Blythe Public Works and Maintenance Building at 440 S Main St, Blythe, CA, which is also used by the Palo Verde Unified School District. The station features a 24-hour automated pay pump, portable restroom facilities, and free WIFI access. A layout of PVVTA’s facilities and fueling locations are provided below in **Figure 3** and **Figure 4** to understand the locations of PVVTA’s properties in relation to one another, as well as to routes and service areas. These facilities offer a starting point for the consideration of viable locations for a hydrogen fueling station.

² <https://www.google.com/maps/place/Blythe,+CA/@33.6183123,-114.8927385,11z/data=!3m1!4m6!3m5!1s0x80d121436bd112e7:0x2c6ac2ec5ab225ae!8m2!3d33.6177725!4d-114.5882607!16zL20vMHIzZl8>



Figure 3 – Facilities Overview: Administrative and Maintenance



Figure 4 - Facilities Overview: CNG fueling Station

PVVTA Sustainability Goals

PVVTA is dedicated to sustainability, and the agency plans to continue replacing their cutaways on a rolling basis as each vehicle reaches the end of their useful life. PVVTA's current procurement plans are to introduce one (1) CNG cutaway in FY'24, based on the assumption that such a vehicle will cost the agency \$200,000 when adjusted for inflation. To service future vehicles, PVVTA is working with funding partners to identify financial streams to pool funds together to construct a modern, LEED compliant maintenance facility with infrastructure for alternatively fueled vehicles.

California's plan to address public health, air quality and climate protection goals includes the Innovative Clean Transit (ICT) regulation, which aims to reduce greenhouse gas (GHG), nitrogen oxide (NOx), and diesel particulate emissions. To accomplish its sustainability goals, PVVTA has developed a plan to transition to a fully zero emission vehicle (ZEV) fleet composed of fuel cell electric cutaways by 2040, in accordance with the Innovative Clean Transit (ICT) regulation, requiring all California transit agencies to follow zero-emission procurement guidelines with the goal of achieving 100% zero-emission fleets by 2040. PVVTA has committed to purchasing zero emission cutaways, demonstrating the agency's commitment to reducing emissions. PVVTA's transition to a fully zero emission fleet will ultimately benefit communities through cleaner air, greater independence from fossil fuels, and more environmental sustainability.

B

Rollout Plan General Information

Overview of the Innovative Clean Transit Regulation

On December 14, 2018, CARB enacted the Innovative Clean Transit (ICT) regulation, setting a goal for California public transit agencies to have zero-emission bus fleets by 2040. The regulation specifies the percentage of new bus procurements that must be zero-emission buses for each year of the transition period (2023–2040). The annual percentages for Small Transit agencies are as follows:

ICT Zero-Emission Bus Purchase Requirements for Small Agencies:

January 1, 2026 - 25% of all new bus purchases must be zero-emission

January 1, 2027 - 25% of all new bus purchases must be zero-emission

January 1, 2028 - 25% of all new bus purchases must be zero-emission

January 1, 2029+ - 100% of all new bus purchases must be zero-emission

March 2021-March 2050 – Annual compliance report due to CARB

This purchasing schedule guides agency procurements to realize the goal of zero-emission fleets in 2040 while avoiding any early retirement of vehicles that have not reached the end of their useful life. Agencies have the opportunity to request waivers that allow purchase deferrals in the event of economic hardship or if zero-emission technology cannot meet the service requirements of a given route. These concessions recognize that zero-emission technologies may cost more than current internal combustion engine (ICE) technologies on a vehicle lifecycle basis and that zero-emission technology may not currently be able to meet all service requirements.

PVVTA Rollout Plan General Information

Rollout Plan's Approval Date: June 21, 2023

Resolution No: PVVTA 2023-04

A copy of the approved resolution is attached to the Rollout Plan.

Contact for Rollout Plan follow-up questions:

George Colangeli, General Manager, Palo Verde Valley Transit Agency

415 North Main Street

Blythe, CA 92225

Tel: (760) 922-1140

gmanager@pvvta.com

Who created the Rollout Plan?

This Rollout Plan was created by PVVTA, with assistance from the Center for Transportation and the Environment (CTE) and the Riverside County Transportation Commission (RCTC).

This document, the ICT Rollout Plan, contains the information for PVVTA's zero-emission fleet transition trajectory as requested by the ICT Regulation. It is intended to outline the high-level plan for implementing the transition. The Rollout Plan provides estimated timelines based on information on bus purchases, infrastructure upgrades, workforce training, and other developments and expenses that were available at the time of writing.

Additional Agency Resources

PVVTA agency website: <https://pvvta.com/>



Technology Portfolio

Zero Emission Transition Technology Selection

Based on outcomes of the zero-emission fleet transition planning study completed by CTE, PVVTA plans to transition its entire fleet to fuel cell electric cutaways. By 2040, PVVTA expects to operate a fully zero-emission fleet of 8 cutaways.

A fuel cell electric zero-emission fleet scenario provides more service energy while avoiding the need for opportunity charging that would otherwise be necessary for a fully battery electric or mixed technology fleet. Transitioning to a fully fuel cell electric fleet also avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment, simplifying the transition as a whole. This plan summarizes the hydrogen infrastructure and vehicle costs needed to support the transition of the fleet to 8 fuel cell electric cutaways.

Local Developments and Regional Market

California has become a global leader for zero-emission buses, as well as zero-emission fuel and fueling infrastructure. California is home to four bus OEMs that manufacture zero-emission buses. Although three of these OEMs do not currently build FCEBs, growing demand for this vehicle technology may encourage these manufacturers to enter the market.

The state legislature has fostered growth in zero-emission fuels through the state's Low-Carbon Fuel Standard (LCFS) program, which incentivizes the consumption of fuels with a lower carbon intensity than traditional combustion fuels and through funding opportunities offered by CARB and CEC.

California also has one of the most mature hydrogen fueling networks in the nation. The state's hydrogen market has developed to support the growing number of fuel cell electric vehicles on the roads in the state. California has four medium-and-heavy-duty fueling stations in operation and four more in development. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. California fuel cell electric bus (FCEB) deployments represent 75% of the nation's FCEB deployments.⁶

ZEB Transition Planning Methodology

PVVTA's ICT Rollout Plan was created in combination with PVVTA's Existing Conditions Report and the Riverside County ZEB Financial Strategy Plan, utilizing CTE's ZEB Transition Planning Methodology. CTE's methodology consists of a series of assessments that enable transit agencies to understand what resources and decisions are necessary to convert their fleets to zero-emission technologies. The results of the assessments help the agency decide on a step-by-step process to achieve its transition goals. These assessments consist of data collection, analysis, and modeling outcome reporting stages. These stages are sequential and build upon findings in previous steps. The assessment steps specific to PVVTA's Rollout Plan are outlined below:

1. Planning and Initiation
2. Requirements Analysis & Data Collection

3. Service Assessment
4. Fleet Assessment
5. Fuel Assessment
6. Maintenance Assessment
7. Facilities Assessment
8. Total Cost of Ownership Assessment
9. Policy Assessment
10. Partnership Assessment

For **Requirements Analysis & Data Collection**, CTE collects data on the agency's fleet, routes and blocks, operational data (e.g., mileage and fuel consumption), and maintenance costs. Using this data, CTE establishes service requirements to constrain the analyses in later assessments and produce agency-specific outputs for the zero-emission fleet transition plan.

The **Service Assessment** phase initiates the technical analysis phase of the study. Using information collected in the Data Collection phase, CTE evaluates the feasibility of using zero-emission buses to provide service to the agency's routes and blocks over the transition plan timeframe from 2022 to 2040. Results from the Service Assessment are used to guide zero emissions vehicle procurement plans in the Fleet Assessment and to determine energy requirements in the Fuel Assessment.

The **Fleet Assessment** projects a timeline for the replacement of existing buses with zero emission vehicles that is consistent with PVVTA's existing fleet replacement plan and known procurements. This assessment also includes a projection of fleet capital costs over the transition timeline and is optimized to meet state mandates or agency goals, such as minimizing costs or maximizing service levels.

The **Fuel Assessment** merges the results of the Service Assessment and Fleet Assessment to determine annual fuel requirements and associated costs. The Fuel Assessment calculates energy costs through the full transition timeline for each fleet scenario, including the agency's existing ICE vehicles. To more accurately estimate battery electric cutaway charging costs, a focused Charging Analysis is performed to simulate daily system-wide energy use. As older technologies are phased out in later years of the transition, the Fuel Assessment calculates the changing fuel requirements as the fleet transitions to zero emission vehicles. The Fuel Assessment also provides a total fuel cost over the transition timeline.

The **Maintenance Assessment** calculates all projected fleet maintenance costs over the transition timeline. Maintenance costs are calculated for each fleet scenario and include costs of maintaining existing fossil-fuel cutaways that remain in the fleet and maintenance costs of new battery electric cutaways and fuel cell electric cutaways.

The **Facilities Assessment** determines the infrastructure necessary to support the projected zero-emission fleet composition over the transition period based on results from the Fleet Assessment and Fuel Assessment. This assessment evaluates the required quantities of charging infrastructure and/or hydrogen fueling station projects and calculates the costs of infrastructure procurement and installation sequenced over the transition timeline.

The **Total Cost of Ownership Assessment** compiles results from the previous assessment stages to provide a comprehensive view of all fleet transition costs, organized by scenario, over the transition timeline.

The **Policy Assessment** considers the policies and legislation that impact the relevant technologies.

The **Partnership Assessment** describes the partnership of the agency with the utility or alternative fuel provider.

Requirements Analysis & Data Collection

The Requirements Analysis and Data Collection stage begins by compiling operational data from PVVTA regarding its current fleet and operations and establishing service requirements to constrain the analyses in later assessments. CTE requested data such as fleet composition, fuel consumption and cost, maintenance costs, and annual mileage to use as the basis for analyses. PVVTA self-assigned topography and speed characteristics to each service day, which were utilized to better define vehicle efficiencies. The calculated efficiencies were then used in the Service Assessment to determine the energy requirements of PVVTA's service.

CTE evaluated battery electric and fuel cell electric vehicles to support PVVTA's technology selection. The range of FCEBs, however, does not have the same level of sensitivity to environmental and operating conditions as BEBs. After collecting route and operational data, CTE determined that PVVTA's longest block is 306 miles. Based on observed performance, CTE estimates FCEBs are able to complete any block under 350 total miles. Although there are currently no fuel cell electric cutaways on the market, CTE assumed that when fuel cell electric cutaways enter the market, they will perform similarly to FCEBs, and therefore PVVTA's service will likely be feasible with fuel cell cutaways. Although fuel cell cutaways were determined to have the capability of serving all of PVVTA's routes, PVVTA was interested in exploring battery electric and mixed technology service scenarios as well, so it was necessary to determine how much of PVVTA's service could feasibly be served by depot-only charged battery electric cutaways on a single charge and with midday charging in order to develop a set of zero emission transition scenarios that would allow the agency to make an informed decision on what technology or technologies would be most suitable to the agency's needs.

The energy efficiency and range of battery electric cutaways are primarily driven by vehicle specifications, such as on-board energy storage capacity and vehicle weight. Both metrics are affected by environmental and operating variables including the route profile (e.g., distance, dwell time, acceleration, sustained top speed over distance, average speed, and traffic conditions), topography (e.g., grades), climate (e.g., temperature), driver behavior, and operational conditions such as passenger loads and auxiliary loads. As such, BEB efficiency and range can vary dramatically from one agency to another or even from one service day to another. It was therefore critical for PVVTA to determine efficiency and range estimates based on an accurate representation of its operating conditions.

To understand battery electric cutaway performance on PVVTA routes, CTE modeled the impact of variations in passenger load, accessory load, and battery degradation on vehicle performance, fuel efficiency, and range. CTE ran models with different energy demands that represented *nominal* and *strenuous* conditions. Nominal loading conditions assume average passenger loads and moderate temperature over the course of the day, which places low demands on the motor and heating, ventilation, and air conditioning (HVAC) system. Strenuous loading conditions assume high or maximum passenger loading and near maximum output of the HVAC system. This nominal/strenuous approach offers a range of operating efficiencies to use for estimating average annual energy use (nominal) or ensuring that a vehicle will be able to meet service demands (strenuous). Route modeling ultimately provides an average energy use per mile (kilowatt-hour/mile [kWh/mi]) for each load case.

In addition to loading conditions, CTE modeled the impact of battery degradation on a battery electric cutaway's ability to complete a block. The range of a battery electric cutaway is reduced over time due to battery degradation. A battery electric cutaway may be able to complete a given trip with beginning-of-life batteries, while later it may be unable to complete the entire trip at some point in the future as batteries near their end-of-life or derated capacity (typically considered 70-80% of available service energy).

Service Assessment

Given the conclusion that fuel cell electric cutaways can meet the range requirements for PVVTA's service, the Service Assessment focused on evaluating the feasibility of battery electric cutaways in PVVTA's service area. The efficiencies calculated in the Requirements Analysis & Data Collection stage were used to estimate the energy requirements of PVVTA's service. The main focus of the Service Assessment is called the block analysis, which determines whether generic battery electric technology can meet the service requirements of a block based on range limitations, weather conditions, levels of battery degradation and route specific requirements. The Transit Research Board's Transit Cooperative Research Program defines a block as "the work assignment for only a single vehicle for a single service workday".³ A block is usually comprised of several trips on various routes. The energy needed to complete a block is compared to the available energy of the bus assigned to service the block. If the cutaway's usable onboard energy exceeds the energy required by the block, then the conclusion is that the battery electric cutaway can successfully operate on that block.

The Service Assessment projects the performance of a battery electric cutaway on a single overnight charge and operates on PVVTA's service schedule at the time of the plan's writing. The results are used to determine when along the transition timeline a fleet of overnight depot-charged battery electric cutaways can feasibly serve PVVTA's territory or if another zero-emission technology or midday charging is required to maintain service. This information can then be used to inform the scale and timing of battery electric cutaway procurements in the Fleet Assessment.

Modeling & Procurement Assumptions

CTE and PVVTA defined the following assumptions and requirements used throughout the study:

The Service Assessment energy profile assumed a 5% improvement in battery capacity every year with a starting battery capacity of 120 kWh for a 25' cutaway which represents an analogous zero emission cutaway suitable for PVVTA's transit vehicles and is an average of battery capacities seen in commercially-available cutaways of the same size and passenger capacity in 2022.

This analysis also assumed PVVTA will maintain their service in a similar distribution of distance, relative speeds, and elevation changes to pre-COVID-19 service because their cutaways will continue to serve similar locations within the service area and general topography remains constant even if specific routes and schedules change.

Fleet size and vehicle length distribution do not change over time. The analysis assumed that vehicles reaching the end of their useful life would be replaced with vehicles of the same size. Total fleet size remains the same over the transition period. Cutaways are assumed to operate for a 5- or 7-year service life dependent on length.

Usable on-board energy is assumed to be that of a mid-life battery (10% degraded) with a reserve at both the high and low end of the battery's charge potential. As previously discussed, battery age affects range, so a mid-life battery was assumed as the average capacity of the battery's service life. Charging batteries to 100% or dropping the charge below 10% also degrades the batteries over time, which is why the analysis assumes that the top and bottom portions of the battery are unusable.

CTE accounts for battery degradation over the transition period with the assumption that PVVTA can rotate the cutaways to match battery capacity to block energy requirements. As the zero-emission fleet transition progresses, older vehicles can be moved to shorter, less demanding blocks and newer vehicles can be assigned to longer, more demanding blocks to account for battery degradation in battery electric cutaways over time. PVVTA can rotate the fleet to meet demand, assuming there is a steady procurement of battery electric cutaways each year to match service requirements. CTE accounts for this variability in battery age by using a mid-life usable battery capacity to determine block feasibility.

³ TRB's Transit Cooperative Research Program. 2014. TCRP Report 30: Transit Scheduling: Basic and Advanced Manuals (Part B). https://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_30-b.pdf

Results

The Service Assessment determines the timeline for when PVVTA's service may become achievable by battery electric cutaways on a single depot charge. After determining what proportion of PVVTA's service could be completed by battery electric cutaways on a single charge, CTE was also able to determine the proportion of service that would require midday charged battery electric cutaways or longer-range fuel cell electric cutaways in order to reach 100% ZEB service. PVVTA and CTE can then use these results to inform zero emission cutaway procurement decisions in the Fleet Assessment. Results from this analysis are also used to determine the specific energy requirements and fuel consumption of the fleet over time. These values are then used in the Fuel Assessment to estimate the cost to operate the transitioning fleet.

These projections assume the average service days will maintain a similar distribution to current service because PVVTA will continue to serve similar destinations within the city. This core assumption affects energy use estimates and service achievability in each year.

The results of PVVTA's Service Assessment can be found below in **Figure 5**. Based on CTE's analysis, 0% of PVVTA's blocks could be served by a single charge of a depot-only cutaway with a 120-kWh battery and, with the assumed 5% improvement every year, 14% of PVVTA's blocks could be served by this technology by 2036, which means that PVVTA's service cannot be completed with depot-only charged cutaways.

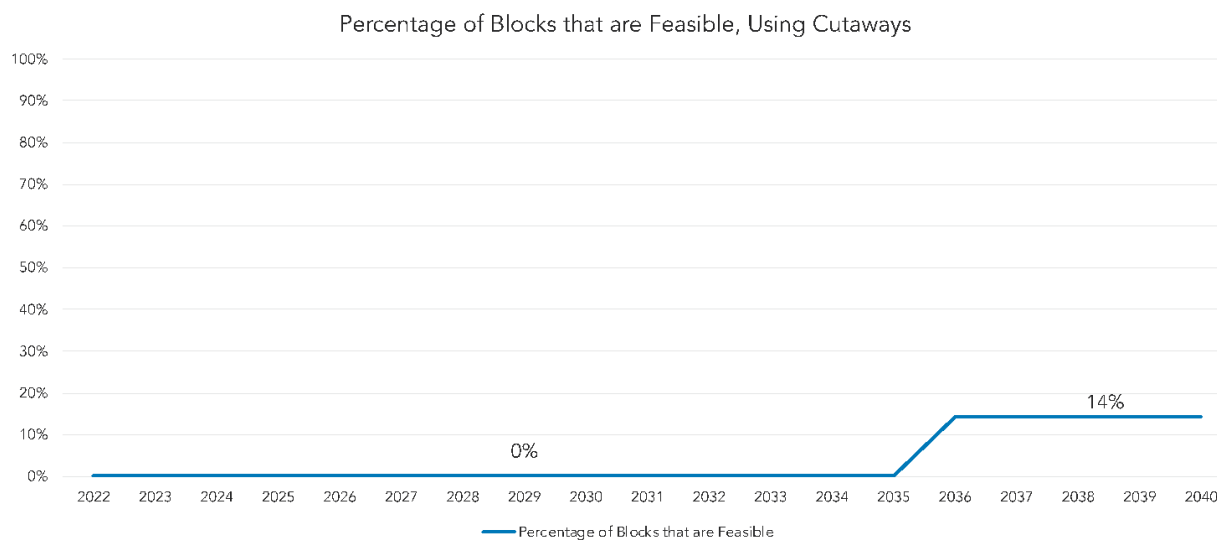


Figure 5 – BEB Block Achievability Percentage by Year

Also, as noted previously, fuel cell cutaways are assumed to be able to complete any trip under 350 total miles and PVVTA's longest block is 306 miles long, which means that fuel cell technology will have the capability to meet PVVTA's service requirements. Therefore, a mixed fleet of fuel cell electric cutaways and battery electric cutaways with opportunity charging at the depot and a full fleet of fuel cell electric cutaways are viable options for PVVTA. Pantograph and inductive charging have not yet been demonstrated on the market for electric cutaways, so this option was not considered.

Description of Zero Emission Technology Solutions Considered

For this study, CTE developed 2 scenarios to compare to a baseline scenario and analyze the feasibility and cost effectiveness of implementing each technology as well as the co-implementation of both technologies. The scenarios are referred to by the following titles and described, in detail, below. A baseline scenario was developed to represent the typical “business-as-usual” case with retention of ICE cutaways for cost comparison purposes. A battery-electric only scenario was not considered beyond the initial analyses because it is unfeasible with currently available technology.

0. Baseline (current technology)
1. Mixed Fleet – Fuel Cell and Battery Electric Cutaways (with opportunity charging)
2. Fuel Cell Cutaways Only

In the **Mixed Fleet Transition**, battery-electric cutaways supplement a primarily fuel cell cutaway fleet to make up a fully zero-emission fleet. The costs for infrastructure and installation of two different charging and fueling infrastructures are taken into account. This scenario takes into account PVVTA’s planned purchases of two battery-electric cutaways in 2024 even though they are not feasible according to CTE’s modeling. It is assumed that PVVTA would be able to modify their service to accommodate the range limitations, either by shortening blocks or utilizing midday opportunity charging at the depot. Additionally, two more battery electric cutaways are added to the fleet when the feasibility increases after 2036. Overall, a mixed fleet is more resilient as it would allow service to continue if either fuel became temporarily unavailable for any reason.

The **Fuel Cell Fleet Transition** was developed to examine the costs for hydrogen fueling and transitioning to a 100% fuel cell cutaway fleet. A fully fuel cell fleet avoids the need to install two types of fueling infrastructure by eliminating the need for depot charging equipment. Fleets composed entirely of fuel cell electric cutaways also offer the benefit of scalability compared to battery electric technologies. Adding fuel cell vehicles to a fleet after the initial facility build out does not necessitate large complementary infrastructure upgrades as long as the fueling station was appropriately sized for the fleet. Despite this benefit, the cost of fuel cell cutaways and hydrogen fuel are still more expensive than battery electric cutaways and electricity at current market prices.

When considering these scenarios, this study can be used to develop an understanding of the range of costs that may be expected for PVVTA’s zero emission transition, but ultimately, can only provide an estimate. Furthermore, this study aims to provide an overview of the myriad considerations the agency must take into account in selecting a transition scenario that go beyond cost, such as space requirements, safety implications, and operational changes that may differ between scenarios.

D

Current Fleet Composition and Future Vehicle Purchases

Fleet Assessment Methodology

The Fleet Assessment projects a timeline for the replacement of existing cutaways with zero emission cutaways. The timeline is consistent with PVVTA’s fleet replacement plan that is based on the 7-year service life of truck-style cutaways. This assessment also includes a projection of fleet capital costs over the transition timeline.

Zero Emission Vehicle Cost Assumptions

CTE and PVVTA developed cost assumptions for future cutaway purchases. Key assumptions for cutaway costs for the PVVTA Transition Plan are as follows:

- CNG and gasoline vehicle prices were provided by PVVTA and are inclusive of costs for configurable options and taxes.
- Capital vehicle costs are derived from the 2022 California, Washington and New Mexico State Contracts plus the annual PPI (2%) and tax (8.75%). Fuel Cell Cutaway pricing is a price estimation due to lack of market information.
- Costs for retrofits or bus conversions are not included. Procurements assume new vehicle costs.

Table 1 – Fleet Assessment Cost Assumption

	Fuel Type		
Length	CNG	Gas	Fuel Cell
Cutaway (25ft)	\$165,326	\$128,772	\$376,153*

*Bus size not currently available for this technology

Description of PVVTA's Current Fleet

PVVTA's current service and fleet composition provide the baseline for evaluating the costs of transitioning to a zero-emission fleet. PVVTA staff provided the following key data on current service:

- Fleet composition by powertrain and fuel
- Routes and blocks
- Mileage and fuel consumption
- Maintenance costs

Fleet

As of 2022, the PVVTA fleet includes three (3) 25-ft CNG cutaways, one (1) 32-ft CNG cutaway, and four (4) 25-ft gas cutaways used for fixed route service. Transit services operate out of one primary division located at 415 North Main Street, Blythe, California, and a secondary address at 175 West 14th Avenue. Maintenance is performed at a maintenance shop co-located with central operations at 415 N Main Street. PVVTA owns and operates a public CNG fueling station, which is also used by the Palo Verde Unified School District, located adjacent to the City of Blythe Public Works and Maintenance Building at 440 S Main St, Blythe, CA.

Routes and Blocks

PVVTA's 2022 service consists of six (6) deviated fixed routes, deviating up to 0.75 miles from mapped routes. For the purpose of this analysis, CTE considered six (6) independent bus blocks in order to accurately quantify the daily mileages and corresponding energy consumption metrics. To calculate average block distances, CTE summed sequential daily mileages based on vehicle IDs, and calculated average and maximum daily block mileages. Blocks range in distance from 152 to 306 miles. Vehicles pull out as early as 5:20 AM and return as late as 7:00 PM. PVVTA service runs within and around the City of Blythe.

Current Mileage and Fuel Consumption

Annual mileage of the fleet:

241,783 miles

PVVTA's ZEB Transition Plan assumes that the amount of service miles will remain the same.

Annual fuel consumption:

17,019 GGE of CNG and gasoline

Fleet average efficiency:

6.8 miles per GGE

PVVTA current fuel expense:

\$73,284 per year

Average fuel costs:

\$4.31 per GGE

Maintenance Costs

Average maintenance costs per mile by vehicle type are estimated in **Table 2**. Vehicles also do not undergo any midlife overhauls due to their short usable life period as summarized in

Table 3. These costs were utilized to project transition maintenance costs.

Table 2 – Labor and Materials Cost Assumptions

Vehicle Type	Estimate (Per Mile)
CNG/Gas Cutaway	\$ 0.35
Fuel Cell Electric Cutaway	\$0.51

Table 3 – Midlife Overhaul Cost Assumptions

Vehicle Type	Overhaul (FC/Transmission) Cost Per vehicle life	Battery Warranty Cost Per vehicle life
CNG Cutaway	\$0	\$0
Gas Cutaway	\$0	\$0
Fuel Cell Electric Cutaway	\$0	\$10,000

Zero-Emission Bus Procurement Plan and Schedule

PVVTA will provide service with a fleet made up entirely of fuel cell electric cutaways, as this technology will be sufficient for meeting the agency’s service demands. Considering PVVTA will be phasing out their gasoline cutaways before beginning their zero-emission vehicle transition, PVVTA’s fleet transition strategy is to replace each CNG cutaway as they reach the ends of their service lives with fuel cell electric cutaways beginning in 2028.

Figure 6 below provides the number of each vehicle type that will be purchased each year through 2040 with this replacement strategy and the total cost of that procurement.

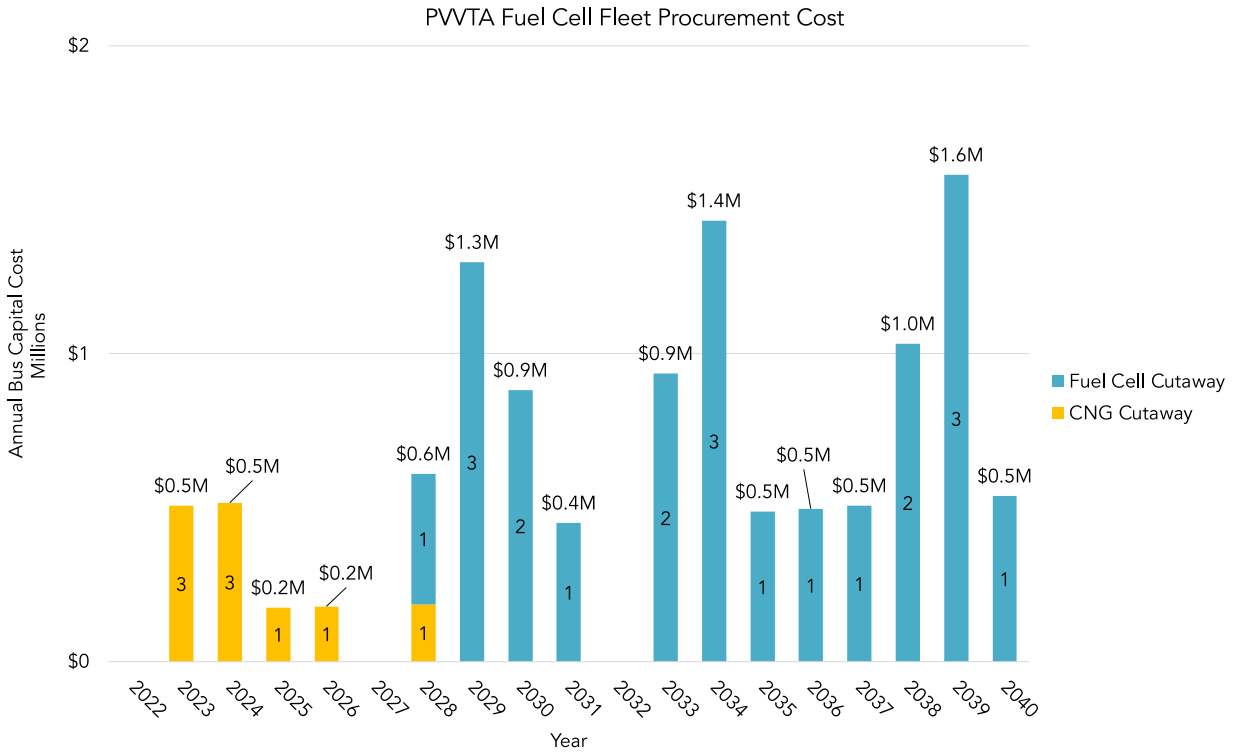


Figure 6 – Projected Fleet Procurements for Zero Emission Transition

Figure 7 demonstrates the annual composition of PVVTA’s fleet through 2040. By 2033, PVVTA’s fleet will consist entirely of fuel cell cutaways. The fleet will remain the same size throughout the transition period.

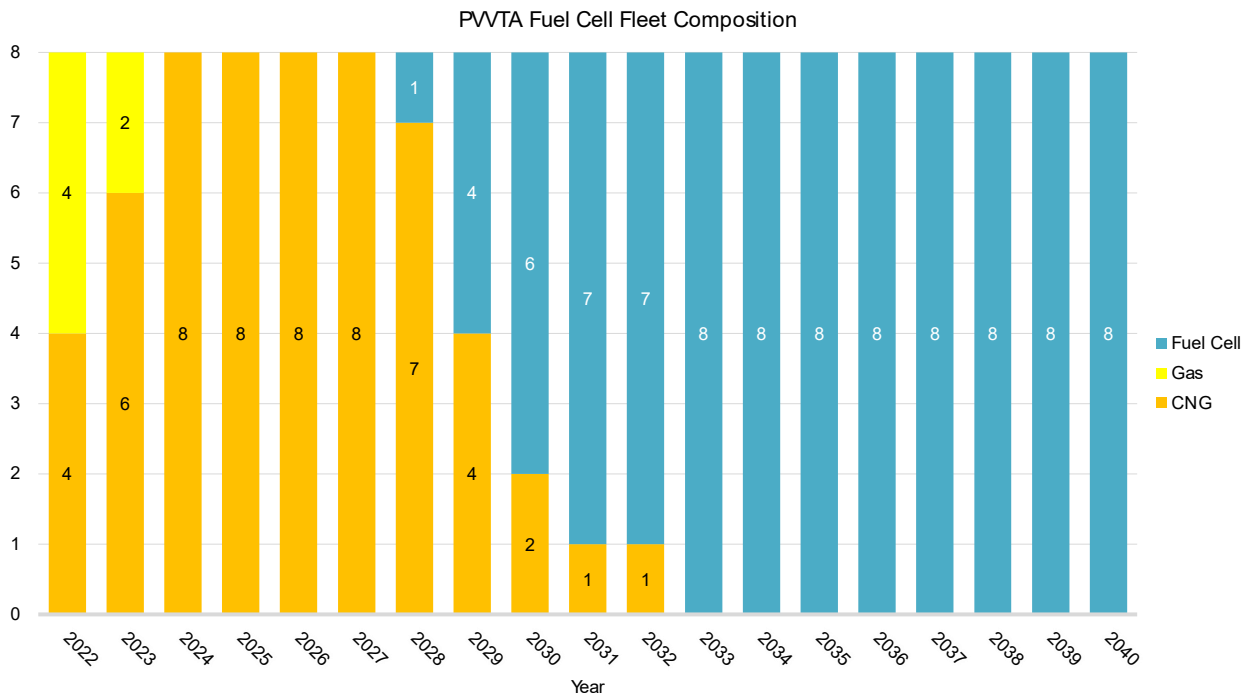


Figure 7 – Annual Fleet Composition, Zero Emission Transition

As seen in **Table 4**, the capital investment required for purchasing zero-emission cutaways is significantly higher than for CNG and gasoline cutaways. This highlights the importance of staying vigilant in the search for funding opportunities to help fill this gap.

Table 4 – PVVTA Vehicle Capital Investment to Transition to a 100% Zero Emission Fleet by 2040

	CNG/Gas Baseline*	Zero Emission Incremental Costs	Total Investment
Vehicle Capital Costs	\$7M	\$5M	\$12M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

Additional Considerations

When purchasing zero emission vehicles, the process may differ slightly from the process PVVTA currently uses to purchase vehicles. First, when contracting with zero emission vehicle manufacturers, PVVTA should ensure expectations are clear between the OEM and the agency. As with CNG purchases the agreement should be clear regarding the vehicle’s configurations, technical capabilities, build and acceptance process, production timing with infrastructure, warranties, training, and other contract requirements. Additionally, by developing and negotiating specification language collaboratively with the vendor(s), PVVTA can work with the vendor(s) to customize the cutaway to their needs as much as is appropriate, help advance the industry based on agency requirements and recommended advancements, ensure the acceptance and payment process is fully clarified ahead of time, fully document the planned capabilities of the cutaway to ensure accountability, and generally preempt any unmet expectations. Special attention should be given in defining the technical capabilities of the vehicle, since defining these for zero emission vehicles may differ from ICE vehicles.

When developing RFPs and contracting for zero emission vehicle procurements, PVVTA should specify the source of funding for the vehicle purchases to ensure grant compliance, outline data access requirements, define the price and payment terms, establish a delivery timeline, and outline acceptance and performance requirements. PVVTA should test the vehicles upon delivery for expected performance in range, acceleration, gradeability, highway performance, and maneuverability. Any such performance requirements must be included in the technical specification portion of the RFP and contract to be binding for the OEM. Defining technical specifications for zero emission vehicles will also differ slightly from their current ICE vehicles since they will need to include requirements for hydrogen fuel cell performance.

Fuel cell procurement will also differ from ICE procurements since there are fewer OEMs presently manufacturing fuel cell buses and no OEMs presently manufacturing fuel cell cutaways, although this is expected to change with increasing demand. PVVTA will also be able to apply for additional funding for these vehicles through zero-emission vehicle specific funding opportunities, which are discussed further in **section H: Potential Funding Sources**.

E

Facilities and Infrastructure Modifications

PVVTA Facility Configuration and Depot Layout

Depot Address:

415 North Main Street, Blythe, CA 92225

Electric Utility:

Southern California Edison (SCE)

Located in a NOx Exempt Area?

No

Bus Parking Capacity:

8+

Current Vehicle Types Supported:

PVVTA's depot currently supports fueling and maintenance of CNG and gasoline cutaways.

Propulsion Types That Will be Supported at Completion of ZEB Transition:

Hydrogen fuel cell electric

Facilities Assessment Methodology

Fuel cell deployments such as PVVTA's require installation of hydrogen fueling infrastructure. Fuel cell deployments require installation of a fueling station and may require improvements such as upgrades to the switchgear or utility service connections. Planning and design work, including development of detailed electrical and construction drawings required for permitting, is also necessary once specific charging equipment has been selected.

Building off of the fleet procurement schedule that was outlined in the Fleet Assessment, CTE then uses industry average pricing to develop infrastructure scenarios that estimate the cost of building out the infrastructure necessary to support a full fleet transition to zero emission vehicles. This plan assumes that infrastructure projects will be completed prior to each cutaway delivery. To project the costs of fueling infrastructure, CTE used industry pricing observed in active projects and an infrastructure build timeline based on the procurement timeline. This plan assumes that infrastructure projects will be completed prior to each vehicle delivery. These projects are described in detail below.

Infrastructure Upgrade Requirements to Support Zero-Emission Buses

Description of Infrastructure Considered

With PVVTA's fuel cell electric fleet, hydrogen fueling infrastructure is required for eight (8) fuel cell cutaways to support a completely zero-emission fleet by 2040. The total cost for hydrogen fueling infrastructure is approximately \$10 M.

FCEB Fueling Infrastructure Summary

Hydrogen fueling is required to support the fully fuel cell electric fleet. Like battery electric infrastructure, fuel cell infrastructure deployment will require hiring an infrastructure planning contractor. A storage capacity project, a fueling infrastructure capital project will also be necessary to allow PVVTA to fuel their hydrogen fuel cell vehicles on site. Infrastructure is assumed to be built out in one project that will conclude prior to the first fuel cell cutaway deployment in 2028. The estimated infrastructure costs for these technology & infrastructure expenses are as follows:

- **INFRASTRUCTURE PLANNING.** Building hydrogen infrastructure requires planning at the depot. This assessment assumes that a planning project costs \$200,000 and occurs only once per depot. The total cost of planning projects for PVVTA’s single depot will be approximately \$200,000.
- **MAINTENANCE BAY UPGRADES.** Maintenance bay upgrades are not included in PVVTA costs.
- **HYDROGEN FUELING INFRASTRUCTURE.** PVVTA’s fueling solutions were decided based on fuel consumption needs and approximately right-sized. Hydrogen infrastructure maintenance and operations are covered in the price of fuel in the fuel assessment.
- **INFLATION FACTOR.** 5.4% inflation is added on all project costs per the CPI. All costs listed above are in 2022 dollars, projects occurring after 2022 are inflated per the inflation factor.

The total cost of fuel cell infrastructure is approximately \$10 M over the transition period. **Figure 8** shows the estimated total costs for the fuel cell infrastructure over the transition period.

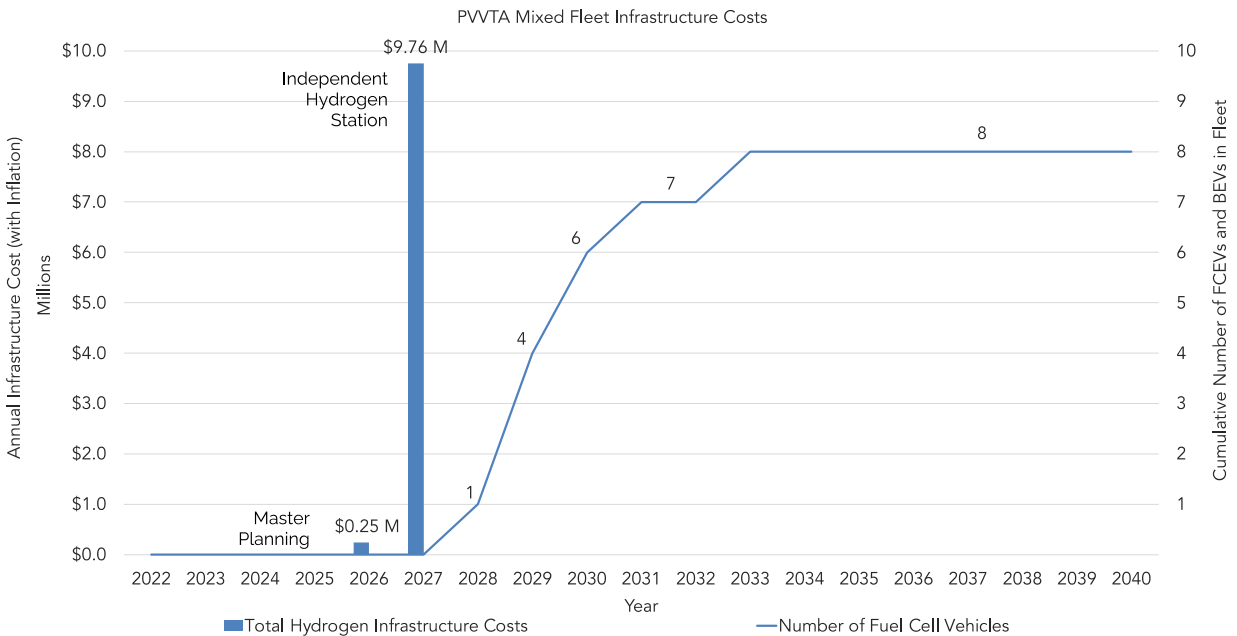


Figure 8 – Infrastructure Project & Costs, Zero Emission Transition with Hydrogen Infrastructure

Utility Partnership Review

Southern California Edison (SCE) the electricity provider, or utility, for PVVTA offers support to transit agencies looking to transition to zero-emission vehicles, such as the Charge Ready Transport (CRT) program that supports both California's greenhouse gas (GHG)-reduction goal and local air-quality requirements. The Program assists customers with transitioning to cleaner fuels by reducing their cost for the purchase and installation of required battery-electric vehicle (EV) charging infrastructure, as well as providing rebates to offset the cost of charging stations for certain eligible customers. Although PVVTA is not looking to transition to battery electric vehicles, the agency should still inform SCE of their plans to install a hydrogen fueling station at their location as this will add demand to the grid. SCE may need to account for this demand in their long-term demand planning.

PVVTA may also have access to local incentive programs aimed at reducing air pollution in Southern California; as the air pollution control agency for San Bernardino County's High Desert and Riverside County's Palo Verde Valley, the Mojave Desert Air Quality Management District (MDAQMD) provides a variety of financial incentives to encourage the immediate use of commercially available, low- or zero-emission technologies⁴. Of note is the Carl Moyer Program, that provides funding for alternative fueling infrastructure and heavy-duty vehicle replacement/conversion projects.

Furthermore, PVVTA understands establishing and maintaining a partnership with the hydrogen fuel provider is critical to successfully deploying zero-emission vehicles and maintaining operations. Hydrogen fueling requires a plan for infrastructure installation, delivery, storage, dispensing, and upgrades to its facilities. PVVTA may consider partnerships with agencies that have developed these systems or look for a competitive bid process for a design/build project as a reasonable approach to determining the appropriately sized station and fueling at the best price.

⁴ <https://www.mdaqmd.ca.gov/grants>

F

Providing

Service in Disadvantaged Communities

Providing Zero-Emission Service to DACs

In California, CARB defines disadvantaged communities (DACs) as communities that are both socioeconomically disadvantaged and environmentally disadvantaged due to local air quality. Lower income neighborhoods are often exposed to greater vehicle pollution levels due to proximity to freeways and the ports, which puts these communities at greater risk of health issues associated with tailpipe emissions.⁵ Zero emission vehicles will reduce energy consumption, harmful emissions, and direct carbon emissions within the disadvantaged communities PVVTA serves. The PVVTA service area includes two distinct census tracts designated as DACs; one in the City of Blythe, and one along the Wellness Express line that serves the Coachella Valley.

Environmental impacts, both from climate change and from local pollutants, disproportionately affect transit riders. For instance, poor air quality from tailpipe emissions and extreme heat harm riders waiting for buses at roadside stops. The transition to zero-emission technology will benefit the region by reducing fine particulate pollution and improving overall air quality. In turn, the fleet transition will support better public health outcomes for residents in DACs served by the selected routes.

Public transit has the potential to improve social equity by providing mobility options to low-income residents lacking access to a personal vehicle and helping to meet their daily needs. In California, transit use is closely correlated with car-less households as they are five times more likely to use public transit than households with at least one vehicle.⁶ Although 21% of Californians in a zero-vehicle household are vehicle free by choice, 79% do not have a vehicle due to financial limitations. Many low-income people therefore rely solely on public transportation for their mobility needs.⁷ PVVTA's current fleet of CNG and gasoline cutaways consume 14,967 Gasoline Gallons Equivalent (GGE) of fuel per year, operating for approximately 240,000 miles per year. Moving PVVTA's fleet to zero-emission technology will help alleviate the pollution from tailpipe emissions, which will improve the health of communities impacted by NOx and particulate matter emissions and all local communities.

Access to quality transit services provides residents with a means of transportation to go to work, to attend school, to access health care services, and run errands. By purchasing new vehicles and decreasing the overall age of its fleet, PVVTA is also able to improve service reliability and therefore maintain the capacity to serve low-income and disadvantaged populations.

⁵ Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019>

⁶ Grengs, Joe; Levine, Jonathan; and Shen, Qingyun. (2013). Evaluating transportation equity: An inter-metropolitan comparison of regional accessibility and urban form. FTA Report No. 0066. For the Federal Transit Administration

⁷ Paul, J & Taylor, BD. 2021. Who Lives in Transit Friendly Neighborhoods? An Analysis of California Neighborhoods Over Time. *Transportation Research Interdisciplinary Perspectives*. 10 (2001) 100341. <https://reader.elsevier.com/reader/sd/pii/S2590198221000488?token=CABB49E7FF438A88A19D1137A2B1851806514EF576E9A2D9462D3FAF1F6283574907562519709F8AD53DEC3CF95ACF27&originRegion=us-east-1&originCreation=20220216190930>

Map of Disadvantaged Communities served by PVVTA

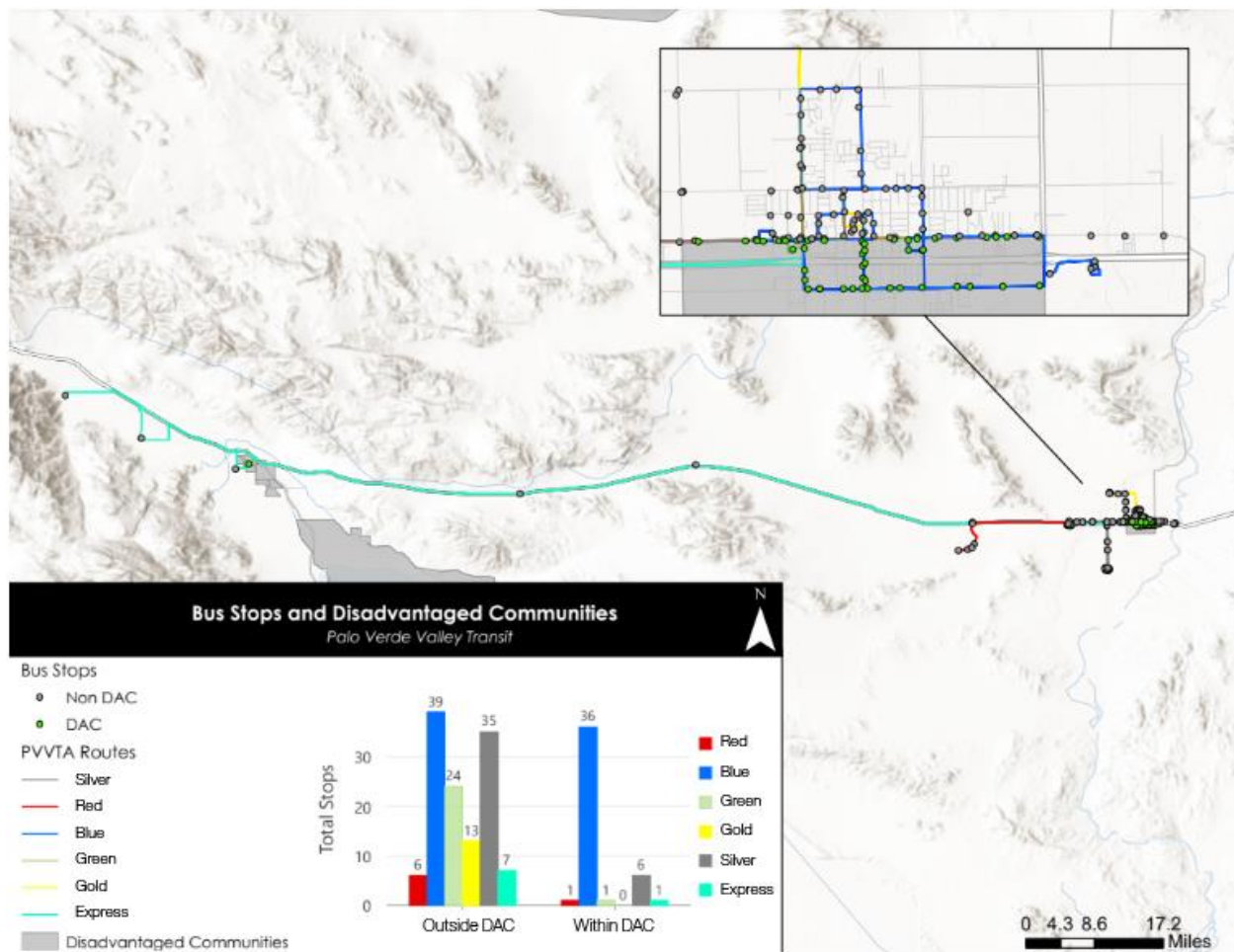


Figure 9 – PVVTA’s Bus Service Relative to Disadvantaged Communities

Emissions Reductions for DACs

Greenhouse gasses (GHG) are the compounds primarily responsible for atmospheric warming and include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The effects of greenhouse gasses are not localized to the immediate area where the emissions are produced. Regardless of their point of origin, greenhouse gasses contribute to overall global warming and climate change.

Criteria pollutants include carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter under 10 and 2.5 microns (PM₁₀ and PM_{2.5}), volatile organic compounds (VOC), and sulfur oxides (SO_x). These pollutants are considered harmful to human health because they are linked to cardiovascular issues, respiratory complications, or other adverse health effects.⁸ These compounds are also commonly responsible for acid rain and smog. Criteria

⁸ Institute of Medicine. *Toward Environmental Justice: Research, Education, and Health Policy Needs*. Washington, DC: National Academy Press, 1999; O’Neill MS, et al. *Health, wealth, and air pollution: Advancing theory and methods*. *Environ Health Perspect*. 2003; 111: 1861-1870; Finkelstein et al. *Relation between income, air pollution and mortality: A cohort study*. *CMAJ*. 2003; 169: 397-402; Zeka A, Zanobetti A, Schwartz J. *Short term effects of particulate matter on cause specific mortality: effects of lags and modification by city characteristics*. *Occup Environ Med*. 2006; 62: 718-725.

pollutants cause economic, environmental, and health effects locally where they are emitted. CARB defines DACs in part as disadvantaged by poor air quality because polluting industries or freight routes have often been cited in these communities. The resulting decrease in air quality has led to poorer health and quality of life outcomes for residents. PVVTA’s operational Well-to-Wheel criteria emissions are summarized in **Table 5**.

Table 5 – Annual Vehicle Operation Pollutants by Fuel Type

Overall Annual Vehicle Operation Pollutants (lbs.)								
	CO	NOx	PM10	PM2.5	VOC	SOx	PM10 TBW	PM2.5 TBW
CNG	1,068	7.4	0.2	0.2	2.4	0.3	6.0	0.8
Gas	1,010	15.0	1.6	1.5	24.7	1.2	10.3	1.3

The transportation sector is the largest contributor to greenhouse gas emissions in the United States, accounting for more than 30% of total emissions, and within this sector, 25% of these emissions come from the medium- and heavy-duty markets, yet these markets account for less than 5% of the total number of vehicles. Electrifying these vehicles can have an outsized impact on pollution, fossil-fuel dependency, and climate change. Zero emission buses are four times more fuel efficient than comparable new diesel buses. Better fuel efficiency means less waste when converting the potential energy in the fuel to motive power. Less waste not only means less pollution, it results in more efficient use of natural resources. By transitioning to zero emission cutaways from CNG and gasoline cutaways, PVVTA’s zero-emission fleet will produce fewer carbon emissions and fewer harmful pollutants from the vehicle tailpipes. Considering DACs experience significantly more pollution from harmful emissions, communities disadvantaged by pollution served by PVVTA’s fleet will therefore directly benefit from the reduced tailpipe emissions of zero emission vehicles compared to ICE vehicles.

Estimated Ridership in DACs

PVVTA’s service area includes two distinct census tracts designated as DACs. According to Arcadis IBI Group’s in-depth analysis overlaying PVVTA’s deviated fixed route service and 2021 census tract data for disadvantaged communities based on CalEnviroScreen 4.0, 48 stops (31%) and 22 service miles (5%) of PVVTA’s deviated fixed route service are located within DACs.



Workforce Training

PVVTA Current Training Program

PVVTA's contractor, Transportation Concepts, manages the training of our dispatchers, mechanics, operators, and supervisors. A comprehensive program is provided for all operating staff that continually evaluates performance and prepares our operators to anticipate and correct issues that arise in passenger transportation services.

PVVTA Zero Emission Vehicle Training Plan

OEM Training

PVVTA plans to take advantage of trainings from the vehicle manufacturers and station suppliers, including maintenance and operations training, station operations and fueling safety, first responder training and other trainings that may be offered by the technology providers. OEM trainings provide critical information on operations and maintenance aspects specific to the equipment model procured. Additionally, many procurement contracts include train-the-trainer courses through which small numbers of agency staff are trained and subsequently train agency colleagues. This method provides a cost-efficient opportunity to provide widespread agency training on new equipment and technologies.

Bus and Fueling Operations and Maintenance

The transition to a zero-emission fleet will have significant effects on PVVTA's workforce. Meaningful investment is required to upskill maintenance staff and bus operators trained in ICE vehicle maintenance and ICE fueling infrastructure.

PVVTA training staff will work closely with the OEM providing vehicles to ensure all mechanics, service employees, and bus operators complete necessary training prior to deploying zero emission technology and that these staff undergo refresher training annually and as needed. PVVTA staff will also be able to bring up any issues or questions they may have about their training with their trainers. Additionally, trainers will observe classes periodically to determine if any staff would benefit from further training.

ZEB Training Programs

Several early zero emission bus (ZEB) adopters have created learning centers for other agencies embarking on their ZEB transition journeys. One such agency is SunLine Transit Agency, which provides service to the Coachella Valley and hosts the West Coast Center of Excellence in Zero Emission Technology (CoEZET). The Center of Excellence supports transit agency adoption, zero-emission commercialization and investment in workforce training. Similarly, AC Transit offers training courses covering hybrid and zero-emission technologies through their ZEB University program. PVVTA plans to take advantage of these trainings offered by experienced agencies.

There are several transit agencies within and around PVVTA that have successfully begun their transition to zero-emission technology. California has at least seven heavy-duty and transit-operated fueling stations in operation

and at least four more in development⁹. Additionally, the number of hydrogen production and distribution centers is growing to meet increased hydrogen demand as it gains popularity as a transportation fuel. At present, there are two heavy-duty, transit-operated hydrogen fueling stations in the neighboring San Bernardino and Orange counties and two planned transit-operated hydrogen fueling stations in Los Angeles County and Pomona, which are all about 200 miles of PVVTA. In addition, private hydrogen fueling stations by First Element Fuels and Stratosfuel within 200 miles of Blythe, CA are in development and should be commissioned before the end of the fleet transition timeline.

In the region, Omintrans, a public transit agency serving the San Bernardino Valley recently received \$9.3 million from the Federal Transit Administration (FTA) under the FY2022 Low-No Emission Vehicle Program to develop hydrogen refueling infrastructure and launch a workforce development program. Similarly, Sunline Transit Agency has received \$7.8 million to upgrade their liquid hydrogen refueling infrastructure. Riverside Transit Agency has also received \$5.2 million to procure hydrogen fuel cell buses. The presence of hydrogen fueling infrastructure projects, especially in the counties of Riverside and San Bernardino, demonstrates the feasibility of fuel cell electric technology for transit in the region. These agencies can serve as a resource for PVVTA to use when implementing zero-emission technology and supporting programs into their services.

⁹ Hydrogen Refueling Stations in California, California Energy Commission: <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/hydrogen-refueling>

H

Potential Funding Sources

Available Funding Opportunities

Federal

Although not an eligible recipient on their own, PVVTA is exploring federal grants in partnership with eligible recipients, such as Caltrans, RCTC or Sunline through the following funding programs: Federal Transit Administration's (FTA) Urbanized Area Formula program; discretionary grant programs such as the Bus and Bus Facilities (B&BF) program, Low or No Emission Vehicle Deployment Program (Low-No), and Better Utilizing Investments to Leverage Development (BUILD) grant; and other available federal discretionary grant programs. They are also eligible to be direct recipients of 5311 funds.

Annual Reliable Funding

- Federal Transportation Administration (FTA)
 - Urbanized Area Formula program
 - State of Good Repair Grants
 - Bus and Bus Facilities Formula grants

Future Funding Opportunities

- United States Department of Transportation (USDOT)
 - Better Utilizing Investments to Leverage Development (BUILD) Grants
- Federal Transportation Administration (FTA)
 - Bus and Bus Facilities Discretionary Grant
 - State of Good Repair Grants
 - Capital Investment Grants – New Starts
 - Capital Investment Grants – Small Starts
 - Low-or No-Emission Vehicle Grant
 - Metropolitan & Statewide Planning and Non-Metropolitan Transportation Planning
- Federal Highway Administration (FHWA)
 - Congestion Mitigation and Air Quality Improvement Program through SCAG
 - Surface Transportation Block Grant Program through SCAG
 - Carbon Reduction Program
- Environmental Protection Agency (EPA)
 - Environmental Justice Collaborative Program-Solving Cooperative Agreement Program

State

PVVTA will also seek funding from state resources through grant opportunities including but not limited to Senate Bill 1 State of Good Repair (SGR), Transit and Intercity Rail Capital Program (TIRCP), Low Carbon Transit Operations Program (LCTOP) funding, the California Energy Commission's Clean Transportation Program as well as Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) for bus purchases when available.

Annual Reliable Funding

- Administered by California Department of Transportation (Caltrans)
 - Transportation Development Act Funds
 - Local Transportation Funds
 - State Transit Assistance (STA)
 - State of Good Repair (SB 1 funds)
 - Low Carbon Transit Operations Program (LCTOP)

Future Funding Opportunities

- California Air Resources Board (CARB)
 - Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)
 - State Volkswagen Settlement Mitigation
 - Carl Moyer Memorial Air Quality Standards Attainment Program
 - Cap-and-Trade Funding
 - Low Carbon Fuel Standard (LCFS)
- California Transportation Commission (CTC) – As with most federal grants, PVVTA is not eligible to be a direct recipient for CTC grants, but could partner with an eligible recipient
 - State Transportation Improvement Program (STIP)
 - Solution for Congested Corridor Programs (SCCP)
 - Local Partnership Program (LPP)
- California Department of Transportation (Caltrans)
 - Transit and Intercity Rail Capital Program
 - Transportation Development Credits
 - New Employment Credit
- California Energy Commission

Local

Additionally, PVVTA will pursue local funding opportunities to support zero-emission bus deployment. While the aforementioned funding opportunities are mentioned by name, PVVTA will not be limited to these sources and will regularly assess opportunities for fiscal support for the zero-emission program.

Legislation Supporting the Zero-Emission Transition

Policies and regulations supporting the transition to zero-emission are proliferating as the efforts to decarbonize the transportation sector expand. PVVTA is monitoring the implementation of relevant policies and legislation. With the passage of the *Bipartisan Infrastructure Law* and issuance of *Executive Order 14008: Tackling the Climate Crisis at Home and Abroad*, the federal government has set a renewed focus on zero-emission transit. PVVTA's goal to deploy zero-emission vehicles supports the federal administration's priorities of renewing transit systems, reducing Greenhouse Gas emissions from public transportation, equity, creation of good paying jobs, and connecting communities. State legislation such as the Innovative Clean Transit Regulation further supports the replacement of fossil-fuel vehicles on the roads of California. Moreover, on August 25, 2022, the CARB approved the Advanced Clean Cars II Rule, requiring all new vehicles sold in California to be zero-emission vehicles (ZEVs) by 2035.

Start-up and Scale-up Challenges

Financial Challenges

Challenges can arise with any new propulsion technology, its corresponding infrastructure, or in training operators and maintenance staff. Nearly all transit agencies must contend with the cost barriers posed by zero-emission technologies. The predicted costs of zero-emission cutaways are between \$300,000 and \$380,000, which is about \$120,000 and \$200,000 more costly than traditional ICE cutaways.

Additionally, the necessary infrastructure to support these vehicles adds to the financial burden of transitioning to a zero-emission fleet, as outlined below in **Table 6** showing the cost of the transition. PVVTA will seek financial support to cover the cost of their fuel cell electric cutaways from the resources discussed in Section H.

Specific challenges for PVVTA locally is the flat or slightly reduced population growth within the Palo Verde Valley. As funds at the local, State and Federal level are often tied to population, Blythe and the Palo Verde Valley are at a disadvantage as other adjacent areas such as Western Riverside County and the Coachella Valley are seeing a substantial increase in population. Also, any newly generated funds for transportation locally would be shared with other municipal and County needs.

Table 6 – Incremental Cost of Zero Emission Transition

Incremental cost of Zero Emission Transition			
	CNG/Gas Baseline*	Zero Emission Incremental Costs	Zero Emission Transition Scenario Costs
Vehicle Capital Expense	\$7M	\$5M	\$12M
Fueling Infrastructure	\$0	\$10M	\$10M
Total	\$7M	\$15M	\$22M

*Represents the capital costs that would have been incurred in the absence of the ICT Regulation

As seen in **Table 6**, the costs of required fueling infrastructure and fueling operations for zero emission technologies pose another hurdle for transit agencies transitioning to zero-emission service. Continued financial support at the local, state and federal level to offset the capital cost of this new infrastructure is imperative. For alternative fuels such as hydrogen, financial support from state and federal grant opportunities for green hydrogen supply chains and increasing economies of scale on the production side will ultimately benefit transit agencies deploying and planning for fuel cell and battery electric vehicles.

CARB can support PVVTA by ensuring continued funding for the incremental cost of zero-emission vehicles and fueling infrastructure. Funding opportunities should emphasize proper transition and deployment planning and should not preclude hiring consultants to ensure best practices and successful deployments. The price and availability of hydrogen, both renewable and not, continue to be challenges that can be allayed by legislation subsidizing and encouraging renewable fuel production.

Limitations of Current Technology

Beyond cost barriers, transit agencies must also ensure that available zero-emission technologies can meet basic service requirements of the agency's duty cycles. The applicability of specific zero-emission technologies will vary widely among service areas and agencies. As such, it is critical that transit agencies in need of technical and planning support have access to these resources to avoid failed deployment efforts. Support in the form of technical consultants and experienced zero-emission transit planners will be critical to turning Rollout Plans into successful deployments and tangible emissions reductions.

In addition to the uncertainty of technology improvements, there are other risks to consider in trying to estimate costs over the 18-year transition period. Although fuel cell vehicles may not be subject to the same limitations that battery electric vehicles are such as battery degradation and range restrictions, higher capital equipment costs and availability of hydrogen may constrain fuel cell solutions. RCTC, PVVTA, CTE and Arcadis IBI Group will expand upon challenge mitigation and adaptation in Riverside County ZEB Implementation & Financial Strategy Plan.

Appendix A – Approved Board Resolution

RESOLUTION NO. PVVTA 2023-04

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALO VERDE VALLEY TRANSIT AGENCY AUTHORIZING THE SUBMISSION OF THE ZERO-EMISSION BUS ROLLOUT PLAN TO THE CALIFORNIA AIR RESOURCES BOARD AS REQUIRED BY THE INNOVATIVE CLEAN TRANSIT REGULATION.

WHEREAS, in 2018, California Air Resources Board (CARB) adopted the Innovative Clean Transit (ICT) Regulation, which requires public transit agencies to gradually transition to a 100 percent Zero-Emission Bus (ZEB) fleet with a goal for the full transition by 2040;

WHEREAS, the main provisions of the ICT regulation include the following:

1. Small transit agencies which operate less than 100 buses in annual maximum service are required to submit a Board approved ZEB Rollout Plan by June 30, 23.
2. Small transit agencies must purchase a minimum number of ZEBs during future procurements, according to the following schedule:
 - a. Starting in calendar years 2026 through 2028, 25 percent of new bus purchases in each year must be ZEBs.
 - b. Starting in calendar year 2029, 100% of all new bus purchases must be ZEBs;

WHEREAS, the PVVTA ZEB Rollout Plan, currently being presented to the Board of Directors for adoption, is a living document intended to guide the Agency's conversion to a ZEB fleet and may be updated based on changes in vehicle technology, fleet size, and operating requirements.

WHEREAS, the Rollout Plan must be approved by the Agency governing body through the adoption of a resolution prior to submission to CARB. and

WHEREAS, per the requirements of the ICT, the Rollout Plan includes the required information in the following sections:

1. Transit Agency Information
2. Rollout Plan General Information
3. Technology Portfolio
4. Current Bus Fleet Composition and Future Bus Purchases
5. Facilities and Infrastructure Modifications
6. Providing Service in Disadvantaged Communities
7. Workforce Training
8. Potential Funding Sources.

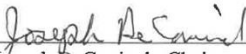
NOW, THEREFORE, BE IT RESOLVED by the Board of Director of the Palo Verde Valley Transit Agency, hereby adopts the presented ZEB Rollout Plan as a guide for the implementation of ZEB technology and approves it for submission to CARB.

PASSED, APPROVED AND ADOPTED this 21st day of June 2023 by the following roll call vote to wit:

AYES: **DeConinck, Rodriguez, Perez, Halby III, Alvarado**

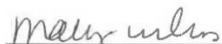
NOES: **NONE**

ABSENT: **NONE**



Joseph DeConinck, Chairman

ATTEST:



Mallory Creelius, Clerk

Appendix B – Glossary

Auxiliary Energy: Energy consumed (usually as a by time measure, such as “x”kW/hour) to operate all support systems for non-drivetrain demands, such as HVAC and interior lighting.

Battery Electric Bus: Zero-emission bus that uses onboard battery packs to power all bus systems.

Battery Nameplate Capacity: The maximum rated output of a battery under specific conditions designated by the manufacturer. Battery nameplate capacity is commonly expressed in kWh and is usually indicated on a nameplate physically attached to the battery.

Block: Refers to a vehicle schedule, the daily assignment for an individual bus. One or more runs can work a block. A driver schedule is known as a “run.”

Charging Equipment: The equipment that encompasses all the components needed to convert, control and transfer electricity from the grid to the vehicle for the purpose of charging batteries. May include chargers, controllers, couplers, transformers, ventilation, etc.

Depot Charging: Centralized BEB charging at a transit agency's garage, maintenance facility, or transit center. With depot charging, BEBs are not limited to specific routes, but must be taken out of service to charge.

Energy: Quantity of work, measured in kWh for ZEBs.

Energy Efficiency: Metric to evaluate the performance of ZEBs. Defined in kWh/mi for BEBs, mi/kg of hydrogen for FCEBs, or miles per diesel gallon equivalent for any bus type.

Fuel Cell Electric Bus: Zero-emission bus that utilizes onboard hydrogen storage, a fuel cell system, and batteries. The fuel cell uses hydrogen to produce electricity, with the waste products of heat and water. The electricity powers the batteries, which powers the bus.

Greenhouse Gas Emissions: Zero-emission buses have no harmful emissions that result from diesel combustion. Common GHGs associated with diesel combustion include carbon dioxide (CO₂), carbon monoxide (CO), nitrous oxides (NO_x), volatile organic compounds (VOCs), and particulate matter (PM). These emissions negatively impact air quality and contribute to climate change impacts.

Hydrogen Fueling Station: The location that houses the hydrogen production (if produced onsite), storage, compression, and dispensing equipment to support fuel cell electric buses.

On-route Charging: BEB charging while on the route. With proper planning, on-route charged BEBs can operate indefinitely, and one charger can charge multiple buses.

Operating Range: Driving range of a vehicle using only power from its electric battery pack to travel a given driving cycle.

Route Modeling: A cost-effective method to assess the operational requirements of ZEBs by estimating the energy consumption on various routes using specific bus specifications and route features.

Useful Life: FTA definition of the amount of time a transit vehicle can be expected to operate based on vehicle size and seating capacity. The useful life defined for transit buses is 12-years. For cutaways, the useful life is 7 years.

Validation Procedure: to confirm that the actual bus performance is in line with expected performance. Results of validation testing can be used to refine bus modeling parameters and to inform deployment plans. Results of validation testing are typically not grounds for acceptance or non-acceptance of a bus.

Zero-Emission Vehicle: A vehicle that emits no tailpipe emissions from the onboard source of power. This is used to reference battery-electric and fuel cell electric vehicles, exclusively, in this report.

Well-to-wheel Emissions: Quantity of greenhouse gas, criteria pollutants, and/or other harmful emissions that includes emissions from energy use and emissions from vehicle operation. For BEBs, well-to-wheel emissions would take into account the carbon intensity of the grid used to charge the buses. For FCEBs, well-to-wheel emissions would take into account the energy to produce, transport, and deliver the hydrogen to the vehicle

AGENDA ITEM 7

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Sergio Vidal, Chief Financial Officer
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	City of Desert Hot Springs Request for a Loan for Storm Damaged Road Repairs Project

STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve Agreement No. 24-31-052-00 to loan the city of Desert Hot Springs (City) 2009 Measure A funds in the amount of \$7,500,000 for Storm Damaged Road Repairs Project (Project) with the City’s repayment of the loan anticipated from federal Emergency Relief (ER) Program funds; and
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to develop, finalize and execute the agreement, on behalf of the Commission.

BACKGROUND INFORMATION:

On August 20, 2023, Tropical Storm Hilary hit the Coachella Valley and the City suffered major impacts. Extensive rain in the Mission Creek Watershed created substantial amounts of flood water, mud, and debris running down Mission Creek. It was calculated that Mission Creek received rainfall equivalent to a 1,000-year storm event. At the end of the event and during inspections it was determined the floods damaged and washed out three major arterials where they cross Mission Creek in the City: Dillon Road, Little Morongo Road, and Indian Canyon Drive.

The Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans), under delegated authority from FHWA, administer ER funds as authorized by Congress to repair and reconstruct federal-aid routes that have suffered serious damage as a direct result of a declared event. The City submitted the necessary Damage Assessment Forms to Caltrans and FHWA, which were approved on November 9, 2023.

DISCUSSION:

The City has awarded construction contracts for each of the emergency repairs and construction is expected to occur over approximately the next four-to-six months. Given the short timeframe in which all of the work is anticipated to be performed and the protracted reimbursement process for the City to receive ER reimbursement from FHWA and Caltrans, the City has requested

a loan from the Commission. If the Commission approves entering into a loan with the City, it will ease cash flow challenges paying for the emergency repairs will create while waiting for its reimbursement from FHWA and Caltrans.

Staff will continue to work with the City to finalize the loan terms.

Below is a summary of preliminary key terms proposed to the City:

- **Loan amount:** up to \$7.5 million
- **Loan Term:** up to 48 months
- **Repayment:** within 45 days of receipt of identified ER funding
- **Cash Flow:** Planning document outlining funding needs by month/fiscal year
- **Interest Rate:** 4 percent, subject to change annually (June 30) based on annual rate of return for the Riverside County Treasurer-Tax Collector


The objective of the loan is to ensure the City's emergency repair needs are met while balancing its related cash flow. The Commission will assess interest on the amount loaned to the City offsetting any investment earnings otherwise that would have been earned if the funds were not advanced to the City.

FISCAL IMPACT:

Staff recommends loaning the City up to \$7,500,000 of Measure A funds to ensure these critical emergency repairs are made timely and as cost-efficiently as possible. Preliminary terms of the loan agreement provide that the City will repay the Commission within 45 days upon receipt(s) of reimbursement from FHWA/Caltrans, including interest commensurate with what the funds would receive from the County of Riverside's investment pool where the funds are currently held. As of September 30, 2023 the rate of return for the Commission's portfolio held at the County Treasurer's office is approximately four percent.

If approved, staff will work with the City to finalize the loan agreement reflecting the terms of the loan. Due to this rapidly evolving situation regarding the need for this emergency funding request and in an effort to keep the project on schedule, a final loan agreement is not available for inclusion with this staff report. Staff recommends authorization for the Chair or Executive Director to develop, finalize and execute the necessary agreement, pursuant to legal counsel review prior to execution.

A budget adjustment is not required as this is a loan rather than an expenditure of funds and repayment of the loan by the City is expected upon receipt of their federal funds.

Financial Information					
In Fiscal Year Budget:	N/A	Year:	FY 2023/24+	Amount:	\$7,500,000
Source of Funds:	Measure A			Budget Adjustment:	N/A
GL/Project Accounting No.:	2xx 12301 (Loan receivable)				
Fiscal Procedures Approved:				Date:	12/05/2023

Attachment: City of Desert Hot Springs request for Loan Advance



December 5, 2023

MS Anne Mayer
Executive Director
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92501

Subject: Desert Hot Springs Emergency Repairs Funding Advance Request

Dear Ms. Mayer,

On August 20, 2023, Tropical Storm Hilary hit the Coachella Valley, and the City of Desert Hot Springs suffered major impacts. Extensive rain in the Mission Creek Watershed created substantial amounts of flood water, mud, and debris running down the Mission Creek. It was calculated that Mission Creek received rainfall equivalent to a 1,000 year storm event. The floods through Mission Creek began in the mountains to the north and flowed south through Desert Hot Springs, violently damaging everything in its pathway.

At the end of the event and during inspections it was determined that the floods damaged one bridge, completely damaged and washed out three major arterials, and multiple local collector and residential roads in the City of Desert Hot Springs.

The City has now completed the engineering design of the emergency repairs that are required and are moving forward with emergency re-construction. The City has submitted assistance request forms from California Governors Office or Emergency Services (CalOES) and the Federal Highway Administration (FHWA) for the costs for the emergency repairs. Both CalOES and FHWA have approved the damage assessment forms with total estimated costs and scope of work for the emergency repairs. The emergency repair costs will severely impact the City's operating cash, and the reimbursement timeline will vary between 1 to 4 years depending on CalOES and FHWA timelines.

The purpose of this letter is to seek an advance of funds of \$7.5 Million to cover the cost for the emergency repairs now until a time in which the City receives reimbursement from the California Governors Office or Emergency Services (CalOES) and the Federal Highway Administration (FHWA).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Frank Luckino', written over a blue scribble.

Frank Luckino
City Manager

AGENDA ITEM 8

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Western Riverside County Programs and Projects Committee Jeff Dietzler, Capital Projects Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Agreement for Project and Construction Management Services for the Interstate 15 Express Lanes Project Southern Extension

WESTERN RIVERSIDE COUNTY PROGRAMS AND PROJECTS STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Award Agreement No. 24-31-004-00 with Parsons Transportation Group Inc. to provide project and construction management (PCM) Services for the Interstate 15 Express Lanes Project Southern Extension (ELPSE) for an eight-year term in the amount of \$78,702,500, plus a contingency amount of \$7,870,250, for a total amount not to exceed \$86,572,750;
- 2) Authorize the Chair or Executive Director, pursuant to legal counsel review, to finalize and execute the agreement, on behalf of the Commission;
- 3) Authorize the Executive Director, or designee, to approve contingency work up to the total not to exceed amount as required for these services; and
- 4) Approve an increase in the Fiscal Year 2023/24 Budget from \$2,000,000 to \$5,364,161.

BACKGROUND INFORMATION:

The scope of the I-15 ELPSE is to add two express lanes in each direction on I-15 from Cajalco Road to State Route 74 (Central Avenue). See Figure 1 below for a project location map. The I-15 ELPSE meets a Measure A commitment and is identified in the Commission adopted 10-Year Western Riverside County Delivery Plan 2019-2029.

Currently, the I-15 ELPSE is in the project approval and environmental document (PA/ED) phase with an ED that is anticipated to be an environmental impact report/environmental assessment (EIR/EA). The current schedule projects the EIR/EA will be completed in 2025 with delivery of project improvements by 2030.

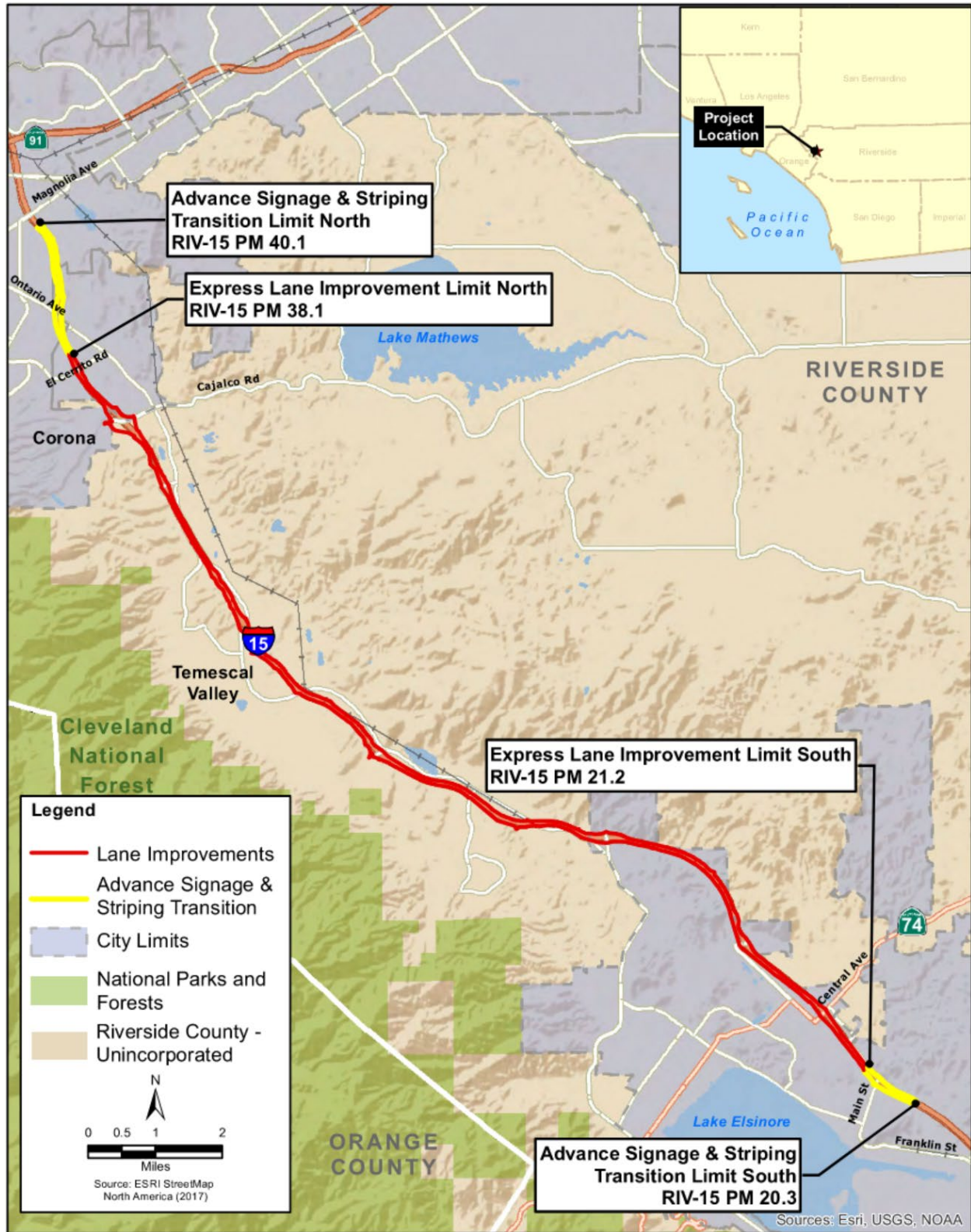


Figure 1: Project Location Map

Progressive Design-Build

It is intended to perform both final engineering and construction of the 15 ELPSE in an integrated fashion utilizing a progressive design-build (PDB) contract in accordance with Senate Bill 617 (recently approved legislation). PDB is an emerging project delivery tool that brings on a design-build contractor earlier into the process providing design-builder’s input and innovation before a guaranteed maximum price is negotiated. PDB also allows for greater project delivery flexibility through phased funding and construction likely needed to deliver the 15 ELPSE since the cost is substantial and funding has not been solidified. Staff will be evaluating funding and financing options as part of the PCM effort discussed herein.

DISCUSSION:

On March 27, 2023, the Interstate 15 Ad Hoc Committee approved the use of the PDB delivery method and procurement of PCM services for the I-15 ELPSE project. The PCM firm will provide skilled and experienced professionals to perform engineering, management, construction oversight, and other services. Staff sought the most qualified firm with national resources and experience. These resources will be scaled up or down as needed to meet the staffing needs during the course of this challenging project. Initially, the PCM will develop interagency agreements, support traffic and revenue studies and financial planning, and develop a project delivery plan and a procurement strategy for a progressive design-builder. Once the progressive design-build contract is awarded, the PCM firm will perform engineering plan reviews, inspect materials and construction, and administer the progressive design-build contract. The PCM will also oversee and ensure coordination with the Toll System Provider for the 15 ELPSE.

The schedule for the PCM role on the I-15 ELPSE is as follows:

Develop Agreements/Strategies	Jan 2024 to Summer 2024
Progressive Design-Build Procurement	Summer 2024 to Summer 2025
Progressive Design-Build Implementation	Summer 2025 to 2030

Procurement Process

Pursuant to Government Code 4525 et seq, selection of architect, engineer, and related services shall be on the basis of demonstrated competence and on professional qualifications necessary for the satisfactory performance of the services required. Therefore, staff used the qualification-based method of selection for the procurement. Evaluation criteria included elements such as firm experience and stability, quality and experience of project manager, quality and experience of key personnel, project understanding and approach, and the ability to respond to the requirements set forth under the terms of a request for qualifications (RFQ).

RFQ No. 24-31-004-00 for PCM services for the I-15 Express Lanes Project Southern Extension was released by staff on July 24, 2023. The RFQ was posted on the Commission’s Planet Bids website, which is accessible through the Commission’s website. Through Planet Bids, 89 firms

downloaded the RFQ; 12 of these firms are located in Riverside County. A pre-submittal meeting was held on August 8, 2023, and was attended by 18 firms. Staff responded to all questions submitted by potential proposers prior to the August 17, 2023, clarification deadline. Three firms – 3D Built (Los Angeles); HNTB Corporation (Ontario); and Parsons Transportation Group Inc. (Ontario) – submitted responsive and responsible statements of qualifications prior to the 2:00 p.m. submittal deadline on September 7, 2023. Based on the evaluation criteria set forth in the RFQ, the firms were evaluated and scored by an evaluation committee comprised of Commission, Caltrans, and City of Lake Elsinore staff.

Based on the evaluation committee’s assessment of the written statement of qualifications and pursuant to the terms of the RFQ, the evaluation committee shortlisted and invited two firms (HNTB Corporation and Parsons Transportation Group Inc.) to the interview phase of the evaluation and selection process. Interviews were conducted on October 10, 2023.

The evaluation committee conducted a subsequent evaluation of each firm, based on both written and interview components presented to the evaluation committee by each proposer. Accordingly, the evaluation committee recommends contract award to Parsons Transportation Group Inc. (PTG) for PCM Services for the I-15 ELPSE, as this firm earned the highest total evaluation score.

Subsequently, staff negotiated the scope of services, schedule, and cost from PTG for the PCM services and established a fair and reasonable price. As part of the federal procurement process for architectural and engineering services, the contract is subject to a pre-award audit by Caltrans Audits and Investigations Unit. The proposed cost is \$86,572,750 and may change slightly as a result of the pre-award audit.

Previous sections of this staff report summarize the PCM scope of work and schedule for the contract. Staff tentatively negotiated a base contract value of \$78,702,500, plus a contingency amount of \$7,870,250, for a total amount not to exceed \$86,572,750 for an approximate contract term of eight years.

STAFF RECOMMENDATION:


Staff recommends award of Agreement No. 24-31-004-00 for PCM services for the I-15 ELPSE in the amount of \$78,702,500, plus a contingency amount of \$7,870,250, for a total amount not to exceed \$86,572,750. A 10 percent contingency is assumed for these services.

Staff also recommends authorization for the Chair or Executive Director to finalize and execute the agreement for the I-15 ELPSE, and authorization of the Executive Director, or designee, to approve contingency work up to the total not to exceed amount as required for these services.

FISCAL IMPACT:

Federal funding in the amount of \$67,000,000 has been encumbered for PCM services. Measure A will cover the balance of \$19,572,750 for a total contract value of \$86,572,750.

An amount of \$2,000,000 was included in the FY 2023/24 budget for PCM services. Based upon the negotiated scope and schedule for the PCM services, it has been determined that an additional \$3,364,161 will be needed in FY 2023/24 funded by identified Federal resources.

Financial Information					
In Fiscal Year Budget:	No N/A	Year:	FY 2023/24 FY 2024/25+	Amount:	\$5,364,161 \$81,208,589
Source of Funds:	Federal and Measure A			Budget Adjustment:	Yes
GL/Project Accounting No.:	FY 2023-24 Budget Amendment - \$3,364,161 (PCM Services) <i>Revenue:</i> 003044 262 41402 0000 262-31-41401 - \$1,353,787 003044 262 41403 0000 262-31-41401 - \$1,343,554 003044 262 41406 0000 262-31-41401 - \$ 317,035 003044 262 41407 0000 262-31-41401 - \$ 150,634 003044 262 41410 0000 262-31-41401 - \$ 199,151 <i>Expenditure:</i> 003044 81601 00000 0000 262 31 81601 - \$3,364,161				
Fiscal Procedures Approved:				Date:	11/16/2023

Attachment: Agreement No. 24-31-004-00 with Exhibits for Work Scope, Schedule, and Summary of Cost

<i>Approved by the Western Riverside County Programs and Projects Committee on November 27, 2023</i>					
In Favor:	12	Abstain:	0	No:	0

**PROFESSIONAL SERVICES AGREEMENT
WITH FHWA FUNDING/ASSISTANCE**

**RIVERSIDE COUNTY TRANSPORTATION COMMISSION
AGREEMENT WITH
PARSONS TRANSPORTATION GROUP INC
FOR
PROJECT AND CONSTRUCTION MANAGEMENT SERVICES
FOR THE
INTERSTATE 15 EXPRESS LANES PROJECT SOUTHERN EXTENSION**

Parties and Date.

This Agreement is made and entered into this ___ day of _____, 2023, by and between the RIVERSIDE COUNTY TRANSPORTATION COMMISSION ("the Commission") and PARSONS TRANSPORTATION GROUP INC. ("Consultant"), a CORPORATION. The Commission and Consultant are sometimes referred to herein individually as "Party", and collectively as the "Parties".

Recitals.

- A. On November 8, 1988 the Voters of Riverside County approved Measure A authorizing the collection of a one-half percent (1/2 %) retail transactions and use tax (the "tax") to fund transportation programs and improvements within the County of Riverside, and adopting the Riverside County Transportation Improvement Plan (the "Plan").
- B. Pursuant to Public Utility Code Sections 240000 et seq., the Commission is authorized to allocate the proceeds of the Tax in furtherance of the Plan.
- C. On November 5, 2002, the voters of Riverside County approved an extension of the Measure A tax for an additional thirty (30) years for the continued funding of transportation and improvements within the County of Riverside.
- D. A source of funding for payment for professional services provided under this Agreement is federal funds administered by the California Department of Transportation ("Caltrans") from the United States Department of Transportation pursuant to the following project/program: Congestion Mitigation and Air Quality (CMAQ), Surface Transportation Block Grant (STBG)/ Carbon Reduction Program (CRP).

E. Consultant desires to perform and assume responsibility for the provision of certain professional services required by the Commission on the terms and conditions set forth in this Agreement. Consultant represents that it is experienced in providing Project and Construction Management services to public clients, is licensed in the State of California (if necessary), and is familiar with the plans of the Commission.

F. The Commission desires to engage Consultant to render such services for the Interstate 15 Express Lanes Project Southern Extension ("Project"), as set forth in this Agreement.

Terms.

1. General Scope of Services. Consultant shall furnish all technical and professional services, including labor, material, equipment, transportation, supervision and expertise, and incidental and customary work necessary to fully and adequately supply the professional **Project and Construction Management** services necessary for the Project ("Services"). The Services are more particularly described in Exhibit "A" attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules and regulations.

2. Commencement of Services. The Consultant shall commence work upon receipt of a written "Notice to Proceed" or "Limited Notice to Proceed" from Commission.

3. Pre-Award Audit. As a result of the federal funding for this Project, and to the extent Caltrans procedures apply in connection therewith, issuance of a "Notice to Proceed" may be contingent upon completion and approval of a pre-award audit. Any questions raised during the pre-award audit shall be resolved before the Commission will consider approval of this Agreement. The federal aid provided under this Agreement is contingent on meeting all Federal requirements and could be withdrawn, thereby entitling the Commission to terminate this Agreement, if the procedures are not completed. The Consultant's files shall be maintained in a manner to facilitate Federal and State process reviews. In addition, the applicable federal agency, or Caltrans acting in behalf of a federal agency, may require that prior to performance of any work for which Federal reimbursement is requested and provided, that said federal agency or Caltrans must give to Commission an "Authorization to Proceed".

4. Caltrans Audit Procedures.

4.1 Consultant and certain subconsultant contracts, including cost proposals and ICR, are subject to audits or reviews such as, but not limited to, a contract audit, an incurred cost audit, an Independent Cost Review (ICR) Audit, or a CPA ICR audit work paper review. If selected for audit or review, this Agreement, Consultant's cost proposal and ICR and related work papers, if applicable, will be reviewed to verify compliance with 48 CFR, Part 31 and other related laws and regulations. In the instances of a CPA ICR audit work paper review it is Consultant's responsibility to ensure federal, state, or local government officials are allowed full access to the CPA's work papers including making copies as necessary. This Agreement, Consultant's cost proposal, and ICR shall be adjusted by Consultant and approved by the Commission's contract manager to conform to the audit or review recommendations. Consultant agrees that individual terms of costs identified in the audit report shall be incorporated into this Agreement by this reference if directed by Commission at its sole discretion. Refusal by Consultant to incorporate audit or review recommendations, or to ensure that the federal, state or local governments have access to CPA work papers, will be considered a breach of the Agreement terms and cause for termination of this Agreement and disallowance of prior reimbursed costs. Additional audit provisions applicable to this Agreement are set forth in Sections 24 and 25 of this Agreement.

4.2 During Caltrans' review of the ICR audit work papers created by the Consultant's independent CPA (which may include review by the Independent Office of Audits and Investigations), Caltrans will work with the CPA and/or Consultant toward a resolution of issues that arise during the review. Each party agrees to use its best efforts to resolve any audit disputes in a timely manner. If Caltrans identifies significant issues during the review and is unable to issue a cognizant approval letter, Commission will reimburse the Consultant at an accepted ICR until a FAR (Federal Acquisition Regulation) compliant ICR {e.g. 48 CFR Part 31; GAGAS (Generally Accepted Auditing Standards); CAS (Cost Accounting Standards), if applicable; in accordance with procedures and guidelines of the American Association of State Highways and Transportation Officials (AASHTO) Audit Guide; and other applicable procedures and guidelines} is received and approved by Caltrans.

Accepted rates will be as follows:

- a. If the proposed rate is less than one hundred fifty percent (150%) – the accepted rate reimbursed will be ninety percent (90%) of the proposed rate.
- b. If the proposed rate is between one hundred fifty percent (150%) and two hundred percent (200%) - the accepted rate will be eighty-five percent (85%) of the proposed rate.
- c. If the proposed rate is greater than two hundred percent (200%) - the accepted rate will be seventy-five percent (75%) of the proposed rate.

4.3 If Caltrans is unable to issue a cognizant letter per Section 4.2 above, Caltrans may require Consultant to submit a revised independent CPA-audited ICR and audit report within three (3) months of the effective date of the Caltrans' management letter. Caltrans will then have up to six (6) months to review the Consultant's and/or the independent CPA's revisions.

4.4 If the Consultant fails to comply with the provisions of this Section 4, or if Caltrans is still unable to issue a cognizant approval letter after the revised independent CPA audited ICR is submitted, overhead cost reimbursement will be limited to the accepted ICR that was established upon initial rejection of the ICR and set forth in Section 4.2 above for all rendered services. In this event, this accepted ICR will become the actual and final ICR for reimbursement purposes under this Agreement.

4.5 Consultant may submit to Commission final invoice only when all of the following items have occurred: (1) Caltrans accepts or adjusts the original or revised independent CPA audited ICR; (2) all work under this Agreement has been completed to the satisfaction of Commission; and, (3) Caltrans has issued its final ICR review letter. The Consultant must submit its final invoice to Commission no later than sixty (60) calendar days after occurrence of the last of these items. The accepted ICR will apply to this Agreement, and all other agreements executed between the Commission and the Consultant, either as a prime or subconsultant, with the same fiscal period ICR.

5. Term.

5.1 This Agreement shall go into effect on the date first set forth above, contingent upon approval by Commission, and Consultant shall commence work after notification to proceed by Commission's Contract Administrator. This Agreement shall end on **December 31, 2030**, unless extended by contract amendment.

5.2 Consultant is advised that any recommendation for Agreement award is not binding on Commission until this Agreement is fully executed and approved by the Commission.

5.3 This Agreement shall remain in effect until the date set forth above, unless earlier terminated as provided herein. Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. All applicable indemnification provisions of this Agreement shall remain in effect following the termination of this Agreement.

6. Commission's Contract Administrator. The Commission hereby designates the Commission's Executive Director, or his or her designee, to act as its Contract Administrator for the performance of this Agreement ("Commission's Contract Administrator"). Commission's Contract Administrator shall have the authority to act on behalf of the Commission for all purposes under this Agreement. Commission's Contract Administrator shall also review and give approval, as needed, to the details of

Consultant's work as it progresses. Consultant shall not accept direction or orders from any person other than the Commission's Contract Administrator or his or her designee.

7. Consultant's Representative. Consultant hereby designates Rick Grebner to act as its Representative for the performance of this Agreement ("Consultant's Representative"). Consultant's Representative shall have full authority to act on behalf of Consultant for all purposes under this Agreement. The Consultant's Representative shall supervise and direct the Services, using his or her professional skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the Services under this Agreement. Consultant shall work closely and cooperate fully with Commission's Contract Administrator and any other agencies which may have jurisdiction over, or an interest in, the Services. Consultant's Representative shall be available to the Commission staff at all reasonable times. Any substitution in Consultant's Representative shall be approved in writing by Commission's Contract Administrator.

8. Substitution of Key Personnel. Consultant has represented to the Commission that certain key personnel will perform and coordinate the Services under this Agreement. Should one or more of such personnel become unavailable, Consultant may substitute other personnel of at least equal competence upon written approval by the Commission. In the event that the Commission and Consultant cannot agree as to the substitution of the key personnel, the Commission shall be entitled to terminate this Agreement for cause, pursuant to the provisions herein. The key personnel for performance of this Agreement are as follows: Rick Grebner, Humayan Aziz, Michelle Cooper, Angela Schnapp, Lisa Woodward, Serge Sinevod, Sara Costin Mockus, Pooya Kadkhoda, David Berg, Rick Krebs, and Joe Bollert.

9. Standard of Care; Licenses; Evaluation.

9.1 Consultant represents and maintains that it is skilled in the professional calling necessary to perform all Services, duties and obligations required by this Agreement to fully and adequately complete the Project. Consultant shall perform the Services and duties in conformance to and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Consultant warrants that all employees and subcontractors shall have sufficient skill and experience to perform the Services assigned to them. Consultant further represents and warrants to the Commission that its employees and subcontractors have all licenses, permits, qualifications and approvals of whatever nature that are legally required to perform the Services, and that such licenses and approvals shall be maintained throughout the term of this Agreement. Consultant shall perform, at its own cost and expense and without reimbursement from the Commission, any services necessary to correct errors or omissions which are caused by the Consultant's failure to comply with the standard of care provided for herein, and shall be fully responsible to the Commission for all damages and other liabilities provided for in the indemnification provisions of this Agreement arising from the Consultant's errors and omissions. Any employee of Consultant or its sub-consultants who is determined

by the Commission to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, a threat to the safety of persons or property, or any employee who fails or refuses to perform the Services in a manner acceptable to the Commission, shall be promptly removed from the Project by the Consultant and shall not be re-employed to perform any of the Services or to work on the Project.

9.2 Consultant's performance will be evaluated by Commission. A copy of the evaluation will be sent to Consultant for comments. The evaluation together with the comments shall be retained as part of the Agreement record.

10. Independent Contractor. The Services shall be performed by Consultant or under its supervision. Consultant will determine the means, methods and details of performing the Services subject to the requirements of this Agreement. Commission retains Consultant on an independent contractor basis and not as an employee, agent or representative of the Commission. Consultant retains the right to perform similar or different services for others during the term of this Agreement. Any additional personnel performing the Services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Consultant shall pay all wages, salaries and other amounts due such personnel in connection with their performance of Services and as required by law. Consultant shall be responsible for all reports and obligations respecting such personnel, including but not limited to, social security taxes, income tax withholdings, unemployment insurance, disability insurance, and workers' compensation insurance. Consultant hereby indemnifies and holds the Commission harmless, pursuant to the indemnification provisions contained in this Agreement, from any and all claims that may be made against the Commission based upon any contention by any third party that an employer-employee relationship exists by reason of this Agreement.

11. Schedule of Services. Consultant shall perform the Services expeditiously, within the term of this Agreement, and in accordance with the Schedule of Services set forth in Exhibit "B" attached hereto and incorporated herein by reference. Consultant represents that it has the professional and technical personnel to perform the Services in conformance with such conditions. In order to facilitate Consultant's conformance with the Schedule, the Commission shall respond to Consultant's submittals in a timely manner. Upon request of Commission's Contract Administrator, Consultant shall provide a more detailed schedule of anticipated performance to meet the Schedule of Services.

11.1 Modification of the Schedule. Consultant shall regularly report to the Commission, through correspondence or progress reports, its progress in providing required Services within the scheduled time periods. Commission shall be promptly informed of all anticipated delays. In the event that Consultant determines that a schedule modification is necessary, Consultant shall promptly submit a revised Schedule of Services for approval by Commission's Contract Administrator.

11.2 Trend Meetings. Consultant shall conduct trend meetings with the Commission's Contract Administrator and other interested parties, as requested by the Commission, on a bi weekly basis or as may be mutually scheduled by the Parties at a standard day and time. These trend meetings will encompass focused and informal discussions concerning scope, schedule, and current progress of Services, relevant cost issues, and future Project objectives. Consultant shall be responsible for the preparation and distribution of meeting agendas to be received by the Commission and other attendees no later than three (3) working days prior to the meeting.

11.3 Progress Reports. As part of its monthly invoice, Consultant shall submit a progress report, in a form determined by the Commission, which will indicate the progress achieved during the previous month in relation to the Schedule of Services. Submission of such progress report by Consultant shall be a condition precedent to receipt of payment from the Commission for each monthly invoice submitted.

12. Delay in Performance.

12.1 Excusable Delays. Should Consultant be delayed or prevented from the timely performance of any act or Services required by the terms of the Agreement by reason of acts of God or of the public enemy, acts or omissions of the Commission or other governmental agencies in either their sovereign or contractual capacities, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes or unusually severe weather, performance of such act shall be excused for the period of such delay.

12.2 Written Notice. If Consultant believes it is entitled to an extension of time due to conditions set forth in subsection 12.1, Consultant shall provide written notice to the Commission within seven (7) working days from the time Consultant knows, or reasonably should have known, that performance of the Services will be delayed due to such conditions. Failure of Consultant to provide such timely notice shall constitute a waiver by Consultant of any right to an excusable delay in time of performance.

12.3 Mutual Agreement. Performance of any Services under this Agreement may be delayed upon mutual agreement of the Parties. Upon such agreement, Consultant's Schedule of Services shall be extended as necessary by the Commission. Consultant shall take all reasonable steps to minimize delay in completion, and additional costs, resulting from any such extension.

13. Preliminary Review of Work. All reports, working papers, and similar work products prepared for submission in the course of providing Services under this Agreement shall be submitted to the Commission's Contract Administrator in draft form, and the Commission may require revisions of such drafts prior to formal submission and approval. In the event plans and designs are to be developed as part of the Project, final detailed plans and designs shall be contingent upon obtaining environmental clearance as may be required in connection with Federal funding. In the event that Commission's Contract Administrator, in his or her sole discretion, determines the formally submitted work product to be not in accordance with the standard of care

established under this Agreement, Commission's Contract Administrator may require Consultant to revise and resubmit the work at no cost to the Commission.

14. Appearance at Hearings. If and when required by the Commission, Consultant shall render assistance at public hearings or other meetings related to the Project or necessary to the performance of the Services. However, Consultant shall not be required to, and will not, render any decision, interpretation or recommendation regarding questions of a legal nature or which may be construed as constituting a legal opinion.

15. Opportunity to Cure; Inspection of Work. Commission may provide Consultant an opportunity to cure, at Consultant's expense, all errors and omissions which may be disclosed during Project implementation. Should Consultant fail to make such correction in a timely manner, such correction may be made by the Commission, and the cost thereof charged to Consultant. Consultant shall allow the Commission's Contract Administrator, Caltrans and FHWA to inspect or review Consultant's work in progress at any reasonable time.

16. Claims Filed by Contractor.

16.1 If claims are filed by the Commission's contractor for the Project ("Contractor") relating to work performed by Consultant's personnel, and additional information or assistance from the Consultant's personnel is required by the Commission in order to evaluate or defend against such claims; Consultant agrees to make reasonable efforts to make its personnel available for consultation with the Commission's construction contract administration and legal staff and for testimony, if necessary, at depositions and at trial or arbitration proceedings.

16.2 Consultant's personnel that the Commission considers essential to assist in defending against Contractor claims will be made available on reasonable notice from the Commission. Consultation or testimony will be reimbursed at the same rates, including travel costs that are being paid for the Consultant's personnel services under this Agreement.

16.3 Services of the Consultant's personnel and other support staff in connection with Contractor claims will be performed pursuant to a written contract amendment, if necessary, extending the termination date of this Agreement in order to finally resolve the claims.

16.4 Nothing contained in this Section shall be construed to in any way limit Consultant's indemnification obligations contained in Section 29. In the case of any conflict between this Section and Section 29, Section 29 shall govern. This Section is not intended to obligate the Commission to reimburse Consultant for time spent by its personnel related to Contractor claims for which Consultant is required to indemnify and defend the Commission pursuant to Section 29 of this Agreement.

17. Final Acceptance. Upon determination by the Commission that Consultant has satisfactorily completed the Services required under this Agreement and within the term herein, the Commission shall give Consultant a written Notice of Final Acceptance. Upon receipt of such notice, Consultant shall incur no further costs hereunder, unless otherwise specified in the Notice of Final Acceptance. Consultant may request issuance of a Notice of Final Acceptance when, in its opinion, it has satisfactorily completed all Services required under the terms of this Agreement. In the event copyrights are permitted under this Agreement, then in connection with Federal funding, it is hereby acknowledged and agreed that the United States Department of Transportation shall have the royalty-free non-exclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, the work for governmental purposes.

18. Laws and Regulations. Consultant shall keep itself fully informed of and in compliance with all local, state and federal laws, rules and regulations in any manner affecting the performance of the Project or the Services, including all Cal/OSHA requirements, and shall give all notices required by law. For example, and not by way of limitation, Consultant shall keep itself fully informed of and in compliance with all implementing regulations, design standards, specifications, previous commitments that must be incorporated in the design of the Project, and administrative controls including those of the United States Department of Transportation. Compliance with Federal procedures may include completion of the applicable environmental documents and approved by the United States Department of Transportation. For example, and not by way of limitation, a signed Categorical Exclusion, Finding of No Significant Impact, or published Record of Decision may be required to be approved and/or completed by the United States Department of Transportation. Consultant shall be liable for all violations of such laws and regulations in connection with Services. If the Consultant performs any work knowing it to be contrary to such laws, rules and regulations and without giving written notice to the Commission, Consultant shall be solely responsible for all costs arising therefrom. Consultant shall defend, indemnify and hold Commission, its officials, directors, officers, employees and agents free and harmless, pursuant to the indemnification provisions of this Agreement, from any claim or liability arising out of any failure or alleged failure to comply with such laws, rules or regulations.

19. Fees and Payment.

19.1 The method of payment for this Agreement will be based on actual cost plus a fixed fee. Commission shall reimburse Consultant for actual costs (including labor costs, employee benefits, travel, equipment rental costs, overhead and other direct costs) incurred by Consultant in performance of the Services. Consultant shall not be reimbursed for actual costs that exceed the estimated wage rates, employee benefits, travel, equipment rental, overhead, and other estimated costs set forth in the approved Consultant cost proposal attached hereto as Exhibit "C" and incorporated herein by reference ("Cost Proposal") unless additional reimbursement is provided for by a written amendment. In no event shall Consultant be reimbursed for overhead costs at a rate that exceeds Commission's approved overhead rate set forth in the Cost Proposal. In

the event that Commission determines that a change to the Services from that specified in the Cost Proposal and this Agreement is required, the contract time or actual costs reimbursable by Commission shall be adjusted by contract amendment to accommodate the changed work. The maximum total cost as specified in Section 19.8 shall not be exceeded, unless authorized by a written amendment.

19.2 The indirect cost rate established for this Agreement is extended through the duration of this Agreement. Consultant's agreement to the extension of the 1-year applicable period shall not be a condition or qualification to be considered for the work or Agreement award.

19.3 In addition to the allowable incurred costs, Commission shall pay Consultant a fixed fee of [**INSERT DOLLAR AMOUNT**]. The fixed fee is nonadjustable for the term of this Agreement, except in the event of a significant change in the Scope of Services, and such adjustment is made by written amendment.

19.4 Reimbursement for transportation and subsistence costs shall not exceed the rates specified in the approved Cost Proposal. In addition, payments to Consultant for travel and subsistence expenses claimed for reimbursement or applied as local match credit shall not exceed rates authorized to be paid exempt non-represented State employees under current State Department of Personnel Administration (DPA) rules, unless otherwise authorized by Commission. If the rates invoiced are in excess of those authorized DPA rates, and Commission has not otherwise approved said rates, then Consultant is responsible for the cost difference and any overpayments shall be reimbursed to the Commission on demand.

19.5 When milestone cost estimates are included in the approved Cost Proposal, Consultant shall obtain prior written approval for a revised milestone cost estimate from the Contract Administrator before exceeding such cost estimate.

19.6 Progress payments shall be made monthly in arrears based on Services provided and allowable incurred costs. A pro rata portion of Consultant's fixed fee shall be included in the monthly progress payments. If Consultant fails to submit the required deliverable items according to the schedule set forth in the Scope of Services, Commission shall have the right to delay payment or terminate this Agreement in accordance with the provisions of Section 21 Termination.

19.7 No payment shall be made prior to approval of any Services, nor for any Services performed prior to approval of this Agreement.

19.8 Consultant shall be reimbursed, as promptly as fiscal procedures will permit upon receipt by Commission's Contract Administrator of undisputed, itemized invoices in triplicate. Invoices shall be submitted no later than 30 calendar days after the performance of work for which Consultant is billing. Invoices shall detail the work performed on each milestone and each project as applicable. Invoices shall follow the format stipulated for the approved Cost Proposal and shall reference this Agreement

number and project title. Final invoice must contain the final cost and all credits due Commission including any equipment purchased under the Equipment Purchase provisions of this Agreement. The final invoice should be submitted within 60 calendar days after completion of Consultant's work. Invoices shall be mailed to Commission's Contract Administrator at the following address:

Riverside County Transportation Commission
Attention: Accounts Payable
P.O. 12008
Riverside, CA 92502

19.9 The total amount payable by Commission including the fixed fee shall not exceed SEVENTY-EIGHT MILLION, SEVEN HUNDRED TWO THOUSAND, FIVE HUNDRED DOLLARS (\$78,702,500).

19.10 Salary increases shall be reimbursable if the new salary is within the salary range identified in the approved Cost Proposal and is approved by Commission's Contract Administrator. For personnel subject to prevailing wage rates as described in the California Labor Code, all salary increases, which are the direct result of changes in the prevailing wage rates are reimbursable.

19.11 Consultant shall not be reimbursed for any expenses unless authorized in writing by the Commission's Contract Administrator.

19.12 All subcontracts in excess of \$25,000 shall contain the above provisions.

20. Disputes.

20.1 Any dispute, other than audit, concerning a question of fact arising under this Agreement that is not disposed of by mutual agreement of the Parties shall be decided by a committee consisting of RCTC's Contract Administrator and the Director of Capital Projects, who may consider written or verbal information submitted by Consultant.

20.2 Not later than 30 days after completion of all Services under this Agreement, Consultant may request review by the Commission's Executive Director of unresolved claims or disputes, other than audit. The request for review will be submitted in writing.

20.3 Neither the pendency of a dispute, nor its consideration by the committee will excuse Consultant from full and timely performance in accordance with the terms of this Agreement.

21. Termination; Suspension.

21.1 Commission reserves the right to terminate this Agreement for any or no reason upon thirty (30) calendar days written notice to Consultant with the reasons for termination stated in the notice.

21.2 Commission may terminate this Agreement with Consultant should Consultant fail to perform the covenants herein contained at the time and in the manner herein provided. In the event of such termination, Commission may proceed with the work in any manner deemed proper by Commission. If Commission terminates this Agreement with Consultant, Commission shall pay Consultant the sum due to Consultant under this Agreement for Services completed and accepted prior to termination, unless the cost of completion to Commission exceeds the funds remaining in this Agreement. In such case, the overage shall be deducted from any sum due Consultant under this Agreement and the balance, if any, shall be paid to Consultant upon demand.

21.3 In addition to the above, payment upon termination shall include a prorated amount of profit, if applicable, but no amount shall be paid for anticipated profit on unperformed Services. Consultant shall provide documentation deemed adequate by Commission's Contract Administrator to show the Services actually completed by Consultant prior to the effective date of termination. This Agreement shall terminate on the effective date of the Notice of Termination.

21.4 Discontinuance of Services. Upon receipt of the written Notice of Termination, Consultant shall discontinue all affected Services as directed in the Notice or as otherwise provided herein, and deliver to the Commission all Documents and Data, as defined in this Agreement, as may have been prepared or accumulated by Consultant in performance of the Services, whether completed or in progress.

21.5 Effect of Termination for Cause. In addition to the above, Consultant shall be liable to the Commission for any reasonable additional costs incurred by the Commission to revise work for which the Commission has compensated Consultant under this Agreement, but which the Commission has determined in its sole discretion needs to be revised, in part or whole, to complete the Project because it did not meet the standard of care established herein. Termination of this Agreement for cause may be considered by the Commission in determining whether to enter into future agreements with Consultant.

21.6 Cumulative Remedies. The rights and remedies of the Parties provided in this Section are in addition to any other rights and remedies provided by law or under this Agreement.

21.7 Waivers. Consultant, in executing this Agreement, shall be deemed to have waived any and all claims for damages which may otherwise arise from the Commission's termination of this Agreement, for convenience or cause, as provided in this Section.

21.8 Consultant may not terminate this Agreement except for cause.

21.9 Suspension. In addition to the termination rights above, Commission may temporarily suspend this Agreement, at no additional cost to Commission, provided that Consultant is given written notice of temporary suspension. If Commission gives such notice of temporary suspension, Consultant shall immediately suspend its activities under this Agreement. A temporary suspension may be issued concurrent with a notice of termination.

22. Cost Principles and Administrative Requirements.

22.1 Consultant agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., shall be used to determine the cost allowability of individual items.

22.2 Consultant also agrees to comply with federal procedures in accordance with 2 CFR, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

22.3 Any costs for which payment has been made to Consultant that are determined by subsequent audit to be unallowable under 2 CFR, Part 200 and 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., are subject to repayment by Consultant to Commission.

22.4 All subcontracts in excess of \$25,000 shall contain the above provisions.

23. Retention of Records/Audit. For the purpose of determining compliance with Public Contract Code 10115, et seq. and Title 21, California Code of Regulations, Chapter 21, Section 2500 et seq., when applicable and other matters connected with the performance of this Agreement pursuant to Government Code 8546.7; Consultant, subconsultants, and Commission shall maintain and make available for inspection all books, documents, papers, accounting records, and other evidence pertaining to the performance of this Agreement, including but not limited to, the costs of administering this Agreement. All parties shall make such materials available at their respective offices at all reasonable times during this Agreement period and for three years from the date of final payment under this Agreement. The state, State Auditor, Commission, FHWA, or any duly authorized representative of the Federal Government shall have access to any books, records, and documents of Consultant and its certified public accountants (CPA) work papers that are pertinent to this Agreement and indirect cost rates (ICR) for audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested. Subcontracts in excess of \$25,000 shall contain this provision.

23.1 Accounting System. Consultant and its subcontractors shall establish and maintain an accounting system and records that properly accumulate and segregate expenditures by line item for the Services. The accounting system of

Consultant and its subcontractors shall conform to Generally Accepted Accounting Principles (GAAP), enable the determination of incurred costs at interim points of completion, and provide support for reimbursement payment vouchers or invoices.

24. Audit Review Procedures.

24.1 Any dispute concerning a question of fact arising under an interim or post audit of this Agreement that is not disposed of by agreement, shall be reviewed by Commission's Chief Financial Officer.

24.2 Not later than 30 days after issuance of the final audit report, Consultant may request a review by Commission's Chief Financial Officer of unresolved audit issues. The request for review shall be submitted in writing.

24.3 Neither the pendency of a dispute nor its consideration by Commission shall excuse Consultant from full and timely performance, in accordance with the terms of this Agreement.

25. Subcontracting.

25.1 Nothing contained in this Agreement or otherwise, shall create any contractual relation between Commission and any subconsultant(s), and no subcontract shall relieve Consultant of its responsibilities and obligations hereunder. Consultant agrees to be as fully responsible to Commission for the acts and omissions of its subconsultant(s) and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by Consultant. Consultant's obligation to pay its subconsultant(s) is an independent obligation from Commission's obligation to make payments to the Consultant.

25.2 Consultant shall perform the Services with resources available within its own organization and no portion of the Services shall be subcontracted without written authorization by Commission's Contract Administrator, except that, which is expressly identified in the approved Cost Proposal.

25.3 Consultant shall pay its subconsultants within fifteen (15) calendar days from receipt of each payment made to Consultant by Commission.

25.4 Any subcontract in excess of \$25,000 entered into as a result of this Agreement shall contain all the provisions stipulated in this Agreement to be applicable to subconsultants.

25.5 Any substitution of subconsultant(s) must be approved in writing by Commission's Contract Administrator prior to the start of work by the subconsultant(s).

25.6 Exhibit "C" may also set forth the rates at which each subconsultant shall bill the Consultant for Services and that are subject to reimbursement by the

Commission to Consultant. Additional Direct Costs, as defined in Exhibit "C" shall be the same for both the Consultant and all subconsultants, unless otherwise identified in Exhibit "C". The subconsultant rate schedules and cost proposals contained herein are for accounting purposes only.

26. Equipment Purchase

26.1 Prior authorization, in writing, by Commission's Contract Administrator shall be required before Consultant enters into any unbudgeted purchase order, or subcontract for supplies, equipment, or Consultant services. Consultant shall provide an evaluation of the necessity or desirability of incurring such costs.

26.2 For purchase of any item, service or consulting work not covered in Consultant's Cost Proposal and exceeding \$5,000 prior authorization by Commission's Contract Administrator is required. Three competitive quotations must be submitted with the request for such purchase, or the absence of bidding must be adequately justified.

26.3 Any equipment purchased as a result of this Agreement is subject to the following:

Consultant shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of \$5,000 or more. If the purchased equipment needs replacement and is sold or traded in, Commission shall receive a proper refund or credit at the conclusion of this Agreement, or if this Agreement is terminated, Consultant may either keep the equipment and credit Commission in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale, in accordance with established Commission procedures; and credit Commission in an amount equal to the sales price. If Consultant elects to keep the equipment, fair market value shall be determined at Consultant's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to Commission and Consultant. If Consultant determines to sell the equipment, the terms and conditions of such sale must be approved in advance by Commission. 2 CFR, Part 200 requires a credit to Federal funds when participating equipment with a fair market value greater than \$5,000 is credited to the project.

26.4 All subcontracts in excess \$25,000 shall contain the above provisions.

27. Labor Code Requirements.

27.1 Prevailing Wages.

(a) Consultant shall comply with the State of California's General Prevailing Wage Rate requirements in accordance with California Labor Code, Section 1770, and all Federal, State, and local laws and ordinances applicable to the Services.

(b) Any subcontract entered into as a result of this Agreement, if for more than \$25,000 for public works construction or more than \$15,000 for the alteration, demolition, repair, or maintenance of public works, shall contain all of the provisions of this Section.

(c) When prevailing wages apply to the Services described in the Scope of Services, transportation and subsistence costs shall be reimbursed at the minimum rates set by the Department of Industrial Relations (DIR) as outlined in the applicable Prevailing Wage Determination. See <http://www.dir.ca.gov>.

(d) Copies of the prevailing rate of per diem wages in effect at commencement of this Agreement are on file at the Commission's offices. Consultant shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to execute the Services available to interested parties upon request, and shall post copies at the Consultant's principal place of business and at the project site. Consultant shall defend, indemnify and hold the Commission, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

27.2 DIR Registration. If the Services are being performed as part of an applicable "public works" or "maintenance" project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants must be registered with the Department of Industrial Relations. If applicable, Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants. This Project may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements.

27.3 Eight-Hour Law. Pursuant to the provisions of the California Labor Code, eight hours of labor shall constitute a legal day's work, and the time of service of any worker employed on the work shall be limited and restricted to eight hours during any one calendar day, and forty hours in any one calendar week, except when payment for overtime is made at not less than one and one-half the basic rate for all hours worked in excess of eight hours per day ("Eight-Hour Law"), unless Consultant or the Services are not subject to the Eight-Hour Law. Consultant shall forfeit to Commission as a penalty, \$50.00 for each worker employed in the execution of this Agreement by him, or by any sub-consultant under him, for each calendar day during which such workman is required

or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week without such compensation for overtime violation of the provisions of the California Labor Code, unless Consultant or the Services are not subject to the Eight-Hour Law.

27.4 Employment of Apprentices. This Agreement shall not prevent the employment of properly indentured apprentices in accordance with the California Labor Code, and no employer or labor union shall refuse to accept otherwise qualified employees as indentured apprentices on the work performed hereunder solely on the ground of race, creed, national origin, ancestry, color or sex. Every qualified apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade in which he or she is employed and shall be employed only in the craft or trade to which he or she is registered.

If California Labor Code Section 1777.5 applies to the Services, Consultant and any subcontractor hereunder who employs workers in any apprenticeable craft or trade shall apply to the joint apprenticeship council administering applicable standards for a certificate approving Consultant or any sub-consultant for the employment and training of apprentices. Upon issuance of this certificate, Consultant and any sub-consultant shall employ the number of apprentices provided for therein, as well as contribute to the fund to administer the apprenticeship program in each craft or trade in the area of the work hereunder.

The parties expressly understand that the responsibility for compliance with provisions of this Section and with Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code in regard to all apprenticeable occupations lies with Consultant

28. Ownership of Materials/Confidentiality.

28.1 Documents & Data. This Agreement creates an exclusive and perpetual license for Commission to copy, use, modify, reuse, or sub-license any and all copyrights and designs embodied in plans, specifications, studies, drawings, estimates, materials, data and other documents or works of authorship fixed in any tangible medium of expression, including but not limited to, physical drawings or data magnetically or otherwise recorded on computer diskettes, which are prepared or caused to be prepared by Consultant under this Agreement ("Documents & Data").

Consultant shall require all subcontractors to agree in writing that Commission is granted an exclusive and perpetual license for any Documents & Data the subcontractor prepares under this Agreement.

Consultant represents and warrants that Consultant has the legal right to grant the exclusive and perpetual license for all such Documents & Data. Consultant makes no such representation and warranty in regard to Documents & Data which were prepared by design professionals other than Consultant or provided to Consultant by the Commission.

Commission shall not be limited in any way in its use of the Documents & Data at any time, provided that any such use not within the purposes intended by this Agreement shall be at Commission's sole risk.

28.2 Intellectual Property. In addition, Commission shall have and retain all right, title and interest (including copyright, patent, trade secret and other proprietary rights) in all plans, specifications, studies, drawings, estimates, materials, data, computer programs or software and source code, enhancements, documents, and any and all works of authorship fixed in any tangible medium or expression, including but not limited to, physical drawings or other data magnetically or otherwise recorded on computer media ("Intellectual Property") prepared or developed by or on behalf of Consultant under this Agreement as well as any other such Intellectual Property prepared or developed by or on behalf of Consultant under this Agreement.

The Commission shall have and retain all right, title and interest in Intellectual Property developed or modified under this Agreement whether or not paid for wholly or in part by Commission, whether or not developed in conjunction with Consultant, and whether or not developed by Consultant. Consultant will execute separate written assignments of any and all rights to the above referenced Intellectual Property upon request of Commission.

Consultant shall also be responsible to obtain in writing separate written assignments from any subcontractors or agents of Consultant of any and all right to the above referenced Intellectual Property. Should Consultant, either during or following termination of this Agreement, desire to use any of the above-referenced Intellectual Property, it shall first obtain the written approval of the Commission.

All materials and documents which were developed or prepared by the Consultant for general use prior to the execution of this Agreement and which are not the copyright of any other party or publicly available and any other computer applications, shall continue to be the property of the Consultant. However, unless otherwise identified and stated prior to execution of this Agreement, Consultant represents and warrants that it has the right to grant the exclusive and perpetual license for all such Intellectual Property as provided herein.

Commission further is granted by Consultant a non-exclusive and perpetual license to copy, use, modify or sub-license any and all Intellectual Property otherwise owned by Consultant which is the basis or foundation for any derivative, collective, insurrectional, or supplemental work created under this Agreement.

28.3 Confidentiality. All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other Documents and Data either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant. Such materials shall not, without the prior written consent of Commission,

be used by Consultant for any purposes other than the performance of the Services. Nor shall such materials be disclosed to any person or entity not connected with the performance of the Services or the Project. Nothing furnished to Consultant which is otherwise known to Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use Commission's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production or other similar medium without the prior written consent of Commission.

28.4 **Infringement Indemnification.** Consultant shall defend, indemnify and hold the Commission, its directors, officials, officers, employees, volunteers and agents free and harmless, pursuant to the indemnification provisions of this Agreement, for any alleged infringement of any patent, copyright, trade secret, trade name, trademark, or any other proprietary right of any person or entity in consequence of the use on the Project by Commission of the Documents & Data, including any method, process, product, or concept specified or depicted.

29. **Indemnification.** To the fullest extent permitted by law, Consultant shall defend (with counsel of Commission's choosing), indemnify and hold Commission, its directors, officials, officers, employees, consultants, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of or incident to alleged negligent acts, omissions, or willful misconduct of Consultant, its officials, officers, employees, agents, consultants, and contractors arising out of or in connection with the performance of the Services, the Project or this Agreement, including without limitation the payment of consequential damages, expert witness fees, and attorneys fees and other related costs and expenses. Consultant shall defend, at Consultant's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against Commission, its directors, officials, officers, employees, consultants, agents, or volunteers. Consultant shall pay and satisfy any judgment, award or decree that may be rendered against Commission or its directors, officials, officers, employees, consultants, agents, or volunteers, in any such suit, action or other legal proceeding. Consultant shall reimburse Commission and its directors, officials, officers, employees, consultants, agents, and/or volunteers, for any and all legal expenses and costs, including reasonable attorney's fees, incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by Commission, its directors, officials officers, employees, consultants, agents, or volunteers.

If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance as a "design professional" (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence,

recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

Consultant's obligations as set forth in this Section shall survive expiration or termination of this Agreement.

30. Insurance.

30.1 Time for Compliance. Consultant shall not commence work under this Agreement until it has provided evidence satisfactory to the Commission that it has secured all insurance required under this Section, in a form and with insurance companies acceptable to the Commission. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has secured all insurance required under this Section.

30.2 Minimum Requirements. Consultant shall, at its expense, procure and maintain for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Agreement by the Consultant, its agents, representatives, employees or subcontractors. Consultant shall also require all of its subcontractors to procure and maintain the same insurance for the duration of the Agreement. Such insurance shall meet at least the following minimum levels of coverage:

(a) Minimum Scope of Insurance. Coverage shall be at least as broad as the latest version of the following: (1) General Liability: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001 or exact equivalent); (2) Automobile Liability: Insurance Services Office Business Auto Coverage (form CA 0001, code 1 (any auto) or exact equivalent); and (3) Workers' Compensation and Employer's Liability: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

(b) Minimum Limits of Insurance. Consultant shall maintain limits no less than: (1) General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with general aggregate limit is used, either the general aggregate limit shall apply separately to this Agreement/location or the general aggregate limit shall be twice the required occurrence limit. Limits may be achieved by any combination of primary and excess or umbrella liability insurance; (2) Automobile Liability: \$2,000,000 per accident for bodily injury and property damage. Limits may be achieved by any combination of primary and excess or umbrella liability insurance; and (3) Workers' Compensation and Employer's Liability: Workers' Compensation limits as required by the Labor Code of the State of California. Employer's Practices Liability limits of \$1,000,000 per accident.

30.3 Professional Liability. Consultant shall procure and maintain, and require its sub-consultants to procure and maintain, for a period of five (5) years following completion of the Project, errors and omissions liability insurance appropriate to their profession. For Consultant, such insurance shall be in an amount not less than \$1,000,000 per claim. This insurance shall be endorsed to include contractual liability applicable to this Agreement and shall be written on a policy form coverage specifically designed to protect against acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured and must include a provision establishing the insurer's duty to defend. Subconsultants of Consultant shall obtain such insurance in an amount not less than \$1,000,000 per claim. Notwithstanding the foregoing, the Commission may consider written requests to lower or dispense with the errors and omissions liability insurance requirement contained in this Section for certain subconsultants of Consultant, on a case-by-case basis, depending on the nature and scope of the Services to be provided by the subconsultant. Approval of such request shall be in writing, signed by the Commission's Contract Administrator.

30.4 Aircraft Liability Insurance. Prior to conducting any Services requiring use of aircraft, Consultant shall procure and maintain, or cause to be procured and maintained, aircraft liability insurance or equivalent form, with a single limit as shall be required by the Commission. Such insurance shall include coverage for owned, hired and non-owned aircraft and passengers, and shall name, or be endorsed to name, the Commission, Caltrans and their directors, officials, officers, employees and agents as additional insureds with respect to the Services or operations performed by or on behalf of the Consultant.

30.5 Insurance Endorsements. The insurance policies shall contain the following provisions, or Consultant shall provide endorsements on forms approved by the Commission to add the following provisions to the insurance policies:

(a) General Liability.

(i) Commercial General Liability Insurance must include coverage for (1) bodily Injury and property damage; (2) personal Injury/advertising Injury; (3) premises/operations liability; (4) products/completed operations liability; (5) aggregate limits that apply per Project; (6) explosion, collapse and underground (UCX) exclusion deleted; (7) contractual liability with respect to this Agreement; (8) broad form property damage; and (9) independent consultants coverage.

(ii) The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to this Agreement.

(iii) The policy shall give the Commission, its directors, officials, officers, employees, and agents insured status using ISO endorsement forms 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage.

(iv) The additional insured coverage under the policy shall be “primary and non-contributory” and will not seek contribution from the Commission’s or Caltrans’ insurance or self-insurance and shall be at least as broad as CG 20 01 04 13, or endorsements providing the exact same coverage.

(b) Automobile Liability. The automobile liability policy shall be endorsed to state that: (1) the Commission, Caltrans and their directors, officials, officers, employees and agents shall be covered as additional insureds with respect to the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Consultant or for which the Consultant is responsible; and (2) the insurance coverage shall be primary insurance as respects the Commission, Caltrans and their directors, officials, officers, employees and agents, or if excess, shall stand in an unbroken chain of coverage excess of the Consultant’s scheduled underlying coverage. Any insurance or self-insurance maintained by the Commission, Caltrans and their directors, officials, officers, employees and agents shall be excess of the Consultant’s insurance and shall not be called upon to contribute with it in any way.

(c) Workers’ Compensation and Employers Liability Coverage.

(i) Consultant certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing work under this Agreement.

(ii) The insurer shall agree to waive all rights of subrogation against the Commission, its directors, officials, officers, employees and agents for losses paid under the terms of the insurance policy which arise from work performed by the Consultant.

(d) All Coverages.

(i) Defense costs shall be payable in addition to the limits set forth hereunder.

(ii) Requirements of specific coverage or limits contained in this Section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits set forth herein shall be available to the Commission, Caltrans and their directors, officials, officers, employees and agents as additional insureds under said policies. Furthermore, the

requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater.

(iii) The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the Commission (if agreed to in a written contract or agreement) before the Commission's own insurance or self-insurance shall be called upon to protect it as a named insured. The umbrella/excess policy shall be provided on a "following form" basis with coverage at least as broad as provided on the underlying policy(ies).

(iv) Consultant shall provide the Commission at least thirty (30) days prior written notice of cancellation of any policy required by this Agreement, except that the Consultant shall provide at least ten (10) days prior written notice of cancellation of any such policy due to non-payment of premium. If any of the required coverage is cancelled or expires during the term of this Agreement, the Consultant shall deliver renewal certificate(s) including the General Liability Additional Insured Endorsement to the Commission at least ten (10) days prior to the effective date of cancellation or expiration.

(v) The retroactive date (if any) of each policy is to be no later than the effective date of this Agreement. Consultant shall maintain such coverage continuously for a period of at least three years after the completion of the work under this Agreement. Consultant shall purchase a one (1) year extended reporting period A) if the retroactive date is advanced past the effective date of this Agreement; B) if the policy is cancelled or not renewed; or C) if the policy is replaced by another claims-made policy with a retroactive date subsequent to the effective date of this Agreement.

(vi) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the Commission, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(vii) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, Commission has the right but not the duty to obtain the insurance it deems necessary and any premium paid by Commission will be promptly reimbursed by Consultant or Commission will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, Commission may cancel this Agreement. The Commission may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(viii) Neither the Commission nor any of its directors, officials, officers, employees or agents shall be personally responsible for any liability arising under or by virtue of this Agreement.

Each insurance policy required by this Agreement shall be endorsed to state that:

30.6 Deductibles and Self-Insurance Retentions. Any deductibles or self-insured retentions must be declared to and approved by the Commission. If the Commission does not approve the deductibles or self-insured retentions as presented, Consultant shall guarantee that, at the option of the Commission, either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Commission, its directors, officials, officers, employees and agents; or, (2) the Consultant shall procure a bond guaranteeing payment of losses and related investigation costs, claims and administrative and defense expenses.

30.7 Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating no less than A:VIII, licensed to do business in California, and satisfactory to the Commission.

30.8 Verification of Coverage. Consultant shall furnish Commission with original certificates of insurance and endorsements effecting coverage required by this Agreement on forms satisfactory to the Commission. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements must be received and approved by the Commission before work commences. The Commission reserves the right to require complete, certified copies of all required insurance policies, at any time.

30.9 Subconsultant Insurance Requirements. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the Commission that they have secured all insurance required under this Section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the Commission as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, the Commission may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

30.10 Other Insurance. At its option, the Commission may require such additional coverage(s), limits and/or the reduction of deductibles or retentions it considers reasonable and prudent based upon risk factors that may directly or indirectly impact the Project. In retaining this option Commission does not warrant Consultant's insurance program to be adequate. Consultant shall have the right to purchase insurance in addition to the insurance required in this Section.

31. Safety. Consultant shall execute and maintain its work so as to avoid injury or damage to any person or property. In carrying out its Services, the Consultant shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and shall exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed. Safety precautions as applicable shall include, but shall not be limited to: (A) adequate life protection and life saving equipment and procedures; (B) instructions in accident prevention for all employees and subcontractors, such as safe walkways, scaffolds, fall protection ladders, bridges, gang planks, confined space procedures, trenching and shoring, equipment and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accidents or injuries; and (C) adequate facilities for the proper inspection and maintenance of all safety measures.

As between Consultant and the construction contractors only, the construction contractors shall remain solely responsible for construction safety notwithstanding any safety obligations of Consultant at the jobsite. The foregoing sentence shall not impact nor in any way modify or alter Consultant's indemnity and defense obligations to the Commission, as set forth in Section 29 of this Agreement, not any of Consultant's duties or obligations set forth under this Agreement, including the attached exhibits.

Pursuant to the authority contained in Section 591 of the Vehicle Code, the Commission has determined that the Project will contain areas that are open to public traffic. Consultant shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. Consultant shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.

32. Additional Work. Any work or activities that are in addition to, or otherwise outside of, the Services to be performed pursuant to this Agreement shall only be performed pursuant to a separate agreement between the parties. Notwithstanding the foregoing, the Commission's Executive Director may make a change to the Agreement, other than a Cardinal Change. For purposes of this Agreement, a Cardinal Change is a change which is "outside the scope" of the Agreement; in other words, work which should not be regarded as having been fairly and reasonably within the contemplation of the parties when the Agreement was entered into. An example of a change which is not a Cardinal Change would be where, in a contract to construct a building there are many changes in the materials used, but the size and layout of the building remains the same. Cardinal Changes are not within the authority of this provision to order, and shall be processed by the Commission as "sole source" procurements according to applicable law, including the requirements of FTA Circular 4220.1D, paragraph 9(f).

(a) In addition to the changes authorized above, a modification which is signed by Consultant and the Commission's Executive Director, other than a Cardinal Change, may be made in order to: (1) make a negotiated equitable adjustment to the Agreement price, delivery schedule and other terms resulting from the issuance of a

Change Order, (2) reflect definitive letter contracts, and (3) reflect other agreements of the parties modifying the terms of this Agreement (“Bilateral Contract Modification”).

(b) Consultant shall not perform, nor be compensated for any change, without written authorization from the Commission’s Executive Director as set forth herein. In the event such a change authorization is not issued and signed by the Commission’s Executive Director, Consultant shall not provide such change.

33. Prohibited Interests.

33.1 Solicitation. Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, the Commission shall have the right to rescind this Agreement without liability.

33.2 Consultant Conflict of Interest.

(a) Consultant shall disclose any financial, business, or other relationship with Commission that may have an impact upon the outcome of this Agreement, or any ensuing Commission construction project. Consultant shall also list current clients who may have a financial interest in the outcome of this Agreement, or any ensuing Commission construction project, which will follow.

(b) Consultant hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of Services under this Agreement. Consultant agrees to advise Commission of any actual, apparent or potential conflicts of interest that may develop subsequent to the date of execution of this Agreement. Consultant further agrees to complete any statements of economic interest if required by either Commission or State law.

(c) Any subcontract in excess of \$25,000 entered into as a result of this Agreement, shall contain all of the provisions of this Article.

(d) Consultant hereby certifies that neither Consultant, nor any firm affiliated with Consultant will bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this Agreement. An affiliated firm is one, which is subject to the control of the same persons through joint-ownership, or otherwise.

(e) Except for subconsultants whose services are limited to providing surveying or materials testing information, no subconsultant who has provided design services in connection with this Agreement shall be eligible to bid on any construction

contract, or on any contract to provide construction inspection for any construction project resulting from this Agreement.

33.3 Commission Conflict of Interest. For the term of this Agreement, no member, officer or employee of the Commission, during the term of his or her service with the Commission, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

33.4 Conflict of Employment. Employment by the Consultant of personnel currently on the payroll of the Commission shall not be permitted in the performance of this Agreement, even though such employment may occur outside of the employee's regular working hours or on weekends, holidays or vacation time. Further, the employment by the Consultant of personnel who have been on the Commission payroll within one year prior to the date of execution of this Agreement, where this employment is caused by and or dependent upon the Consultant securing this or related Agreements with the Commission, is prohibited.

33.5 Covenant Against Contingent Fees. As required in connection with federal funding, the Consultant warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the Consultant, to solicit or secure this Agreement, and that he/she has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or formation of this Agreement. For breach or violation of this warranty, the Commission shall have the right to terminate this Agreement without liability pursuant to the terms herein, or at its discretion to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

33.6 Rebates, Kickbacks or Other Unlawful Consideration. Consultant warrants that this Agreement was not obtained or secured through rebates kickbacks or other unlawful consideration, either promised or paid to any Commission employee. For breach or violation of this warranty, Commission shall have the right in its discretion; to terminate this Agreement without liability; to pay only for the value of the work actually performed; or to deduct from the contract price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

33.7 Covenant Against Expenditure of Commission, State or Federal Funds for Lobbying. The Consultant certifies that to the best of his/ her knowledge and belief no state, federal or local agency appropriated funds have been paid, or will be paid by or on behalf of the Consultant to any person for the purpose of influencing or attempting to influence an officer or employee of any state or federal agency; a Member of the State Legislature or United States Congress; an officer or employee of the Legislature or Congress; or any employee of a Member of the Legislature or Congress, in connection with the award of any state or federal contract, grant, loan, or cooperative agreement, or

the extension, continuation, renewal, amendment, or modification of any state or federal contract, grant, loan, or cooperative agreement.

(a) If any funds other than federal appropriated funds have been paid, or will be paid to any person for the purpose of influencing or attempting to influence an officer or employee of any federal agency; a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress; in connection with this Agreement, the Consultant shall complete and submit the attached Exhibit "F", Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with the attached instructions.

(b) The Consultant's certification provided in this Section is a material representation of fact upon which reliance was placed when this Agreement was entered into, and is a prerequisite for entering into this Agreement pursuant to Section 1352, Title 31, US. Code. Failure to comply with the restrictions on expenditures, or the disclosure and certification requirements set forth in Section 1352, Title 31, US. Code may result in a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

(c) The Consultant also agrees by signing this Agreement that he/she shall require that the language set forth in this Section be included in all Consultant subcontracts which exceed \$100,000, and that all such subcontractors shall certify and disclose accordingly.

33.8 Employment Adverse to the Commission. Consultant shall notify the Commission, and shall obtain the Commission's written consent, prior to accepting work to assist with or participate in a third-party lawsuit or other legal or administrative proceeding against the Commission during the term of this Agreement.

34. Equal Opportunity Employment. Consultant represents that it is an equal opportunity employer and it shall not discriminate against any subcontractor, employee or applicant for employment because of race, religion, color, national origin, ancestry, sex or age. Such non-discrimination shall include, but not be limited to, all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination.

35. Right to Employ Other Consultants. Commission reserves the right to employ other consultants in connection with the Project.

36. Governing Law. This Agreement shall be governed by and construed with the laws of the State of California. Venue shall be in Riverside County.

37. Disputes; Attorneys' Fees.

37.1 Prior to either party commencing any legal action under this Agreement, the Parties agree to try in good faith, to resolve any dispute amicably between them. If a dispute has not been resolved after forty-five (45) days of good-faith negotiations and as may be otherwise provided herein, then either Party may seek any other available remedy to resolve the dispute.

37.2. If either Party commences an action against the other Party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing Party in such litigation shall be entitled to have and recover from the losing Party reasonable attorneys' fees and, all other costs of such actions.

38. Time of Essence. Time is of the essence for each and every provision of this Agreement.

39. Headings. Article and Section Headings, paragraph captions or marginal headings contained in this Agreement are for convenience only and shall have no effect in the construction or interpretation of any provision herein.

39.1 Notices. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

CONSULTANT:

Parsons Transportation Group, Inc.
3200 East Guasti Road
Suite 200
Ontario, CA 91761

COMMISSION:

Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92501
Attn: Executive Director

Such notice shall be deemed made when personally delivered or when mailed, forty-eight (48) hours after deposit in the U.S. mail, first class postage prepaid, and addressed to the Party at its applicable address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

40. Conflicting Provisions. In the event that provisions of any attached exhibits conflict in any way with the provisions set forth in this Agreement, the language, terms and conditions contained in this Agreement shall control the actions and obligations of the Parties and the interpretation of the Parties' understanding concerning the performance of the Services.

41. Amendment or Modification. No supplement, modification, or amendment of this Agreement shall be binding unless executed in writing and signed by both Parties.

42. Entire Agreement. This Agreement contains the entire agreement of the Parties relating to the subject matter hereof and supersedes all prior negotiations, agreements or understandings.

43. Invalidity; Severability. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

44. Provisions Applicable When Federal Department of Transportation Funds Are Involved. When funding for the Services provided by this Agreement are provided, in whole or in part, from the United States Department of Transportation, Consultant shall also fully and adequately comply with the provisions included in Exhibit "D" (Federal Department of Transportation Requirements and California Department of Transportation (Caltrans) DBE program requirements) attached hereto and incorporated herein by reference.

45. Survival. All rights and obligations hereunder that by their nature are to continue after any expiration or termination of this Agreement, including, but not limited to, the indemnification and confidentiality obligations, shall survive any such expiration or termination.

46. No Third Party Beneficiaries. There are no intended third party beneficiaries of any right or obligation assumed by the Parties.

47. Labor Certification. By its signature hereunder, Consultant certifies that it is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and agrees to comply with such provisions before commencing the performance of the Services.

48. Counterparts. This Agreement may be signed in counterparts, each of which shall constitute an original.

49. Subpoenas or Court Orders. Should Consultant receive a subpoena or court order related to this Agreement, the Services or the Project, Consultant shall immediately provide written notice of the subpoena or court order to the Commission. Consultant shall not respond to any such subpoena or court order until notice to the Commission is provided as required herein, and shall cooperate with the Commission in responding to the subpoena or court order.

50. Assignment or Transfer. Consultant shall not assign, hypothecate, or transfer, either directly or by operation of law, this Agreement or any interest herein, without the prior written consent of the Commission. Any attempt to do so shall be null and void, and any assignees, hypothecates or transferees shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer.

51. Successors and Assigns. This Agreement shall be binding on the successors and assigns of the parties, and shall not be assigned by Consultant without the prior written consent of Commission.

52. Incorporation of Recitals. The recitals set forth above are true and correct and are incorporated into this Agreement as though fully set forth herein.

53. No Waiver. Failure of Commission to insist on any one occasion upon strict compliance with any of the terms, covenants or conditions hereof shall not be deemed a waiver of such term, covenant or condition, nor shall any waiver or relinquishment of any rights or powers hereunder at any one time or more times be deemed a waiver or relinquishment of such other right or power at any other time or times.

DRAFT
[Signatures on following page]

**SIGNATURE PAGE
TO
PROFESSIONAL SERVICES AGREEMENT
WITH FHWA FUNDING/ASSISTANCE**

IN WITNESS WHEREOF, this Agreement was executed on the date first written above.

<p>RIVERSIDE COUNTY TRANSPORTATION COMMISSION</p> <p>By: _____ Anne Mayer Executive Director</p> <p><i>Approved as to Form:</i></p> <p>By: _____ Best, Best & Krieger LLP General Counsel</p>	<p>PARSONS TRANSPORTATION GROUP INC.</p> <p>By: _____ Signature</p> <p>_____ Name</p> <p>_____ Title</p> <p>ATTEST:</p> <p>By: _____</p> <p>Its: _____</p>
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* A corporation requires the signatures of two corporate officers.

One signature shall be that of the chairman of board, the president or any vice president and the second signature (on the attest line) shall be that of the secretary, any assistant secretary, the chief financial officer or any assistant treasurer of such corporation.

If the above persons are not the intended signators, evidence of signature authority shall be provided to RCTC.

EXHIBIT "A"

SCOPE OF SERVICES

[attached behind this page]

DRAFT

APPENDIX "A"

SCOPE OF WORK

DRAFT

EXHIBIT A

SCOPE OF WORK

This Scope of Work (SOW) assumes that future work related to the planning, procurement, design, construction, and toll system delivery of the I-15 Express Lanes Project Southern Extension (Project) will be accomplished through up to four primary contracts: Project and Construction Manager (PCM) [subject of this RFQ], Progressive Design-Build (PDB) Legal Advisor, Progressive Design-Build Contractor (PDB Contractor), and a Toll Services Provider. This SOW also uses the terms PDB Contractor and Toll Services Provider throughout to reflect the key relationship between these two specific contracts. At this time, however, this assumption of four primary contracts is preliminary and used in this document simply as a matter of convenience and it is possible that some of these contracts and/or scope items could be combined in the future. Specific decisions as to how the Commission will procure and deliver these future services have yet to be made. Included in this PCM SOW are services to analyze, recommend, and assist the Commission in these future decisions.

The selected Offeror will be required to initiate certain project services. Examples of these project services include preliminary design of some project elements, preliminary utility agreements, right-of-way (ROW) engineering, toll planning documents, etc. Additionally, the selected Offeror may be required to initiate and complete other project services. Examples of these project services include the completion of the 401/404/408/1602 permit processes, the SEMP and Project Management Plan (PMP). Selected Offeror shall work with the Commission to define the project services where such strategies are applicable and beneficial to the Project.

The Offeror shall assist the Commission in the planning; financial planning; procurement of design and construction; and general management and oversight of the Project. The Offeror will provide the Commission with the agreed upon staff, resources, and expertise to manage the Project. The PCM tasks and activities are as described below and in the following sections.

It is the Commission's intent that the Project be delivered with a phased delivery, subject to available state, local, and federal funding sources and include the following major activities:

1. Project Phased Delivery Plan Development, which will analyze and develop the necessary elements to fund, procure, and deliver a phased delivery of the Project via Progressive Design Build (PDB);
2. Investment Grade Traffic and Revenue / Financial Analysis Support, which includes updating Capital and Operations & Maintenance Cost estimates;
3. Grant Planning and Pursuit, which includes identifying federal and state

discretionary funds/grant opportunities, recommending and implementing grant success strategies, and preparing grant winning applications;

4. PDB Procurement, which includes developing the PDB contract in coordination with the Commission's PDB Legal Advisor and all supporting documents/agreements/evaluations in conformance with best industry practices;
5. PDB Phase 1, which includes the administration of the PDB contract and design oversight of the PDB Contractor in developing design submittals and preparation of the Independent Cost Estimates in support of negotiating a Guaranteed Maximum Price (GMP), targeting a Notice to Proceed with Construction as required for each phased work package;
6. PDB Phase 2, which includes the final design and construction Quality Verification of the PDB contractor in accordance with the agreed upon Project Phasing Plan and negotiated GMP requirements;
7. Toll System Coordination, which includes coordinating with the Commission's Toll Operations Department, PDB Contractor and Toll Services Provider for the installation and integration of the Project's on-road toll equipment.

This PCM SOW was written with the intent to describe all planned PCM services to be provided by the Offeror. However, situations may arise where the Offeror will be required to provide additional services not specifically defined in this SOW. The Commission is open to the Offeror's recommendation for additional services that may be required to accomplish the Commission's goals and the Project major activities as described above. The Offeror will be required to provide assistance to the Commission and to provide these additional services to assure the successful completion of the Project.

A. Project Management

Under the Commission's direction, provide overall management of Project activities and/or support for agency agreements, project funding plan, procurements and negotiations, contract awards and contract management, project controls, toll system planning and installation, ROW engineering and acquisition, utility relocation, final design, construction, environmental permitting, safety, quality, public outreach, and other Project activities. These Project management responsibilities include overseeing the activities of the PDB Contractor and other contracts further defined in this SOW:

A1. Project Management

Under the Commission's direction,

- Represent Commission and be the contact for coordination and communication between the Commission and the PDB Contractor. Offeror will be the primary point of contact with Commission on all Project and contract-related matters;
- Plan and conduct meetings, cooperate and coordinate with stakeholder agencies including the California Department of Transportation (Caltrans), Federal Highway Administration (FHWA), Transportation Infrastructure Finance Innovation Act (TIFIA) office, regional agencies, and municipalities;
- Coordinate and oversee Project activities and deliverables performed by the PDB Contractor and other contractors associated with the Project;
- Cooperate and coordinate with other Commission consultants, financial advisors, legal advisors, and contractors to achieve completion of both Project development, regulatory, and related financing activities; and
- Develop, monitor compliance, and maintain a commitment register and log based on the commitments and obligations with Federal, State, and Local agency requirements contained in applicable agreements.

A2. Project Administration

Provide administrative personnel and perform general office management and administration for the duration of the PCM contract term. Administrative responsibilities include:

- Schedule meetings; prepare meeting agendas, minutes, and action items; provide Project standards and templates for Project communications; institute specific Project initiatives;
- Provide document control services throughout the Project duration; and

- Provide general office support at a future co-located office for the PCM, Commission, Caltrans, FHWA, and others as necessary.

A3. Project Information and Development of Plans

Offeror shall obtain and review relevant Project information and prepare various plans.

- Project Information

Obtain and review all available Project information including preliminary engineering, Project reports/briefs, presentations, plans, cost estimates, environmental documents, environmental technical studies, advance planning studies, cooperative agreements and other Project information provided by Commission, Caltrans, and others (Review References for some applicable information to this SOW).

- Major Project Deliverables

In conjunction with Commission staff and its advisors, develop, submit, and obtain approval of the FHWA Major Project deliverables including the Project Phased Delivery Plan, PMP, Cost and Schedule Risk Assessment (CSRA), Initial Financial Plan (IFP), and Financial Plan (FP) annual updates per FHWA and/or Caltrans requirements.

- Project Close-Out Plan

Identify the requirements (both Commission and other) to effectively close-out the PDB Contractor and Toll Services Provider contracts including submittals of all record drawings, progress required to obtain substantial and final completion, necessary documentation, applications, data, submittals, and completion of all reports. Coordinate with the Commission document control for records retention and incorporation into the Commission document control system.

- Other Plans

Prepare other plans identified elsewhere in this SOW. Identify and prepare other plans as necessary to comply with local, state, or federal requirements or as directed by the Commission.

A4. Project Safety

Offeror shall provide a Safety Engineer/Manager who will be responsible for overseeing Project safety including ensuring Project team and contractor compliance with Project safety requirements relevant to future co-located Project and toll operations offices and construction sites. Safety activities include but are not limited to:

- Develop a Project-wide safety program. Provide and implement a Project

oversight site safety plan and provide safety training for all owner oversight personnel on the Project. Provide hard hats and safety vests for all owner oversight personnel who will be working on the Project site;

- Develop the safety requirements that will be included into the PDB Contractor procurement documents including safety manual and training program requirements for all Project personnel, and administration of the PDB Contractor's safety program by a designated safety officer;
- Ensure compliance of the safety program with all federal, state and local laws including those of Occupational Safety and Health Administration, Caltrans, Commission and the local agencies and jurisdictions;
- Review various Project activities and work processes and perform periodic audits to assess general office safety and compliance with current best practices;
- Work with Caltrans to merge its budgeted safety responsibilities with Commission and Offeror and build one effective safety oversight program for the Project. Establish roles and responsibilities, necessary oversight, and reporting requirements;
- Perform safety oversight of the PDB Contractor and Toll Services Provider:
 - Verify implementation of the safety training by the PDB Contractor, Toll Services Provider, all contractors and Project staff, and provide training to office staff as required;
 - Track PDB Contractor and Toll Services Provider proper investigation and reporting of accidents;
 - Monitor the provision of proper safety personnel protective equipment to all PDB Contractor, Toll Services Provider, and other Project personnel as required; and
 - Regularly document or require documents by PDB Contractor of safety meetings with set agendas as conducted by PDB Contractor to document safety understanding and compliance.
- Oversee the investigation of accidents, report to the Commission, and recommend corrective actions to reduce risks and reoccurrence.

A5. Quality Assurance (QA)

Offeror shall provide a Quality Engineer/Manager who will be responsible for overseeing Project quality including ensuring Project team and contractor compliance with Project quality requirements relevant to all deliverables and construction. Quality activities include but are not limited to:

- Develop a comprehensive, Project-wide QA program based on the Project scope, assumed construction contracts, stakeholder requirements, and delivery approach of the Project. The QA program shall include the clear delineation of roles and responsibilities between all identified parties related to all design, procurement, installation, and construction activities and the development and maintenance of a quality manual;
- Develop the quality requirements that will be included into the PDB Contractor and Toll Services Provider procurement documents;
- Work with Caltrans to merge its budgeted quality responsibilities with Commission and Offeror in order to build one effective quality oversight program for the Project. Establish roles and responsibilities, necessary oversight, and reporting requirements; and
- Perform quality verification (QVe) during final design, and construction of Project improvements of PDB Contractor and Toll Services Provider, including overseeing compliance with quality control (QC) and quality validation (QVa) requirements, over-the-shoulder reviews, audits of contractor's QC and QVa activities, resolution of audit findings, coordinating with contractor's quality personnel, and providing periodic quality reporting.

A6. Public Outreach

At the direction of the Commission Public Affairs Department, Offeror shall help the Commission Public Affairs in the development and implementation of public outreach, media affairs, and government relations communication plans for the Project. The communication plans shall provide:

- Develop key clear, concise messages that guide different phases of the Project in English and Spanish;
- Develop key clear, concise messages for print, digital, and online materials that guide different phases of the Project;
- Public information distribution and response to public and media questions about the Project, including for social media to be distributed upon approval by the Public Affairs Manager;
- Public information about tolled express lanes and initial toll facility operations;
- Ongoing communications with staff of public agencies, project partners, and elected officials;
- Ongoing coordination and direction from RCTC Public Affairs as well as city and county adjacent transportation projects teams to identify potential

impacts and conflicts;

- Develop, plan, and staff in-person or virtual public meetings, hearings, open houses industry presentations, and community group presentations, including the preparation of presentation materials;
- Prepare and distribute, as directed by Commission, Project fact sheets, branding items, messaging, and other necessary communication and collateral materials to support Commission's communications obligation and requirements with the agencies and communities;
- Prepare, create, and distribute, as directed by the Commission, digital engagement materials such as social media posts, digital advertising, website messaging, and emerging communications methods;
- Develop and produce public facing videos and other interactive videos for digital engagement channels;
- Lead and/or participate in regularly scheduled PDB meetings including certain technical work groups, preconstruction, and construction related meetings with Commission, PDB Contractor, and Toll Services Provider personnel. Prepare for meetings, as required, to properly organize or support each meeting event;
- Establish, operate, and maintain the Project Public Outreach Plan until an appropriate handoff to the PDB Contractor;
- Oversee operations and maintenance of the Project Public Outreach Plan by the PDB Contractor and ensure that responses and actions required of the PDB Contractor are carried out per contract requirements and direction from Public Affairs. Continue to prepare and respond agency-directed questions and issues received through the Project Public Outreach Plan with approval from Commission Public Affairs Manager, as needed;
- Oversee, monitor, and cooperate in business support meetings by the PDB Contractor, and organize and prepare for such meetings, as requested by Commission, to support the Project's efforts to mitigate issues and disruptions to local businesses due to construction activities;
- Support the Commission in preparing and organizing media and governmental relations media activities, including but not limited to news conferences and elected official tours. Commission Public Affairs will respond to media inquiries, or delegate response via direction from Public Affairs;
- Plan, prepare, and organize, in support of Commission, special events such as "ribbon cuttings" and "ground-breaking" ceremonies;

- Provide reports, meeting organization materials, tables, data, and other forms of communications to present or document activities on the public outreach efforts; and
- Maintain an ongoing database record of all public outreach contacts and responses that will be available for review by RCTC Public Affairs.

A7. Project Support and Other Services

- Participate in the review of insurance claims involving incidents as it affects the Commission and provide analyses, identify means to mitigate or resolve, and make recommendations for action by Commission;
- Prior to the start of final design and construction, organize, schedule, and conduct a pre-design and construction conference that includes select agencies that will be participating in the Project, as well as the PDB Contractor and Toll Services Provider, in communicating to them the approach and plan to design and construct the Project by the PDB Contractor;
- Identify, define, and implement key Project initiatives that will benefit Commission and the Project by improving work processes and reducing Project costs and resource requirements; and
- Schedule, coordinate, and/or attend meetings, as required, and provide all necessary meeting materials (i.e., agendas, minutes, action items, reports and documents) necessary to support the Project management activities.

A8. Project Funding and Financing

- Offeror shall serve as the Commission's qualified Independent Cost Estimator responsible for the independent review of the PDB Contractor cost estimate developed during PDB Phase 1 leading to a Guaranteed Maximum Price (GMP); Offeror shall negotiate costs with PDB Contractor for each work package as needed leading to a GMP;
- In coordination with the Commission, traffic and revenue consultants, other engineering consultants, financial advisors, and legal advisors, participate in finalizing the financial approach, participate in internal meetings, prepare and provide information and review and comment to support funding applications, Project financing documents, federal formula (Congestion Mitigation and Air Quality (CMAQ) or Surface Transportation Block Grant (STBG)) approvals, federal e-76 Authorization to Proceed, and other applications and approvals; planned funding sources include Riverside County Measure A sales tax funds, excess toll revenue funds federal formula and discretionary funds, and SB-1 State formula or discretionary funds;

- Offeror shall provide competitiveness and bundling guidance on funding opportunities and develop professional grant proposal packages for discretionary funding opportunities available from federal, state, regional, and private sources. Offeror will update the Project Phased Delivery Plan and Project Funding Plan as discretionary funding sources are successfully awarded and allocated (see Reference 03 and Reference 06);
- Utilizing the Independent Cost Estimator, prepare an initial Project capital and operating cost estimate review in support of developing the Project Phased Delivery Plan. Perform annual updates of the Project program capital cost and operating cost estimates. Prepare major repair and rehabilitation cost estimates. These estimates of costs and revenues support the Commission's financial model that is updated annually (See Reference 09);
- Participate in planning meetings, provide information, prepare materials, and directly participate in formal presentations made to the Commission (Board), FHWA, Caltrans, lenders, and others directly related to project funding and financing;
- Prepare or assist in the preparation of various technical supporting documents or reports related to Project funding and financing, state tolling approvals, or federal tolling approvals that are required by FHWA, Caltrans, investors, and others. Such reports may include the Financial Plan and construction progress reports.

A9. Risk Management

- Perform a risk assessment including conducting a risk management workshop with appropriate Project stakeholders to identify risks, probability and severity of risk occurrence, proposed mitigation strategies, responsible parties, and mitigation timing. Prepare and maintain a risk register to document, track, and manage Project risks;
- Perform ongoing Project risk identification and management activities by working with the various Project work groups, including the PDB Contractor and Toll Operations Department;
- Provide periodic updates of the risk register showing resolution and mitigation of defined Project risks, identification of new risks, and required mitigation measures; and
- Provide all necessary reports and actions requested by Commission to support requests of Caltrans, FHWA, lenders, or others in documenting adherence to risk management requirements and practices.

A10. Agency Agreements and Stakeholder Coordination

- Work with the Commission and its legal advisors to create, develop, negotiate, and execute agency agreements including but not limited to the following:
 - Environmental Mitigation Agreements and Environmental In- Lieu Fee Agreements (various agencies);
 - High Profile Project Agreement (FHWA and Caltrans);
 - Design-Build Cooperative Agreement (Caltrans);
 - Toll Facilities Agreement (Caltrans);
 - Other agency agreements as necessary.
- Offeror shall identify, define, schedule, facilitate and coordinate with stakeholder agencies in support of Project policies, procedures, practices and schedules. Additionally, Offeror shall work through barriers and enhance opportunity for innovations in the timely delivery of the Project, particularly with those commitments and obligations associated with any cooperative agreements between Commission and the respective agency. The respective agencies include but are not limited to the cities of Corona, and Lake Elsinore; the Riverside County community of Temescal Valley (Riverside County TLMA), Riverside County Flood Control and Water Conservation District (RCFCWCD), Caltrans, and FHWA.

B. Design Management

Offeror shall provide day-to-day management of all planning, design review, and oversight activities for the Project including coordinating with stakeholders and affected agencies on technical issues relating to utilities, ROW acquisition, and environmental mitigation. Coordinate PDB Contractor design and construction activities with those of the Toll Services Provider as described in Section C, Tolling Services.

Offeror shall coordinate with the Commission to develop the Request for Proposals (RFP) Technical Provisions and participate in the evaluations of the PDB Contractor and Toll Services Provider submitted documents and provide technical selection recommendations for the following Design management activities:

B1. Design Management

- Review PDB Contractor and Toll Services Provider design submittals for conformance with the contract documents and all applicable Federal, State, and Local agency requirements. Provide staff, planning, and resources required to meet schedule commitments, including highway, structural, drainage, utilities, traffic, landscape, aesthetics, acoustic, electrical, toll system, and geotechnical engineers and support staff required to perform the QVe review and approvals.

B2. Design Support

- The Offeror shall organize and consolidate the design concept drawings to be provided as part of the RFP documents. The basis for the design concept drawings shall be the drawings provided by the Commission's Project Approval/Environmental Document (PA/ED) Consultant;
- Review of all available Project data and information, including Project reports, plans, estimates, technical and planning studies, cooperative agreements, environmental documentation and other Project information as provided by Commission, Caltrans, and other stakeholder agencies (See References 01 through 13);
- Review and understand the Geometric Approval Drawings (GAD's) (Reference 01 and Reference 12), the Design Standards Decision Document (Reference 02), and other documents developed by the Commission's PA/ED Consultant. Evaluate the possibility of maximizing the Project express lanes lane-miles, while taking into consideration Project geometry, cost, ROW, design exception impacts, ingress/egress assumptions, CHP turnarounds, Toll Services Provider tow truck staging areas, etc. Provide a written evaluation and recommendation to the Commission;
- Review and evaluate the Materials Report (MR) and pavement Life Cycle Cost Analysis (LCCA) developed by the Commission's PA/ED Consultant;

Review and evaluate the Noise Study Report (NSR), Noise Analysis Decision Report (NADR), and other documents developed by the Commission's PA/ED Consultant. Perform additional soundwall design to further define the soundwall scope of work for the future PDB RFP, identify necessary property interests needed to construct the soundwalls, identify possible conflicts with soundwall construction, and estimate soundwall costs;

- Provide engineering support for further definition and refinement of ROW lines to develop ROW requirements for negotiated and eminent domain acquisition of Project ROW;
- Prepare and submit encroachment permit applications for surveying, geotechnical investigations, and construction. These may include, but are not limited to local agency Encroachment Permits, Flood Control Encroachment Permit, and Facility Relocation Permits;
- Provide preliminary design as requested by the Commission to support high risk project elements, such as utilities, necessary to support the PDB delivery schedule;
- Review PDB Contractor Computer-Aided Design and Drafting (CADD) protocol and document PDB Contractor compliance to contract documents and Caltrans standards and requirements;
- Monitor compliance and take corrective actions to submittal procedures, cycles, and review time frames for the processing, review, and approval of all submittals by Commission, Caltrans, and stakeholder agencies in compliance with the PDB contract (See Reference 11 for draft Project Charter agreement between the Commission and Caltrans used during the PA/ED phase);
- Represent Commission with Caltrans and the PDB Contractor on all engineering issues and facilitate Commission's approval. Facilitate other agency reviews/approvals of Project submittals;
- Provide CADD support, as necessary, for any technical analyses, graphical presentations, reference materials, ROW acquisition, regulatory permits, and Project documents;
- Regularly coordinate and communicate with Commission on status and progress on design reviews and oversight of PDB Contractor's submittals. Identify any technical issues with proposed solutions and make recommendations to resolve to Commission, including necessary actions to implement proposed solution(s);
- Coordinate Commission, Caltrans, and other stakeholder agency involvement and participation in PDB Contractor technical meetings, process

PDB Contractor meeting minutes, and coordinate Commission and stakeholder action items resulting from technical meetings, along with necessary agency approvals;

- Schedule, coordinate, and attend meetings, as necessary, in cooperation with the agencies and contracted parties (PDB Contractor and Toll Services Provider), including the preparation of agendas, meeting minutes, and action items; and
- Participate with the construction management utility oversight personnel in providing Notices to Owners and in overseeing and coordinating the design and engineering work of the utility agencies and those of the PDB Contractor, as appropriate.

B3. Structures QVe

Offeror shall:

- Review all available project data and information, including project reports, plans, estimates, technical and planning studies for incorporation into the RFP documents;
- Provide preliminary long lead time Project elements necessary to support the PDB delivery schedule as requested by the Commission;
- Provide design development at the various wash crossings as needed to support construction permitting, such as the 408, 404, 401, and 1602 permits;
- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to structures-related issues and activities after issuance of Release for Construction (RFC) packages.

B4. Roadway & Drainage QVe

Offeror shall:

- Review all available project data and information, including project reports, plans, estimates, technical and planning studies for incorporation into the RFP documents;
- Identify areas for risk reduction;
- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the

contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and

- Review and respond to roadway & drainage related issues and activities after issuance of RFC packages.

B5. Maintenance of Traffic QVe

Offeror shall:

- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports, required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to maintenance of traffic related issues and activities after issuance of RFC packages.

B6. Geotechnical QVe

Offeror shall:

- Organize and consolidate the geotechnical information developed by the Commission's PA/ED Consultant to develop a geotechnical information package that will be provided to the PDB Contractor. The level of detail provided will be coordinated with the Commission and Caltrans;
- Coordinate with the Commission to provide additional geotechnical exploration and testing;
- Evaluate PDB Contractor submitted documents and provide technical selection recommendations;
- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to geotechnical related issues and activities after issuance of RFC packages.

B7. Traffic Management System (TMS) QVe

Offeror shall:

- Review draft Traffic Management Plan (TMP) provided by others and make recommendations on possible enhancements;

- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to TMS related issues and activities after issuance of RFC packages.

B8. Electrical & Lighting QVe

Offeror shall:

- Coordinate with Commission, Caltrans, and Toll Operations Department to identify system needs and technology requirements for incorporation into the RFP;
- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to electrical & lighting related issues and activities after issuance of RFC packages.

B9. Landscape & Aesthetics IQA

Offeror shall:

- Provide design management services to review PDB Contractor submittals, including design plans, investigations, studies, and reports required by the contract, for acceptability and conformance to contract requirements, Caltrans standards, and stakeholder agency standards; and
- Review and respond to landscape & aesthetics related issues and activities after issuance of RFC packages.

B10. Environmental & Permits

Offeror shall provide environmental oversight, compliance, and coordination of PDB Contractor’s environmental obligations and commitments under the contract, including Commission’s obligations and requirements with resource agencies. This includes:

- Incorporation of environmental requirements and approved mitigation commitments and plans into the RFP, preparation of necessary environmental permits, preparation of necessary environmental mitigation or in-lieu fee agreements for execution by the Commission;
- The following permits shall be prepared to the level of completion needed to

support the delivery schedule:

- United States Army Corps of Engineers (USACE) 404 and 408 permits, and Out Grant Agreement;
 - Regional Water Quality Control Board (RWQCB) 401 Certification; and
 - California Department of Fish and Wildlife (CDFW) 1602 Streambed Alteration permit.
- Oversee PDB Contractor's requirements in meeting the obligations and commitments in its preparation of materials and documents to secure the final USACE 404 and 408 permits, and Out Grant Agreement; RWQCB 401 certification; CDFW 1602 permit; and RCFCWCD encroachment permit;
 - Coordinate approval of the above permits and agreements with each resource agency, address any changes required of the PDB Contractor by the agencies, and further the approval of the permits and agreements;
 - Analyze and assess environmental re-validation and re-evaluations required due to Commission directed changes and implement accordingly;
 - Coordinate with Caltrans for review and comment on all environmental activities, including agreements, permits, and exercises of re-validation and re-evaluation;
 - Oversee PDB Contractor's acquiring of all necessary environmental permits affecting their construction activities, including storm water permits;
 - Schedule and coordinate meetings necessary to accomplish the environmental requirements of Commission, including providing agenda and meeting minutes and action items; and
 - Oversee implementation of the approved mitigation monitoring plan for compliance with Caltrans and regulatory agencies permit requirements and the mitigation documented in the environmental document.

B11. Utility Coordination & Oversight

Offeror shall provide a ROW/Utility Team Leader who will be responsible for coordinating the utilities affected by the Project. In order to accommodate and facilitate the PDB Contractor schedule, Offeror may be requested to undertake certain relocation work if needed. Utility coordination activities include, but are not limited, to the following:

- Verify all existing utility information provided by the Commission's PA&ED Consultant and identify utilities that may be impacted by the Project;
- Meet with utility companies and other entities to determine their requirements

for relocation, protection, and abandonment of utilities required to accommodate Project and to establish any potential ROW impacts for utility relocations;

- Coordinate all final utility agreements with private utility owners (as needed);
- Monitor utility relocation work and meet regularly with PDB Contractor, utility agencies, Caltrans, Commission, and other stakeholder agencies to coordinate utility relocation work;
- Coordinate all interaction and correspondences with utility owners including but not limited to preparation of proper notices (i.e., Notice to Owners), PDB Contractor submittals, notice to utility owners required to commence their (utility owner) design, procurement, and relocation activities, as necessary;
- Prepare Report of Investigation (ROI) as outlined in Section 13-05 of Caltrans ROW Manual Chapter 13;
- Review and comment, as appropriate, on utility owner designs for inclusion into PDB Contractor final design documents, and review PDB Contractor's RFC documents for proper inclusion of the utility owner designs;
- Confirm that the utility agency and PDB Contractor have all necessary permits and ROW clearances to allow relocation work to proceed;
- Oversee coordination between the PDB Contractor and utility agencies' construction and relocation work, address any issues and confirm identification, protection, adjustment, removal, or relocation of the subject utility in compliance with State and Federal laws and regulations, standards, and agreements; and
- Oversee and coordinate the final documentation and completion of the utility owner relocation work, and review and recommend final payments and closeout.

B12. Survey & Right of Way (ROW) Engineering

Offeror shall provide surveying, ROW mapping, and ROW engineering services as needed in support of the PDB RFP development, QVe of the PDB Contractor's construction survey, and to complete post-construction Record of Survey. Survey and ROW tasks include but are not limited to:

- Pre-Construction Record of Survey – Offeror shall provide a pre- construction record of survey for the land net in conformance with statutory requirements and to delineate limits of existing record ROW. The project surveyor will prepare a record of survey in conformance with existing standards by the County of Riverside surveys;

- Utility Verification – Offeror shall be able to provide field survey services to document the pothole locations;
- Advanced Design Surveys – Offeror shall be able to provide field survey services to document the geotechnical borings;
- ROW Engineering – Offeror shall be able to provide appraisal maps (ROW Maps) in conformance with Caltrans District 8 guidelines and drafting standards to facilitate ROW acquisition, as needed;
- Field and office survey support on an as-needed basis to provide survey QVe checks; and
- Provide a post-construction Record of Survey of the any new ROW limits and record a post-construction Record of Survey for the land net in conformance with statutory requirements and to delineate limits of the new record ROW. A record of surveys may be required to be submitted for review and filing by the County of Riverside.

B13. ROW Services

Offeror shall provide a ROW/Utility Team Leader who will be responsible for the technical and administrative functions required to provide the necessary ROW (See Reference 04, Attachment E). Attention to this reference document is being made only to provide an indication of the extent of the Project ROW required at the time of this RFQ. ROW services include but are not limited to:

- Overall coordination and management with the Commission, Caltrans, FHWA and the PDB Contractor and assist with the development and implementation of the ROW program as needed;
- Prepare ROW cost estimates;
- Provide acquisition and negotiations services required for Commission to acquire property for the Project in a timely, efficient manner and at a reasonable cost including appraisal and review of appraisals, and necessary environmental investigations and remediation;
- Provide any necessary remaining ROW environmental investigations and remediation to support ROW acquisition services;

Obtain title reports and escrow, utility relocation coordination, and ROW certification;

- Assess any proposed modifications or changes to the ROW proposed by the PDB Contractor and provide investigations and analyses, propose solutions, and make recommendations to Commission for consideration and implementation as directed;

- Provide ROW acquisition and relocation services under compliance with Federal, State, and Local laws and regulations, and in support of the Project's schedule as needed;
- Perform all necessary Project close-out activities, including ROW transfer from Commission to the various agencies, and working with Commission to determine the excess land disposition process;
- Continue to provide the appropriate progress/status reports, and schedule and attend meetings, as necessary, to support the acquisition, relocation, and close-out processes, and coordination with the PDB Contractor; and
- Work shall be performed in accordance with Caltrans and Commission's policies and procedures and applicable federal, state, and local regulations.

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C. Tolling Services

C1. General

Offeror to provide general support, participation, information, coordination, recommendations, expertise, etc. to support the Commission in the following areas:

- Potential implementation of emerging tolling technologies and related toll industry innovations.

C2. Toll System Planning

Generally, Offeror to support the Commission by analyzing, developing, and recommending strategies, policies, procedures, business rules, customer account rules, management rules, technical requirements, and toll facility concepts.

- Plans

Offeror, under Commission's direction, to develop, submit, and obtain approval of:

- Systems Engineering Review Form (SERF) from Caltrans and FHWA per current Caltrans Local Assistance Procedures Manual (LAPM) and FHWA requirements;
- Systems Engineering Management Plan (SEMP) from Caltrans and FHWA per current FHWA requirements;
- Concept of Operations (ConOps) from Caltrans and FHWA per current FHWA requirements; and
- Develop a toll system project management plan and incorporate into the overall PMP prepared by the PCM team.

- Strategies

Offeror to analyze, evaluate alternatives, make recommendations, and document Commission decisions via white papers, procurement documents, reports, or similar methods for the following issues and other issues identified by the Commission:

- Using the preliminary engineering geometric design concepts developed to date, review and evaluate the toll lane configuration for operability and maintenance. Particular focus is needed analyzing potential southern end toll lane termination configurations, interim phased implementation, and the resulting traffic impacts of the various toll lane termination alternatives on both general purpose lane traffic as well as toll lane operations (see Reference 08).

- Toll System Design
 - Offeror to develop and recommend design concepts, specifications, toll system testing guidelines and procedures, and/or requirements to implement electronic toll collection, CHP enforcement and customer service patrol staging locations, etc to ensure compatibility with the existing I-15 ELP toll lane operations; and
 - Offeror to incorporate agreed to design concepts, specifications, and/or requirements into the PDB Contractor and/or the Toll Services Provider contract SOWs and other contract deliverables.

C3. Toll Operations and Maintenance Planning

- Fee Revenue Estimates and Cost Estimates
 - Offeror shall review the existing Commission toll system life cycle estimate and prepare a toll system replacement schedule and cost estimates for the life of the facility (i.e. toll system life-cycle cost estimate) to support the Commission's financial model and Project financing efforts. See the Project Finding and Financing section; and
 - Offeror shall prepare an express lane pavement rehabilitation strategy, schedule, and cost estimate for the life of the facility (i.e. pavement life-cycle cost estimate) to support the Commission's financial model and Project financing efforts.
- Toll System and Roadway Maintenance
 - Offeror shall review the existing Commission toll system maintenance plan and develop performance requirements for the future routine maintenance of the Project toll system (e.g. cameras, transponder readers, Changeable Message Signs (CMS), etc.) and roadway maintenance (regular pavement maintenance, trash removal, delineator replacement, etc.). Offeror to incorporate these requirements into the future Toll Services Provider contract SOW.
- Incident Management and Disaster Recovery
 - Offeror shall review the existing Commission toll system incident management plan and develop performance requirements to address routine roadside incident management and disaster recovery. Offeror to incorporate these Project performance requirements into the future Toll Services Provider contract SOW.
- Other Performance Requirements for the Toll Services Provider
 - Offeror shall develop other Toll Services Provider performance

requirements in the areas of procurement, contract management, cost controls, facility safety, training of Toll Operator and Commission personnel, and other areas identified mutually with Commission. Offeror to incorporate these performance requirements into the future Toll Services Provider contract SOW.

C4. Oversight, Coordination, and QVe

- General Management and Coordination Among Contractors

Offeror shall:

- Provide overall, day-to-day management and oversight of the Project's tolling services including identifying and allocating of staff to oversee work performed by the PDB Contractor and Toll Services Provider, planning and scheduling of toll system activities, and organizing and/or participating in meetings;
 - Provide and support contract administration activities associated with the tolling services, including safety and quality compliance, review of progress and invoice applications, submittals, and monthly reports;
 - Provide a responsibility matrix between the PDB Contractor and Toll Services Provider to delineate areas of responsibility;
 - Provide coordination between the PDB Contractor and Toll Services Provider activities to ensure proper coordination and integration with the procurement, design, installation, roadside construction, testing, and startup of the Project toll systems;
 - Provide coordination of all toll system related activities with the Commission's Toll Department staff including: reviewing and commenting on Toll Services Provider contract documents and drawings as they relate to the PDB Contractor work, incorporating the Toll Services Provider schedule into the Project schedule, coordinating toll infrastructure turnover and access for testing;
 - Coordinate toll system and operations planning activities with stakeholder agencies and coordinate with other Project functional groups on toll system design, installation, and integration matters, including toll system testing and acceptance; and
 - Coordinate the review of designs, submittals, design plans, and shop drawings between the PDB Contractor and Toll Services Provider.
- PDB Contractor's Toll System Infrastructure

Offeror shall:

- Review and provide comments to PDB Contractor's design, design plans, submittals, and shop drawings of the toll system infrastructure work, including communications and power conduit duct banks, vaults and roadside equipment cabinet installations, gantries, CMS and camera pole installation, toll utility buildings, emergency backup generators, and integration of the PDB Contractor requirements with the requirements of the Toll Services Provider SOW;
- Review PDB Contractor's toll facility-related deliverables and provide technical selection recommendations as necessary; and
- Provide construction oversight of the PDB Contractor's toll infrastructure work, including power and communications conduit duct banks, gantries, CMS and camera pole installation, toll utility buildings, and emergency backup generators; document compliance with the contract requirements; and obtain signoff and acceptance by the Toll Services Provider.
- Toll Services Provider
 - Offeror shall:
 - Manage and oversee adherence to the Toll Services Provider's contract requirements, including compliance with the safety plan and the Toll Services Provider's design of roadside toll equipment, communications equipment, power equipment, cameras, CMS signage, and toll operations and customer service center facility layout plans;
 - Review and provide comments to Toll Services Provider's design, design plans, submittals, and shop drawings of the toll system as it relates to toll infrastructure;
 - Oversee the installation of the Toll Services Provider's work, including roadside tolling equipment, communications and power, express lane cameras, CMS signage, traffic operations, and data center build out, document compliance with the contract requirements, and obtain signoff and acceptance by Commission and other stakeholder agencies, as required;
 - Review the Toll Services Provider's submittals and testing and startup plans, provide oversight of the systems testing and startup in compliance with the contract, and obtain testing and acceptance signoffs by Commission and other stakeholder agencies;
 - Review Toll Services Provider deliverables and provide technical selection recommendations as necessary;
 - Obtain from the Toll Services Provider manufacturer warranties, as-built

drawings, training materials, and other manuals required under the contract;

- Provide oversight and review of training manuals, coordinate training sessions provided by the Toll Services Provider, and review attendance and training completed by the training participants; and
- Perform Toll Services Provider contract management and administration including identifying potential SOW changes, review of submitted contract change orders (CCO), performing required analyses, coordinating potential and implemented changes, as necessary, with other contracts, and maintain full documentation of all potential and actual changes.

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D. Contracts Management and Procurement Services

Provide contracts management and administration services to monitor performance by the PDB Contractor and Toll Services Provider to the requirements of their respective contracts. This includes Disadvantage Business Enterprise (DBE) subcontracting performance, labor compliance, administration of change management processes, and claims support on behalf of Commission.

In support of Commission, define, prepare, and administer procurements for PDB Contractor and Toll Services Provider, and environmental mitigation contracts, and other procurements required for the Project development and implementation.

Contract management and procurement services include:

D1. Contracts Management

- Provide contracts management services for the overall Project and its various contracts. This includes identification and allocation of staffing resources to accomplish specific contract administration tasks; integration and coordination with the functional groups on contract matters; and attendance at meetings to coordinate contract management-related activities and deliverables with the PDB Contractor and stakeholder entities associated with the Project. Identify contract compliance issues for the PDB Contractor and Toll Services Provider contracts, provide analyses, and make recommendations to resolve issues for Commission approval;
- Provide the systems and tools appropriate to track, monitor, document, and report on PDB Contractor, Toll Services Provider, environmental mitigation, and other contracts and the compliance to their respective contracts, and timing of actions, recommendations, and approvals;
- Coordinate and manage additional Commission contracts in connection with environmental mitigation and other contracts related to the Project development and implementation;
- Coordinate and manage contract compliance between Commission and Offeror, providing communications and correspondence in addressing clarifications and amendments. Monitor compliance with Federal, State, and Local agency requirements including:
 - Provide regular updates to audited overhead rates as requested by Commission, including those of Offeror and Offeror's Subconsultants;
 - Demonstrate compliance with Offeror's contract commercial requirements, including invoicing content and format, allowable compensation, schedule adherence, insurance coverage requirements, etc. through submitted documentation; and

- Participate in any audits performed by the Commission, State, or other agencies.
- Schedule, coordinate, and attend meetings to support all Project-related contract administration activities, including, where appropriate, providing agenda, meeting minutes, and action item listings.

D2. Contract Administration

- Establish Project correspondence and communication in coordination with the Commission's policies, procedures, and protocols consistent with the requirements of the PDB Contractor and Toll Services Provider and monitor and track compliance to these requirements;
- Process PDB Contractor and Toll Services Provider correspondence under the Project requirements in a timely manner to support Commission and stakeholder agency approvals;
- Review PDB Contractor and Toll Services Provider contracts for compliance to contract commercial requirements. Identify areas of concern and resolve with PDB Contractor;
- Identify the amount of the final payment due to PDB Contractor and Toll Services Provider, and assist Commission with processing any final contract changes and the resolution of any claims. Obtain evidence of certification of all lien releases, transfer of title to appropriate agencies, and certification of delivery of final record drawings to Caltrans where appropriate. Secure and transmit to Commission all required turn-over items, including, but not limited to, guarantees, affidavits, releases, bonds, waivers, keys, manuals, and maintenance stock;
- Prepare final Project accounting and closeout reports of all reporting and document control systems. Organize all pertinent data, purge all files, and send to document control;
- Prepare the final documentation to release all liens and recommend final payment and release of bonds and retention;
- Provide the systems and tools to provide documentation and tracking of PDB Contractor, Toll Services Provider and Offeror's contract compliance;
- Prepare and issue Commission-directed CCOs in compliance with the PDB Contractor and Toll Services Provider respective contract requirements. Negotiate final terms with the PDB Contractor and Toll Services Provider and process the CCOs, and seek any necessary external approvals;
- Review and analyze contractor-initiated CCOs by PDB Contractor and Toll

Services Provider and Toll Services Provider. Negotiate final terms and process for approval by Commission and other stakeholder agencies, including Caltrans and FHWA;

- Perform regular review and documentation of PDB Contractor and Toll Services Provider communications for changes and claims, and report to Commission with recommendations and actions; and
- Provide reporting tools and CCO logs to properly track and monitor change notices, CCOs, and claims to identify trends and measure cost and schedule impacts.

D3. Procurement Services

- General

Under Commission direction, provide broad procurement support for the PDB Contractor, Toll Services Provider, environmental mitigation work, and other contracts necessary to develop, design, build, operate, and maintain the Project. Offeror shall participate in the development of procurement strategy, assist in the development of solicitations by preparing SOWs and technical documents, review and provide input on procurement documents to the Commission and Commission's legal counsel, and coordinate with the Commission's Project Team, consisting of the Commission, Commission's legal counsel, legal advisors, financial advisors, insurance advisors, other consultants, and Caltrans.

- Offeror shall review and understand Commission policies, procedures, and legal requirements related to its procurements;
- Offeror shall coordinate with the Commission's Project Team to:
 - Prepare a Project Phasing Development Plan which will analyze and develop the necessary elements to deliver a phased delivery of the Project via progressive design build (PDB). Project Phasing Development Plan should consider Project funding availability, coordination with adjacent projects and schedules, impacts to ELP toll operations, and PDB Contractor phased design and construction of Project improvements;
 - Support, through either direct input or review and comment on documents as appropriate, the preparation by Commission's legal counsel of procurement documents including Requests for Qualifications (RFQs), RFPs, contracts, evaluation criteria, evaluation manuals, and certain procurement correspondence;
 - Maintain adequate practices and procedures to ensure strict adherence

- to confidentiality agreements by all members of the procurement team, including measures to ensure the security of all procurement-related documents;
- Develop a detailed work plan for the Project Team's timely development, review of and collaboration on procurement documents;
 - Plan and organize weekly Project Team calls during the development of PDB procurement documents and procurement period;
 - Maintain a complete and accurate official procurement file, including electronic and hard copies;
 - Track, review, and coordinate with the Project Team in the development of responses to questions received from proposers. Assist in the development of addenda to procurement documents;
 - Assist Commission with the evaluation of Statements of Qualifications (SOQ), Proposals (including technical proposals and concepts, price/cost proposals, and schedules), potential conflicts of interest, conformance with procurement submittal requirements (including insurance, proposal and payment and performance security, and business structure), and other deliverables, including preparation of technical analysis and reports;
 - Assist in contract negotiations and the award process following selection; and
 - Participate and help conduct advance industry review meetings and processes (if applicable) and post-shortlisting and selection debriefing meetings; and assist Commission with any protests.
- Offeror, under Commission's direction, shall be directly responsible to:
 - Work with the Project Team to present/identify alternatives, analyze, and make recommendations to the Commission for the structure of its future procurements for PDB Contractor and Toll Services Provider, to best accomplish the necessary planning, development, design, procurement, construction, installation, and testing of the Project;
 - Prepare SOWs/technical provisions for the procurements for the PDB Contractor, Toll Services Provider, environmental mitigation work, and other required services for other procurements;
 - Incorporate lessons learned from recent Commission procurements and projects and other relevant projects involving design-build, and toll system integration; and

- Incorporate strategies, action plans, performance criteria, and other requirements from the Commission's current toll program organization effort in the areas of risk management, performance metrics, asset management, customer service, communication, and marketing; see the tolling services portion of this SOW for more detail;
- Prepare necessary technical documents including plans, exhibits, maps, cost estimates, etc. for these same procurements;
- Plan and prepare various procurement schedules to meet overall Project development and operations and maintenance schedule goals;
- Plan and coordinate any necessary review of procurement documents with Caltrans, FHWA and local agencies;
- Plan, organize and lead internal team meetings and external meetings with industry and shortlisted proposers related to Commission procurements;
- Help identify, accumulate, review, index and catalogue relevant reference documents for the procurements;
- Prepare certain correspondence, documentation, and presentations for Commission approval related to procurements and contract awards; and
- Plan, administer, and perform related tasks associated with procurement processes including organizing proposal evaluation teams, internal procurement meeting organization and administration, external industry events and meetings, facility reservations and setup, and related tasks.

D4. Labor Compliance – Disadvantaged Business Enterprise (DBE)

Offeror shall support the preparation of the Project bid/contract specifications containing appropriate and current language concerning State prevailing wage requirements, Federal Davis-Bacon Act requirements and apprentice requirements, and provisions to be included in the PDB Contractor, Toll Services Provider, and other contracts, as applicable. Services include responding to contractor comments and providing technical assistance on all labor compliance requirements, as necessary. Labor compliance shall also include:

- Development of a “Federal On-the-Job Training (OJT) Participation” goal, as necessary, and ensure that all required OJT provisions, labor compliance forms, and applicable Federal prevailing wage determinations are included in the applicable contracts;
- Develop processes and procedures for labor compliance functions in accordance with State and Federal requirements and the Caltrans LAPM;

- Develop planned labor compliance activities as part of the PMP, including roles and responsibilities;
- Determine and update the Federal general wage determinations, as necessary, based on wage rate amendments and the Federal “10- Day rule” found under 29 CFR Section 1.6(c) (3);
- Determine applicable State prevailing wage rate determinations
- Prepare a pre-bid meeting checklist designed to facilitate review of all labor compliance requirements including applicable prevailing wage requirements and potential proposers;
- Support the Commission in its compliance with California’s Department of Industrial Relations (DIR) requirements for labor compliance, including:
 - Provide technical guidance and coordinate with Commission to establish the appropriate reporting requirements and information necessary for the DIR to perform labor compliance on the Project;
 - Provide periodic audits of PDB Contractor, Toll Services Provider, and other contractor’s compliance to DIR requirements and information needed for labor compliance monitoring;
 - Support Commission with coordinating with DIR, as necessary, on its performance of Project review audits and site interviews; and
 - Periodically review with Commission its compliance to State and Federal requirements for labor compliance.
- Observe and monitor PDB Contractor, Toll Services Provider, and other contractors labor relations with labor organizations on behalf of Commission, periodically review labor practices on the Project, and discuss labor issues with the PDB Contractor, Toll Services Provider, and other contractors, as appropriate, to mitigate potential for delays to Project completion. Make recommendations, as appropriate, on resolution of labor issues to Commission;
- Monitor PDB Contractor, Toll Services Provider, and other contractors for compliance to labor code requirements and provisions for labor harmony on the Project;
- Develop a DBE Contractor Performance Plan requirement for inclusion in the applicable contracts;
- Develop an annual DBE reporting update requirement for inclusion in the applicable contracts;

- Consider and develop contract-specific DBE goals for applicable procurements in accordance with Caltrans race-conscious directives;
- Participate in workgroup meetings relative to the development and finalization of all applicable DBE solicitations and contractual provisions;
- Confirm, track and monitor contractor-claimed DBE participation crediting in conformance with 49 CFR Part 26 and Caltrans directives, including Commercially Useful Function (CUF) provisions;
- Conduct Good Faith Efforts reviews of proposers for compliance with all DBE contract-specific goal requirements, as necessary, to determine responsiveness to applicable requirements;
- Review PDB Contractor, Toll Services Provider, and other applicable contractors' DBE reports for accuracy and coordinate with contractors to reconcile discrepancies; and
- Provide oversight of DBE and labor compliance activities of the PDB Contractor, Toll Services Provider, and other applicable contractors and general support to the Commission, including compliance by the contractor with their DBE Performance Plan, and Federal, State, and Local requirements for prevailing wages and Davis-Bacon Act requirements.

D5. Document Controls Management

- Provide and maintain a Commission-Officer document collaboration portal for all Project communications;
- Oversee integration of the Commission-Officer electronic document control process, including administration, with the PDB Contractor's document control system once identified;
- Provide document management and control of all PDB Contractor, Toll Services Provider, and other contractor submittals and correspondence. Integrate the PDB Contractor and Commission document management procedures and tools in support of transmittal, submittal processing, and approval requirements. This activity will include all Project documentation for design reviews, Requests for Information (RFIs), and all other submittals. Maintain the tools, filing, storage, and retention of Project documentation.

E. Project Controls

Provide overall Project controls management, administration, and oversight services related to the cost, scheduling, estimating, and document management requirements for Offeror's contract, and the contracts between the Commission and the PDB Contractor, and Toll Services Provider including the necessary plans, procedures, tools, processes, and tasks for ongoing planning, budgeting, and control of the Project. The specific Project controls activities planned include the following:

E1. Project Controls Management

- Provide review and management of the budget, cost engineering, scheduling, estimating, and document controls processes and procedures. Review the monthly invoices for the PDB Contractor and Toll Services Provider to maintain conformance with the Work Breakdown Structure (WBS) cost structure;
- Provide monthly trend registers, cost, and schedule reports on Project performance, both separate and in conjunction with, the PDB Contractor and Toll Services Provider reporting requirements. Reporting will be provided in an agreed upon format on activities with stakeholder and third-party agencies. Provide any other necessary documentation deemed required to support Project performance monitoring;
- Update and document changes in the Project processes and procedures as provided for in the PMP and submit, as necessary, for reviews and approvals by Commission, Caltrans, and FHWA;
- Perform periodic reviews and analyses of the PDB Contractor and Toll Services Provider cost performance, as appropriate, to determine trends that may result in potential claim situations, and document such analyses and monitor trends; and
- Monitor and report, as necessary, Commission program costs that are external to PCM contract. This will include costs associated with the Project that are incurred through other agreements, in accordance with State, Federal, or Local requirements, or as otherwise defined under the PCM contract.

E2. Cost Engineering

- Prepare monthly invoices for contract services with adequate budget allocation for actual costs incurred; check for compliance to contract compensation requirements; monitor charges to established WBS codes to support cost control and reporting; verify appropriateness of charges; and respond to Commission questions or comments on invoicing;

- Develop budgeting for work tasks for Offeror activities; assign tasks against the WBS; monitor labor charges and expenses for validity and proper coding; and provide progress and reporting support for internal management and client needs;
- Review monthly invoices/progress payments submitted by the PDB Contractor and Toll Services Provider as to compliance with contract requirements and progress achieved on the Project; and
- Coordinate development of reports related to Commission program costs that are external and internal to the PCM contract. Coordinate with PDB Contractor and Toll Services Provider to develop additional reports, as necessary.

E3. Scheduling

- Prepare and maintain an overall Project schedule and coordinate with Project disciplines, including ROW, to schedule updates and provide monthly reporting to Commission. Include identification and analysis of resource constraints and requirements, as appropriate, and any constraints to costs and cash flow;
- Provide schedule analyses, as required, to address schedule issues and concerns resulting from Project activities, either of Caltrans, Commission, and/or Offeror, or of the PDB Contractor or Toll Services Provider. In addressing issues, determine and recommend recovery actions, including resource and cash flow requirements;
- Review the PDB Contractor and Toll Services Provider design and construction schedule to monitor compliance with their contracts and incorporate their schedules into the master program schedule. Provide analysis and document all schedule changes and their impacts to the baseline schedule, and request and analyze recommendations of PDB Contractor and Toll Services Provider recovery plans;
- Participate in weekly PDB Contractor and Toll Services Provider scheduling meetings to coordinate respective schedules, identify areas of schedule concern, monitor schedule performance, and track schedule alignment of weekly schedules to Project schedules;
- Schedule, coordinate, and attend meetings, as necessary, to support Project schedule activities, including preparation of agendas, meeting minutes, and action items; and
- Provide monthly schedule reports on Project performance, both separate and in conjunction with, PDB Contractor and Toll Services Provider reporting requirements. Provide any other necessary supports deemed required to

support Project performance monitoring.

E4. Cost Estimating

- Offeror shall review the current project cost estimate and budget, and prepare a new cost estimate and firm budget for the PDB Project, including the provision for contingencies and escalations and submit to the Commission for approval. The cost estimate and budget shall be updated quarterly as new information is developed, changes to the budget shall be tracked as variances, and the Commission shall be notified on a prompt and regular basis. Any change or variance from the Project budget will be submitted to the Commission for approval;
- Provide review and analyses of potential CCOs submitted by the PDB Contractor and Toll Services Provider, including presentation of cost and schedule impacts, solutions to mitigate impacts, and recommendations to Commission and other stakeholder agencies for approval; and
- Provide estimating support, as necessary, to review and analyze PDB Contractor and Toll Services Provider changes and value engineering proposals. Provide recommendations to Commission.

F. Construction Management

Provide Construction Management services for construction quality oversight and compliance to contract requirements by the PDB Contractor and Toll Services Provider, in accordance with AB 401 and SB 617, and in coordination with Caltrans QVe and construction inspection services. These services include:

F1. Construction Management

- Organize, schedule and conduct a pre-construction conference that includes all agencies, utilities, PDB Contractor and Toll Services Provider that will be participating in the Project and other impacted projects within the limits of the Project. Provide all meeting support services such as meeting notice and meeting minutes;
- Provide and implement a construction management staffing plan that integrates with Caltrans' role, responsibilities, and staffing for the Project and provides the necessary resources and capabilities to oversee and monitor the quality of construction by the PDB Contractor and Toll Services Provider;
- Monitor the PDB Contractor and Toll Services Provider overall planning of construction activities to identify critical milestones and priorities, and to determine budget estimates and staffing requirements for the defined scope and schedule;
- Support preparation of the monthly report of construction activity and progress that relates to PDB Contractor and Toll Services Provider progress and compliance to contract requirements;
- Field monitor PDB Contractor and Toll Services Provider construction activities and compliance to their safety plan. Note concerns or deficiencies immediately to PDB Contractor and Toll Services Provider for their implementation of corrective measures;
- Develop/implement a field issue resolution program, including issue identification and resolution by the PDB Contractor and Toll Services Provider, or appropriate agencies;
- Observe and identify all potential changes in SOW based on PDB Contractor and Toll Services Provider activities, review all CCOs submitted, and perform required analyses and recommendations to Commission for disposition;
- Review work status and recommend to Commission when the Project is substantially complete. Prepare a summary of the status of the work of PDB Contractor and Toll Services Provider and a "punch list" of any incomplete work or work that does not conform to the contract documents. Coordinate and assist Caltrans in conducting final inspections and oversee completion

of all work. Recommend relief of maintenance to PDB Contractor and Toll Services Provider for all or portions of the Project; and

- Certify the amount of the final payment due to PDB Contractor and Toll Services Provider and assist Commission with the processing of any final contract changes and the resolution of any claims. Obtain evidence of certification of all lien releases, transfer of title to appropriate agencies, and certification of delivery of final record drawings to Caltrans. Secure and transmit to Commission all required turn-over items, including, but not limited to, guarantees, warranties, affidavits, releases, bonds, waivers, keys, manuals, and maintenance stock.

F2. Construction Services & Administration

- Support the Construction Management and Resident Engineer PDB Contractor and Toll Services Provider Oversight teams with administrative support services. Complete a variety of routine and non-routine tasks and projects in accordance with the Project procedures, or as directed. Manage document control for the Construction Management team;
- Support the Construction Management and Resident Engineer PDB Contractor and Toll Services Provider Oversight teams as the primary liaison between other Project departments and construction management, ensuring timely and accurate distribution of information and materials;
- Support the Construction Management and Resident Engineer PDB Contractor and Toll Services Provider Oversight teams in researching and compiling statistical information and related data and produce special or recurring reports and complete special projects as assigned. May maintain and monitor the operating budget as directed;
- Establish and maintain document archiving and retrieval systems, prioritizing the flow of Project reports/correspondence, and ensuring timeliness in the handling, processing, and resolution of requests, requirements, or problems;
- Establish and maintain follow-up files and confidential files for Construction Management team;
- Make recommendations for additions or revisions to existing Project practices and policies. Serve as focal point for gathering newly published policies and the dissemination of materials;
- Maintain the Construction Management team meetings calendar. Assist Construction Management team in coordinating Project meetings; and
- Manage project vehicle fleet, maintaining monthly inspection, maintenance and fueling records.

F3. Roadway Construction Oversight

- Monitor the overall planning of construction activities to identify critical milestones and priorities. Determine budget estimates and staffing requirements for the roadway work scope and schedule;
- Coordinate and conduct pre-construction and pre-activity meetings with the PDB Contractor and Toll Services Provider;
- Provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions;
- Ensure compliance with the plans and specifications by the PDB Contractor and Toll Services Provider; recommend, modify, interpret, and edit special provisions and prepare modification estimates; and keep necessary records pertaining to construction progress, budget performance, and work order balances for the segment;
- Monitor the PDB Contractor and Toll Services Provider construction QC programs, including the adequacy of capability of QC resources. Oversee and provide, as necessary, notification to the PDB Contractor and Toll Services Provider of rejected work when it is the opinion that the work or materials do not conform to the requirements of the PDB contract documents;
- Monitor compliance of PDB Contractor and Toll Services Provider safety plans and note concerns or deficiencies immediately to PDB Contractor and Toll Services Provider for their implementation of corrective measures;
- Oversee Caltrans performance of periodic construction inspection and QA independent oversight activities and their recording of daily progress of the Project with accurate and complete daily inspection reports, including weather conditions, work performed, number of workers, problems encountered, and other relevant data. Maintain an independent photographic log of the construction progress indexed for easy retrieval;
- Review all detour, lane closures, temporary access, signing, delineation, and traffic management and control plans for compliance with contract TMP requirements and all safety laws and regulations. Notify any deficiencies to PDB Contractor and Toll Services Provider for their immediate correction and compliance. Communicate any special notices to the public outreach team;
- Monitor the closures and provide reports and updates to the Commission and other stakeholders to ensure any issues are raised and notified to Project management;
- Coordinate with the Public Relations team and RCTC Public Relations to ensure the planned closures are properly notified to the public;

- Observe and identify all potential changes in SOW based on PDB Contractor and Toll Services Provider activities, and review all CCOs submitted, perform required analyses, and present recommendations to Commission for disposition. Maintain separate log and files to document all potential and actual changes;
- Perform oversight and review of laboratory, shop, and mill test reports of materials and equipment, and coordination;
- Offeror shall establish and maintain Project records. Project record keeping shall include, but are not limited to, correspondence, memoranda, contract documents, RFIs, CCOs, claims, Commission and engineer directives, meeting minutes, shop drawings, supplementary drawings, review and approval of submittals, and quantity calculations, measurements and daily Extra Work Reports that support progress payments. Offeror shall maintain a record of the names, addresses, and telephone/fax numbers of the Contractors, subcontractors, and principal material suppliers;
- Monitor PDB Contractor and Toll Services Provider compliance to inspection and surveys of properties adjacent to the Project to monitor possible ground movement or structural damage to properties that may be caused by the works; and
- Monitor test and inspection records and noncompliance reports for satisfactory resolution of noncomplying work.

F4. Structures Construction Oversight

- Monitor the overall planning of construction activities to identify critical milestones and priorities. Determine budget estimates and staffing requirements for the structures work scope and schedule;
- Coordinate and conduct pre-construction and pre-activity meetings with the PDB Contractor and Toll Services Provider;
- Provide engineering assessment of plans for adequacy of design, particularly with respect to suitability to actual field conditions;
- Ensure compliance with the plans and specifications by the PDB Contractor and Toll Services Provider; recommend, modify, interpret, and edit special provisions and prepare modification estimates; and keep necessary records pertaining to construction progress, budget performance, and work order balances;
- Monitor the PDB Contractor and Toll Services Provider construction QC programs, including the adequacy of capability of QC resources. Oversee and provide, as necessary, notification to the PDB Contractor and Toll

Services Provider of rejected work when it is the opinion that the work or materials do not conform to the requirements of the PDB contract documents;

- Monitor compliance of PDB Contractor and Toll Services Provider safety plans and note concerns or deficiencies immediately to PDB Contractor or Toll Services Provider for their implementation of corrective measures;
- Oversee Caltrans performance of periodic construction inspection and QA independent oversight activities and their recording of daily progress of the Project with accurate and complete daily inspection reports, including weather conditions, work performed, number of workers, problems encountered, and other relevant data. Maintain an independent photographic log of the construction progress indexed for easy retrieval;
- Perform oversight and review of laboratory, shop, and mill test reports of materials and equipment, and coordination;
- Monitor PDB Contractor and Toll Services Provider compliance to inspection and surveys of properties adjacent to the Project to monitor possible ground movement or structural damage to properties that may be caused by the works; and
- Ensure that PDB Contractor's test and inspection records and noncompliance reports are resolved in accordance with the PDB Contractor's contract.

F5. Office Engineering

- Coordinate with PDB Contractor and Toll Services Provider for completion and submittal of final record drawings or as-built drawings. The record drawings and documents shall be prepared and submitted in conformance with the contract requirements;
- Monitor that the PDB Contractor and Toll Services Provider maintain a detailed photographic history of the Project in compliance with the PDB contract, which includes labels with location, direction of view, date, time, and any information of interest. Photographs shall be maintained in an indexed album or Commission approved software. Photographs shall include, but not be limited to, conditions prior to construction, changes to detours, barricade placement, disputed work, rejected work, and completed work;
- Coordinate between the Design Review and Construction Oversight teams to receive and distribute Project plans and documents throughout the Project term;
- Perform general construction office duties relating to administration of

construction contracts, such as processing extra work invoices, preparing progress estimates, and filing documents;

- Confer with PDB Contractor and Toll Services Provider regarding compliance with plans and quality of work and construction activity; selection and/or use of computer-based processes to compile engineering data, horizontal and vertical alignments, and curve computations; and preparation of as-built plans;
- For schedule/work activities where the need is identified, prepare quantity calculations and quantity sheets for payment purposes and review calculations prepared by Roadway and Structures Resident Engineering teams;
- Prepare or assist in the preparation of CCOs for the purpose of making alterations, deviations, additions to, or deletions from the plans and specifications to ensure proper completion or construction of the contract by gathering critical information necessary and interpreting technical reports and data to determine a feasible solution;
- Assist in timely resolution/close out of RFIs and CCOs;
- Coordinate between field personnel in tracking and logging all field documents, including reports and daily Progress Reports;
- Track and document all safety procedures and reports.
- Track and document all environmental and stormwater pollution prevention related reports and inspections and coordinate with the environmental personnel on the Project;
- Track, monitor, and document all roadway closures on the Project, and document all 10-97, 10-98, and 10-22 calls on Caltrans Traffic Management Center (TMC);
- Together, with administration and the Project document control, develop, maintain, and update Project's contact matrix and assure posting and distribution to the Project's team;
- Provide the tracking and maintenance of Project work schedules, analyses, technical and production reports, and other documentation as required;
- Organize, prepare, and conduct field site investigations and visitations from Caltrans, Commission, and FHWA personnel to confirm Project progress, conduct studies, or any other purpose; and
- Schedule, coordinate, and attend meetings, as necessary, to support Project

oversight and construction activities, including the preparation of meeting materials, agendas, minutes, and action item lists.

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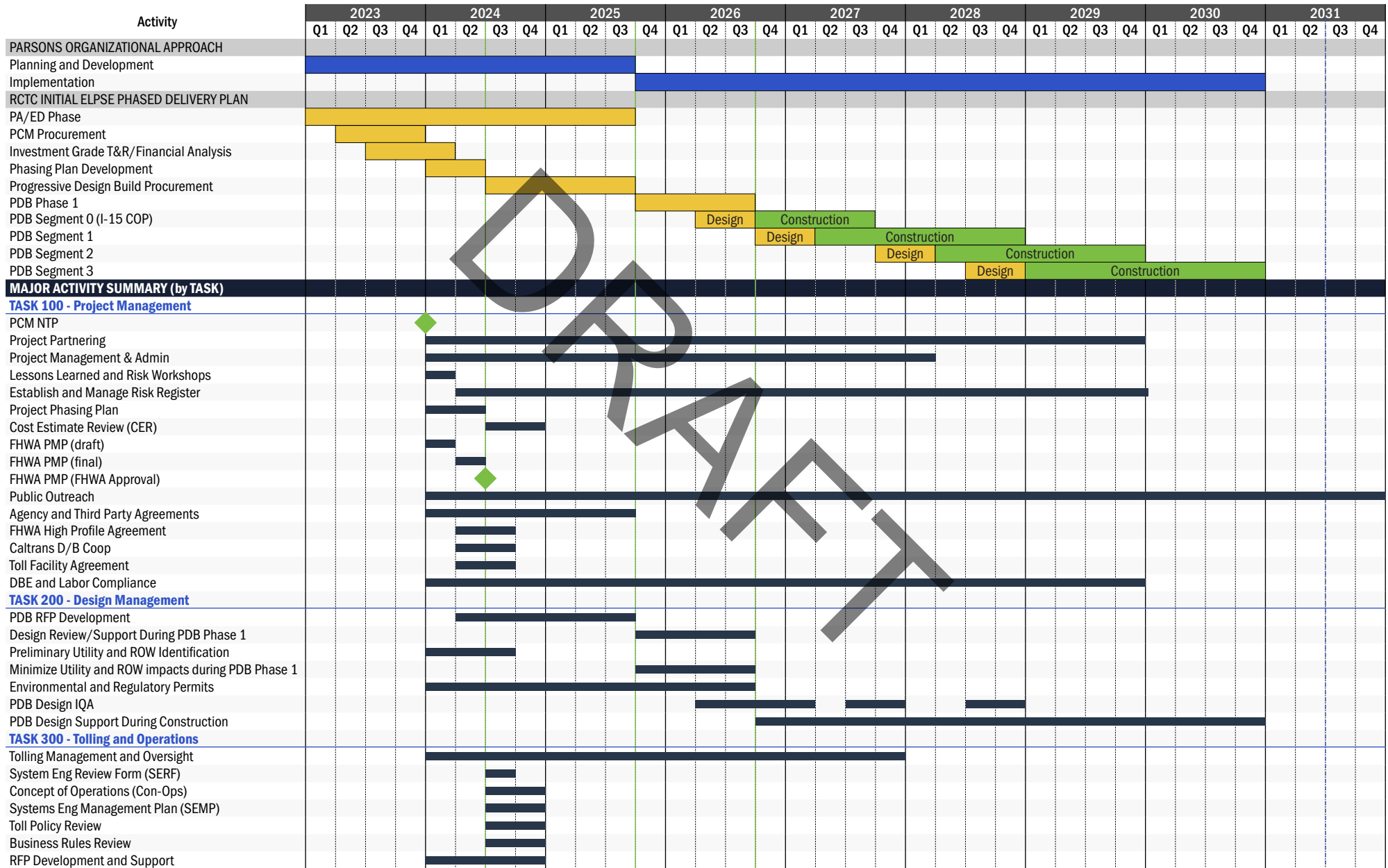
EXHIBIT "B"

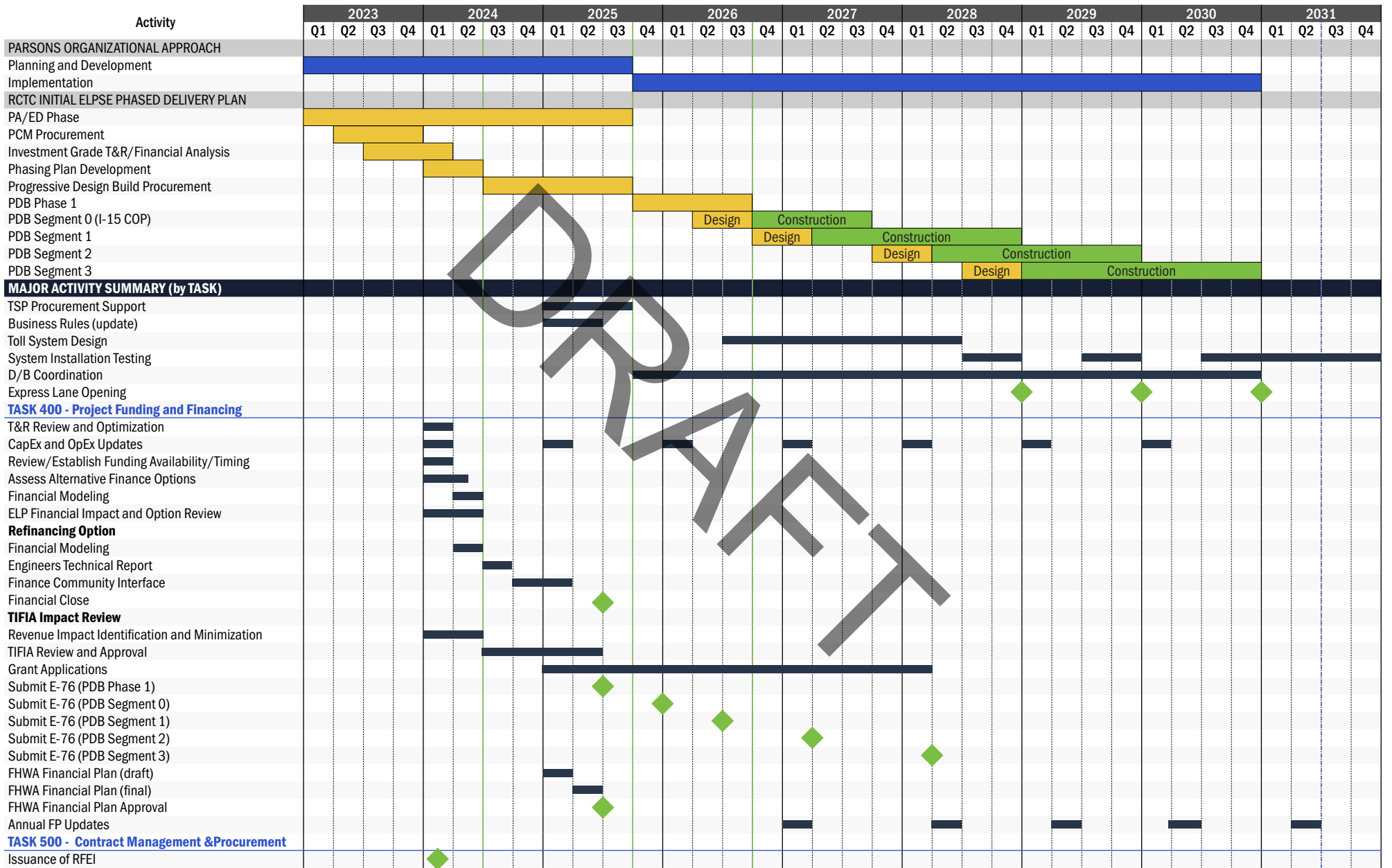
SCHEDULE OF SERVICES

[attached behind this page]

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FIGURE C-15. MASTER SCHEDULE





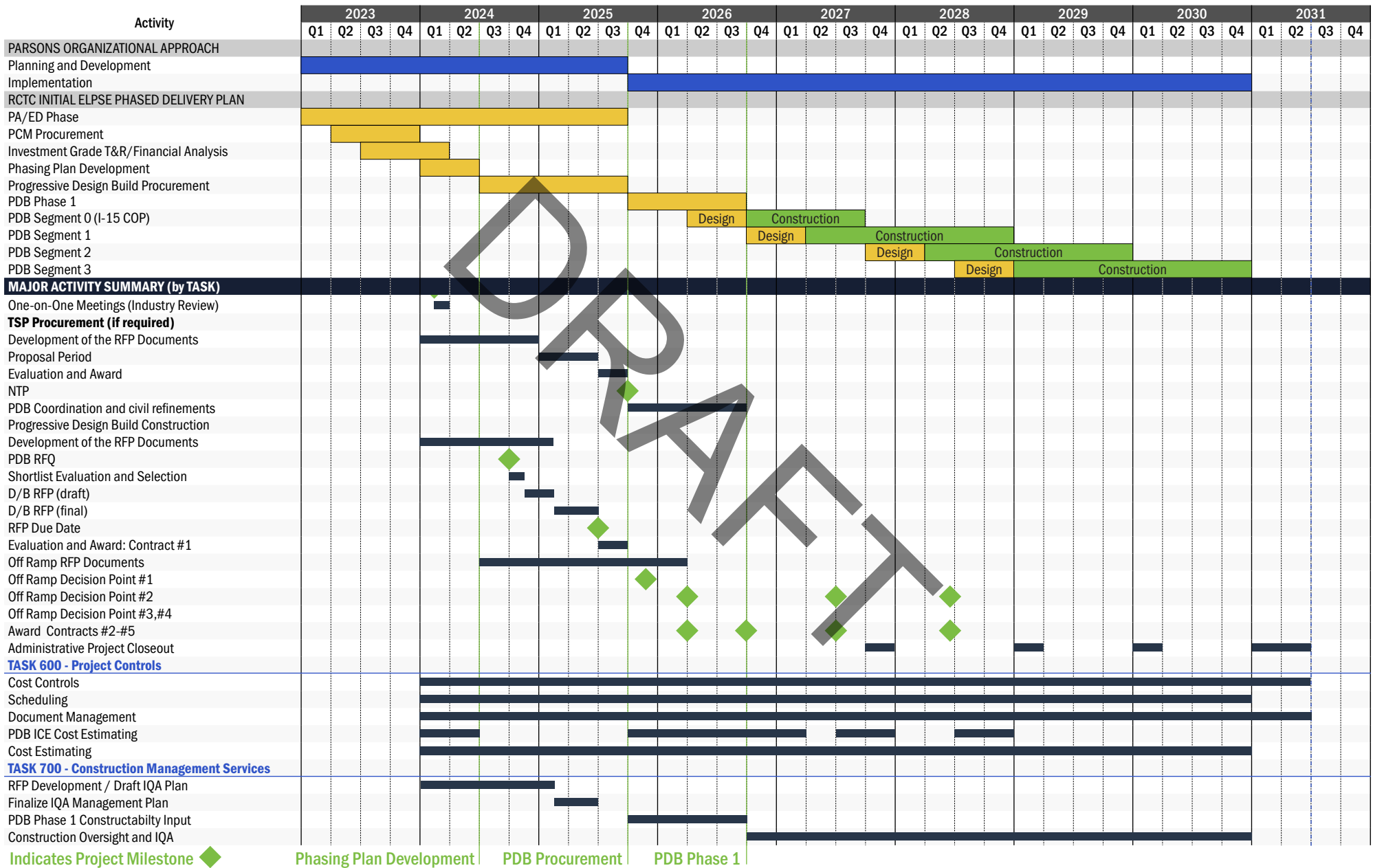


EXHIBIT "C"
COMPENSATION PROVISIONS

[attached behind this page]

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EXHIBIT "C"
COMPENSATION SUMMARY¹

FIRM	PROJECT TASKS/ROLE	COST
<i>Prime Consultant:</i>		
Parsons Transportation Group	Project Construction Management Services	\$ 42,533,023.00
<i>Sub Consultants:</i>		
Costin Public Outreach	Public Outreach	2,347,827.00
Group Delta	Geotechnical	1,721,624.00
Psomas	Right of Way Engineering & Surveying	1,401,184.00
Monument ROW Services	Right of Way and Utilities	633,154.00
CR Associates	Maintenance of Traffic and Grant Writing	272,976.00
VCS Environmental	Environmental Permitting	934,766.00
WSP	Tolling, Funding Strategy and Grant Proposals	7,540,027.00
GCAP	DBE & Labor Compliance	794,334.00
Albert Risk Management	Risk Management	50,072.00
FPS Project Services	Scheduling	83,971.00
Krebs Corp	Cost Estimating	2,688,448.00
Technology Partnerz	FHWA Cost Estimate Review	434,941.00
RT Engineering & Associates	Construction Management Support	2,830,690.00
Falcon Engineering	Construction Management Support	3,122,878.00
A1 Management & Inspection	Quality Assurance	5,025,123.00
Fountainhead	Construction Management Support	4,841,062.00
Dynamic Engineering Services	Electrical Inspection	1,302,813.00
American Safety Group (ASG)	Safety Management	143,587.00
TOTAL COSTS		\$ 78,702,500.00

¹ Commission authorization pertains to total contract award amount. Compensation adjustments between consultants may occur; however, the maximum total compensation authorized may not be exceeded.

EXHIBIT "D"

**FEDERAL DEPARTMENT OF TRANSPORTATION
FHWA AND CALTRANS REQUIREMENTS**

[attached behind this page]

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EXHIBIT "D"

FEDERAL DEPARTMENT OF TRANSPORTATION FHWA AND CALTRANS REQUIREMENTS

1. STATEMENT OF COMPLIANCE.

A. Consultant's signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State of California that CONSULTANT has, unless exempt, complied with, the nondiscrimination program requirements of Government Code Section 12990 and Title 2, California Administrative Code, Section 8103.

B. During the performance of this Agreement, Consultant and its subconsultants shall not deny the Agreement's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. Consultant and subconsultants shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.

C. Consultant and subconsultants shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12990 et seq.), the applicable regulations promulgated there under (2 CCR §11000 et seq.), the provisions of Gov. Code §§11135-11139.5, and any regulations or standards adopted by Commission to implement such article. The applicable regulations of the Fair Employment and Housing Commission implementing Gov. Code §12990 (a-f), set forth 2 CCR §§8100-8504, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.

D. Consultant shall permit access by representatives of the Department of Fair Employment and Housing and the Commission upon reasonable notice at any time during the normal business hours, but in no case less than twenty-four (24) hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Commission shall require to ascertain compliance with this clause.

E. Consultant and its subconsultants shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

F. Consultant shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Agreement.

2. FHWA TITLE VI ASSURANCES.

A. Compliance with Regulations: Consultant shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Agreement.

B. Nondiscrimination: Consultant, with regard to the work performed by it during the Agreement, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Agreement covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Sub-agreements, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by Consultant for work to be performed under a Sub-agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by Consultant of the Consultant's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports: Consultant shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the recipient or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of Consultant is in the exclusive possession of another who fails or refuses to furnish this information, Consultant shall so certify to the recipient or FHWA as appropriate, and shall set forth what efforts Consultant has made to obtain the information.

E. Sanctions for Noncompliance: In the event of Consultant's noncompliance with the nondiscrimination provisions of this agreement, the Commission shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to: i. withholding of payments to Consultant under the Agreement within a reasonable period of time, not to exceed 90 days; and/or ii. cancellation, termination or suspension of the Agreement, in whole or in part.

F. Incorporation of Provisions: Consultant shall include the provisions of paragraphs (A) through (F) in every sub-agreement, including procurements of materials and leases of

equipment, unless exempt by the Regulations, or directives issued pursuant thereto. Consultant shall take such action with respect to any sub-agreement or procurement as the Commission or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event Consultant becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, Consultant may request Commission enter into such litigation to protect the interests of the State, and, in addition, Consultant may request the United States to enter into such litigation to protect the interests of the United States.

3. ADDITIONAL NONDISCRIMINATION REQUIREMENTS

During the performance of this Agreement, the Consultant, for itself, its assignees, and successors in interest (hereinafter referred to as the "Consultant") agrees to comply with the following nondiscrimination statutes and authorities, including, but not limited to: Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), prohibits discrimination on the basis of sex;
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination of the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with

disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

4. DEBARMENT AND SUSPENSION CERTIFICATION

A. CONSULTANT's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that CONSULTANT has complied with Title 2 CFR, Part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (nonprocurement)", which certifies that he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager, is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. Any exceptions to this certification must be disclosed to COMMISSION.

B. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining CONSULTANT responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of action.

C. Exceptions to the Federal Government Excluded Parties List System maintained by the General Services Administration are to be determined by the Federal highway Administration.

5. DISCRIMINATION

The Commission shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the implementation of the Caltrans DBE program or the requirements of 49 CFR Part 26. The Commission shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts.

Consultant or subcontractor shall not discriminate on the basis of race, color, national origin, of sex in the performance of this Agreement. Consultant or subcontractor shall carry out applicable requirements of 49 CFR Part 26 and the Caltrans DBE program in

the award and administration of DOT-assisted contracts, as further set forth below. Failure by the Consultant or subcontractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy, as the Commission deems appropriate.

6. PROMPT PAYMENT

A. Consultant agrees to pay each subconsultant under this Agreement for satisfactory performance of its contract no later than 15 days from the receipt of each payment the Consultant receives from the Commission. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the Commission. This clause applies to both DBE and non-DBE subcontractors.

B. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from Consultant to a subconsultant, Consultant may withhold no more than 150 percent of the disputed amount. Any violation of this requirement shall constitute a cause for disciplinary action and shall subject the Consultant to a penalty, payable to the subconsultant, of 2 percent of the amount due per month for every month that payment is not made. In any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to his or her attorney's fees and costs. The sanctions authorized under this requirement shall be separate from, and in addition to, all other remedies, either civil, administrative, or criminal. This clause applies to both DBE and non-DBE subconsultants.

C. The above provisions apply to Consultant's subconsultants who retain subconsultants.

D. **PROMPT PAYMENT CERTIFICATION** For projects awarded on or after September 1, 2023: the Consultant shall submit Caltrans Exhibit 9-P (available at <https://dot.ca.gov/programs/local-assistance/forms/local-assistance-procedures-manual-forms> and incorporated herein by reference) to the Commission by the 15th of the month following the month of any payment(s). If the Consultant does not make any payments to subconsultants, supplier(s), and/or manufacturers they must report "no payments were made to subs this month" and write this visibly and legibly on Exhibit 9-P. The submitted forms shall be reviewed by the Commission and submitted to Caltrans.

7. RELEASE OF RETAINAGE

No retainage will be held by the Commission from progress payments due to Consultant. Consultant and subconsultants are prohibited from holding retainage from subconsultants. Any delay or postponement of payment may take place only for good cause and with the Commission's prior written approval. Any violation of these provisions shall subject the violating Consultant or subconsultant to the penalties,

sanctions, and other remedies specified in Section 3321 of the California Civil Code. This requirement shall not be construed to limit or impair any contractual, administrative or judicial remedies, otherwise available to Consultant or subconsultant in the event of a dispute involving late payment or nonpayment by Consultant, deficient subconsultant performance and/or noncompliance by a subconsultant. This clause applies to both DBE and non-DBE subconsultants.

8. LEGAL REMEDIES

In addition to those contract remedies set forth under relevant provisions of California law, either Party to this Agreement may, where applicable, seek legal redress for violations of this Agreement pursuant to the relevant provisions of 49 C.F.R. Parts 23 and 26, to the relevant federal or state statutory provisions governing civil rights violations, and to the relevant federal and state provisions governing false claims or “whistleblower” actions, as well as any and all other applicable federal and state provisions of law.

The Consultant shall include a provision to this effect in each of its agreements with its subcontractors.

9. DBE PARTICIPATION

A. Consultant or subconsultant shall take necessary and reasonable steps to ensure that DBEs have opportunities to participate in the contract (49 CFR 26). To ensure equal participation of DBEs provided in 49 CFR 26.5, the Commission has included a contract goal for DBEs under this Agreement. Consultant shall make work available to DBEs and select work parts consistent with available DBE subconsultants and suppliers.

Consultant shall meet the DBE goal shown in this exhibit, or demonstrate that it made adequate Good Faith Efforts (GFE) to meet this goal. It is Consultant’s responsibility to verify all DBE firms included in its proposal are certified as a DBE by using the California Unified Certification Program (CUCP) database and possesses the most specific available North American Industry Classification System (NAICS) codes and work code applicable to the type of work the firm will perform under this Agreement. Additionally, the Consultant is responsible to document the verification record by printing out the CUCP data for each DBE firm. A list of DBEs certified by the CUCP can be found at <https://dot.ca.gov/programs/civil-rights/dbe-search>.

All DBE participation will count toward the California Department of Transportation’s federally mandated statewide overall DBE goal. Credit for materials or supplies Consultant purchases from DBEs counts towards the goal in the following manner:

- 100 percent counts if the materials or supplies are obtained from a DBE manufacturer.

- 60 percent counts if the materials or supplies are purchased from a DBE regular dealer.

- Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies count if obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

This Agreement is subject to 49 CFR 26 entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs".

Consultants who enter into a federally-funded agreement will assist the Commission in a good faith effort to achieve California's statewide overall DBE goal. Any subcontract entered into as a result of this Agreement shall contain all of the DBE provisions in this Exhibit "D".

10. DBE GOAL

The goal for DBE participation for this Agreement is 22%. Participation by DBE Consultant or subconsultants shall be in accordance with information contained in Exhibit 10- O2: Consultant Contract DBE Commitment attached hereto and incorporated as part of this Agreement. If a DBE subconsultant is unable to perform, Consultant must make a good faith effort to replace him/her with another DBE subconsultant, if the goal is not otherwise met.

A. Consultant can meet the DBE participation goal by either documenting commitments to DBEs to meet the Agreement goal, or by documenting adequate good faith efforts to meet the Agreement goal. An adequate good faith effort means that the Consultant must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal. If Consultant has not met the DBE goal, Consultant must complete and submit Exhibit 15-H: Proposer/Contractor Good Faith Efforts to document efforts to meet the goal. Refer to 49 CFR 26 for guidance regarding evaluation of good faith efforts to meet the DBE goal.

11. CONTRACT ASSURANCE; REMEDIES

A. Contract Assurance. Under 49 CFR 26.13(b):

Consultant or subconsultant shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. Consultant shall carry out applicable requirements of 49 CFR 26 in the award and administration of federal-aid contracts.

B. Failure by the Consultant to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the Commission appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying Consultant from future proposing as non-responsible

12. TERMINATION AND REPLACEMENT OF DBE SUBCONSULTANTS

Consultant shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless Consultant or DBE subconsultant obtains the Commission's written consent. Consultant shall not terminate or replace a listed DBE for convenience and perform the work with their own forces or obtain materials from other sources without authorization from the Commission. Unless the Commission's consent is provided, the Consultant shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE on the Exhibit 10-02: Consultant Contract DBE Commitment form.

A. Termination of DBE Subconsultants. After execution of this Agreement, termination of a DBE may be allowed for the following, but not limited to, justifiable reasons with prior written authorization from the Commission:

1. Listed DBE fails or refuses to execute a written contract based on plans and specifications for the project.
2. The Commission stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet the Commission's bond requirements.
3. Work requires a consultant's license and listed DBE does not have a valid license under Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials (failing or refusing to perform is not an allowable reason to remove a DBE if the failure or refusal is a result of bad faith or discrimination).
5. Listed DBE's work is unsatisfactory and not in compliance with the contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent or exhibits credit unworthiness.
8. Listed DBE voluntarily withdraws with written notice from this Agreement.
9. Listed DBE is ineligible to receive credit for the type of work required.

10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on under this Agreement.

11. The Commission determines other documented good cause.

B. Consultant must use the following procedures to request the termination of a DBE or portion of a DBE's work:

1. Send a written notice to the DBE of the Consultant's intent to use other forces or material sources and include one or more justifiable reasons listed above. Simultaneously send a copy of this written notice to the Commission. The written notice to the DBE must request they provide any response within five (5) business days to both the Consultant and the Commission by either acknowledging their agreement or documenting their reasoning as to why the use of other forces or sources of materials should not occur.

2. If the DBE does not respond within five (5) business days, Consultant may move forward with the request as if the DBE had agreed to Consultant's written notice.

3. Submit Consultant's DBE termination request by written letter to the Commission and include:

- One or more above listed justifiable reasons along with supporting documentation.
- Consultant's written notice to the DBE regarding the request, including proof of transmission and tracking documentation of Consultant's written notice
- The DBE's response to Consultant's written notice, if received. If a written response was not provided, provide a statement to that effect.

The Commission shall endeavor to respond in writing to Consultant's DBE termination request within five (5) business days.

C. Replacement of DBE Subconsultants. After receiving the Commission's written authorization of DBE termination request, Consultant must obtain the Commission's written agreement for DBE replacement. Consultant must find or demonstrate GFEs to find qualified DBE replacement firms to perform the work to the extent needed to meet the DBE commitment.

The following procedures shall be followed to request authorization to replace a DBE firm:

1. Submit a request to replace a DBE with other forces or material sources in writing to the Commission which must include:

a. Description of remaining uncommitted work item made available for replacement DBE solicitation and participation.

b. The proposed DBE replacement firm's business information, the work they have agreed to perform, and the following:

- Description of scope of work and cost proposal
- Proposed subcontract agreement and written confirmation of agreement to perform under this Agreement.
- Revised Exhibit 10-O2: Consultant Contract DBE Commitment.

2. If Consultant has not identified a DBE replacement firm, submits documentation of Consultant's GFEs to use DBE replacement firms within seven (7) days of Commission's authorization to terminate the DBE. Consultant may request the Commission's approval to extend this submittal period to a total of 14 days. Submit documentation of actions taken to find a DBE replacement firm, such as:

- Search results of certified DBEs available to perform the original DBE work identified and or other work Consultant had intended to self-perform, to the extent needed to meet DBE commitment
- Solicitations of DBEs for performance of work identified
- Correspondence with interested DBEs that may have included contract details and requirements
- Negotiation efforts with DBEs that reflect why an agreement was not reached
- If a DBE's quote was rejected, provide reasoning for the rejection, such as why the DBE was unqualified for the work, or why the price quote was unreasonable or excessive
- Copies of each DBE's and non-DBE's price quotes for work identified, as the Commission may contact the firms to verify solicitation efforts and determine if the DBE quotes are substantially higher
- Additional documentation that supports Consultant's GFE

The Commission shall endeavor to respond in writing to Consultant's DBE replacement request within five (5) business days.

13. DBE COMMITMENT AND UTILIZATION

The Commission's DBE program must include a monitoring and enforcement mechanism to ensure that DBE commitments reconcile to DBE utilization. The Commission shall request Consultant to:

1. Notify the Commission's contract administrator or designated representative of any changes to its anticipated DBE participation
2. Provide this notification before starting the affected work
3. Maintain records including:
 - Name and business address of each 1st-tier subconsultant
 - Name and business address of each DBE subconsultant, DBE vendor, and DBE trucking company, regardless of tier
 - Date of payment and total amount paid to each business (see Exhibit 9-F: Monthly Disadvantaged Business Enterprise Payment)

If Consultant is a DBE Consultant, they shall include the date of work performed by their own forces and the corresponding value of the work.

If a DBE is decertified before completing its work, the DBE must notify Consultant in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify Consultant in writing of the certification date. Consultant shall submit the notifications to the Commission. On work completion, Consultant shall complete Exhibit 17-O: Disadvantaged Business Enterprises (DBE) Certification Status Change and submit the form to the Commission within 30 days of contract acceptance.

Upon work completion, CONSULTANT shall complete Exhibit 17-F: Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors and submit it to the Commission within 90 days of contract acceptance. The Commission will withhold \$10,000 until the form is submitted. The Commission will release the withheld funds upon submission of the completed form.

In the Commission's reports of DBE participation to Caltrans, the Commission must display both commitments and attainments.

14. COMMERCIALY USEFUL FUNCTION - DBEs

DBEs must perform a commercially useful function (CUF) under 49 CFR 26.55 when performing work or supplying materials listed on the DBE Commitment form. The DBE value of work will only count toward the DBE commitment if the DBE performs a CUF. A DBE performs a CUF when it is responsible for execution of the work of the Agreement

and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a CUF, the DBE must also be responsible, with respect to materials and supplies used on the Agreement, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable), and paying for the material itself.

Consultant must perform CUF evaluation for each DBE working on a federal-aid contract, with or without a DBE goal. Perform a CUF evaluation at the beginning of the DBE's work and continue to monitor the performance of CUF for the duration of the Project.

Consultant must provide written notification to the Commission at least 15 days in advance of each DBE's initial performance of work or supplying materials for this Agreement. The notification must include the DBE's name, work the DBE will perform on the contract, and the location, date, and time of where their work will take place.

Within 10 days of a DBE initially performing work or supplying materials on the Contract, Consultant shall submit to the LPA the initial evaluation and validation of DBE performance of a CUF using the LAPM 9-J: Disadvantaged Business Enterprise Commercially Useful Function Evaluation (available online at <https://dot.ca.gov/programs/local-assistance/forms/local-assistance-procedures-manual-forms>) and incorporated herein by reference). Include the following information with the submittal:

- Subcontract agreement with the DBE
- Purchase orders
- Bills of lading
- Invoices
- Proof of payment

Consultant must monitor all DBE's performance of CUF by conducting quarterly evaluations and validations throughout their duration of work on the Contract using the LAPM 9-J: DBE Commercially Useful Function Evaluation (available online at <https://dot.ca.gov/programs/local-assistance/forms/local-assistance-procedures-manual-forms>) and incorporated herein by reference. Consultant must submit to the Commission these quarterly evaluations and validations by the 5th of the month for the previous three months of work.

Consultant must notify the Commission immediately if they believe the DBE may not be performing a CUF. The Commission will verify DBEs performance of CUF by reviewing the initial and quarterly submissions of LAPM 9-J: DBE Commercially Useful Function Evaluation, submitted supporting information, field observations, and through any

additional Commission evaluations. The Commission must evaluate DBEs and their CUF performance throughout the duration of this Agreement. The Commission will provide written notice to the Consultant and the DBE at least two (2) business days prior to any evaluation. The Consultant and the DBE must participate in the evaluation. Upon completing the evaluation, the Commission must share the evaluation results with the Consultant and the DBE. An evaluation could include items that must be remedied upon receipt. If the Commission determines the DBE is not performing a CUF, the Consultant must suspend performance of the noncompliant work.

Consultant and DBEs must submit any additional CUF related records and documents within five (5) business days of Commission's request such as:

- Proof of ownership or lease and rental agreements for equipment
- Tax records
- Employee rosters
- Certified payroll records
- Inventory rosters

Failure to submit required DBE Commercially Useful Function Evaluation forms or requested records and documents can result in withholding of payment for the value of work completed by the DBE.

If Consultant and/or the Commission determine that a listed DBE is not performing a CUF in performance of their DBE committed work, Consultant must immediately suspend performance of the noncompliant portion of the work. The Commission may deny payment for the noncompliant portion of the work. The Commission will ask the Consultant to submit a corrective action plan (CAP) to the Commission within five (5) days of the noncompliant CUF determination. The CAP must identify how the Consultant will correct the noncompliance findings for the remaining portion of the DBE's work. The Commission has five (5) days to review the CAP in conjunction with the Consultant's review. The Consultant must implement the CAP within five (5) days of the Commission's approval. The Commission will then authorize the prior noncompliant portion of work for the DBE's committed work.

If corrective actions cannot be accomplished to ensure the DBE performs a commercially useful function under the Agreement, Consultant may have good cause to request termination of the DBE.

A. A DBE does not perform a CUF if its role is limited to that of an extra participant in a transaction, agreement, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra

participant, examine similar transactions, particularly those in which DBEs do not participate.

B. If a DBE does not perform or exercise responsibility for at least thirty percent (30%) of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of the contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that it is not performing a CUF.

15. RECORDS OF PAYMENTS TO DBEs

A. Consultant shall maintain records of materials purchased or supplied from all subcontracts entered into with certified DBEs. The records shall show the name and business address of each DBE or vendor and the total dollar amount actually paid each DBE or vendor, regardless of tier.

The records shall show the date of payment and the total dollar figure paid to all firms. DBE Consultants shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

B. For projects awarded on or after March 1, 2020, but before September 1, 2023: after submitting an invoice for reimbursement that includes a payment to a DBE, but no later than the 10th of the following month, the prime contractor/consultant must complete and email Exhibit 9-F: Disadvantaged Business Enterprise Running Tally of Payments to business.support.unit@dot.ca.gov with a copy to local administering agencies.

C. For projects awarded on or after September 1, 2023: Exhibit 9-F is no longer required. Instead, by the 15th of the month following the month of any payment(s), the Consultant must submit Exhibit 9-P to the Commission. If the Consultant does not make any payments to subconsultants, supplier(s), and/or manufacturers they must report "no payments were made to subs this month" and write this visibly and legibly on Exhibit 9-P.

16. DEBARMENT, SUSPENSION AND OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION

In accordance with 49 CFR Part 29, which by this reference is incorporated herein, Consultant's subconsultants completed and submitted the Certificate of subconsultant Regarding Debarment, Suspension and Other Ineligibility and Voluntary Exclusion as part of the Consultant's proposal. If it is later determined that Consultant's subconsultants knowingly rendered an erroneous Certificate, the Commission may, among other remedies, terminate this Agreement.

17. ENVIRONMENTAL COMPLIANCE

A. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000).

B. Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

18. NATIONAL LABOR RELATIONS BOARD CERTIFICATION

In accordance with Public Contract Code Section 10296, and by signing this Agreement, Consultant certifies under penalty of perjury that no more than one final unappealable finding of contempt of court by a federal court has been issued against Consultant within the immediately preceding two-year period, because of Consultant's failure to comply with an order of a federal court that orders Consultant to comply with an order of the National Labor Relations Board.

19. PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE EQUIPMENT AND SERVICES

Consultant shall not obligate or expend any funds to be reimbursed under this Agreement to:

- Procure or obtain;
 - Extend or renew a contract to procure or obtain; or
 - Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The prohibited vendors (and their subsidiaries or affiliates) are:
 - Huawei Technologies Company;
 - ZTE Corporation;
 - Hytera Communications Corporation;
 - Hangzhou Hikvision Digital Technology Company;
 - Dahua Technology Company; and
 - Subsidiaries or affiliates of the above-mentioned companies.
- and customers is sustained.

EXHIBIT "E"

CONSULTANT DBE COMMITMENT

[attached behind this page]

DRAFT

EXHIBIT "F"

DISCLOSURE OF LOBBYING ACTIVITIES


[attached behind this page]

DRAFT

Not Applicable

EXHIBIT 10-Q DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

<p>1. Type of Federal Action:</p> <p><input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance</p>	<p>2. Status of Federal Action:</p> <p><input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award</p>	<p>3. Report Type:</p> <p><input type="checkbox"/> a. initial <input type="checkbox"/> b. material change</p> <p>For Material Change Only: year _____ quarter _____ date of last report _____</p>
<p>4. Name and Address of Reporting Entity</p> <p><input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known</p> <p>Congressional District, if known _____</p>	<p>5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:</p> <p>Congressional District, if known _____</p>	
<p>6. Federal Department/Agency:</p>	<p>7. Federal Program Name/Description:</p> <p>CFDA Number, if applicable _____</p>	
<p>8. Federal Action Number, if known:</p>	<p>9. Award Amount, if known:</p>	
<p>10. Name and Address of Lobby Entity (If individual, last name, first name, MI)</p> <p>(attach Continuation Sheet(s) if necessary)</p>	<p>11. Individuals Performing Services (including address if different from No. 10) (last name, first name, MI)</p>	
<p>12. Amount of Payment (check all that apply)</p> <p>\$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned</p>	<p>14. Type of Payment (check all that apply)</p> <p><input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____</p>	
<p>13. Form of Payment (check all that apply):</p> <p><input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ Value _____</p>		
<p>15. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 12:</p> <p>(attach Continuation Sheet(s) if necessary)</p>		
<p>16. Continuation Sheet(s) attached: Yes <input type="checkbox"/> No <input type="checkbox"/></p>		
<p>17. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p>	<p>Signature: <u></u></p> <p>Print Name: <u>Chris A. Johnson, PE</u></p> <p>Title: <u>Vice President, Parsons Transportation Group Inc.</u></p> <p>Telephone No.: <u>858.568.8568</u> Date: <u>9/7/2023</u></p>	
<p>Authorized for Local Reproduction Standard Form - LLL</p>		
<p>Federal Use Only:</p>		

Standard Form LLL Rev. 04-28-06

Distribution: Orig- Local Agency Project Files

AGENDA ITEM 9

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Western Riverside County Programs and Projects Committee Joie Edles Yanez, Capital Projects Manager
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Amendment No. 11 with Michael Baker International for the Santa Ana River Trail Project 2 – Phase 6 and Additional Contingency

WESTERN RIVERSIDE COUNTY PROGRAMS AND PROJECTS COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve Agreement No. 17-67-027-11, Amendment No. 11 to Agreement No. 17-67-027-00, with Michael Baker International (MBI) for additional scope of services, as part of planned construction of the Santa Ana River Trail Project (SART) 2 through Green River Golf Course (Project) in the amount of \$222,980, plus a contingency amount of \$236,667, for an additional amount of \$459,647, and a total contract amount not to exceed \$2,609,259;
- 2) Authorize the Executive Director or designee to approve contingency work as may be required for the Project; and
- 3) Authorize the Chair or Executive Director, pursuant to legal counsel review, to finalize and execute the agreement on behalf of the Commission.

BACKGROUND INFORMATION:

The concept for the overall SART from the San Bernardino Mountains to the Pacific Ocean in Huntington Beach has been in development for many years. Much of the trail has been built through Orange County with short segments remaining to be completed in Riverside and San Bernardino Counties. The last remaining segment to be completed in Riverside County is from the Orange County line to the Hidden Valley Reserve in the cities of Corona and Riverside.

In 2007, the Riverside County Regional Park and Open-Space District (Park District) was successful in obtaining Proposition 84 Grant funds for the detailed alignment and construction of the section of trail from the Orange County line to the US Army Corps of Engineers property in the Prado Dam basin.

In early 2015, the Park District requested the Commission to manage the delivery of the SART 1 trail project between State Route 71 and the city of Eastvale. In March 2015, the Commission and Park District entered into Memorandum of Understanding (MOU) No. 15-67-059-00, which reimburses the Commission’s costs for providing project management and procurement of construction services for the Park District SART 1 project.

Please see attachment, Figure 1 – Santa Ana River Trail Project 2 – Phase 6 & Gap Phase map.

In October 2016, the Park District and Commission amended the MOU, Agreement No. 15-67-059-01, to reimburse the Commission for its costs for delivery of the SART 2 Project, which runs adjacent to the Green River Golf Course near the city of Corona.

At the November 2017 meeting, the Commission approved an agreement with MBI for preliminary engineering, final environmental document and design and preparation of the final plans, specifications and estimate (PS&E) package and related construction bid documents for the construction of the Project in the amount of \$1,256,960, including contingencies. There have been 10 amendments to the contract to date for changes in key staff personnel and one utilizing contingency, shown in Table 1 below:

TABLE 1 – Agreement History

Agreement	Date	Contract Amount	Contingency
Original Agreement	October 23, 2017	\$1,142,691	\$114,269
Amendment No. 1	May 1, 2018	0*	
Amendment No. 2	June 6, 2019	0*	
Amendment No. 3	October 22, 2019	0*	
Amendment No. 4	October 14, 2019	0*	
Amendment No. 5	February 4, 2020	0*	
Amendment No. 6	April 8, 2020	0*	
Amendment No. 7	October 26, 2020	\$874,626	\$87,463
Amendment No. 8	April 12, 2022	0*	
Amendment No. 9	October 3, 2022	0**	
Amendment No. 10	March 8, 2023	0	-\$21,841***
	Total	\$2,017,317	\$201,732 (\$179,891 Remaining)

*Change in Key Personnel

**Contract Term Extension

***Utilized Contingency

The parties now desire to amend Agreement No. 17-67-027-00 in order to provide compensation for final design services and construction support for the Project to complete work that was not anticipated in the original scope.

Project Description

The Project will construct a 1.5-mile-long Class I hot mixed asphalt (HMA) and decomposed granite (DG) equestrian and pedestrian trail (total 18-20 feet in width), from the SART Orange County line, through the Green River Golf Course (GRGC), to connect to the existing trail at Chino Hills State Parks boundary. The Project would connect the SART Extension under the jurisdiction of the County of Orange just south of the Burlington Northern Santa Fe (BNSF) railroad and would then traverse to the east parallel to the railroad right of way (ROW). A new overhead bridge structure is required to cross the BNSF railroad approximately 1,200 feet east of the Orange County line. Once on the north side of the BNSF railroad, the trail will run along the west side of the GRGC, crossing Aliso Canyon Creek with the new proposed Bridge, then connecting to the existing trail on the west end of the Chino Hills State Park Trail.

The proposed Trail will be a multi-use trail that will serve pedestrians, hikers, bicyclists, and equestrians. As a part of this overall Project and as noted above, two new bridges will be constructed:

- A bridge over the BNSF railroad tracks and;
- A bridge over Aliso Canyon Creek

The team submitted the 65 percent Trail Plans and 95 percent BNSF Structures plans summer 2023. A total of 10 agencies were transmitted the design submittal for review and the last of the 65 percent submittal review comments were received on October 17, 2023. The designers are now preparing their comment responses and revised plans. The 100 percent Design Submittal is tentatively scheduled for early 2024 with proposed construction to begin late 2024.

DISCUSSION:

MBI Amendment No. 11

MBI's Amendment No. 11 request includes items that MBI has identified as out of scope work and is requesting additional budget to address these Project changes. Please see Attachment 1 for a detailed justification for increasing each task order line item identified below. Staff has negotiated these amounts with MBI and found the costs to be fair and reasonable. Some of the issues that arose during the design, and which have resulted in these out-of-scope work items that need to be addressed include:

- **1.7 Geotechnical Investigation** – Additional geotechnical analysis and calculations associated with changes in retaining wall designs and foundations due to review comments from BNSF on the railroad overcrossing bridge and Metropolitan Water District (MWD) on Aliso Canyon Creek bridge.

- **2.1 Project Meetings and 2.2 Project Management and Coordination** - Additional project meetings due to the project extending beyond the original schedule due to coordination efforts with multiple stakeholders.
- **2.6 Utility Coordination** – Additional coordination efforts required for Southern California Edison (SCE) overhead line conflict and relocation. Utility coordination for AT&T which is in conflict with trail and was not anticipated at the start of the Project.
- **2.10 Trail Improvement Plans** – Additional coordination with stakeholders resulted in multiple design alternatives and refinements to the trail alignment and configuration. Latest configuration resulted in less impacts to the nearby GRGC.
- **2.12 Bridge Design Calculations, 2.13 Bridge Plans, Specifications and Estimate, 2.14 Technical Specifications** – Due to input from stakeholder BNSF, additional structural calculations and analyses had to be performed to modify BNSF railroad overcrossing bridge walls. Due to input from stakeholder MWD, additional structural calculations and analyses had to be performed to modify Aliso Canyon Creek bridge foundation abutment. Latest iteration of foundation results in a construction cost savings.
- **2.16 Plan Check Revisions / Approvals / Local Agency Permits** – Due to input from stakeholder SAWPA, additional loading calculations and analyses were performed to evaluate whether pipe can be protected in place. Additional funding is included in anticipation for coordination efforts with multiple stakeholders.
- **3.7 Shop Drawing Review (Phase 3)** – Due to wall modification for BNSF overhead bridge, additional shop drawing review is required.

Increased Contingency

In addition to MBI's Amendment No. 11 request, RCTC staff performed an independent cost estimate of the contract, reviewed historical issues that have arose resulting in increased costs, and performed projections of costs to complete the Project and found that additional contingency should be added. Staff's rationale behind this approach of increasing contingency is so that these funds are only to be utilized when justified and authorized by staff and parks. RCTC's independent cost estimate along with staff justifications for increasing each line item can be found in Attachment 2.

In performing RCTC's independent cost estimate, staff recommends increasing the contingency due to potential project delays as a result of the increased submittal review times due to the multiple project stakeholders and added complexity in addressing and coordinating comments amongst these stakeholders. Because of where the trail lands jurisdictionally, the plans go through 10 agencies during each round of review, which is a unique case not typical in most projects and not anticipated in MBI's budget. The reviewing entities include our internal staff review, BNSF, Orange County Public Works (OCPW), GRGC, Chino Hills State Parks, Riverside County Transportation Department, Riverside County Flood Control District and Water Conservation District, Riverside County Parks, MWD, and Santa Ana Watershed Project Authority. The number of agencies reviewing the plans resulted in review durations exceeding what was anticipated by MBI. Staff and MBI have actively managed the review process and continually followed up with the reviewers but due to the different agency schedules and the time needed

to address and respond to conflicting comments has resulted in excessive review periods. The Project team still has the 90 percent and 100 percent submittal milestones to complete and with this current trend, it would be proactive and prudent to allocate additional funding and time considerations to accommodate these extended review times, added level of complexity in addressing comments, and increased coordination efforts.

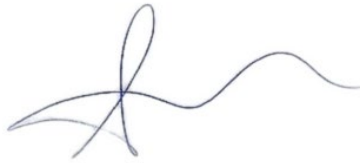
Another observation that staff had, was that the activities for design support during construction appeared lower than the Project needs. Staff performed a side-by-side analysis of a similarly sized project, in terms of dollar value of construction, and recommends increasing the Project contingency to address the potential for these activities to exceed what MBI anticipates.

Based on the multiple authorities having jurisdiction and past project experience, staff requests additional contingency be allocated for potential increased efforts in addressing ROW, utility coordination and agency permitting.

Parks District has been involved in the development of this proposed Amendment No. 11 to MBI and has concurred with the recommendations presented here.

FISCAL IMPACT:

All funding for the Project, including the changes proposed in this staff report are provided from the Proposition 84 grant secured by the Park District through the State Coastal Conservancy. The Commission-Park District MOU provides for the reimbursement of the Commission’s project costs.

Financial Information					
In Fiscal Year Budget:	Yes N/A	Year:	FY 2023/24 FY 2024/25+	Amount:	\$100,000 \$359,647
Source of Funds:	Proposition 84 Grant funds provided by the State Coastal Conservancy and secured by Park District			Budget Adjustment:	No N/A
GL/Project Accounting No.:	007202 81102 00000 0000 720 67 81101			\$459,647	
Fiscal Procedures Approved:				Date:	11/17/2023

Attachments:

- 1) Amendment No. 17-67-027-11 – Scope, Fee and Schedule with MBI
- 2) RCTC Independent Cost Estimate of Amendment No. 11
- 3) Figure 1 – SART Project 2 – Phase 6 & Gap Phase Map

*Approved by the Western Riverside County Programs and Projects Committee on
November 27, 2023*

In Favor: 12 Abstain: 0 No: 0

September 20, 2023

JN 167982

Ms. Joie Edles Yanez
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92502

Subject: Amendment #11 – Additional Design Changes for SART 2 Phase 6
(Agreement, No. 17-67-027-00)

Dear Ms. Yanez:

Michael Baker International (MBI) appreciates the opportunity to submit this amendment request to provide additional engineering support to prepare relocation plans (plans, specifications, and estimate) for the SART 2 Phase 6 project. This request includes scope items that MBI has identified as out of scope work and is requesting additional budget to address project changes.

Our proposed amendment No. 11 scope and compensation documentation are attached as Exhibits “A” “B”. Supporting documents are included as Exhibits “C” and “D”. These exhibits define our efforts and the fees associated with these tasks. Upon receiving a Notice-To-Proceed, we will incorporate the revised design changes into our final design plans and specifications. We look forward to continuing to provide superior services on this project. Should you have any questions, please do not hesitate to contact myself at 949-648-2330, david.eames@MBakerIntl.com or Steve Huff at 949-855-3624, SJHuff@mbakerintl.com.

Sincerely,



David Eames, P.E.
Project Manager

Sincerely,



Steve Huff, P.E.
Vice President

H:\pdata\167982\Admin\Contract\Amendment 7\SART Phase 6 - Amendment 11.docx

“Exhibit A”

Amendment No. 11 Scope of Services

Phase 2 – PS&E Services

Task 1.7 – Geotechnical Investigation

The MBI team proposes to use the borings completed to date to complete the bridge and wall design. Due to the bedrock and difficult drilling conditions encountered during the first phase of drilling, the budget for additional drilling for the bridges was largely exhausted. Now that the bridge and wall locations have been finalized, the MBI team will use the previously completed boring locations to complete the wall design. Wall No. 1 adjacent to the GRGC driving range has been replaced with a fill slope and wall 2 has been identified as a modified Caltrans standard design wall. The Aliso Canyon bridge foundation design was modified to reduce the pile depths and also reduce the cost of constructing the bridge as outlined in the bridge memo prepared by MBI. The additional pile calculations performed for Aliso Canyon bridge used up the remaining geotechnical budget. There are still three activities remaining to complete the geotechnical analysis. Wall number 2 is proposed to be a Caltrans standard wall but because of the height of the proposed wall, the wall will require modifications to the standard Caltrans design details. There is additional geotechnical analysis required to support the modified design details. The Mechanically Stabilized Earth (MSE) walls will require additional geotechnical analysis including slope stability analysis and analysis to determine the required performance wall requirements to be included into the specifications. Lastly, the larger fill embankments will also require the preparation of a settlement monitoring protocol to be included in the final construction specification package. No additional geotechnical borings are to be completed during the design phase. See attached DYA scope of work as Exhibit “D”.

Deliverables: Retaining wall design recommendations for Wall 2, MSE design recommendations, and embankment consolidation monitoring requirements to be included into the final specifications.

Task 2.1 and 2.2 – Meetings, Management, and Coordination

The MBI team anticipates that the design will be completed in January 2024 but the coordination with RCTC and third-party owners will extend into summer 2024. As such, we are asking for additional task budget to augment the remaining budgets to allow for monthly discussions that are necessary to resolve the outstanding design issues with Orange County Public Works and to resolve remaining review comments.

Deliverables: Monthly meeting attendance and project management for an 8 month period.

Task 2.6 Utility Coordination

The MBI team anticipates that the SCE utility relocation design will be completed in 2024 and will require a minimal level of coordination with RCTC and SCE. This task includes 48 hours and included 4 meetings and 32 hours of drafting time for recalibration of CAD files and to prepare conceptual exhibits. This scope assumes that SCE will be preparing all facility relocation plans and providing completed plans for MBI to review and approve. This scope does not include additional reviews for the ATT facility relocations.

Deliverables: Meeting attendance for up to 8 coordination meetings and preparation of special formatted CAD files for SCE to perform their in-house relocation plans.

Task 2.10 – Trail Improvement plans

In response to the OCPW and MWD comments, the Michael Baker team has expended a significant portion of our final design budget preparing exhibits and revising the PAED level trail alignments to address comments and impacts related to golf course impacts and make refinements requested by the reviewing agencies. This extensive level of design refinements was not included in our original final design budget as the trail alignment was assumed to be finalized following the preliminary design stage of the work. At the start of the final design phase, MBI resented a realigned truck ramp option to RCTC. This consolidated ramp design eliminated major impacts to the GRGC driving range that were identified in the environmental document. Upon review of the truck ramp design, OCPW requested two alternatives of the ramp alignment and truck turning exhibits. MBI prepared several exhibits and presented them at the PDT meetings to facilitate review and approval. With respect to other exhibits, the MBI team has prepared multiple exhibits to address various technical issues including trail impacts to the GRGC golf course, utilities, truck turning, slope and fencing encroachments into the golf course, BNSF fencing/access, and SAWPA fill impacts. These are all necessary communication and decision documents but have been prepared at the expense of our trail design budget under this task. Some examples of exhibits prepared for the project are as follows:

- SART trail renderings with dimension to golf course encroachments (request from Ariel).
- Truck turning exhibits for 3 different ramp configurations.
- Aliso Canyon grading exhibits including plan and profile views- 6 exhibits.
- Golf Course Impact exhibits including impacts to hole #4 and hole #7.
- GRGC conceptual wall profile at hole #4.
- Utility conflict exhibits for ATT, SCE, and the GRGC clubhouse sewer.
- BNSF / CPUC fencing exhibits.

Deliverables: Trail plan revisions to address agency comments.

Task 2.12, and 2.13 – Bridge Plans and Calculations

Aliso Creek Bridge Foundation Calculations

As provided in Exhibit C. “Aliso Footing Elevation and Decision Narrative,” the restrictive boundary of the MWD right of way prevents relocating the abutment outside of the scour zone, combined with significant scour demands, has resulted in a high-risk and overly expensive abutment foundation for the Aliso Creek bridge. Michael Baker will perform additional work described herein to raise the abutment foundation above maximum limits of Caltrans and AASHTO criteria while allowing the piles to be subject to scour which is not included in the original scope of work. Michael Baker will design the piles and abutment footings for no-collapse follow Caltrans Seismic Design Criteria (SDC 2.0) and AASHTO LRFD Bridge Design Specifications with Caltrans Amendments, and for the flood and seismic loading appropriate to service, strength, and extreme limit states defined in those codes similar to a Type 1 Pier Shaft.

The bridge piles will be designed to resist flood loading similar to a bridge pier or column in the waterway. The bridge will also potentially be inundated by the check flood event. The pile design and anchorage will be designed for this loading. One additional plan sheet is budgeted for more significant abutment detailing which may be required.

Retaining Walls Design Modifications

The original project Amendment 7 included scope and fee to prepare standard Caltrans wall designs for 2 walls. The scope of work identified 2 walls located in the GRGC parking lot and next to the driving range. The Bridge Plan (Task 2.13) include 3 sheets for retaining walls and sections. Based on the 30% design development, there have been a few changes to the retaining wall design. There are currently 4 walls identified on the project plans. Walls 1 & 2 and located next to the driving range and GRGC parking lot. Assuming these walls remain as a Caltrans Type 1 Cast-In-Place (CIP) wall design, the standard plan design details will need to be modified to address the higher peak ground acceleration (provided in the geotechnical recommendations). These 2 walls will require MBI to perform additional calculations and make modifications to the standard plan sheets.

Michael Baker also proposes to prepare final design plans for the construction of concrete panel-type Mechanically Stabilized Embankment (MSE) walls for walls 3 and 4 located just north of the BNSF bridge. Based on final trail alignment and profile, the wall heights are such that the standard Caltrans wall plans cannot be used at this location. Special design wall foundations are required to be supported on Cast-In-Drilled-Hole (CIDH) piles. This foundation type is much more expensive to construct and will require additional borings and special structural and geotechnical design. Mechanically Stabilized Embankment Walls offer a much more economical construction cost with some added engineering cost. The comparison of wall construction cost alternatives are shown in the following table as a rough order of magnitude estimate of construction cost:

	Area (SF)	Construction Cost: Wall on Piles	Construction Cost: MSE
Wall 3	1170	\$470	\$100
Wall 4	1132	\$470	\$100
	Total	\$1,081,940	\$230,200

Converting Retaining Walls 3 and 4 from Cast- In-Place concrete walls to a larger foot-print MSE walls reduces the design review duration and a construction savings of over \$800,000. To maximize bidding flexibility and constructability, Michael Baker will prepare project specifications which will allow specific pre-approved MSE vendor wall types for construction of the walls following Caltrans standard special provisions. The SSPs will require the contractor to submit for review and approval shop drawings of the retaining wall and retaining wall structural calculations for all elements and for global stability, which will be specific to the contractors selected vendor product as allowed within the project special provisions. In order to facilitate bids and establish a baseline expectation for safety and quality, Michael will prepare plan and profiles for the wall design including minimum wall base widths for stability, and an MSE drain layout. MBI will also determine and specify the controlling design criteria on the plans. Michael baker will prepare structural calculations only for external stability. Calculations will follow AASHTO LRFD Bridge Design Specifications including Caltrans Amendments. The geogrid stabilized embankment behind the wall will be incorporated into the SART trail embankment slopes. Slope drainage will be modified to incorporate the new wall alignments. The preliminary alignment and locations of walls 3, 4 are shown in the revised General Plan provided in Exhibit D. Work under this new task will include completing the following items:

- BNSF wall layout and alignment exhibits for review and approval of RCTC and BNSF Consultant.
- Wall 2 seismic internal and external stability calculations.
- Wall 3 and 4 seismic stability calculations.
- MBI will provide the following additional sheets for the retaining walls:
 - One (1) sheet for standard plan modifications for Wall 2
 - One (1) sheet for MSE wall typical section for Wall 3 and 4
- Geotechnical recommendations will be included in the SART Project Geotechnical Report.
- Addition of MSE wall construction bid items.
- Wall quantities and a construction cost estimate to be incorporated into the larger SART construction project at the 100% level of design.

Deliverables: Calculations, modified Geotech report, MSE and Wall No. 2 plan details and revised cost estimates.

Task 2.14 Technical Specifications

The MBI team will be including new technical specifications for the Mechanically Stabilized Earth (MSE) walls and also for embankment consolidation testing. The MSE walls were added to the scope of work to reduce the cost of the typical Cast-In place concrete walls. The MSE walls were also moved outside of the railroad right of way to facilitate easier approvals by the railroad. The MSE wall specifications will be a performance-based specification allowing for the Contractor to economize the construction. The larger fill embankments required for the SART trail construction will require consolidation monitoring during the early phases of construction to monitor the settlement and ensure the embankments has adequately consolidated prior to final grading. These added specifications will be included with the railroad bridge portion of the bid items when the final bid set is separated into two parts (A and B bid schedules).

Deliverables: MSE wall specifications and embankment consolidation monitoring requirements.

Task 2.16 – Plan Check Revisions/ Approvals/ Local Agency Permits

During the SART preliminary design (Phase 1) a significant amount of time was spent with RCTC and SAWPA reviewing trail alignment alternatives. RCTC previously approved additional analysis under task 1.4 of our design contract for this purpose. Going to the final design phase of the project, the scope of work assumed that the trail alignment was set and would not need to be revised. To facilitate project approval by the Santa Ana Watershed Authority (SAWPA) Michael Baker was asked to submit cross sections and submit a design memorandum including pipe loading calculations for SAWPA to review. The Michael Baker team submitted a design package in December 2022 and received approval for the trail alignment and profile design from SAWPA in January 2022. The level of effort to obtain approval from SAWPA including the preparation of a design memorandum was not included in the original trail design scope of work. Although necessary to address the SAWPA comments, this additional effort has further expended our limited budget. We have exhausted this task budget as of July 2023. We need additional budget to address remaining agency comments and obtain plan approvals.

Deliverables: Pipe loading calculations and trail cross section. Responses to remaining agency comments.

Task 3.7 – Shop Drawing Review

Michael Baker will review the contractor MSE wall submittals during the construction phase to ensure conformance to the specified design criteria and the project performance requirements.

Deliverables: Shop drawing review comments, contractor correspondence log.

An ODC budget of \$250 has been included to cover the cost of mileage to site visits and additional printing of plans and exhibits.

See attached budget breakdown as Exhibit B and supporting documents as Exhibits “C” and “D”.

Exhibit "B"
Riverside County Transportation Commission
Santa Ana River Trail Phase 6 (Green River Golf Course)
Cost Proposal (Amendment #11) - 9/18/2023

		Michael Baker																		
		Senior Principal		Structural Engineer		Technical Manager / Environmental Manager		Project Engineer / Landscape Architect		Designer / Planner		Assistant Engineer / Planner		Sub-Total Michael Baker		Subconsultant (Diaz Yourman Associates)		TOTAL HOURS	TOTAL FEE	
		\$110.91	Avg Raw Rate	\$80.50	Avg Raw Rate	\$73.39	Avg Raw Rate	\$67.06	Avg Raw Rate	\$54.08	Avg Raw Rate	\$35.58	Avg Raw Rate							
		\$49.34	Fringe (44.49%)	\$35.81	Fringe (44.49%)	\$32.65	Fringe (44.49%)	\$29.83	Fringe (44.49%)	\$24.06	Fringe (44.49%)	\$15.83	Fringe (44.49%)							
		\$107.53	OH (96.95%)	\$78.04	OH (96.95%)	\$71.15	OH (96.95%)	\$65.01	OH (96.95%)	\$52.43	OH (96.95%)	\$34.49	OH (96.95%)							
		\$267.78	per hour	\$194.35	per hour	\$177.19	per hour	\$161.90	per hour	\$130.57	per hour	\$85.90	per hour							
Task	Sub-Task	Description	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	\$	Hours	Fee	Hours	Fee	TOTAL HOURS	TOTAL FEE
PHASE 1 - FINAL ENVIRONMENTAL DOCUMENT AND PRELIMINARY ENGINEERING SERVICES																				
1.7		Geotechnical Investigation due to Scour Analysis - Aliso Canyon Bridge Realignment								\$0						\$0		\$22,251	0	\$22,251
Sub-Total Phase 1			0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$22,251	0	\$22,251
Fee (10%)- Included in DYA fee				\$0		\$0		\$0		\$0		\$0		\$0		\$0				
Total				\$0		\$0		\$0		\$0		\$0		\$0		\$0		\$22,251		\$22,251
PHASE 2 - PS&E SERVICES																				
2.1		Project Meetings	0	\$0		\$0	0	\$0		\$0	26	\$3,395		\$0	26	\$3,395	0	\$0	26	\$3,395
2.2		Project Management and Coordination	32	\$8,569		\$0	0	\$0	60	\$9,714	40	\$5,223	12	\$1,031	144	\$24,537	0	\$0	144	\$24,537
2.6		Utility Coordination	8	\$2,142	0	\$0	8	\$1,418	0	\$0	32	\$4,178	0	\$0	48	\$7,738	0	\$0	48	\$7,738
2.10		Trail improvement Plans	12	\$3,213	0	\$0	40	\$7,088	0	\$0	100	\$13,057	0	\$0	152	\$23,358	0	\$0	152	\$23,358
2.12		Bridge Design Calculations	8	\$2,142	60	\$11,661	40	\$7,088	0	\$0	40	\$5,223	0	\$0	148	\$26,114	0	\$0	148	\$26,114
2.13		Bridge Plans, Specifications and Estimate	12	\$3,213	40	\$7,774	0	\$0	160	\$25,904	120	\$15,668	0	\$0	332	\$52,560	0	\$0	332	\$52,560
2.14		Technical Specifications	60	\$16,067	8	\$1,555	32	\$5,670	0	\$0	0	\$0	0	\$0	100	\$23,292	0	\$0	100	\$23,292
2.16		Plan Check Revisions / Approvals / Local Agency Permits	4	\$1,071	0	\$0	24	\$4,253	0	\$0	80	\$10,446	0	\$0	108	\$15,769	0	\$0	108	\$15,769
Sub-Total Phase 2			136	\$36,418	108	\$20,990	144	\$25,515	220	\$35,618	438	\$57,190	12	\$1,031	1,058	\$176,762	0	\$0	1,058	\$176,762
3.7		Shop Drawing Review (Phase 3)	2	\$536	4	\$777	0	\$0		\$0	32	\$4,178		\$0	38	\$5,491	0	\$0	38	\$5,491
Sub-Total Phase 3			2	\$536	4	\$777	0	\$0	0	\$0	32	\$4,178	0	\$0	38	\$5,491	0	\$0	38	\$5,491
ODCs															\$250	0	\$0	0	\$250	
Sub-Total			138	\$36,954	112	\$21,767	144	\$25,515	220	\$35,618	470	\$61,368	12	\$1,031	1,096	\$182,503	0	\$22,251	2,154	\$204,754
Michael Baker Fee (10% labor only) [Fee for DYA shown above]				\$3,695		\$2,177		\$2,552		\$3,562		\$6,137		\$103		\$18,225				\$18,225
Total				\$40,649		\$23,944		\$28,067		\$39,180		\$67,505		\$1,134		\$200,728		\$22,251		\$222,979

Original Type Selection Report Proposed Design and *Resulting Challenge*

The standard of practice to address scour presents several approaches to determine the appropriate foundation depth. The current foundation configuration for Aliso Creek Pedestrian Bridge is supported on six, 48" diameter piles. The top of the piles are joined together at a pile cap. The depth to the top and bottom of footing (pile cap) must meet the required footing scour elevations given in AASHTO LRFD 2.6.4.4.2. The pile cap foundation design follows the following steps-

1. Typically, if possible, the abutment would be moved outside of the flood zone to avoid the issue of scour. Because of the bridge proximity to the Metropolitan Water District (MWD) lower feeder pipe and associated right of way easement requirements, it is not possible to move the bridge abutment 2 location outside of the scour zone and into the MWD easement.
2. If the abutment is subject to scour, the bottom of footing (pile cap) should be lowered to the scour elevation. This was presented as Alternative 1 Bottom of Footing (BOF) elevation 417.5 in the Type Selection Report (TSR) and is the current alternative.
3. The elevation of the Alternative 1 foundation would also require shoring to protect the MWD lower feeder pipeline and SAWPA pipelines during the construction phase based on the depth of footing.
4. In the Alternative 2 footing design presented in the TSR, the footing can be kept relatively shallow below existing ground if a streambed scour countermeasure is provided, such as rip-rap or concrete lining. However, this countermeasure was not considered feasible because the scour protection would increase the environmental footprint of the Project and potentially require an environmental reevaluation.

Caltrans amends AASHTO § 2.6.4.4.2 for the requirements related to elevations of pile caps and deep foundations (See Figure 1 graphic excerpt on next page). However, in doing so additional judgement is allowed to the engineer of record, apparently, using the included text "...where practical." The proposed alternative design strategy is suggested in the third sentence, to allow the new bridge piles to be exposed during a scour event if they can be designed to be stable.

At the time of the Type Selection Report, Michael Baker set the bottom of footing (pile cap) at elevation 417.5 which is located in between the Extreme and Strength Limit States scour elevations. The bottom of footing elevation places the top of footing to address contraction and degradation scour. Local scour around the abutments would need to be "restored" following small storms. The resulting piles for this configuration were 100-ft long, and abutment heights were very tall at approximately 34-ft.

Because the initial phase of exploratory drilling encountered refusal at 50' and 70' Below Ground Surface (BGS), the resulting TSR Alternative 1 pile lengths were designed beyond the depth of borings performed for this project. Additional drilling with a more powerful drill rig would be required to mitigate the risk for the design team and the project sponsor.

Challenge: The restrictive boundary of the MWD R/W prevents relocating the abutment outside of the scour zone, combined with significant scour demands, has resulted in a high-risk and overly expensive abutment foundation for the Aliso Creek bridge.

Foundations should be designed to withstand the conditions of scour. In general, this will result in deep foundations. Figure C2.6.4.4.2-2 shows a typical deep foundation.

Replace the 4th paragraph with the following:

Deep foundations with footings shall be designed to place the top of the footing below the estimated degradation plus contraction scour depth where practical to minimize obstruction to flood flows and resulting local scour. Even lower elevations should be considered for pile-supported footings where the piles could be damaged by erosion and corrosion from exposure to stream currents. Where conditions dictate a need to construct the top of a footing to an elevation above the total scour elevation, attention shall be given to the scour potential of the design

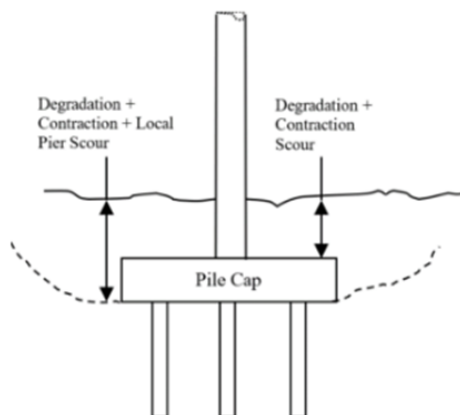


Figure C2.6.4.4.2-2 Deep Foundation Location

Figure 1

Proposed Solution to mitigate risk and reduce cost

Solution: Raise the abutment footing (pile cap) elevations from 417.50 to 435.30 at Abutment 1, and from 417.50 to 432.00 at Abutment 2.

Michael Baker has performed preliminary calculations to explore an alternative foundation concept that involves raising the abutment foundation (pile cap) above maximum scour limits determined by the Caltrans and AASHTO criteria (the only documented design criteria for this situation). This alternative approach is presented to achieve the project goals of enhanced constructability and cost efficiency. The pile cap elevation was raised up to Elevation 432 (at Abutment 2) so that it provides minimum soil cover over the footing. A cross section showing the alternative abutment pile cap elevation and section is provided on the attached revised bridge General Plan and Foundation plan dated June 2023. The revised abutment footing (pile cap) elevations are shown on the Foundation Plan.

Cost Savings: Raising the abutment footing (pile cap) significantly reduces the abutment height and associated pile demands, which result in the following anticipated construction cost comparisons and potential savings:

TSR Alternative:	\$5.99 Million
Proposed Solution:	\$3.61 Million
Cost Savings:	\$2.38 Million

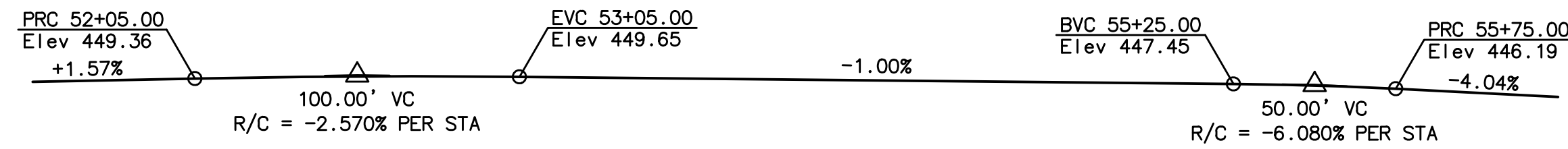
Note these costs include the total bridge and foundation cost, it does not include other project costs such as embankment or retaining wall construction, or maintenance.

Performance Expectations: Michael Baker presents that the bridge can be designed in the framework of no-collapse under the all scour conditions, but specific design considerations and performance metrics for the life of the structure and maintenance of the approach embankment must be understood by all stakeholders:

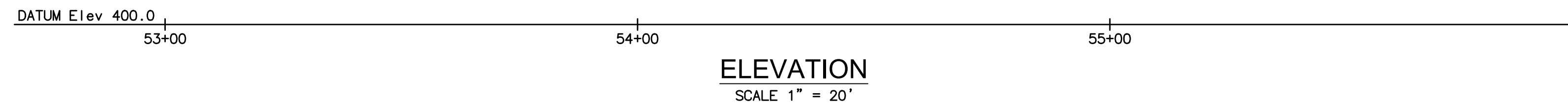
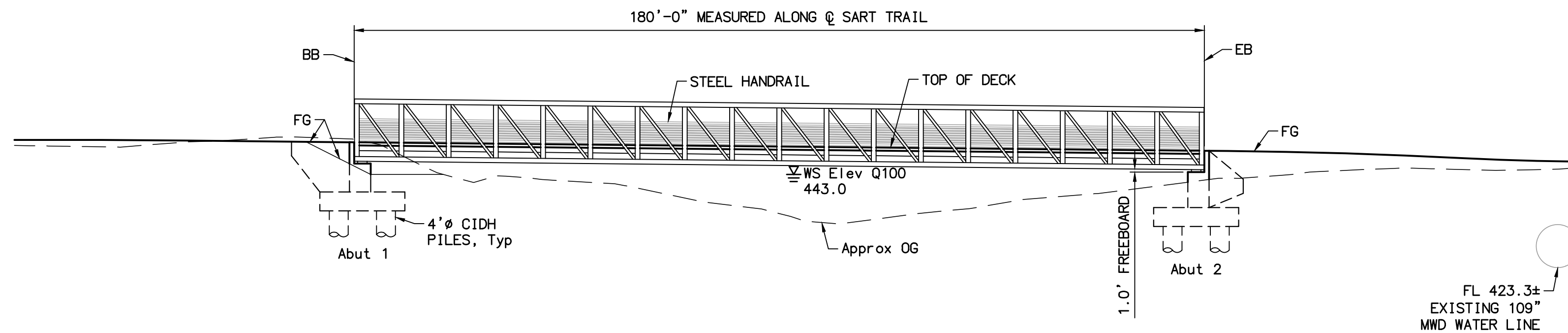
- The bottom chord of the bridge at the current design location will provide the following freeboard from the design water surface:
 - Q100 1.0-ft (*)
 - Q200 0.6-ft
 - Check Flood -0.2 (ft) (Negative Value)

**1.0-ft minimum freeboard will be provided.*

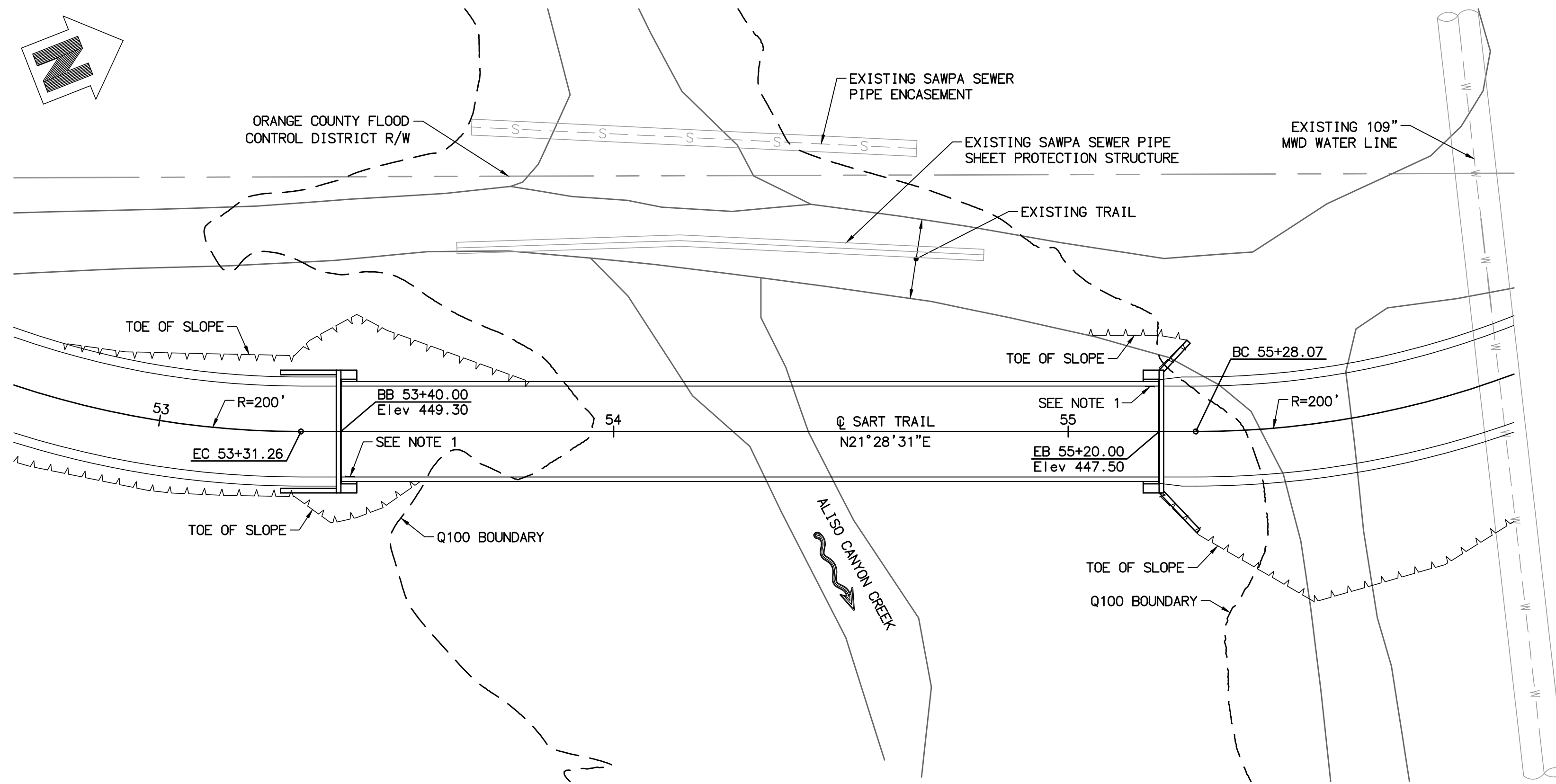
- The check flood will inundate the bridge. We will design the bridge and foundations to remain stable during the check flood event. Stream velocities are estimated at approximately 10 fps. In addition to the standard loading conditions, the bridge piles will be designed to resist flood loading in a manner similar to a bridge pier or column in a waterway. The soil in front of and below the bridge footing (pile cap) and the approach embankment may be damaged or removed during a 200-year or smaller flood event.
- The element of maintenance following a significant flood event is similar for each of the bridge footing alternative designs. For the proposed alternative foundation design, the footing (pile cap) and CIDH piles would be exposed as compared to the TSR design which would result in a large exposure of the abutment wall. The bridge may not be accessible after a 200-year flood (or smaller) event and may sit higher than its surroundings if the embankment is damaged or removed. The responsible agency will need to reconstruct the embankments around the exposed bridge foundations. If piles are more frequently exposed, bridge inspections or public concern may be more frequent, regardless of if the bridge is designed for this condition.
- Long-term scour is a function of channel migration. It may not be possible to repair the approach embankment for the condition of long-term scour which would require re-alignment of the Santa Ana River course of flow.



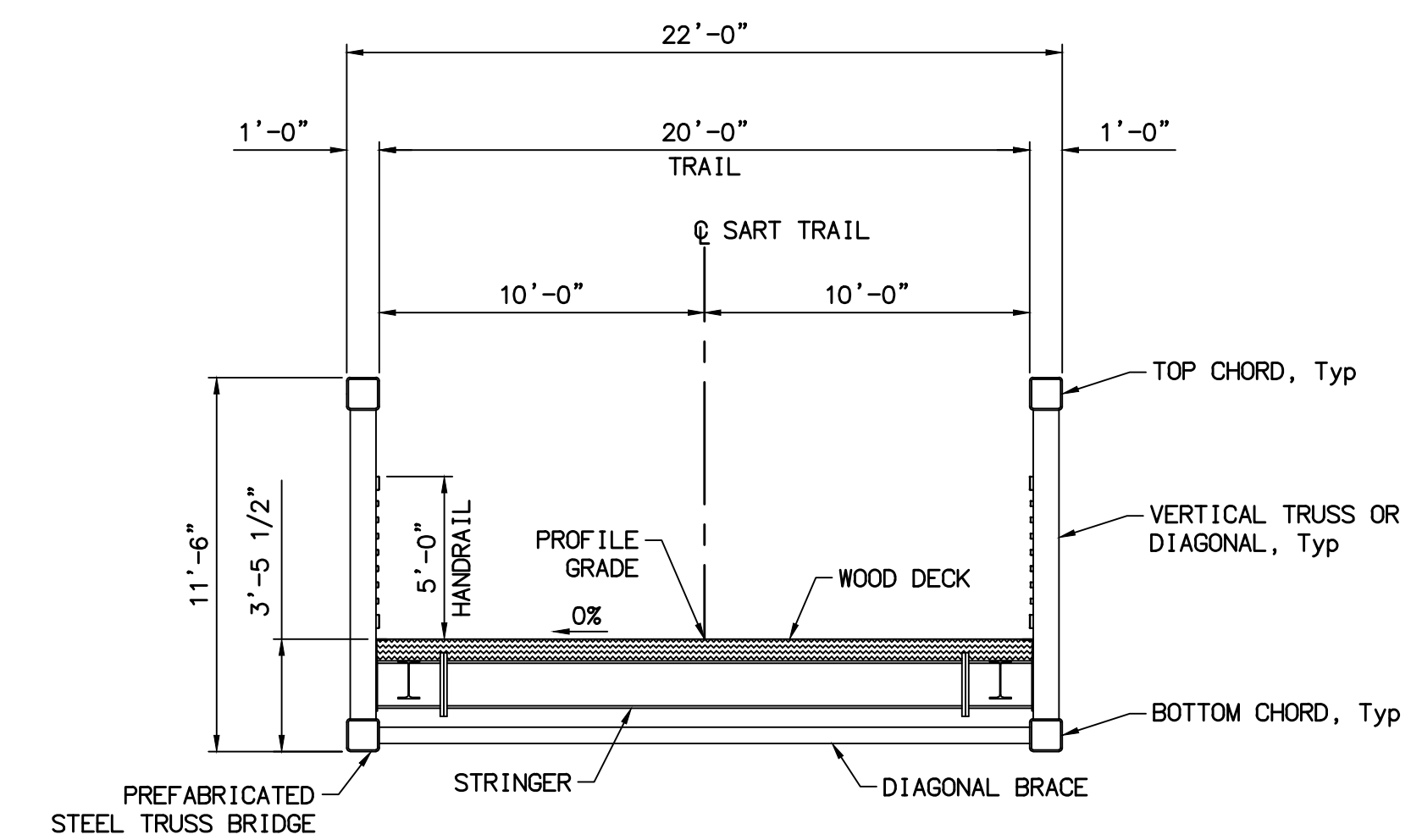
PROFILE GRADE
NO SCALE



ELEVATION
SCALE 1" = 20'



PLAN
SCALE 1" = 20'



TYPICAL SECTION
SCALE 1" = 5'

NOTE:
1. WEIGHT CAPACITY SIGN TO BE BOLTED TO THE STEEL TRUSS WITH THE FOLLOWING INFORMATION:
ALLOWABLE WEIGHT ON BRIDGE:
* 90 LBS/SF PEDESTRIAN LOAD
* TRUCK WITH A MAX WEIGHT OF 20,000 LBS

LEGEND:
← DIRECTION OF FLOW

65% DESIGN PLANS NOT FOR CONSTRUCTION

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USERNAME: Lim, Raymond

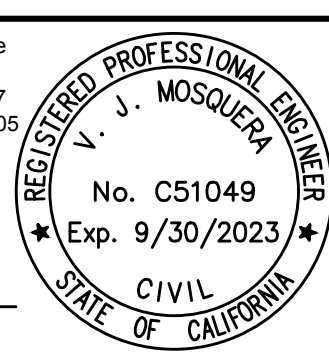


REVISIONS	ENGINEER	RECORDED	DESIGNED BY:
No.	APPROVED	APPROVED	J. MOSQUERA
			DRAWN BY: R. LIM
			DATE DRAWN: 6/16/2023

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PREPARED UNDER THE SUPERVISION OF:
V. J. MOSQUERA
R.C.E.#51049

DATE:
R.C.E.#51049



RIVERSIDE COUNTY
REGIONAL PARK AND OPEN SPACE DISTRICT
APPROVED BY:
ANTONE PIERUCCI
GENERAL MANAGER

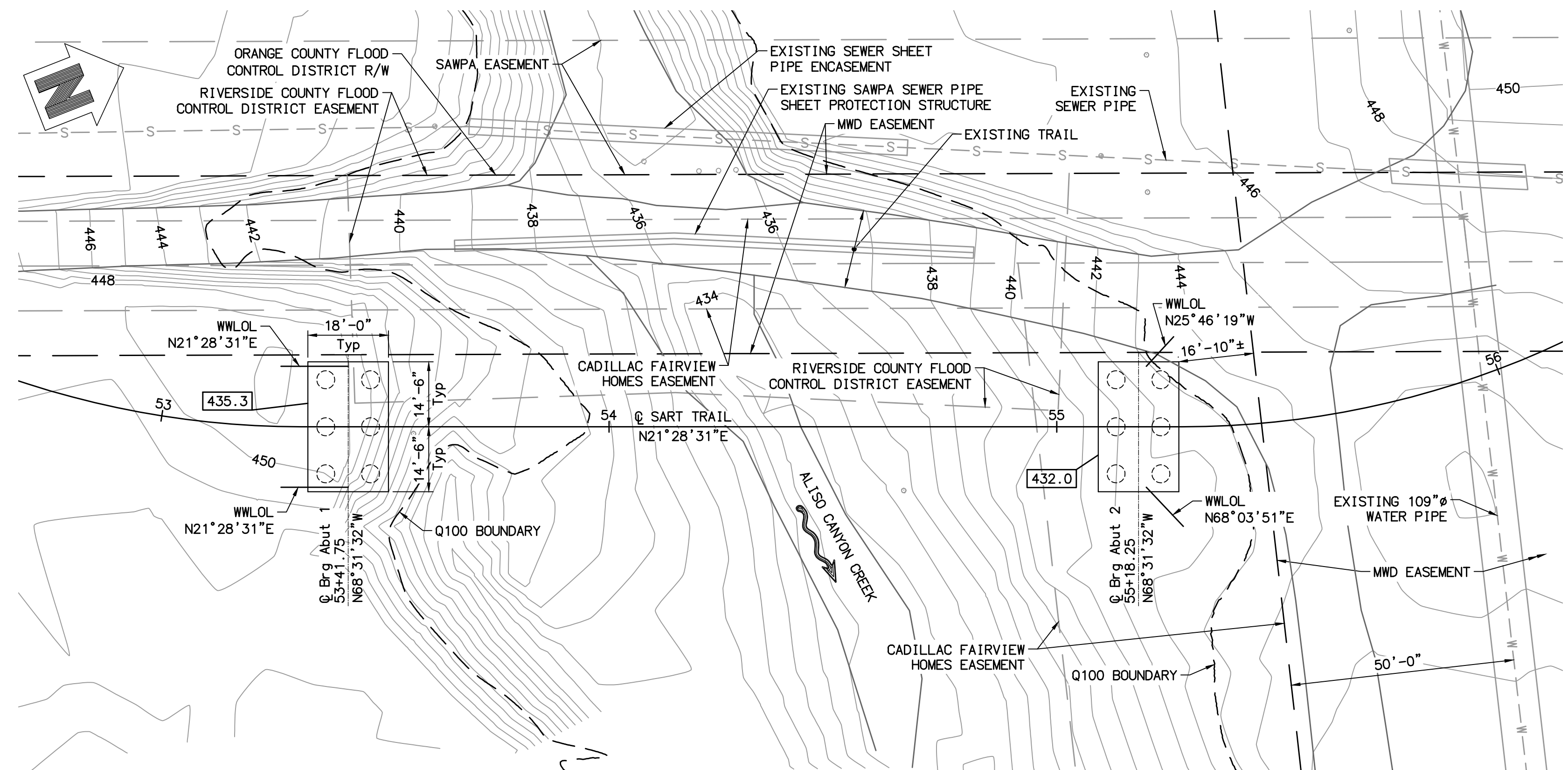
SANTA ANA RIVER TRAIL - PHASE 6
**CLASS 1 MULTI-USE PATH
AND NATURAL SURFACE TRAIL
ALISO CANYON BRIDGE
GENERAL PLAN**

RCTC AGREEMENT NO. 17-67-027-07
DRAWING NO. BR-01
SHEET NO. 1 OF X

PILE DATA TABLE					
LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		PILE CUT-OFF ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION	TENSION		
Abut 1	48"Ø CIDH	700	N/A	435.55	372
Abut 2	48"Ø CIDH	700	N/A	432.25	372

HYDROLOGIC SUMMARY FOR ALISO CANYON BRIDGE			
FREQUENCY	BASE FLOOD		CHECK FLOOD
	100 YEAR	200 YEAR	1.5X BASE FLOOD (FIRE BULKED FLOW > Q500)
DISCHARGE	6465.5 cfs	7398.4 cfs	9698.3 cfs
WATER SURFACE ELEVATION AT BRIDGE	443.0 ft	443.4 ft	444.2 ft

DRAINAGE AREA = 10.7 mi²



PLAN
SCALE 1" = 20'

- NOTES:
- FOR UTILITY INFORMATION, SEE "UTILITY PLANS".
 - EXISTING UTILITIES TO BE PROTECTED IN PLACE.

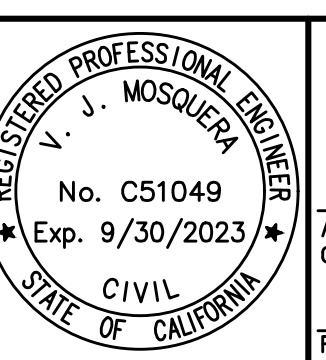
- LEGEND:
- 48"Ø CIDH (CAST-IN-DRILLED-HOLE) PILE
 - BOTTOM OF FOOTING ELEVATION
 - DIRECTION OF FLOW

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

No.	REVISIONS		ENGINEER		RECORDED		DESIGNED BY:
	DESCRIPTION	APPROVED	DATE	APPROVED	DATE	DATE	
							J. MOSQUERA
							DRAWN BY: R. LIM
							DATE DRAWN: 6/16/2023

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PREPARED UNDER THE SUPERVISION OF:
DATE: 6/16/2023
V. J. MOSQUERA R.C.E.#51049



RIVERSIDE COUNTY
REGIONAL PARK AND OPEN SPACE DISTRICT
APPROVED BY:
ANTONE PIERUCCI
GENERAL MANAGER
DATE: _____
RECOMMENDED DATE: _____

SANTA ANA RIVER TRAIL - PHASE 6
CLASS 1 MULTI-USE PATH
AND NATURAL SURFACE TRAIL
ALISO CANYON BRIDGE
FOUNDATION PLAN

RCTC AGREEMENT NO. 17-67-027-07
DRAWING NO. BR-03
SHEET NO. 3 OF X

65% DESIGN PLANS NOT FOR CONSTRUCTION

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USERNAME: L.Lim, Raymond



EXHIBIT D

Date: July 26, 2023 Proposal No: PW17-114.01
To: Mr. David Eames, PE From: Mr. Niranjanan, PE, GE
Michael Baker International (MBI)
Email: david.eames@mbakerintl.com
cc:

Subject: Revised Proposal for Additional Geotechnical Services
Santa Ana River Trail (SART Phase 6) Through Green River Golf Course Project
Orange County, California

Diaz•Yourman & Associates (DYA) is pleased to present this revised proposal to provide additional geotechnical services for the subject project based on our discussion on Wednesday July 19, 2023. On May 17, 2023, DYA issued a proposal to provide additional geotechnical services for four tasks. See the DYA's proposal dated May 17, 2023, for detail. MBI submitted our proposal for RCTC's review and approval. After MBI received the feedback on review of our scope and fee proposal, MBI and DYA had a meeting on July 19, 2023. Few important items that were shared/discussed in the meeting are summarized below:

1. Proposed Retaining Wall No. 1 (west of Abutment 1 of BNSF OH) is eliminated. The approach embankment to Abutment 1 on the westside will be fill embankment and it will be sloped 2H:1V. MBI believes this 2:1 fill slope will be grossly stable. Therefore, MBI does not feel the need for additional boring.
2. MBI informed that the proposed Retaining Wall No. 2 (RW2) on the east side of the Abutment 1 of the BNSF OH will be a modified Caltrans standard plan wall.
3. MBI suggested that geotechnical input for the proposed approach embankment and RW2 can utilize the previously performed Boring R-22-02 (Abutment No. 1).
4. As discussed in the past, proposed MSE walls 3 & 4 will utilize previously performed Boring R-22-01A and R-22-01B.
5. Previously proposed boring north of the Abutment 2 of the BNSF OH (approximately 75 to 100 feet) is eliminated. Hence the northern approach embankment stability and settlement will be analyzed utilizing existing Borings R-22-01A and R-22-01B.
6. The total budget for Tasks 2 through 4 should not exceed \$35,000.

Based on the above items, DYA eliminated Task 1 that had been proposed in our scope and fee proposal dated May 17, 2023.

The details of the requested additional work are summarized below:

Task 1: Pre-Exploration Activities, Geotechnical Exploration and Laboratory Testing (Eliminated from our scope)

For completeness the Task 1 scope is provided below:

Perform a geotechnical exploration consisting of performing two soil borings at the project site. One boring will be performed west of the proposed BNSF Overhead Abutment 1 and near the proposed Wall 1. The second boring will be performed approximately 75 to 100 feet north of the boring performed for proposed BNSF Overhead Abutment 2. This Task 1 will consist of the following:

- *Reviewing project and underground utility information provided for the additional borings planned.*
- *Contacting Orange County Public Works (OCPW) regarding additional borings to be added to the existing permit [Our assumption is that OCPW will amend the existing permit to allow us to perform these additional borings].*
- *Contacting Green River Golf Course (GRGC) staff regarding site visit. Visiting the project site and marking boring locations in the field and contacting underground service alert (USA) and following up with the USA to get a 'no-conflict' confirmation.*

[Based on our previous discussions with MBI, performing geophysical work is removed from our scope. DYA and MBI will be utilizing available underground utility maps to determine two locations which are not in conflict with any underground utilities. This task should be completed prior to marking these boring locations at the project site].

- *Performing two soil borings with hollow stem auger boring techniques within one 8-hour shift (one day), each will be advanced to approximately 30 to 40 feet deep or to the refusal whichever comes first. The bore holes will be backfilled with cement bentonite grout above groundwater. Any excess dry cutting will be used to backfill the boreholes above the bentonite grout. We will temporarily store the investigated derived waste (IDW) in 55-gallon DOT approved drums on site during the IDW characterization; samples will be taken for environmental testing. We will prepare an environmental manifest, coordinate and get OCPW signature on manifest, and then dispose of the IDW with the assistance of our sub-contractor.*
- *Editing the soil samples (QC samples) and preparing draft gINT logs.*
- *Performing 10 moisture content/dry density, 9 index test (particle size analysis - #200 sieve, or Atterberg limits), 4 shear strength, 2 consolidation including time readings, 1 compaction, and 2 corrosion test suites (pH, chloride, sulfide and electrical resistivity) on the soil samples for engineering characterization.*

Task 2: Engineering Analyses and Reporting – Proposed Retaining Wall 2 (RW2) and Approach Embankment

Our original proposal dated August 18, 2017 (as part of our current existing contract), excluded any scope for geotechnical input for retaining walls. Based on our recent discussion on July 19, 2023, only one cantilever retaining wall (RW2) is proposed and will be designed at the wing wall of BNSF Overhead Abutment 1. The RW2 will be 170 to 200 feet long. This wall will support the southwest approach embankment. Please note because of the budgetary limitations, no additional borings will be performed for approach embankment and RW2. Boring R-22-02 performed for Abutment 1 of BNSF OH will be utilized for geotechnical input for these improvements. Settlement and slope stability analyses for the approach embankment will be performed. The slope stability analyses will include both static and pseudo-static conditions. Bearing resistance and settlement check will be performed for proposed RW2 that is a modified Caltrans Standard Plan wall.

Task 3: Engineering Analyses and Reporting – Proposed MSE Walls 3 & 4 and Approach Embankment

Our original proposal dated August 18, 2017 (as part of our current existing contract), excluded any scope for geotechnical input for retaining walls. Currently two mechanically



stabilized earth (MSE) retaining walls are proposed and will be designed at the wing walls of BNSF Overhead Abutment 2. The proposed MSE walls will be approximately 70 to 80 feet long and 10 to 30 feet high. The walls will be parallel to the existing tracks and away from BNSF right-of-way. These proposed MSE walls will be standard Caltrans MSE wall panels (segmental precast concrete panels) with wire mesh reinforcement. Since Task 1 is eliminated (Because of budgetary concerns), no additional boring will be performed. Slope stability (for both static and pseudo-static conditions) and settlement analyses will be performed for the approach embankment. MSE wall study includes external stability analyses only and internal stability analyses will be performed by others.

External stability analyses of the MSE walls under static and seismic loading will be completed to calculate the capacity demand ratio (CDR) or factors of safety (FS) against the following:

- Sliding along the wall base
- Overturning about the toe (limiting eccentricity)
- Bearing resistance
- Global stability

The software programs MSEW+, an interactive program for the design and analysis of mechanically stabilized earth walls, and SLOPE/W (Geo-Slope International Ltd.) will be used to perform the external stability analyses for the MSE walls. Global stability analyses will be performed using the computer program SLOPE/W using the Spencer method for the critical section(s) of the MSE walls for both static and seismic (pseudostatic) conditions. The MSE-reinforced section will be considered as a rigid body, and only failure surfaces completely outside the reinforced mass will be considered for global stability. Surcharge loads, including seismic force, were accounted for in the analysis. A horizontal seismic coefficient (k_h) of PGA will be used to compute the factor of safety during pseudostatic condition.

Task 4: Performing additional Pile Analysis for the Proposed Aliso Canyon Bridge

DYA will be performing pile lateral analyses for the proposed Aliso Canyon Bridge for various scenarios. The analyses will be done using the computer program LPILE by Ensoft, Inc. The program computes lateral load-deflection curves to model the soil behavior. These p-y curves are input or generated by the program. For sloping ground surfaces, a reduction factor is applied to the resisting soil force (p) based on the ratio of the difference between the passive and active earth pressures for a sloping ground surface to the difference between the passive and active earth pressure for a level surface. We will also apply reduction for pile grouping effect (shadow effect). Our LPILE model will analysis pile lateral resistance for various scour conditions (short- and long-term scour conditions). These analyses will be performed for service, strength and extreme event conditions. DYA will also be performing axial pile analyses for the proposed Aliso Canyon Bridge for various pile diameters, center-to-center pile spacing, scour depths, final grades and loads. Additional meetings with the design team have occurred and more are expected for the design of the proposed Aliso Canyon Bridge.

COMPLETED
August 2023



The scope of services needed to provide geotechnical input for Tasks 2 through 4, proposed schedule, and estimated fee are summarized in Table 1 followed by a list of assumptions. A summary of labor hours and fee breakdown is provided in the attached document. We propose to provide our design services on a time-and expense basis.

Table 1 - SUMMARY OF PROJECT SCHEDULE AND FEE

TASK	SCHEDULE (weeks) ¹	FEE
Task 1 – Pre-Exploration Activity, Geotechnical Exploration and Laboratory Testing – Task is eliminated.	--	\$0
Task 2 - Engineering Analyses and Reporting – Proposed Retaining Wall 2 and Approach Embankment (settlement and slope stability)	12	\$10,135
Task 3 - Engineering Analyses and Reporting – Proposed MSE Walls 3 & 4 and Approach Embankment (settlement and slope stability)	12	\$12,116
Task 4 – Performing additional Pile Analysis (axial and lateral) for the Proposed Aliso Canyon Bridge	12	\$12,651
TOTAL		\$34,902 \$22,251
Notes: 1. Time to complete after receipt of written notice to proceed or site access is granted, whichever is longer.		

**COMPLETED
August 2023**

The fee and schedule presented in Table 1 are based on the following assumptions:

- No additional geotechnical exploration/laboratory testing will be performed.
- The geotechnical input/conclusions and recommendations for approach embankments and proposed walls (RW2, MSE Walls 3 & 4) will be based on Borings R-22-01A, R-22-02 for Walls 2, 3 and 4.
- A separate report will be prepared to provide geotechnical recommendations for RW2, MSE Walls 3 & 4.

To provide written authorization to proceed, please amend our existing contract.

We appreciate the opportunity to propose our services to you and look forward to working with you on this project. If you have any questions, please call.



MBI Amendment 11				MBI Amendment 11 Request	RCTC Independent Cost Estimate	Difference	
Task	Contract Value	\$ Spent	% Spent				Justification
1.7 Geotechnical Investigation	\$ 100,281.64	\$ 98,375.90	98%	\$ 22,251	\$ 22,251	\$ -	Ok
2.1 Project Meetings	\$ 56,523.22	\$ 44,687.77	79%	\$ 3,395	\$ 15,000	\$ 11,605	Need to be increased due to potential for project delays
2.2 Project Management and Coordination	\$ 71,452.64	\$ 70,568.32	99%	\$ 24,537	\$ 35,000	\$ 10,463	Need to be increased due to potential for project delays
2.3 Topographic Field Survey and Control	\$ 21,915.77	\$ 21,913.55	100%		\$ -	\$ -	
2.4 Right-of-Way Mapping	\$ 39,913.20	\$ 39,872.72	100%	\$ -	\$ 15,000	\$ 15,000	Increased for unforeseen conditions / ROW complications
2.5 Legal Description and Exhibit	\$ 42,549.66	\$ 21,316.23	50%	\$ -	\$ 10,000	\$ 10,000	Increased for unforeseen conditions / ROW complications
2.6 Utility Coordination	\$ 19,481.27	\$ 19,467.88	100%	\$ 7,738	\$ 20,000	\$ 12,262	Increased for unforeseen conditions / utility complications
2.7 Hydrology and Hydraulics Report - Scour Analysis	\$ 67,244.51	\$ 63,140.71	94%		\$ -	\$ -	
2.8 Water Quality Management Plan	\$ 12,109.87	\$ -	0%		\$ -	\$ -	
2.9 SWPPP	\$ 6,601.93	\$ -	0%		\$ -	\$ -	
2.10 Trail improvement Plans	\$ 320,573.24	\$ 320,550.45	100%	\$ 23,358	\$ 80,000	\$ 56,642	90% and 100% plans left and we already expended 100% of budget
2.11 Bridge Type Selection Report - BNSF Vehicular Bridge	\$ 85,840.51	\$ 85,811.58	100%	\$ -	\$ 20,000	\$ 20,000	Rec'd 90% comments and 100% left and we already expended 100% of budget
2.12 Bridge Design Calculations	\$ 172,557.07	\$ 172,511.63	100%	\$ 26,114	\$ 26,114	\$ -	Ok
2.13 Bridge Plans, Specifications and Estimate	\$ 182,811.06	\$ 182,757.21	100%	\$ 52,560	\$ 60,000	\$ 7,440	90% and 100% plans left and we already expended 100% of budget
2.14 Technical Specifications	\$ 18,660.35	\$ 7,182.77	38%	\$ 23,292	\$ 23,292	\$ -	Ok
2.15 Quantity Cost Estimate	\$ 17,504.24	\$ 8,476.99	48%	\$ -	\$ 18,000	\$ 18,000	Comparable project HDR S Perris is at \$68,289
2.16 Plan Check Revisions / Approvals / Local Agency Permits	\$ 39,004.98	\$ 37,606.35	96%	\$ 15,769	\$ 25,000	\$ 9,231	Need more buffer due to stakeholders
2.17 Regulatory Permit Application Prep	\$ 17,389.53	\$ 4,144.57	24%	\$ -	\$ 5,000	\$ 5,000	Original estimate seems low
2.18 Railroad Permits / License Agreement Coordination	\$ 37,613.55	\$ 22,940.18	61%		\$ -	\$ -	
3.1 Pre-Bid and Pre-Construction Meetings	\$ 3,545.46	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	
3.2 Construction Bidding Phase Support	\$ 2,306.83	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	Comparable project HDR S Perris is at \$18,891
3.3 Bid Schedule Preparation	\$ 1,122.72	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	
3.4 Addendum Preparation Assistance	\$ 4,827.20	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	
3.5 Field Meetings (8)	\$ 10,902.02	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	Comparable project HDR S Perris is at \$42,813
3.6 Field Support Services	\$ 26,109.36	\$ -	0%	\$ -	\$ 2,000	\$ 2,000	
3.7 Shop Drawing Review	\$ 13,764.37	\$ -	0%	\$ 5,491	\$ 10,000	\$ 4,509	Comparable project HDR S Perris is at \$23,057
3.8 Plan Revisions and Modifications	\$ 13,977.18	\$ -	0%	\$ -	\$ 13,000	\$ 13,000	Comparable project HDR S Perris is at \$13,351 but due to stakeholders double it
3.9 Record Drawings	\$ 7,872.15	\$ -	0%	\$ -	\$ 10,000	\$ 10,000	Comparable project HDR S Perris is at \$17,480
ODCs	\$ 94,302.00	\$ 74,408.09	79%	\$ 250	\$ 250	\$ -	Ok
Subtotal				\$ 204,755	\$ 419,907	\$ 215,152	
Fee (10%) Excluding Geotech Sub Task 1.7				\$ 18,225	\$ 39,741	\$ 21,515	
Total				\$ 222,980	\$ 459,648	\$ 236,667	

Additional Contingency Requested

\$ 236,667

AGENDA ITEM 10

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Lorelle Moe-Luna, Multimodal Services Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Senate Bill 125 Formula-Based Funding for the Transit and Intercity Rail Capital Program and Zero Emission Transit Capital Program

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve the funding recommendations in Attachment 1 for the Senate Bill 125 (SB 125) Formula-Based Funding for the Transit and Intercity Rail Capital Program (TIRCP) and Zero Emission Transit Capital Program (ZETCP) for Fiscal Year 2023/24;
- 2) Direct staff to prepare and execute funding agreements with the project sponsors to outline the project schedule and local funding commitments;
- 3) Authorize the Executive Director to execute the funding agreements with the project sponsors, pursuant to legal counsel review;
- 4) Approve an amendment to the FY 2023/24 budget to receive the first-year allocations of TIRCP and ZETCP formula funds in the amounts of \$123,382,700 and \$14,828,290, respectively; and
- 5) Approve a FY 2023/24 budget adjustment of \$791,214 for expenses related to the TIRCP and ZETCP formula funds.

BACKGROUND INFORMATION:

TIRCP was created by the state as a competitive program in 2014 to provide grants from the Greenhouse Gas Reduction Fund (GGRF) via cap-and-trade proceeds to fund transformative capital improvements that will modernize California’s intercity, commuter, and urban rail systems, and bus systems, to significantly reduce emissions of greenhouse gases, vehicle miles traveled, and congestion. In 2017, SB 1 gas tax funding added a substantial increase with funds directed to the TIRCP from the Public Transportation Account. Assembly Bill 398 (AB 398) extended the Cap-and-Trade Program that supports TIRCP from 2020 through 2030. TIRCP has awarded six cycles of funding totaling over \$10 billion for 132 projects throughout the state.

In July 2023, the Governor signed AB 102 and SB 125 amending the Budget Act of 2023 to appropriate about \$4 billion of general fund to TIRCP over the next two years and \$910 million of GGRF funding and \$190 million of Public Transportation Account funding over the next four

years to establish the Zero-Emission Transit Capital Program (ZETCP). This created the formula based TIRCP and ZETCP. SB 125 guides this process and requires that the California State Transportation Agency (CalSTA) develop and administer the program to govern the distribution of the funds.

At the end of September 2023, CalSTA published the final SB 125 Formula-Based TIRCP and ZETCP Guidelines. The objectives of the program are to reduce emissions of greenhouse gases; expand and improve transit service to increase ridership; integrate the rail service of the state’s various rail operations; and improve transit safety. The guidelines identify the regional transportation planning agencies (RTPAs) such as RCTC as the recipient of these funds. The guidelines give the Commission discretion to suballocate or distribute funds within their region based on local needs, existing priorities, policies, and procedures, as long as the SB 125 program requirements and goals are met.

TIRCP projects eligible to receive funding include transit operations and capital improvements, and grade separations and rail crossing improvements. ZETCP funding is only available to public transit operators already eligible to receive State Transit Assistance funds and can only be used for zero emission capital and operating expenditures.

RCTC is identified to receive about \$247.1 million of TIRCP and \$39.8 million of ZETCP, for a total of \$286.9 million over two years and four years, respectively, as shown in Table 1.

Table 1. RCTC share of SB 125 Formula-Based TIRCP and ZETCP Funding

Fund Type	Year 1	Year 2	Year 3	Year 4	Total
TIRCP	\$ 123,382,700	\$ 123,693,468	n/a	n/a	\$ 247,076,168
ZETCP	14,828,290	8,318,309	\$ 8,318,309	\$ 8,318,309	39,783,217
Total*	\$ 138,210,990	\$ 132,011,777	\$ 8,318,309	\$ 8,318,309	\$ 286,859,385

*Maximum administrative share 1% or \$2,868,594 of total.

The guidelines require that each RTPA submit an allocation package by December 31, 2023, for at least Year 1 of funding to CalSTA for approval. To meet this deadline, staff has reviewed the CalSTA SB 125 guidelines and have aligned them with Commission-approved plans, goals, and policies from documents such as the Traffic Relief Plan and Grade Separation Priority Study to identify projects. The following categories for project selection were identified for Year 1 of TIRCP and ZETP funding:

1. Zero-emission and Transit Capital Projects – includes projects such as zero-emission infrastructure and buses, facility upgrades, and integrated passenger fare systems.
2. Passenger Rail Project Development – includes project development for the Coachella Valley Rail Project and grade separations.
3. Program Administration – includes an update for the Grade Separation Priority Study, technical assistance, and program administration.


Staff recommends that the Commission approve the list of projects in Attachment 1 for Year 1 FY 2023/24 TIRCP and ZETCP, and to direct staff to prepare and enter into agreements with the project sponsors. Staff plans to return to the Commission by the end of 2024 to award Year 2 FY 2024/25 TIRCP and ZETCP funds. Staff has also coordinated and consulted with each transit operator in the county as required in the guidelines.

Staff has emphasized to the project sponsors that their proposed projects are for the intention that the identified project phases and/or bus procurements will be completed by 2030. The Commission has the right to rescind funds if a project does not progress or complete the intended project phases within the timeframe. This will help prevent funds from being programmed onto a project indefinitely when another project that can move forward could have the opportunity for funding. Any cost savings will also be returned to the SB 125 formula program for consideration of other projects. Should these situations occur, staff will return to the Commission for approval. Additionally, staff has also encouraged project sponsors to continue seeking competitive funds to leverage this program and other formula programs and is committed to working with them to strategize and assist with future grants as appropriate.

Staff will follow normal accounting procedures like the State Transit Assistance and State of Good Repair programs which are done on a reimbursement basis.

FISCAL IMPACT:

A budget amendment for the current year is needed to receive \$138,382,700 of SB 125 funds in our account, which is expected to be distributed by April 2024, and account for \$791,214 of expenditures for the current year. Expenditures for projects in subsequent years will be budgeted for in the respective year's budget. Funds provided to transit operators will be included in the upcoming FY 2024/25 Short Range Transit Plans.

Financial Information					
In Fiscal Year Budget:	No	Year:	FY 2023/24	Amount:	\$138,210,990 \$791,214
Source of Funds:	SB 125 TIRCP and ZETCP		Budget Adjustment:	Yes	
GL/Project Accounting No.:	Budget Adjustment (Receipt of Funds) - \$138,210,990 <i>Revenue:</i> 002233 000 59001 0000 243-62-59001 Transfer In (\$138,210,990) <i>Budget Adjustment (for expenditure during FY 2023-24)</i> <i>Expenditure(s):</i> 002233 000 65520 0000 243-62-65520 (\$191,214) 002233 000 86101 0000 243-62-86101 (\$350,000) 002233 000 86101 0000 243-62-86101 (\$250,000)				
Fiscal Procedures Approved:				Date:	11/15/2023

Attachments:

- 1) SB 125 Formula-Based TIRCP and ZETCP Funding Recommendations for Year 1
- 2) City of Banning Letter Requesting Funding Assistance for Hargrave Ave Grade Separation
- 3) City of Beaumont Letter Requesting Funding Assistance for Pennsylvania Ave Grade Separation
- 4) County of Riverside Letter Requesting Funding Assistance for Broadway Grade Separation

<i>Approved by the Budget and Implementation Committee on November 27, 2023</i>					
In Favor:	10	Abstain:	0	No:	0

RCTC SB 125 Formula-Based TIRCP and ZETCP Funding Recommendations for Year 1

Project Type	TIRCP/ZETCP Year 1 - FY24
Zero Emission and Transit Capital Projects *	
Riverside Transit Agency	\$ 14,828,290
SunLine Transit Agency	16,000,000
Palo Verde Valley Transit Agency	16,010,000
City of Corona Transit	12,400,000
City of Banning Transit	2,489,413
City of Beaumont Transit	10,300,000
City of Riverside Transit	5,392,073
Passenger Rail Project Development	
RCTC - Coachella Valley Rail Tier 2 Environmental	40,000,000
City of Banning - Hargrave Ave Grade Separation	5,000,000
City of Beaumont - Pennsylvania Ave Grade Separation	5,000,000
County of Riverside - Broadway Grade Separation	10,000,000
Program Administration	
Grade Separation Study Update, Technical Assistance, Program Administration	791,214
Total	\$ 138,210,990

* Includes projects such as zero-emission infrastructure & buses, facility upgrades, and integrated passenger fare systems.



City of Banning

November 14, 2023

Anne Mayer
Executive Director
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92502

Re: SB 125 TIRCP Funding Request for the Hargrave Street Grade Separation

Mrs. Mayer,

The purpose of this letter is to respectfully request that the Riverside County Transportation Commission (RCTC) consider allocating \$5,000,000 of SB 125 – Transit and Intercity Rail Capital Program (TIRCP) funds to the Hargrave Grade Separation Project (Project).

The City of Banning is situated along a regionally significant goods movement corridor along I-10 and the Union Pacific Railroad (UPRR). Hargrave Street is an existing north-south arterial road which crosses under the elevated I-10 and crosses the UPRR tracks at-grade. The UPRR trains and truck traffic hauling goods from ports through the Banning Pass area has increased in recent years, and vehicle wait time at the crossing is a growing concern. Approximately 34 trains pass through the crossing every 24 hours. New passenger rail route expansions between Los Angeles and the Coachella Valley (i.e. Coachella Valley-San Geronio Pass Rail) will increase that number.

RCTC listed the Project as a top priority in two important planning documents, the 2012 Grade Separation Study and the 2017 Grade Separation Study Update. The 2017 update prioritized 46 at-grade crossings using accident rates, existing and future vehicle delay, vehicle emissions from idling, horn noise impacts on residential areas, adjacency to existing grade separations, and local priority. The 46 at-grade crossings were grouped in priority categories of 1 through 5, where 1 represented the highest priority level and 5 the lowest. The Project is listed as a Number 1, highest priority grade separation.

The Project was also identified, after significant public engagement, as a priority project and added to RCTC's Traffic Relief Plan 2020.

Elimination of the Hargrave Street at-grade railroad crossing will provide substantial benefits to the local community and the region. Those benefits result from eliminating at-grade safety risks, reducing traffic congestion onto local streets and stacking onto the I-10, eliminating idling and reducing greenhouse gas emissions, eliminating noise pollution

caused from train horns, ensuring timely emergency response for local residents and partnering agencies, eliminating impacts on connectivity and mobility, and increase accessibility to economic opportunities.

With the assistance of a support letter from RCTC, the City of Banning was recently awarded \$2,800,000 in U.S. DOT Railroad Crossing Elimination Program funds. Additionally, the Western Riverside Council of Governments (WRCOG) has allocated \$1,750,000 in Transportation Uniform Mitigation Fee (TUMF) funding and the City has set aside \$500,000 in local impact fee funding.

With RCTC's continued support of this critical project by the allocation of the requested TIRCP funds, the City is ensured that funding is available to complete the design, environmental and right-of-way phases resulting in a shovel ready project. Remaining funds allocated to the Project will be programmed to the construction phase.

We hope that RCTC agrees that the Hargrave Grade Separation project is significant to not only the City of Banning, but also to the region and state. If you have any questions, please do not hesitate to contact me at 951-922-3130 or at avela@banningca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Art Vela". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Art Vela, P.E.
Director of Public Works



CITY OF BEAUMONT

550 E. 6th Street, Beaumont, CA 92223
Phone (951) 769-8520 Fax (951) 769-8526
BeaumontCa.gov

November 14, 2023

Anne Mayer
Executive Director
Riverside County Transportation Commission
4080 Lemon St., 3rd Floor
Riverside, CA 92502

SUBJECT: FUNDING REQUEST FOR PENNSYLVANIA AVENUE/UPRR GRADE SEPARATION

Ms. Mayer:

I am writing to formally request additional funding support for the crucial **Pennsylvania Avenue/UPRR Grade Separation** project in Beaumont. This project is paramount to our community, addressing both safety concerns and traffic efficiency in a thoughtful strategic manner.

The **Pennsylvania Avenue/UPRR Grade Separation** will enhance traffic flow, reduce congestion, and, most importantly, improve safety for all commuters traveling throughout Beaumont and the Pass Area. The construction will eliminate the existing at-grade Union Pacific Railroad (UPRR) crossing at Pennsylvania Avenue by constructing a new underpass. The existing at-grade crossing was constructed in the early 1950s, before the I-10 Pennsylvania Interchange. Due to ongoing train stop incidents which create long traffic delays and heavy congestion, the city continues to be at high risk for train-pedestrian and vehicle collisions, with approximately 41 trains and 12,000 vehicles passing daily, according to the March 2012 RCTC Grade Separation Priority Update Study.

The project is currently budgeted for \$8,678,556 and is funded entirely with local funds. The city contracted with IDC Consulting Engineers, Inc., and Moffatt & Nichol to perform the design and environmental reports, respectively. The design is approximately 30% complete, and approximately \$6M is available for construction. The estimated total construction cost is approximately \$72M, and the city is committed to aggressively pursuing local, regional, state, and federal funding to see this project through completion.

We kindly request RCTC's consideration and support for funding the **Pennsylvania Avenue/UPRR Grade Separation**. If you would like to discuss the project further or have questions, please feel free to contact me directly at 951.769.8520, ext. 330 or egibbs@beaumontca.gov.

Sincerely,

Elizabeth Gibbs
City Manager



Mark Lancaster
Director of Transportation

COUNTY OF RIVERSIDE
TRANSPORTATION AND
LAND MANAGEMENT AGENCY

Mojahed Salama, P.E.
Deputy for Transportation/Capital
Projects

Russell Williams
Deputy for Transportation/Planning and
Development

Transportation Department

November 17, 2023

Riverside County Transportation Commission (RCTC)
4080 Lemon St 3rd Floor
Riverside, CA 92501

RE: Funding Assistance Request - Broadway Street Grade Separation

Dear Ms. Mayer,

The County of Riverside would like to request \$10 million of funding assistance from the Riverside County Transportation Commission (RCTC) under the SB 125 Formula-Based TIRCP Program to initiate the environmental document for the Broadway Street Grade Separation Project in Cabazon. The Broadway Street Grade Separation was identified in RCTC's 2017 Grade Separation Priority Study.

Since the study was completed, the Federal Rail Administration (FRA) have allowed freight trains to be longer, sometimes up to three miles in length causing safety issues and significant delays at at-grade crossings. At times, when the trains are stopped in the Cabazon area, both the Main Street and Apache Trail at-grade crossings are blocked, isolating the community of Cabazon with no alternative routes for emergency vehicles and residents. For these reasons, the County is prioritizing the Broadway Grade Separation and will also commit local funds to pursue environmental and design. This will enable us to leverage local funds and become more competitive when we seek construction funding.

The County also wishes to partner with RCTC and other local partners on future funding programs such as TIRCP-Competitive for construction. We appreciate your consideration for this request and if you have questions, please contact me at 951-955-6740 or at my email address, mlancaster@rivco.org.

Sincerely,

Mark Lancaster
Director of Transportation
County of Riverside

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AGENDA ITEM 11

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Budget and Implementation Committee Jillian Guizado, Planning and Programming Director
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Southern California Association of Governments Corrective Action for Federal Formula Funds

BUDGET AND IMPLEMENTATION COMMITTEE AND STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Approve the RCTC Procedures for the Southern California Association of Governments (SCAG) 2024 Call for Project Nominations (nomination procedures);
- 2) Authorize the Executive Director to submit to SCAG the project nomination list based on the nomination procedures;
- 3) Approve Agreement No. 24-66-041-00, a Memorandum of Understanding (MOU) with SCAG; and
- 4) Authorize the Chair or Executive Director, pursuant to legal counsel review, to execute the agreement on behalf of the Commission.

BACKGROUND INFORMATION:

As part of the review of the 2021 Federal Statewide Transportation Improvement Program (FTIP), the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) issued a Corrective Action dated April 15, 2021, to the California Department of Transportation (Caltrans) regarding the administration and oversight of the Congestion Mitigation and Air Quality (CMAQ) and Surface Transportation Block Grant (STBG) federal formula funding programs. This was followed by a Corrective Action issued to SCAG on August 15, 2022, as part of its 2022 Federal Certification Review. Caltrans and SCAG were given until June 30, 2023, to demonstrate policies and procedures that comply with federal regulations for the administration of these programs.

STBG Funds

STBG funds provide flexible funding to address state and local transportation needs. Federal transportation authorization bills use the term sub-allocation to refer to funds apportioned to states by formula for use in specific areas within the state. The sub-allocated funds are divided into three categories and must be used in the areas described: urbanized areas with a population over 200,000; urban areas with a population of 5,001 to 200,000; and areas with a population of

5,000 or less. The federal metropolitan planning and statewide and non-metropolitan planning requirements lay out the basic provisions related to STBG project selection. For urbanized areas with a population over 200,000, projects are to be selected from the approved FTIP by the Metropolitan Planning Organization (MPO) in consultation with the state and any affected public transportation operator. Projects on the National Highway System are to be selected from the approved FTIP by the state in cooperation with the affected MPO. FTIP procedures that distribute STBG funds to individual jurisdictions by pre-determined percentages or formulas are inconsistent with the legislative provisions requiring the MPO to consult with the state and the public transportation operator to develop the FTIP.

FHWA and FTA have determined SCAG's process for programming STBG funds is inconsistent with federal regulations for the following reasons:

- STBG funds are sub-allocated to the County Transportation Commissions (CTCs) using a population formula, and
- The CTCs prioritize and select projects for STBG funding without the involvement of SCAG.

It is important to note that SCAG's process for programming STBG funds was consistent with state statute which dictates that where CTCs have been created by state law, all STBG funds would be apportioned by the MPO to the CTCs based on relative population. Through this requirement, the Commission has received formula apportionments of STBG funds in the amount of approximately \$30 million annually.

CMAQ Funds

CMAQ funds are for transportation projects or programs that will contribute to the attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone (O₃), carbon monoxide (CO), and particulate matter (PM): both PM₁₀ and PM_{2.5}. Each CMAQ project must meet three basic criteria: it must be a transportation project; it must generate an emissions reduction; and it must be in or benefit a nonattainment or maintenance area. To ensure projects deemed most effective in reducing motor vehicle emissions and congestion are programmed for early implementation, the MPOs, states, and transit operators should develop CMAQ project selection processes in accordance with the federal metropolitan or statewide planning process. The selection process should involve state and local transportation and air quality agencies. As part of the selection process, MPOs and the state should evaluate the cost-effectiveness of the projects and give priority consideration to those that will create the greatest emissions reductions for the least cost, especially in those areas designated as being in nonattainment or maintenance for PM_{2.5}. This selection process allows states and local agencies to present a case for selecting eligible projects that will best use CMAQ funding to meet the requirements and advance the goals of the Clean Air Act. States and MPOs should fulfill this responsibility so that nonattainment and maintenance areas can make good-faith efforts to attain and maintain the NAAQS by the prescribed deadlines.

FHWA and FTA have determined that SCAG's process for programming CMAQ funds is inconsistent with federal regulations for the following reason:

- The CTCs prioritize and select projects for CMAQ funding without the involvement of SCAG.

CMAQ funds have traditionally been apportioned to CTCs based on a formula that factored in O3 and CO weighted attainment status.

Compliance Action Plan

SCAG convened a working group with representatives of each CTC in the SCAG region to develop a methodology for programming STBG and CMAQ funds to be in compliance with the federal corrective action. The SCAG Regional Council approved a Compliance Action Plan in February 2023, and received confirmation from FHWA and FTA in April 2023, that the plan addresses the Corrective Action. The Compliance Action Plan indicates that SCAG will regularly conduct a call for project nominations in which the SCAG region CTCs will nominate projects for SCAG's consideration. SCAG will then evaluate and select projects to receive federal formula funding which will subsequently be programmed in the FTIP. The SCAG Regional Council approved the STBG/CMAQ Program Guidelines on June 1, 2023, included in this item as Attachment 1.

For STBG funds, SCAG has identified programming targets for each county based on performance output of the regional travel demand model and pavement condition. Under this methodology, the Commission's target share of STBG funds is 11.8 percent. For CMAQ funds, the programming targets will be based on the pre-existing formula distribution of O3 and CO attainment status. The Commission's target share of CMAQ funds is 12.7 percent. Performance-based nomination targets will only guide the nomination submittals from each county, it is not a guarantee of funding, nor a maximum of funding that can be received. Each CTC is to define its own process for identifying projects to be nominated with a minimum obligation of engaging with eligible federal formula funding recipients.

Carbon Reduction Program

In November 2021, Congress passed and the President signed the Infrastructure Investment and Jobs Act (IIJA). The IIJA continued the STBG and CMAQ federal formula funding programs and created another federal formula funding program: Carbon Reduction Program (CRP). CRP funds are similar to CMAQ funds as they are designated for projects that reduce transportation emissions from on-road highway sources. California has determined CRP funds are subject to the federal Corrective Action and is requiring that project selection and programming of the funds be performed by SCAG. As such, SCAG anticipates adopting Carbon Reduction Program Guidelines in December 2023, to include CRP funding in the SCAG 2024 Call for Project Nominations. See Attachment 2 for SCAG's draft CRP Guidelines.

DISCUSSION:

Most recently, the Commission selected projects for STBG and CMAQ funding based on needs in the Commission's adopted 2019-2029 Western Riverside County Highway Delivery Plan, a policy which was adopted by the Commission on July 10, 2019. Federal formula funding in the Coachella Valley was requested by the Coachella Valley Association of Governments (CVAG) on a project-by-project basis with sub-regional fair share distribution considered. In March 2023, the Commission approved programming \$26 million of STBG funds on the Interstate 10/Monroe Street Interchange Project as requested by CVAG which covered the Coachella Valley fair share of STBG funds through Fiscal Year 2026 at that time. Additionally in March 2023, the Commission approved an MOU with CVAG committing both agencies to program federal formula dollars equitably between Western County and Coachella Valley. Consistent with this MOU, CVAG added \$21.3 million of CMAQ funds to its Coachella Valley Signal Synchronization Phase 2 project in July 2023 when construction phase bids came in high. This also covered the Coachella Valley fair share of CMAQ funds through FY 2026 at that time.

As a result of the Corrective Action and pursuant to SCAG's Compliance Action Plan, SCAG anticipates issuing a Call for Project Nominations on January 4, 2024. Riverside County's estimated target share of the \$275 million available in the SCAG 2024 Call for Project Nominations is merely \$33 million. The Commission must develop a new approach for prioritizing Riverside County projects to be nominated in the SCAG call.

Nomination Procedures

Staff is recommending approval of the attached nomination procedures (Attachment 3) for the SCAG 2024 Call for Project Nominations. The nomination procedures were developed recognizing the complexity of utilizing federal dollars on transportation projects. Federalized transportation projects require extensive collaboration and multiple levels of approval from Caltrans to attain project environmental clearance, meet Caltrans and FHWA project delivery requirements to utilize the federal dollars, and ensure federal funds are approved and spent on time and in accordance with federal regulations. Failure to meet these federal funding requirements will result in loss of federal dollars for the region and will provide an opportunity for other CTCs to access these funds. Prior to SCAG's Compliance Action Plan, the Commission had the authority to easily move federal funding within projects to mitigate this risk. Due to the Corrective Action, the Commission no longer has this authority and flexibility. With federal funding at risk, staff is recommending the following approach to ensure federal funds remain in the region.

Part A – Initial Screening: Eligible agencies, including cities, the county, transit operators, and Tribal Governments, will submit an intake form describing the project, project schedule and funding, and indicating which regional plan the project is in. Applicable plans include: the Commission's adopted 2019-2029 Western Riverside County Highway Delivery Plan, CVAG's Transportation Project Prioritization Study (TPPS), the Western Riverside Council of Governments' Transportation Uniform Mitigation Fee Nexus Study and adopted zero emission

transition plans. Projects in one of these plans will advance either as highly recommended or recommended. Projects not in one of these plans have the option of advancing on the contingency list.

Part B – Invitation to Apply: Based on Part A, nominating agencies will be notified of their project’s designated priority (highly recommended, recommended, or contingency list) and invited to submit a full nomination application. Nominations will be submitted to Commission staff for review and feedback prior to being finalized. Staff is recommending the Executive Director be authorized to submit the project nomination list to SCAG.

SCAG will evaluate and score all project nomination applications submitted by the six CTCs within the SCAG region per SCAG’s adopted guidelines (Attachments 1 and 2). SCAG staff will score projects based on the following criteria: CTC prioritization, ability to support the goals and policies of SCAG’s Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), equity considerations, and air quality improvements. SCAG staff anticipates submitting the recommended list of projects totaling \$275 million to the SCAG Regional Council for approval on June 6, 2024.

At the Commission’s Budget and Implementation Committee meeting on November 27, 2023, Commissioner Gregory expressed concern that the proposed nomination procedures does not allow a Coachella Valley project the opportunity to receive a maximum amount of points. The Committee unanimously approved the item. Subsequently, CVAG and Commission staff collaborated on a solution to allow a high priority project in the Coachella Valley to receive maximum points. Attachment 5 is a letter from CVAG that proposes to add a criteria to the Highly Recommended category in the nomination procedures (Attachment 3). Commission staff is supportive of the solution CVAG proposes.

MOU between SCAG and SCAG Region CTCs

As SCAG and the region’s CTCs embark on this new process for programming federal formula funds, staff recommends entering into Agreement No. 24-66-041-00 (Attachment 4). This is a MOU with SCAG and the other SCAG region CTCs to describe the reasons for the change in how federal formula funds are distributed and what each party’s responsibilities will be. Staff for all CTCs in the SCAG region and SCAG have agreed to the language of the MOU. All SCAG region CTC governing boards will be considering adoption of this MOU. This agreement will not impact the commitment outlined in the March 2023 RCTC-CVAG MOU that was referenced above.

FISCAL IMPACT:

While this item has no fiscal impact to the Commission’s adopted FY 2023/24 budget, the policy behind this item presents significant funding challenges to Commission-led projects in the future. Traditionally, the Commission has received a steady level of STBG and CMAQ funding every year and had the flexibility to program or increase federal formula funding to advance priority projects by pairing it with locally generated funds from sources like Measure A and TUMF. Now, the

Commission no longer has this consistent level of funding on-hand and must wait for SCAG to conduct a Call for Project Nominations, at the same time competing with neighboring CTCs for the same dollars.

Attachments:

- 1) SCAG STBG/CMAQ Program Guidelines
- 2) Draft SCAG CRP Guidelines
- 3) RCTC Procedures for SCAG's 2024 Call for Project Nominations
- 4) Agreement No. 24-66-041-00 between SCAG and SCAG Region CTCs
- 5) CVAG Letter dated December 4, 2023

Approved by the Budget and Implementation Committee on November 27, 2023

In Favor: 10 Abstain: 0 No: 0



SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

STBG/CMAQ

PROGRAM GUIDELINES

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STBG/CMAQ PROGRAM OVERVIEW

The Congestion Mitigation and Air Quality Improvement program (CMAQ) and Surface Transportation Block Grant program (STBG) Program Guidelines, scheduled for adoption by the SCAG Regional Council (RC) on June 1, 2023, establishes the framework for project selection and investing of CMAQ and STBG funds within the SCAG region in accordance with 23 CFR § 450.332(c) et al. While the program guidelines focus on CMAQ and STBG project selection for Fiscal Year (FY) 2025 through FY 2028, the guidelines are effective June 30, 2023, and any new project or new project phase to be programmed in the Federal Transportation Improvement Program (FTIP) with CMAQ and/or STBG funds after this date will be subject to the SCAG selection process. These guidelines address joint Federal Highway Administration's (FHWA) and Federal Transit Administration (FTA) compliance findings focused on the delegation of project selection authority for the CMAQ program and the suballocation and administration of the STBG program.

BACKGROUND

Planning and programming actions for federal formula funded projects and programs are guided by the SCAG RC-approved Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) – known as Connect SoCal 2020 and Connect SoCal 2024 (expected to be adopted by the SCAG RC in April 2024), the 2023 FTIP, the 2025 FTIP (expected to be adopted by the SCAG RC in September 2024), and Federal Performance-Based Planning and Programming and Transportation Performance Management requirements.

The RTP/SCS provides the long-term vision and goals for how the SCAG region will build and support transformative transportation projects and initiatives. SCAG's RTP/SCS demonstrates how transportation projects and programs in the six-county SCAG region conform to the State of California and federal air quality mandates for funding eligibility. It identifies strategies to reduce regional greenhouse gas (GHG) emissions and criteria air pollutant (CAP) emissions.

The FTIP is the document prepared by a metropolitan planning organization (MPO) that lists projects to be funded with federal, state, and local funds for the next four-year period. The FTIP is a key component in the process by which the RTP/SCS is implemented. It does so by providing an orderly allocation of federal, state, and local funds for use in planning and building specific projects. The FTIP is required to advance the RTP/SCS by programming the projects contained in the RTP/SCS, in accordance with federal and state requirements. These include specific requirements for scheduling of projects, funding, and the timely implementation of transportation control measures to help reduce air pollution.

Federal Transportation Performance Management Targets, adopted by the SCAG RC, provide near and mid-term anticipated outcomes for the transportation network. These inform and are informed, by planning and programming actions.

FUNDING AVAILABILITY

Prior to initiating a call for project nominations, SCAG will evaluate the availability of STBG and CMAQ funding. SCAG reserves the right to set aside up to 2.5 percent of the annual obligational authority for CMAQ and STBG funds apportioned to the SCAG region to support regional planning priorities that are led by SCAG and/or in partnership with the County Transportation Commissions (CTCs) (i.e., eligible planning activities that advance implementation of the RTP/SCS and performance-based planning and

programming in the SCAG region). Use of the funds included in the set aside will be documented in the annual SCAG Overall Work Program and FTIP, as appropriate. The balance of CMAQ and STBG funding is available to projects through a competitive call for project nominations process that is administered and selected by SCAG in coordination with the SCAG region’s six CTCs. SCAG is responsible for the development of the call for project nominations process, oversight, and final project selection. As outlined in the STBG/CMAQ Compliance Action Plan, SCAG has established performance-based nomination targets to guide the nomination submittals from each county within the SCAG region. The targets do not represent a guaranteed funding level, a nomination floor, or a nomination ceiling.

County	CMAQ Target Percentage	STBG Target Percentage
Imperial	0.6%	1.2%
Los Angeles	54.8%	53.3%
Orange	17.3%	17.1%
Riverside	12.7%	11.8%
San Bernardino	11.3%	12.2%
Ventura	3.3%	4.3%

ELIGIBLE APPLICANTS

In general, SCAG cities, counties, transit agencies, federally recognized Tribal governments, and CTCs are eligible to apply for CMAQ and STBG funds. Each CTC is responsible for coordination and submission of project nominations to SCAG from eligible entities from their respective counties. SCAG encourages CTCs to coordinate with SCAG and other affected CTCs on project nominations for multi-county projects and to support multi-county agency projects such as the California Department of Transportation (Caltrans), the Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency, and the Southern California Regional Rail Authority (Metrolink).

PUBLIC OUTREACH & STAKEHOLDER ENGAGEMENT

Stakeholder engagement is essential in all SCAG programs. SCAG requires each CTC to engage relevant stakeholders from their respective county to maximize project impact and further collaborative policy goals.

CTCs are required to demonstrate countywide outreach and engagement with stakeholders and the public to solicit project ideas. CTCs should make every effort to follow current best practices related to virtual and in-person public participation, outreach, and engagement. SCAG strongly encourages each CTC to outreach and engage with historically disadvantaged communities (Priority Equity Communities) within their respective counties.

CTCs must document their public outreach and stakeholder engagement process and demonstrate how it meets the program guidelines. This can include a CTC conducting a call for project nominations.

PROJECT SELECTION PROCESS

SCAG will conduct a call for project nominations, provide guidance, identify available funding, perform project evaluations, develop a list of prioritized projects, and conduct the SCAG board review and approval process.

CTCs will solicit and submit project nomination applications including conducting and documenting their outreach processes, screening applicants and projects for program eligibility, and conducting initial evaluation and prioritization of projects from their respective county. CTCs will develop individual project nomination application materials for submission to SCAG and establish processes for their county's project nominations, consistent with the overall program guidelines and subject to consultation and concurrence by SCAG staff.

After completing the initial project screening and evaluations, the CTCs will submit prioritized project nominations and required documentation to SCAG by the deadline established by SCAG. Prioritized nomination lists must be approved by the CTC's CEO (and/or governing board) prior to submission to SCAG.

CTC INITIAL SCREENING

At minimum, CTCs must incorporate the following regional criteria into their project nomination evaluations:

1. **Eligibility:** CTCs will screen potential implementing agencies and projects for eligibility with federal and regional requirements. Projects must be eligible for STBG and/or CMAQ funds, as detailed in 23 USC Sec. 133, 149, et al.
2. **Alignment:** CTCs should evaluate projects for alignment with relevant federal and regional plans and policies. CTCs should prioritize projects that:
 - Implement SCAG's adopted RTP/SCS, including future adopted Plan policies and strategies;
 - Advance Connect SoCal Performance Measures including Federal Transportation Performance Management Goals for safety, asset management, environmental sustainability and system performance, as detailed in [23 USC Sec. 105\(b\)](#) and [49 USC Sec. 5301\(b\)\(3\)](#);
 - Demonstrate direct and/or indirect benefits that positively impact Priority Equity Communities. (CTCs should aim to ensure that at least 40 percent of funding requested by projects countywide positively impact Priority Equity Communities).
3. **Community/Stakeholder Engagement:** CTCs should prioritize project nomination applications with demonstrated community support from Priority Equity Communities. Community support may be determined through a variety of means, including (but not limited to):
 - Responses to public outreach, including comments received at public meetings or hearings, feedback from community workshops, survey responses, etc.; and/or
 - Endorsement by a Community-Based Organization (CBO) representing Priority Equity Communities.
4. **Deliverability and Readiness:** CTCs should evaluate potential implementing agencies and projects for deliverability issues. CTCs should consider if potential implementing agencies have sufficient capacity and technical expertise to meet deadlines. CTCs should encourage projects with demonstrated readiness within the programming period.

SCAG encourages CTCs to work with SCAG staff on the development of the CTC project evaluation criteria. CTC project evaluation criteria must receive concurrence from SCAG staff and approval by the CTC CEO (and/or governing board) prior to issuing the call for nominations activities (or documented equivalent process) in their respective county. CTCs may develop separate evaluation frameworks by project type, but each such framework must meet the requirements of this section.

PROJECT NOMINATIONS

After completing initial project screening and evaluations, CTCs shall submit project nominations and associated documentation to SCAG for regional evaluation and project selection. Nomination lists must be approved by the CTC CEO (and/or governing board) prior to submission to SCAG. Project nomination packets must include the following elements, including project applications identifying the requested source(s) of funding:

1. **Nomination List:** list of eligible candidate projects for STBG and/or CMAQ funds prioritized according to the evaluation criteria developed by the CTC and approved by SCAG staff.
2. **CEO Approval:** letter from the CTC's CEO approving the project nomination list.
3. **Outreach Documentation:** materials verifying CTC compliance with outreach requirements.
4. **Compliance Checklists:** completed checklists and supporting documentation affirming compliance with requirements for both the CTC and each potential implementing agency with a project on the nomination list, including emissions benefit analysis for candidate CMAQ projects. Checklists should be completed by the CTC and must be signed by a signatory authority for the agency concerned.

REGIONAL PROJECT EVALUATION

SCAG staff will form a review committee composed of a multidisciplinary group of staff members. The review committee will conduct the regional project evaluation process to review the nomination packets provided by the CTCs and develop a recommended list of projects for adoption by the SCAG RC. This process will consist of the following steps:

1. **Confirm Eligibility:** SCAG staff will review submitted documentation to ensure CTC, potential implementing agency, and project compliance with applicable federal and regional policies. Screening will include a review to ensure consistency with adopted RTP/SCS. Any issues identified will be communicated to CTC staff, and projects with unresolved issues will be excluded from further consideration.
2. **Scoring Criteria:** Eligible projects can achieve up to 110 points for projects submitted for potential CMAQ funding and up to 100 points for projects submitted for STBG funding. The review committee will score projects using the following rubric:

SCORING CRITERIA	POSSIBLE POINTS
CTC Prioritization: Relative CTC project prioritization	50 Points
Regional Priorities: Project implements SCAG’s adopted RTP/SCS, including future adopted Plan policies and strategies	20 Points
<p>Performance Measures: Project demonstrates support for Connect SoCal Performance Measures (including but not limited to Federal Transportation Performance Management Goals):</p> <ul style="list-style-type: none"> • Location Efficiency, • Mobility and Accessibility, • Safety and Public Health, • Environmental Quality, • Economic Opportunity, • Investment Effectiveness, • Transportation System Sustainability, and • Environmental Justice 	20 Points
Equity: Project demonstrates direct and/or indirect benefit that positively impact Priority Equity Communities	10 Points
Air Quality Improvements: For CMAQ-eligible projects, expected criteria air pollutant (CAP) emissions reductions and relative cost effectiveness of projects in reducing CAP emissions in the SCAG region Air Basins	10 Points

The review committee will score each project using the following criteria:

CTC Prioritization:

- Prioritized in the CTC list as Highly Recommended 50 points
- Prioritized in the CTC list as Recommended 40 points
- Prioritized in the CTC Contingency List 20 points

Regional Priorities

- Aligns with 3 or more Regional Priorities 20 points
- Aligns with 1 to 2 Regional Priorities 10 points
- Does not align a Regional Priority 0 points

Performance Measures

- Supports 6 or more Performance Measures 20 points
- Supports 4 to 5 Performance Measure 10 points
- Supports 2 to 3 Performance Measures 5 points
- Supports less than 2 Performance Measures 0 points

Equity

- Demonstrates direct positive benefit to Priority Equity Communities 10 points
- Demonstrated indirect positive benefits to Priority Equity Communities 5 points
- Does not demonstrate positive benefits to Priority Equity Communities 0 points

Air Quality Improvements

- Demonstrates cost effectiveness in reducing CAP emissions 10 points
- Estimates CAP emission reduction benefits 5 points
- Does not address CAP emission reduction benefits 0 points

3. **Project Ranking Process:** Candidate projects will be ranked according to their average review committee score. To ensure that high performing air quality improvement projects are prioritized for CMAQ funding, SCAG staff will first develop a recommended list of eligible projects for CMAQ funding using the comprehensive rubric rankings as well as projects identified as seeking CMAQ funding. (All eligible projects scored with a maximum possible score of 110 points and ranked from highest to lowest score.) In developing this list, SCAG will consider if project elements may not be eligible for CMAQ funds and should be considered for STBG funding.

All remaining projects, including CMAQ-eligible projects not recommended for funding using this first method, will then be ranked with the air quality improvement portion of the rubric score excluded. (All remaining projects scored with a maximum possible score of 100 points and ranked from highest to lowest score). The latter rankings will be used by SCAG staff to develop a recommended list of projects for STBG funding.

Once the lists are developed, they will be shared with the Air Quality Districts to obtain input on the projects selected for potential CMAQ funding. This will fulfill SCAG’s requirement to involve the local air quality districts. SCAG may also consult with Caltrans and others as applicable.

4. **Program Balancing:** Candidate projects will be initially prioritized according to their ranking as described above. However, to achieve programmatic investment thresholds, and ensure a balanced program of projects, SCAG staff may adjust project prioritization based on the following factors:
 - Ensuring that at least 40 percent of funding positively benefit Priority Equity Communities,
 - County targets (as detailed in the SCAG RC-approved STBG/CMAQ Compliance Action Plan),
 - Relative STBG and/or CMAQ availability, and
 - Overall program balancing for a variety of project types, equitable investments, and regional diversity.

Project scores will be converted into recommendation categories (i.e., Highly Recommended, Recommended, Contingency List, and Not Recommended) prior to publishing the recommended program of projects. To achieve an overall Highly Recommended determination, projects must

achieve a score of at least 90 points. To achieve an overall Recommended determination, projects must achieve a score of at least 75 and less than 90 points. To be considered for the Contingency List, projects must achieve a score of at least 70 points. Depending on availability of CMAQ and STBG funds, projects may move between the Recommended list and the Contingency List. Using this process, SCAG staff will develop a draft program of recommended (Highly Recommended and Recommended) and Contingency List projects for SCAG RC adoption. Projects that achieve a score of less than 70 will be determined to be Not Recommended.

5. **Program Approval:** The SCAG RC will consider the recommended CMAQ and STBG projects. Projects approved by the SCAG RC for funding will be eligible for programming into the FTIP.

If high scoring projects (Highly Recommended and Recommended) are not selected due to funding constraints, they will be prioritized for future funding opportunities as additional programming capacity becomes available for CMAQ and/or STBG programs prior to the next scheduled call for project nominations process. Contingency List projects will be considered after high scoring projects for future funding opportunities if additional programming capacity becomes available for CMAQ and/or STBG programs prior to the next scheduled call for project nominations process.

APPROVED PROJECTS, FEDERAL PROGRAMMING, MONITORING, AND FTIP MANAGEMENT

Projects approved by the SCAG RC for funding will be programmed in the FTIP consistent with adopted FTIP Guidelines. Approved projects that meet eligibility for transfer to the FTA should consult the FTIP Guidelines. To ensure the timely use of federal funds, SCAG will collaborate with Caltrans, CTCs, local jurisdictions, and transit operators to enhance FTIP Guideline policies and procedures to ensure federal funding requirements and deadlines are met and funds are not lost to the region. Additionally, SCAG will prepare and submit annual obligation plans to Caltrans, monitor federal fund obligations, overall federal funding levels, and apportionment and Obligation Authority (OA) balances.



SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

FY23-FY26 CARBON REDUCTION PROGRAM GUIDELINES

Attachment: FY23-FY26 CRP Program Guidelines (FY2023-FY2026 Carbon Reduction Program (CRP) Guidelines)

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CARBON REDUCTION PROGRAM OVERVIEW

The federal Carbon Reduction Program (CRP) Guidelines, establishes the policy framework for project selection and investment of federal funds in accordance with the State of California’s Carbon Reduction Strategy. CRP funding is made available by the Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA), which provides funds for projects designed to reduce transportation emissions.

SCAG is in a unique position to utilize this resource and build upon the REAP 2.0 funded County Transportation Commission Partnership Program efforts, allowing for broader planning and implementation investments, including those which focus on reducing transportation emissions. As part of its implementation of CRP, SCAG will use 65 percent of the regional CRP share to issue a Call for Project Nominations to support transformative projects as described below.

BACKGROUND

The United States is committed to a whole-of government approach to reducing economy-wide net greenhouse gas (GHG) emissions by 2030. The BIL provides resources to help funding recipients advance this goal in the transportation sector. In addition, the BIL makes historic investments to improve the resilience of transportation infrastructure, helping communities prepare for hazards such as wildfires, floods, storms, and droughts exacerbated by climate change.

The CRP encourages the advancement of projects that address climate change and sustainability. In particular, SCAG encourages projects that implement the region’s Regional Transportation Plan/Sustainability Communities Strategy (RTP/SCS, known as Connect SoCal). In alignment with SCAG’s Racial Equity Early Action Plan, projects that facilitate the consistent integration of equity are strongly encouraged.

FUNDING AVAILABILITY

The CRP program is authorized from FY22 through FY26. For the FY22 apportionments totaling \$33.6 million, SCAG coordinated with the CTCs to expedite and select a program of projects approved by the Regional Council on April 6, 2023. The SCAG region’s allocation of CRP funds is estimated to be approximately \$141 million from FY23 through FY26. For FY23-FY26, SCAG will solicit project nominations from the CTCs using a Call for Project Nominations process to program up to an estimated approximately \$92 million. This represents 65 percent of the SCAG region’s apportionments. SCAG will direct the remaining estimated up to approximately \$49 million to SCAG’s regional initiatives, to identify, evaluate, and award funding for regional and/or local pilots and partnership projects that achieve regional transportation goals and further the objectives of Connect SoCal. Actual programming may be lower to reflect the latest apportionments as reported by Caltrans.

CRP funds are contract authority, reimbursed from the Highway Account of the Highway Trust Fund. CRP funds are available for obligation for a period of 3 years after the last day of the fiscal year for which the funds are authorized. Thus, CRP funds are available for obligation for up to 4 years.

FEDERAL FISCAL YEAR	2023	2024	2025	2026
OBLIGATION DEADLINE	9/30/2026	9/30/2027	9/30/2028	9/30/2029
EXPENDITURE DEADLINE	9/30/2031	9/30/2032	9/30/2033	9/30/2034

ELIGIBLE APPLICANTS

In general, SCAG cities, counties, transit agencies, federally recognized Tribal governments, and CTCs are eligible to apply for CRP funds. Each CTC is responsible for coordination and submission of project nominations to SCAG from eligible entities from their respective counties. SCAG encourages CTCs to coordinate with SCAG and other affected CTCs on project nominations for multi-county projects and to support multi-county agency projects such as the California Department of Transportation (Caltrans), the Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency (LOSSAN), and the Southern California Regional Rail Authority (Metrolink).

PUBLIC OUTREACH AND STAKEHOLDER ENGAGEMENT

Stakeholder engagement is essential in all SCAG programs. SCAG requires each CTC to engage relevant stakeholders to maximize project impact and further collaborative policy goals.

CTCs are required to demonstrate countywide outreach and engagement with stakeholders and the public to solicit project ideas. CTCs should follow current best practices related to virtual and in-person public participation, outreach, and engagement. SCAG encourages each CTC to outreach and engage with historically disadvantaged communities (Priority Equity Communities) within their respective counties. CTCs must document their public outreach and stakeholder engagement process and demonstrate how it meets the program guidelines. This can include a CTC conducting a call for project nominations.

ELIGIBLE PROJECT USES

SCAG’s CRP guidelines prioritize projects that aspire to transform Southern California’s mobility opportunities, especially with respect to Connect SoCal, the region’s adopted Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS). Applicants are encouraged to review strategies included within [Connect SoCal](#) to align project applications with regional planning priorities and concepts. Funds shall be used for implementation efforts that can demonstrate a reduction in transportation emissions over the project’s lifecycle. Of critical importance to SCAG is to demonstrate GHG emission reduction to meet our climate commitments, particularly in ways that advance equity and improve underlying social and public health vulnerabilities.

Funds may be spent on projects at any phase, helping to close a critical transportation funding gap for pre-construction needs. As with most federal funds, CRP requires a non-federal match. While the non-federal share requirement depends on the type of project, most projects must have a minimum 11.47 percent non-federal funding match. Due to the limited balance of toll credits statewide, toll credits may not be used as funding match for CRP.

CRP funding may be used on a wide range of projects that support the reduction of transportation emissions. In accordance with California’s Carbon Reduction Strategy, applicants should nominate projects that support the state’s three [Carbon Reduction Program pillars](#): 1) transit and passenger rail 2) active transportation, 3) zero emission vehicles and infrastructure, and conversion of existing highway

lanes to price managed lanes. For more information, please refer to the [Federal CRP Implementation Guidance](#).

All proposed uses will be required to meet the state and program requirements. Projects must demonstrate a reduction in transportation emissions. Please contact SCAG with any questions regarding funding eligibility.

PROJECT SELECTION PROCESS

SCAG will conduct a Call for Project Nominations, provide guidance, perform project evaluations, develop a list of selected projects, and conduct the SCAG board review and approval process.

CTCs will solicit and submit project applications including conducting and documenting their outreach processes, screening applicants and projects for program eligibility, and conducting initial evaluation and prioritization of projects from their respective county. CTCs will develop individual project application materials for submission to SCAG and establish processes for their county's project nominations, consistent with the overall program guidelines and subject to consultation and concurrence by SCAG staff.

One application is required per project and entities may submit multiple project applications. **Applicants must complete and submit their application by March 29, 2024, at 5:00 p.m. Program timelines are subject to change.**

CALL FOR PROJECTS SCHEDULE

The following schedule outlines important dates for the CRP Call for Projects. **Program timelines are subject to change.**

CRP (FY23-FY26) CALL MILESTONES	DATE
CALL FOR APPLICATIONS OPENS	January 4, 2024
APPLICATION WORKSHOP	TBD
CALL FOR APPLICATIONS SUBMISSION DEADLINE	March 29, 2024
REGIONAL COUNCIL APPROVAL	July 11, 2024

REGIONAL PROJECT EVALUATION

SCAG staff will form a review committee composed of a multidisciplinary group of staff members. The review committee will conduct the regional project evaluation process to review the project submittals provided by the CTCs and develop a recommended list of projects for adoption by the SCAG RC. This process will consist of the following steps:

1. **Confirm Eligibility:** SCAG staff will review submitted documentation to ensure compliance with applicable federal, state, and regional policies. Screening will include a review to ensure consistency with adopted RTP/SCS. Any issues identified will be communicated to CTC staff, and projects with unresolved issues will be excluded from further consideration.
2. **Scoring Criteria:** Eligible projects can achieve up to 100 points. The review committee will score projects using the following rubric:

SCORING CRITERIA	POSSIBLE POINTS
CTC Prioritization: Relative CTC project prioritization	Up to 25 Points
Regional Priorities: Project implements SCAG’s adopted RTP/SCS, including future adopted Plan policies and strategies	Up to 20 Points
Performance Measures: Project demonstrates support for Connect SoCal Performance Measures (including but not limited to Federal Transportation Performance Management Goals): <ul style="list-style-type: none"> • Location Efficiency, • Mobility and Accessibility, • Safety and Public Health, • Environmental Quality, • Economic Opportunity, • Investment Effectiveness, • Transportation System Sustainability, and • Environmental Justice 	Up to 15 Points
Equity: Project demonstrates direct and/or indirect benefit that positively impact Priority Equity Communities	Up to 15 Points
Carbon Reduction: Expected carbon reduction and relative cost effectiveness of projects in reducing carbon emissions in the SCAG region	Up to 25 Points

The review committee will score each project using the following criteria:

CTC Prioritization	
• Prioritized in the CTC list as Highly Recommended	25 points
• Prioritized in the CTC list as Recommended	15 points
• Prioritized in the CTC Contingency List	5 points
Regional Priorities	
• Aligns with 3 or more Regional Priorities	20 points
• Aligns with 1 to 2 Regional Priorities	10 points
• Does not align a Regional Priority	0 points
Performance Measures	
• Supports 6 or more Performance Measures	15 points
• Supports 4 or 5 Performance Measures	10 points
• Supports 2 or 3 Performance Measures	5 points
• Supports less than 2 Performance Measures	0 points
Equity	
• Demonstrates direct positive benefit to Priority Equity Communities	15 points
• Demonstrates indirect positive benefit to Priority Equity Communities	10 points
• Does not demonstrate positive benefits to Priority Equity Communities	0 points
Carbon Reduction	
• Demonstrates cost effectiveness in reducing transportation emissions	25 points
• Estimates transportation emission reduction benefits	15 points
• Does not address transportation emission reduction benefits	0 points

3. **Project Ranking Process:** Projects will be ranked according to their average review committee score. SCAG staff will develop a recommended list of eligible projects for CRP funding using the comprehensive rubric rankings. All eligible projects scored with a maximum possible score of 100 points and ranked from highest to lowest score. In developing this list, SCAG will consider if project elements may not be eligible for CRP funds.
4. **Program Balancing:** Candidate projects will be initially prioritized according to their ranking as described above. However, to achieve programmatic investment thresholds, and ensure a balanced program of projects, SCAG staff may adjust project prioritization based on the following factors:
 - Ensuring that at least 40 percent of funding positively benefit Priority Equity Communities and meet Justice 40 requirements, and
 - Overall program balancing for a variety of project types, equitable investments, and regional diversity.

Project scores will be converted into recommendation categories (i.e., Highly Recommended, Recommended, Contingency List, and Not Recommended) prior to publishing the recommended program of projects. To achieve an overall Highly Recommended determination, projects must achieve a score of at least 85 points. To achieve an overall Recommended determination, projects must achieve a score of at least 70 and less than 85 points. To be considered for the Contingency List, projects must achieve a score of at least 65 points. Using this process, SCAG staff will develop a draft program of recommended (Highly Recommended and Recommended) and Contingency List projects for SCAG RC adoption. Projects that achieve a score of less than 65 will be determined to be Not Recommended.

5. **Program Approval:** The SCAG RC will consider the recommended CRP projects.

APPROVED PROJECTS AND MONITORING

To ensure the timely use of federal funds, SCAG will collaborate with Caltrans and CTCs to enhance Guideline policies and procedures to ensure federal funding requirements and deadlines are met and funds are not lost to the region. Once SCAG selects projects, CTCs will be required to submit a Project Alignment Confirmation Form to SCAG for transmittal to Caltrans. Additionally, SCAG will prepare and submit annual obligation plans to Caltrans, monitor federal fund obligations, overall federal funding levels, and apportionment and Obligation Authority (OA) balances. Program completion is based on statutory provisions and SCAG expects all selected projects to be completed in a timely manner and requires that applicants coordinate internal resources to ensure timely completion of the projects.

CONTACT INFORMATION

Questions regarding the Carbon Reduction Program application process should be directed to:

Kate Kigongo
Department Manager, Partnerships for Innovative Deployment
Telephone: (213) 236-1808
Email: kigongo@scag.ca.gov

Questions regarding eligibility, programming, and obligation of CRP funding should be directed to:

Heidi Busslinger
Principal Planner, Federal Transportation Improvement Program
Telephone: (213) 236-1541
Email: busslinger@scag.ca.gov

RCTC PROCEDURES FOR SCAG'S 2024 CALL FOR PROJECT NOMINATIONS

The Southern California Association of Governments (SCAG) intends to issue a SCAG Region Carbon Reduction Program (CRP) & Congestion Mitigation and Air Quality (CMAQ)/Surface Transportation Block Grant (STBG) Call for Project Nominations on January 4, 2024, with a closing date of March 29, 2024. Projects are anticipated to be approved by the SCAG Regional Council on June 6, 2024, and to be programmed in the Federal Transportation Improvement Program (FTIP) in July 2024.

The SCAG guidelines require county transportation commissions (CTCs) to perform an initial project screening and evaluation, then submit project nominations to SCAG for regional evaluation and project selection. This document describes the Riverside County Transportation Commission's (RCTC) nomination procedures for SCAG's 2024 Call for Project Nominations.

PART A – INITIAL SCREENING

In the SCAG region, an estimated \$275 million is available for fiscal years (FY) 2022/23 through 2025/26 across the three programs: CRP (\$88 million), STBG (\$130 million), and CMAQ (\$57 million). This funding is available due to increased funding for California called out in the federal Infrastructure Investment and Jobs Act (IIJA). Riverside County's target is roughly 12 percent or \$33 million. SCAG anticipates that under subsequent SCAG Call for Project Nominations, considerably more funding will be available for programming. This nomination procedure is written recognizing the very limited funding in the 2024 Call for Project Nominations. Should future calls include substantially more funding, RCTC's intention is to revisit this procedure.

Screening Criteria:

In the SCAG Call for Project Nominations, the respective CTC ranks each project based on the following:

- Highly Recommended – 50 Points for STBG/CMAQ; 25 points for CRP
- Recommended – 40 Points for STBG/CMAQ; 15 points for CRP
- Contingency List – 20 Points for STBG/CMAQ; 5 points for CRP

RCTC's methodology for screening and ranking projects will be:

Highly Recommended – Regional Priorities

- Projects in Groups 1 and 2 of the RCTC 10-Year Delivery Plan

Recommended – Regionally Significant

- Projects in Group 3 of the RCTC 10-Year Delivery Plan
- Projects in the Coachella Valley Association of Governments Transportation Project Prioritization Study
- Projects on the backbone network in the Western Riverside Council of Governments Transportation Uniform Mitigation Fee Nexus Study
- Projects in an adopted zero emission transition plan

Contingency List – Local Priorities

- Projects that are not identified in any of the above-referenced plans or studies

Screened projects that are highly recommended or recommended will be invited to prepare a full SCAG nomination application. Sponsors of projects that are on RCTC’s contingency list may still prepare a nomination application.

Outreach:

All outreach activities will be documented for reporting to SCAG as required.

1. After RCTC board approval, issue call for nominations countywide to all eligible recipients including local agencies, transit agencies, and Tribal Governments via email
 - a. RCTC Programming staff will host a minimum of two office hours
 - b. RCTC Programming staff will offer 30-minute consultations with interested eligible recipients
2. Present the call for nominations and associated office hours and consultation opportunities to RCTC Technical Advisory Committee (TAC) and RCTC Multimodal Bi-Monthly Roundtable Meeting with transit operators
3. Work with RCTC Community Affairs Manager to connect with Tribal Governments

PART B – INVITATION TO APPLY

Screened projects that are highly recommended or recommended will be invited to prepare a full SCAG nomination application. Nominators of projects that are on the contingency list may still submit a nomination application. All nomination applications will be submitted to RCTC for submittal to SCAG.

SCHEDULE

November 20	RCTC TAC presentation
November 27	RCTC Budget and Implementation Committee presentation
December 12	Bi-Monthly Roundtable presentation
December 13	RCTC Commission presentation/open call for nominations
January 4	SCAG opens Call for Project Nominations
January 12	RCTC call for nominations closes
February 7	RCTC to notify nominators of recommendation category
March 13	Nominators to submit full project nominations to RCTC for review
March 20	RCTC to provide feedback on nominations for nominators to incorporate
March 27	Final project nominations due to RCTC
March 28	RCTC to submit all Riverside County project nominations to SCAG
March 29	SCAG Call for Project Nominations closes
April – May	SCAG evaluates nominations based on SCAG’s adopted STBG/CMAQ and CRP Guidelines
June 6	SCAG Regional Council adopts project lists

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
AND THE SCAG REGION COUNTY TRANSPORTATION COMMISSIONS**

This Memorandum of Understanding (“MOU”), is entered into by and between the **Southern California Association of Governments (“SCAG”)** and **Imperial County Transportation Commission, Los Angeles County Metropolitan Transportation Authority, Orange County Transportation Authority, Riverside County Transportation Commission, San Bernardino County Transportation Authority, Ventura County Transportation Commission** (collectively, the “CTCs”) to cooperatively determine their mutual responsibilities in carrying out the metropolitan transportation planning and programming responsibilities addressed in the Federal Highway Administration (“FHWA”) and the Federal Transit Administration (“FTA”) Fiscal Year 2022 SCAG Certification Review and December 16, 2022 approval of the California 2023 Federal Statewide Transportation Improvement Program (“FSTIP”). SCAG and the CTCs are individually referred to herein as Party and collectively referred to herein as “Parties.”

RECITALS

WHEREAS, SCAG is a Joint Powers Agency and the federally designated Metropolitan Planning Organization (“MPO”) for the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, primarily responsible for the development of a Regional Transportation Plan/Sustainable Communities Strategy (“RTP/SCS”) for the counties;

WHEREAS, in federal fiscal year 2022, the SCAG region received \$576 million in federal Surface Transportation Block Grant (“STBG”), Congestion Mitigation and Air Quality (“CMAQ”), and Carbon Reduction Program (“CRP”) funds and expects a similar amount annually in each subsequent year;

WHEREAS, to maximize and ensure that those funds continue to flow to the SCAG region, SCAG must address FHWA and FTA Federal Planning Findings (“FPF”) issued in conjunction with the approval of the FSTIP in accordance with 23 CFR 450.220(b);

WHEREAS, the FPF verifies that the development of the FSTIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements and documents FHWA and FTA's recommendations for statewide and metropolitan transportation planning improvements;

WHEREAS, FHWA and FTA issued the Fiscal Year 2022 SCAG Certification Review and approval of the FSTIP on December 16, 2022;

WHEREAS, SCAG adopted STBG and CMAQ guidelines that address the specific findings for the SCAG region, including replacing the historic federal transportation funding suballocations by population or mode to cities and counties with a performance-based approach, modifying the eligibility screening conducted for compliance with Federal program guidance and regulations,

and modifying the project selection process so federally funded transportation projects are selected by SCAG as the MPO;

WHEREAS, SCAG has developed a project selection process for STBG/CMAQ funded projects and is developing a project selection process for CRP funded projects that builds and improves on performance-based planning a programming process; and

WHEREAS, the Parties seek to enter into this MOU to address the administrative and statutory requirements outlined in the December 16, 2022 FHWA/FTA approval of the 2023 FSTIP.

NOW THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. Recitals

The Recitals are incorporated herein by this reference and made a part of the provisions of this MOU.

2. Term

The Term of this MOU shall begin on the Effective Date of the MOU and continue in full force until such Party withdraws from this MOU pursuant to Section 7 below or this MOU is terminated by SCAG upon thirty (30) days prior written notice.

3. Responsibilities of the Parties

a. SCAG's Responsibilities:

- i. Determines the availability of STBG, CMAQ, and CRP funding.
- ii. Initiate a regional solicitation for project nominations, as applicable.
- iii. Evaluate project nominations against program criteria and recommend a list of projects for SCAG Regional Council approval.
- iv. Collaborate with Caltrans, CTCs, local jurisdictions, and transit operators to enhance FTIP Guideline policies and procedures to ensure federal funding requirements and deadlines are met and funds are not lost to the region.
- v. Prepare and submit annual obligation plans to Caltrans.
- vi. Monitor and report federal fund obligations, overall federal funding levels, and apportionment and Obligation Authority (OA) balances.
- vii. Engage in loans with other regions as deemed necessary.
- viii. Collaborate on project guideline updates as deemed necessary.

b. CTC's Responsibilities:

- i. Assist in the process by outreaching to eligible project sponsors, conducting an initial screening against the selection criteria, and identifying county-level project priorities.
- ii. Collaborate with SCAG to assist SCAG with enhancing FTIP Guideline policies and procedures to ensure federal funding requirements and deadlines are met and funds are not lost to the region.
- iii. Coordinate with project sponsors to provide information to SCAG as needed for OA tracking and reporting in order to ensure OA delivery for the region.
- iv. Assist project sponsors with the oversight of the obligation process and inactive project list for projects within the county.

4. Amendments

No alteration or deviation of the terms of this MOU shall be valid unless made in writing in the form of an MOU amendment and properly executed by the Parties.

5. Indemnification

A Party and its officers shall not be responsible for any damage or liability occurring by reason of anything done or omitted to be done by another Party under or in connection with any work, authority or jurisdiction delegated to that other party under this MOU. It is understood and agreed that each Party shall fully defend, indemnify and save harmless the other Parties, their officers, and employees from all claims, suits or actions of every name, kind and description brought for or on account of any damage or injury occurring by reason of anything done or omitted to be done by the indemnifying Party under or in connection with any work, authority or jurisdiction delegated to the indemnifying Party under this MOU.

6. Independent Contractor

The Parties shall be independent contractors in the performance of this MOU, and not officers, employees, contractors, or agents of each other. The Parties shall maintain sole and exclusive control over their personnel, agents, consultants, and operations.

7. Termination of MOU

A Party may terminate this MOU at any time by giving written notice to the other Parties of such termination at least thirty (30) calendar days before the effective date of such termination. Should one of the CTCs provide written notice to terminate, the remaining CTCs and SCAG may amend the MOU to remove the terminating CTC.

8. Execution

This MOU, or any amendment related thereto, may be executed in multiple counterparts, each of which shall be deemed to be an original, but all of which shall constitute one and the same agreement. The signature page of this MOU or any amendment may be executed by way of a manual or authorized digital signature. Delivery of an executed counterpart of a signature page to this MOU or an amendment by electronic transmission scanned pages shall be deemed effective as a delivery of a manually or digitally executed counterpart to this MOU or any amendment.

9. Effective Date

This MOU shall be effective as of the last date in which the document is executed by the Parties.

10. Entire MOU

This MOU, comprised of these terms and conditions and any properly executed amendments, represents and contains the entire agreement of the Parties with respect to the matters set forth herein. This MOU supersedes any and all prior negotiations, discussions and, if any, previous agreements between the Parties.

11. Authority

The person executing this MOU on behalf of the Parties warrant that they are duly authorized to execute this MOU on behalf of said Parties, and that by doing so the Parties are formally bound to the provisions of this MOU.

IN WITNESS WHEREOF, the Parties have caused this MOU to be executed by their duly authorized representatives as of the dates indicated below:

Southern California Association of Governments

By: _____ Date _____
Kome Ajise, Executive Officer

Imperial County Transportation Commission

By: _____ Date _____
David Aguirre, Executive Director

Los Angeles County Metropolitan Transportation Authority

By: _____ Date _____
Stephanie N. Wiggins, Chief Executive Officer

Orange County Transportation Authority

By: _____ Date _____
Darrell E. Johnson, Chief Executive Officer

Riverside County Transportation Authority

By: _____ Date _____
Anne Mayer, Executive Director

San Bernardino County Transportation Authority

By: _____ Date _____
Raymond W. Wolfe, Executive Director

Ventura County Transportation Commission

By: _____ Date _____
Martin R. Erickson, Executive Director

COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS

74-199 El Paseo Drive, Suite 100, Palm Desert, CA 92260 · (760) 346-1127 · www.cvag.org



December 4, 2023

Anne Mayer
 Executive Director
 Riverside County Transportation Commission
 4080 Lemon Street, Third Floor
 Riverside, CA 92501

Re: RCTC Procedures for Southern California Association of Governments' Corrective Action for Federal Formula Funds

Ms. Mayer,

On December 13, the Riverside County Transportation Commission (RCTC) will be adopting its Procedures for the Southern California Association of Governments (SCAG) 2024 Call for Project Nominations and launching the first round of project nominations for the Region's Carbon Reduction Program and the Congestion Mitigation and Air Quality (CMAQ)/ Surface Transportation Block Grant (STBG) Programs. With this letter, CVAG is requesting an amendment to the proposed Procedures to ensure that the "highly recommended" category is inclusive of the Coachella Valley.

CVAG and RCTC have benefited from a longstanding and productive partnership. This includes working closely together to make critical investments in our region's transportation network and ensuring that residents and visitors can travel safely and efficiently across Riverside County. Our respective roles in this important mission were first outlined in Measure A, which voters first approved in 1988 to create a half-cent sales tax to fund transportation projects and then extended in 2002.

Over the years, RCTC and CVAG have collaborated to secure state and federal funding sources that move projects forward and leverage the use of regional and local Measure A funding. Our agencies have executed several agreements over the years. Earlier this year, recognizing that these agreements did not formalize the processes for all funding sources, RCTC and CVAG inked a new memorandum of understanding (MOU) that addressed a range of funding sources and committed to working together to ensure equitable distribution of state and federal funding across Riverside County.

At the Nov. 27 meeting of RCTC Budget and Implementation Committee, Cathedral City Councilmember Raymond Gregory, the City's RCTC representative, pointed out how the proposed procedures would place Coachella Valley projects 10 points behind RCTC's "highly recommended" projects in western Riverside County. Given the limited funding available through

SCAG for a rather large geographic region, it is our belief that every point will count in this competitive process. It is also critical that projects countywide, not in one subregion, be given similar opportunities.

Based on conversations between our agencies' respective staffs, CVAG is now requesting that the Commission include *"Projects in the Coachella Valley Association of Governments Transportation Project Prioritization Study (TPPS) in California's Local Transportation Climate Adaptation Program (LTCAP)"* as part of the "highly recommended" categories when it adopts the procedures. This will ensure that at least one project from the Coachella Valley can secure the full 50 points this cycle. The Addressing Climate Change, Emergencies and Sand Storms (ACCESS) project on Indian Canyon Drive, which addresses chronic closing of Indian at a low water crossing, is a top regional priority and is poised to secure \$50 million from the LTCAP program. However, more funding is needed for this project to reduce the burden on precious and limited regional and local resources.

Riverside County has great needs for transportation investments, and yet the availability of state and federal funding sources are not keeping pace. We recognize the timing for application in this round of funding is tight. But looking ahead, it is critical that the "highly recommended" category be more inclusive of projects from the Coachella Valley and the Palo Verde Valley/Blythe. The Procedures also must be consistent with how future formula funding is covered under our 2023 MOU, which states *"RCTC and CVAG shall program future distribution of state and federal funding using an agreed upon criteria that ensures the equitable distribution of funds between the Western County and Coachella Valley."* For these reasons, we are requesting RCTC review and revise the Procedures for future funding cycles. It will be vital that Coachella Valley and Palo Verde Valley projects are not starting off with a scoring disadvantage as compared to our counterparts in western Riverside County or across the SCAG region.

Thank you for your consideration of this amendment and your continued partnership. If you have any questions, please don't hesitate to contact me directly at (760) 346-1127 or tkirk@cvag.org.

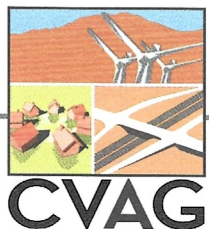
Sincerely,



Tom Kirk

CVAG Executive Director

CC: Desert Hot Springs Mayor Scott Matas, CVAG Chairman
Coachella Mayor Steven Hernandez, CVAG Transportation Committee Chairman



AGENDA ITEM 12

RIVERSIDE COUNTY TRANSPORTATION COMMISSION	
DATE:	December 13, 2023
TO:	Riverside County Transportation Commission
FROM:	Lisa Mobley, Administrative Services Director/Clerk of the Board
THROUGH:	Anne Mayer, Executive Director
SUBJECT:	Election of Riverside County Transportation Commission Officers

STAFF RECOMMENDATION:

This item is for the Commission to:

- 1) Conduct an election of officers for 2024 – Chair, Vice Chair, and Second Vice Chair.

BACKGROUND INFORMATION:

Election of Officers

In accordance with the Administrative Code, the Commission must annually hold an election of officers at its first meeting in December. The changes will be effective on January 1 of the following year. The officers of the Commission shall consist of the Chair, Vice Chair, and Second Vice Chair.

At its October 9, 2013 meeting, the Commission adopted an amendment to the Administrative Code to modify the officer rotation procedure. Rather than requiring the city and county members alternate every year in the officer positions, the new policy requires there be at least one Supervisor and one city councilmember among the three officer positions at all times.

For 2023, Bob Magee served as Chair, Lloyd White as Vice Chair, and Karen Spiegel as Second Vice Chair. For 2024, the Second Vice Chair shall be a regular member of the Commission representing either a city or the Riverside County Board of Supervisors.

Attachments:

- 1) List of Past Commission Chairs
- 2) Administrative Code Excerpt *Election of Chair, Vice Chair and Second Vice Chair*



COMMISSION CHAIRS					
2023					
Bob Magee					
City of Lake Elsinore					
2022	V. Manuel Perez	County of Riverside – District 4	1996	Alex Clifford	City of Riverside
2021	Jan Harnik	City of Palm Desert	1995	Alex Clifford	City of Riverside
2020	Ben J. Benoit	City of Wildomar	1994	Corky Larson	County of Riverside – District 4
2019	Chuck Washington	County of Riverside – District 3	1993	Al Lopez	City of Corona
2018	Dana Reed	City of Indian Wells	1992	Al Lopez	City of Corona
2017	John F. Tavaglione	County of Riverside – District 2	1991	Kay Cenicerros	County of Riverside – District 3
2016	Scott Matas	City of Desert Hot Springs	1990	Kay Cenicerros	County of Riverside – District 3
2015	Daryl R. Busch	City of Perris	1989	Jack Clarke	City of Riverside
2014	Marion Ashley	County of Riverside – District 5	1988	Don Baskett	City of Hemet
2013	Karen Spiegel	City of Corona	1987	Melba Dunlap	County of Riverside – District 2
2012	John J. Benoit	County of Riverside – District 4	1986	Jean Mansfield	City of Riverside
2011	Greg Pettis	City of Cathedral City	1985	Susan Cornelison	Public Member
2010	Bob Buster	County of Riverside – District 1	1984	Susan Cornelison	Public Member
2009	Bob Magee	City of Lake Elsinore	1983	Roy Wilson	City of Palm Desert
2008	Jeff Stone	County of Riverside – District 3	1982	Norton Younglove	County of Riverside – District 5
2007	Terry Henderson	City of La Quinta	1981	Jean Mansfield	City of Riverside
2006	Marion Ashley	County of Riverside – District 5	1980	Donald Schroeder	County of Riverside – District 2
2005	Robin Lowe	City of Hemet	1979	Donald Schroeder	County of Riverside – District 2
2004	Roy Wilson	County of Riverside – District 4	1978	Russell Beirich	City of Palm Springs
2003	Ron Roberts	City of Temecula	1977	Russell Beirich	City of Palm Springs
2002	John Tavaglione	County of Riverside – District 2			
2001	Will Kleindienst	City of Palm Springs			
2000	Tom Mullen	County of Riverside – District 5			
1999	Jack van Haaster	City of Murrieta			
1998	Bob Buster	County of Riverside – District 1			
1997	Bob Buster	County of Riverside – District 1			

EXCERPT FROM THE COMMISSION'S ADMINISTRATIVE CODE, ARTICLE III, SECTION B

B. ELECTION OF CHAIR, VICE CHAIR AND SECOND VICE CHAIR. The Commission annually, at its first meeting in December, and at such other times as there may be a vacancy in either office, shall elect a Chair who shall preside at all meetings, a Vice Chair who shall preside in the absence of the Chair, and a Second Vice Chair who shall preside in the absence of the Chair and the Vice Chair. The Chair, the Vice Chair, and the Second Vice Chair shall be elected by the Commission at its first meeting in December for a one-year term. The changes will be effective on January 1. The election for each position is as follows:

1. At the start of the agenda item, Commission Board members may nominate one or more regular members to fill the positions of Chair, Vice Chair, and Second Vice Chair. Each nomination must be seconded in order to qualify that member for the election. Only those members nominated and seconded shall be part of the selection process set forth below.
2. If no objections are made, the nominations will be closed when the Chair makes a formal announcement closing the nomination period.
3. If only one nomination is received for a position, the Chair shall call on the Commission's Board of Director's to approve the nomination. If more than fifty (50%) percent of the votes cast approve that nominee, the nominee shall be elected and the election for that position shall be consider complete. If the nominee fails to obtain more than fifty percent (50%) of votes cast by the Board, the process for electing a member to the desired position shall begin again from paragraph 1.
4. If two nominations are received for a position, the Chair shall call for the Commission's Board of Director's to cast votes for one of the nominees. Both nominees shall be voted on using a single written ballot. If one of the nominees receives more than fifty percent (50%) of the votes cast, that nominee shall be elected and the election for that position shall be considered complete. If the election fails to result in a nominee with more than fifty percent (50%) of the vote, the nominee with the most votes will be placed before the Commission's Board of Directors for approval. The nominee must be approved by more than fifty percent (50%) of the votes cast by the Board in order to be elected to the desired position. If the nominee fails to obtain more than fifty percent (50%) of the Board's vote, the process for electing a person to the desired position shall begin again from paragraph 1.
5. If there are more than two nominees, the following steps shall be followed in the order set forth below:
 - (a) The Chair shall call for the Commission's Board of Directors to cast votes for one of the nominees. All nominees shall be voted on using a single written ballot. If one nominee receives more than fifty percent (50%) of the votes cast that nominee shall be elected and the election for that position shall be considered complete. If the vote fails to result in a nominee receiving more than fifty percent (50%) of the votes cast, the two nominees with the most votes will be placed in a runoff election.

(b) The winning nominee in the runoff election is selected if that nominee receives more than fifty percent (50%) of the votes cast. In that case, the election for that position shall be considered complete.

(c) If the runoff election fails to result in a nominee with more than fifty percent (50%) of the vote, the nominee with the most votes will be placed before the Commission's Board of Directors for approval.

(d) If the nominee receives more than fifty percent (50%) of the votes cast, the nominee shall be elected and the election for that position shall be considered complete.

(e) If the nominee placed before the Commission's Board of Directors fails to obtain more than fifty percent (50%) of the votes cast, the process for electing a person to the desired position shall begin again from Paragraph 1, above

(f) If there is a tie in any step in the election process and the next step of the process cannot proceed, then one or more tie-breaking votes will occur in which all members of the Commission's Board of Directors present at the meeting will be allowed to vote again. The winning nominee must receive more than fifty percent (50%) of the votes cast to be elected.

At any point the Commission may vote to suspend the vote until a subsequent meeting. If the Chair has been selected prior to the vote to suspend, the new Chair shall be seated when his or her term commences, but shall relinquish his or her seat as the Vice Chair if applicable. If the Chair and Vice Chair have been selected prior to the vote to suspend, the new Vice Chair shall also seated when his or her term commences, but shall relinquish his or he seat as Second Vice Chair, if applicable.

The tally of all votes taken by written ballot hereunder shall be read aloud by the Clerk of the Board immediately following the vote. The written ballots shall be retained by the Clerk of the Board as part of the public record of the meeting.

The Chair, the Vice Chair, and the Second Vice Chair shall regularly alternate between regular members of the Commission representing a city and a regular member of the Commission who is a member of the Riverside County Board of Supervisors. At all times, at least one of three officer slots – Chair, Vice Chair, or Second Vice Chair – shall be held by a member of the Riverside County Board of Supervisors. During the time in which the Chair is a regular member of the Commission representing a city, either the Vice Chair or the Second Vice Chair, or both, shall be a regular member of the Commission who is a member of the Riverside County Board of Supervisors. During the time in which the Chair is a regular Commission member who is a member of the Riverside County Board of Supervisors, either the Vice Chair or the Second Vice Chair, or both, shall be a regular member of the Commission representing a city in order to ensure the participation of both city and county representatives in leadership positions.