

MEETING  
STATE OF CALIFORNIA  
AIR RESOURCES BOARD

ZOOM PLATFORM

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY  
BYRON SHER AUDITORIUM  
1001 I STREET  
SACRAMENTO, CALIFORNIA

THURSDAY, SEPTEMBER 22, 2022

9:05 A.M.

JAMES F. PETERS, CSR  
CERTIFIED SHORTHAND REPORTER  
LICENSE NUMBER 10063

APPEARANCES

BOARD MEMBERS:

Liane Randolph, Chair

Sandra Berg, Vice Chair

John Balmes, MD

Hector De La Torre

John Eisenhut

Senator Dean Florez

Davina Hurt

Gideon Kracov

Tania Pacheco-Werner, PhD

Barbara Riordan

Supervisor Phil Serna

Professor Dan Sperling, PhD

Diane Takvorian

Supervisor Nora Vargas

STAFF:

Steve Cliff, PhD, Executive Officer

Edie Chang, Deputy Executive Officer, Planning, Freight,  
and Toxics

Chanell Fletcher, Deputy Executive Officer, Environmental  
Justice

Annette Hébert, Deputy Executive Officer, Southern  
California Headquarters and Mobile Source Compliance

APPEARANCES CONTINUED

STAFF:

Edna Murphy, Deputy Executive Officer, Internal Operations

Rajinder Sahota, Deputy Executive Officer, Climate Change and Research

Craig Segall, Deputy Executive Officer, Mobile Sources and Incentives

Michael Benjamin, Division Chief, Air Quality Planning and Science Division (AQPSD)

Analisa Bevan, Zero Emission Infrastructure Specialist, Mobile Source Control Division (MSCD)

Yachun Chow, Manager, Zero Emission Truck and Bus Section, MSCD

Ariel Fideldy, Manager, South Coast Air Quality Planning Section, AQPSD

Jing Guo, Air Resources Engineer, Zero Emission Truck and Bus Section, MSCD

Austin Hicks, Air Pollution Specialist, South Coast Air Quality Planning Section, AQPSD

David Hults, Assistant Chief Counsel

Claudia Nagy, Senior Attorney

Lucina Negrete, Assistant Division Chief, MSCD

David Quiros, Chief, Mobile Source Analysis Branch, AQPSD

Randy Reck, Attorney, Legal Office

Anmarie Rodgers, Chief, Compliance Assistance and Outreach Branch, MSCD

Sylvia Vanderspek, Chief, Air Quality Planning Branch, AQPSD

Sydney Vergis, PhD, Division Chief, MSCD

Daniel Whitney, Senior Attorney, Legal Office

APPEARANCES CONTINUED

ALSO PRESENT:

Sarah Aird, Californians for Pesticide Reform

Sylvie Ashford, Natural Resources Defense Council

Daniel Barad, Sierra Club California

Doran Barnes, Foothill Transit

Will Barrett, American Lung Association

Teresa Bui, Pacific Environment

Todd Campbell, Clean Energy

Mary Dateo

Janet Dietzkamei

Sean Edgar, Clean Fleet, Western States Trucking  
Association

Perry Elerts, Leadership Counsel for Justice and  
Accountability

Jessi Fierro, San Joaquin Valley Air Pollution Control  
District

Kyle Gradinger, California Department of Transportation

Michael Hursh, Alameda-Contra Costa Transit

Matthew Jeffers, National Renewable Energy Laboratory

Stephen Jepsen, Southern California Alliance of Public  
Owned Treatment Works

Elizabeth John, California Energy Commission

Michael Kapolnek

Anne Katten, California Rural Legal Assistance Foundation

Kenneth Kelly, National Renewable Energy Laboratory

Ryan Kenny, Clean Energy

APPEARANCES CONTINUED

ALSO PRESENT:

Jane Kilgore, POET

Leah Louis-Prescott, RMI

Bill Magavern, Coalition for Clean Air

Adrian Martinez, Earthjustice

Carolina Martinez, Environmental Health Coalition

Jasmin Martinez, Central Valley Air Quality Coalition

Laurel Moorhead, Transfer Flow

Bruce Naegel, Sustainable Silicon Valley

Brent Newell, Central Valley Air Quality Coalition

Michael Pimentel, California Transit Association

Cynthia Pinto-Cabrera, Central Valley Air Quality  
Coalition

Nicole Rice, California Natural Gas Vehicle Coalition

Mark Rose, National Parks Conservation Association

Laura Rosenberger Haider

David Rothbart, Southern California Alliance of Publicly  
Owned Treatment Works

Jane Sellen, Californians for Pesticide Reform

Alison Torres, Eastern Municipal Water District

Felicia Williams, Foothill Transit

LaDonna Williams, All Positives Possible

Christine Wolfe, California Council for Environmental and  
Economic Balance

INDEX

	<u>PAGE</u>
Call to Order	1
Roll Call	1
Opening Remarks	2
Introduction of New Executive Officer	7
Item 22-12-1	
Vice Chair Berg	11
Executive Officer Cliff	12
Motion	13
Vote	14
Item 22-12-2	
Vice Chair Berg	15
Executive Officer Cliff	17
Kyle Gradinger	21
Elizabeth John	40
Staff Presentation	45
Kenneth Kelly & Matthew Jeffers	57
Michael Pimentel	75
Doran Barnes	81
Felicia Williams	87
Michael Hursh	93
Michael Pimentel	101
Sean Edgar	107
Janet Dietzkamei	110
Carolina Martinez	112
Adrian Martinez	114
LaDonna Williams	116
Todd Campbell	118
Board Member Discussion and Q&A	120
Afternoon Session	156
Item 22-12-3	
Chair Randolph	157
Executive Officer Cliff	159
Staff Presentation	161
Bill Magavern	192
Will Barrett	195
Teresa Bui	198
Daniel Barad	200
Sean Edgar	202
Michael Kapolnek	205
Jane Sellen	208

INDEX CONTINUED

	<u>PAGE</u>
Item 22-12-3 (continued)	
Janie Kilgore	210
Ryan Kenny	212
David Rothbart	214
Adrian Martinez	216
Alison Torres	218
Leah Louis-Prescott	221
Janet Dietzkamei	223
Brent Newell	224
Christine Wolfe	226
Jessi Fierro	229
Mark Rose	232
Sylvie Ashford	234
Sarah Aird	236
Cynthia Pinto-Cabrera	239
Jasmin Martinez	241
Anne Katten	243
Nicole Rice	244
Bruce Naegel	246
Mary Dateo	247
Perry Elerts	248
Stephen Jepsen	251
Laurel Moorhead	252
Todd Campbell	255
Board Discussion and Q&A	257
Motion	282
Vote	282
Public Comment	
Sean Edgar	284
Laura Rosenberger Haider	287
Adjournment	288
Reporter's Certificate	289

PROCEEDINGS

1  
2 VICE CHAIR BERG: Good morning. The September  
3 22nd, 2022 public meeting of the California Air Resource  
4 Board will now come to order.

5 Chair Randolph will be joining us remotely a  
6 little bit later. She is attending the Ministerial Energy  
7 Conference in Pittsburgh and will -- I'll be taking care  
8 of her role and responsibility as needed today.

9 Board Clerk, will you please call the roll.

10 BOARD CLERK GARCIA: Yes.

11 Dr. Balmes?

12 BOARD MEMBER BALMES: Here.

13 BOARD CLERK ESTABROOK: Mr. De La Torre?

14 Mr. Eisenhut?

15 BOARD MEMBER EISENHUT: Here.

16 BOARD CLERK GARCIA: Senator Florez?

17 BOARD MEMBER FLOREZ: Florez, present.

18 BOARD CLERK GARCIA: Assemblymember Garcia?

19 Ms. Hurt?

20 BOARD MEMBER HURT: Present.

21 BOARD CLERK GARCIA: Mr. Kracov?

22 BOARD MEMBER KRACOV: Here.

23 BOARD CLERK GARCIA: Senator Leyva?

24 Dr. Pacheco-Werner?

25 BOARD MEMBER PACHECO-WERNER: Here.



1 BOARD CLERK GARCIA: Mrs. Riordan?

2 BOARD MEMBER RIORDAN: Here.

3 BOARD CLERK GARCIA: Supervisor Serna?

4 BOARD MEMBER SERNA: Here.

5 BOARD CLERK GARCIA: Professor Sperling?

6 BOARD MEMBER SPERLING: Here.

7 BOARD CLERK GARCIA: Ms. Takvorian?

8 BOARD MEMBER TAKVORIAN: Takvorian, here.

9 BOARD CLERK GARCIA: Supervisor Vargas?

10 Vice Chair Berg?

11 VICE CHAIR BERG: Here.

12 BOARD CLERK GARCIA: Chair Randolph?

13 Madam Chair, we have a quorum.

14 VICE CHAIR BERG: Thank you very much. I'll  
15 begin this morning with a few housekeeping items. We are  
16 conducting today's meeting in person, as well as offering  
17 remote options for public participation both by Zoom and  
18 phone. Anyone wishing to testify on a Board item in  
19 person should fill out the request to speak card available  
20 in the foyer, if you're here in person, and in turn  
21 designate to the Board assistant prior to the commencement  
22 of the item. If you are participating remotely, you will  
23 raise your hand in Zoom or dial star nine if calling in by  
24 phone. The clerk will provide further details regarding  
25 how public participation will work in a moment.

1           For safety reasons, for those of us here in the  
2 room, please note the emergency exit to the rear of the  
3 room through the lobby. In the event of a fire alarm, we  
4 are required to evacuate this room immediately and go  
5 downstairs to the left of the elevator and out the  
6 building. When the all-clear signal is given, we will  
7 return to the hearing room and resume the hearing.

8           A closed caption feature is available for those  
9 of you joining us in the Zoom environment. In order to  
10 turn on the subtitles, please look for a button labeled CC  
11 at the bottom of the Zoom window, as shown in the example  
12 on the screen now. I would like to take this opportunity  
13 to remind everyone to speak clearly and from a quiet  
14 location, and may I add, please speak a little bit slowly  
15 as communicating over Zoom sometimes it gets a little bit  
16 garbled.

17           Interpretation services will be provided today in  
18 Spanish. If you are joining using Zoom, there is a button  
19 labeled interpretation on the Zoom screen. Click on that  
20 interpretation button and select Spanish to hear the  
21 meeting in Spanish. If you are joining us here in person  
22 and would like to listen to the meeting in Spanish, please  
23 notify the Board assistants and they will provide you with  
24 further instructions.

25           I want to remind all of our speakers again speak

1 slowly, as it takes the interpreter a little bit to  
2 interpret and they want to make sure to be able to pass on  
3 all the information.

4 (Interpreter translated in Spanish.)

5 VICE CHAIR BERG: Gracias.

6 Now, before we jump into -- oh, I apologize. I  
7 will now ask the Board Clerk to provide more details on  
8 today's procedure. I got a little ahead of myself,  
9 because I'm so excited about my first announcement.

10 Board Clerk.

11 BOARD CLERK GARCIA: Thank you. Good morning,  
12 everyone. My name is Lindsay Garcia and I'm one of the  
13 Board clerks here at CARB. I will be providing additional  
14 information on how public participation will be organized  
15 for today's meeting. We will first be calling on  
16 in-person commenters who have turned in a request-to-speak  
17 card and then we'll be turning to commenters who are  
18 joining us remotely.

19 If you are joining us remotely and wish to make a  
20 verbal comment on one of the Board items or during the  
21 open comment period at the end of today's meeting, you  
22 will need to be using Zoom webinar or calling in by  
23 telephone. If you are currently watching the webcast on  
24 CAL-SPAN, but you wish to comment remotely, please  
25 register for the Zoom webinar or call in. Information for

1 both can be found on the public agenda for today's  
2 meeting.

3           To Make a verbal comment, we will be using the  
4 raise hand feature in Zoom. If you wish to speak on a  
5 Board item, please virtually raise your hand as soon as  
6 the item has begun to let us know you wish to speak. To  
7 do this, if you are using a computer or tablet, there is a  
8 raise hand button. And if you are calling in on the  
9 telephone, dial star nine to raise your hand. Even if you  
10 previously indicated which item you wished to speak on  
11 when you registered, you must still raise your hand at the  
12 beginning of the item, so that you can be added to the  
13 queue.

14           If you will be giving your verbal comment in  
15 Spanish and require an interpreter's assistance, please  
16 indicate so at the beginning of your testimony and our  
17 translator will assist you. During your comment, please  
18 pause after each sentence to allow for the interpreter to  
19 translate your comment into English. When the comment  
20 period starts, the order of commenters will be determined  
21 by who raises their hand first. We will call each  
22 commenter by name and will activate each commenter's audio  
23 when it is their turn to speak. For those calling in by  
24 phone, we will identify you by the last three digits of  
25 your phone number. We will not show a list of remote

1 commenters. However, we will be announcing the next three  
2 or so commenters in the queue, so you are ready to testify  
3 and know who is coming up next. Please note, you will not  
4 appear by video during your testimony.

5 I would also like to remind everyone to please  
6 state your name for the record before you speak. This is  
7 especially important for those calling in by phone to  
8 testify on an item. We will have a time limit for each  
9 commenter and we will begin the comment period with a  
10 three-minute time limit, although this could change at the  
11 Chair's discretion. And during public testimony, you will  
12 see a timer on the screen. For those calling in by phone,  
13 we will run the timer and let you know when you have 30  
14 seconds left and then when your time is up. If you  
15 require Spanish interpretation for your comment, your time  
16 will be doubled.

17 If you wish to submit written comments today,  
18 please visit CARB's send-us-your-comments page or like at  
19 the public agenda on our webpage for links to send these  
20 documents electronically. Written comments will be  
21 accepted on each item until the Chair closes the record  
22 for that Board item. If you experience any technical  
23 difficulties, please call (805)772-2715, so that an IT  
24 person can assist. This number is also noted on the  
25 public agenda.

1           Thank you. I'd like to turn the microphone back  
2 to Vice Chair Berg now.

3           VICE CHAIR BERG: Thank you very much, Lindsay.

4           Before we jump into our first meeting, I am  
5 delighted and I know that Chair Randolph, this is probably  
6 one of the items she would have loved to be able to also  
7 warmly welcome back our new Executive Officer. And when  
8 we say new, it isn't that he is new. He's actually  
9 returning and we're thrilled about that, as he is  
10 jumping -- able to jump right back in to our very  
11 aggressive agenda.

12           So on behalf of the Board, I am thrilled to  
13 recognize Steve Cliff as our new Executive Officer. We  
14 got Steve straight back from the -- his position as  
15 Administrator of the Federal National Highway Safety  
16 Administration, where he was appointed by President Biden  
17 in January of 2021. As many of us know, he has a  
18 distinguished history and career with CARB starting back  
19 in 2008. As one of the original hires and then Office of  
20 Climate Change, where he worked on the first Scoping Plan.  
21 And I have a fun story remembering back to that time,  
22 because as they were educating CARB on cap and -- the CARB  
23 Board on Cap-and-Trade with a series of briefings, I  
24 finally had to go up to Steve and said that it would be  
25 very important for him to hold a personal training for me

1 as Cap-and-Trade for dummies. And so he did a great job  
2 in bringing me up to speed as that market mechanism was  
3 pretty complicated at the time.

4 He eventually headed up the entire climate  
5 program before heading off to the California Department of  
6 Transportation as Assistant Director for Sustainability,  
7 but he came back to CARB in 2016, first as a Senior  
8 Advisor to Mary Nichols, the previous Chair, and then  
9 Deputy Executive Officer for Mobile Sources.

10 We often refer to him as Dr. Steve Cliff because  
11 also he wears many hats, and he brings with him decades of  
12 experience as a scientific researcher, that includes  
13 working as a research professor with UC Davis, Department  
14 of Applied Science, and later with the school's Air  
15 Quality Research Center.

16 And if that isn't enough, he was also Program  
17 Coordinator at the Lawrence Berkeley National Laboratory  
18 Advanced Light Source, a particular accelerator that  
19 generates beams of x-ray lights for scientific research.

20 Steve, we're so pleased to have you back as the  
21 Executive Officer. You are the right choice to implement  
22 the Board's vision during this crucial decade as we move  
23 ahead on our ambitious policies and implementation, and to  
24 tackle this cli -- the State's climate emergency and to  
25 continue prioritizing equity both within CARB's workforce

1 and the communities we serve. Your expertise in  
2 developing programs and incentives to promote  
3 zero-emission vehicles that protect communities from  
4 harmful air pollution and your support for sustainable  
5 transportation and mobility options ensure continued focus  
6 on CARB's equity that delivers low carbon solutions and  
7 they're so badly needed.

8           So on behalf of the Board both in person and  
9 remotely, we want to welcome you and delighted that this  
10 is your first Board meeting. We're delighted to have you.

11           (Applause)

12           EXECUTIVE OFFICER CLIFF: Objection.

13           (Laughter)

14           EXECUTIVE OFFICER CLIFF: Can I -- May I speak?

15           VICE CHAIR BERG: Yes, please.

16           EXECUTIVE OFFICER CLIFF: Thank you.

17           Very flattering and embarrassing. I appreciate  
18 very much. I just want to say I'm thrilled to be back  
19 working for this distinguished Board, and maybe even more  
20 importantly with the amazing staff here at CARB as you all  
21 know. I've been here, as you mentioned, for -- for many  
22 years and this is my third tour of duty. Really happy to  
23 be -- be back among this amazing team and just really  
24 looking forward to getting to work.

25           Thank you.



1           VICE CHAIR BERG: Well. Thank you. And we're so  
2 happy we sent you out for all that training --

3           (Laughter)

4           VICE CHAIR BERG: -- that prepared you for this  
5 moment and time. So again, welcome back.

6           And before we jump into our next -- our first,  
7 actually, agenda item, Board Member Kracov also wanted to  
8 recognize and make a little opening remark.

9           BOARD MEMBER KRACOV: Yes. So tough to follow  
10 that. Congratulations, Steve Cliff. We're so happy to  
11 have you. And just another quick shout-out to our  
12 terrific staff at CARB. I think I saw her sitting next to  
13 the Mr. Cliff. I can't be there today, because I've got a  
14 boot on my broken foot, so I'm Zooming, but I miss you  
15 all.

16           I wanted to congratulate Rajinder Sahota.  
17 Rajinder Sahota just went down to the Mexico Carbon Forum  
18 in Guadalajara in Jalisco and received an received an  
19 award. I've got a little picture of it here. I don't  
20 know if you can -- you can see it --

21           (Laughter)

22           BOARD MEMBER KRACOV: -- but it's a -- a wooden  
23 beautiful award. And it reads, "To Rajinder Sahota, for  
24 her support and commitments in the construction of  
25 Mexico's ETS and carbon pricing initiatives throughout the

1 Americas, September of 2022". So congratulations to her  
2 and for all the groundbreaking, world leading work that  
3 our staff does. The only thing I'll say is next time you  
4 go the Jalisco or Guadalajara, please take some of us  
5 Board members with you.

6 (Laughter)

7 VICE CHAIR BERG: Well, thank you very much for  
8 that Board Member Kracov and congratulations, Rajinder.  
9 So --

10 (Applause)

11 VICE CHAIR BERG: On to our first item. Our  
12 first item on the Agenda is item 22-12-1, consideration of  
13 the research contract with UC Berkeley titled, "Childrens  
14 Health and Air Pollution Study: Standardized Assessments,  
15 Attention and Cognitive in California Kids, or CHAPS:  
16 STACK".

17 BOARD MEMBER BALMES: Madam Chair?

18 VICE CHAIR BERG: Yes.

19 BOARD MEMBER BALMES: Do I have to leave the dais  
20 or just be quiet?

21 CHAIR RANDOLPH: I believe you just get to be  
22 quiet.

23 SENIOR ATTORNEY NAGY: Dr. Balmes, you just  
24 abstain from the vote. You do not have to leave the room.

25 CHAIR RANDOLPH: Thank you for asking. This

1 research contract is an important part of CARB's ongoing  
2 work to expand our analysis of adverse health outcomes  
3 related to air pollution and to provide more comprehensive  
4 information on the expected health benefits of our  
5 regulation and programs, particularly for children.  
6 This -- this item is listed on the agenda today to comply  
7 with Board approval requirements in Government Code  
8 section 1091. Because one of our Board members is a  
9 affiliated with UC Berkeley, Dr. Balmes, he will therefore  
10 abstain from the discussion and the vote.

11 Dr. Cliff, would you please summarize this item?

12 EXECUTIVE OFFICER CLIFF: Thank you, Vice Chair  
13 Berg. In April 2020, CARB adopted Resolution 20-13,  
14 directing CARB staff to expand health analysis  
15 methodologies to provide a more comprehensive analysis of  
16 air pollution impacts. This direction included adding  
17 health endpoints to the methodologies. In response to the  
18 Board direction, this proposed study will develop  
19 statewide concentration response functions to evaluate air  
20 pollution -- air pollutant effects for neurodevelopmental  
21 outcomes in children.

22 The study will also provide methodologies for  
23 economic valuation of the resulting outcomes. This  
24 research will examine health effects in racial and ethnic  
25 subgroups, as well as statewide average effects. Some of

1 the neurodevelopment outcomes to be studied included child  
2 and adolescent standardized test performance, cognitive  
3 skills and attention. The research -- the researchers  
4 will build upon the Children's Health and Air Pollution  
5 Study, known as CHAPS cohorts, an existing CARB funded  
6 projects in the San Joaquin Valley.

7 The information gained through this contract will  
8 support CARB's ability to evaluate the effects of its  
9 policies and programs, including a wide range of public  
10 health benefits. Approval by the Board will authorize  
11 staff to put this contract into place.

12 Thank you.

13 VICE CHAIR BERG: Thank you.

14 Now, we'll hear from the public who have raised  
15 their hands to speak on this item. Will the Board Clerk  
16 please call the first few commenters and, of course,  
17 anybody who is in the room that is also signed up to  
18 speak.

19 BOARD CLERK GARCIA: We have no commenters at  
20 this time.

21 VICE CHAIR BERG: Thank you very much.

22 I will now close the record on this agenda item.  
23 And my fellow Board members we have in front of us motion  
24 to approve. Do I have a motion and a second?

25 BOARD MEMBER DE LA TORRE: Motion to approve the

1 research contract.

2 BOARD MEMBER HURT: Second, Hurt.

3 VICE CHAIR BERG: Thank you so much.

4 Clerk, will you please call the roll.

5 BOARD CLERK GARCIA: Mr. Del La Torre?

6 BOARD MEMBER DE LA TORRE: Aye.

7 BOARD CLERK GARCIA: Mr. Eisenhut?

8 BOARD MEMBER EISENHUT: Aye.

9 BOARD CLERK GARCIA: Senator Florez?

10 Senator Florez?

11 Ms. Hurt.

12 BOARD MEMBER HURT: Aye.

13 BOARD CLERK GARCIA: Mr. Kracov?

14 BOARD MEMBER KRACOV: Yes.

15 BOARD CLERK GARCIA: Dr. Pacheco-Werner?

16 Dr. Pacheco-Werner?

17 Mrs. Riordan?

18 BOARD MEMBER RIORDAN: Aye.

19 BOARD CLERK GARCIA: Supervisor Serna?

20 BOARD MEMBER SERNA: Aye.

21 BOARD CLERK GARCIA: Professor Sperling?

22 BOARD MEMBER SPERLING: Aye.

23 BOARD CLERK GARCIA: Ms. Takvorian?

24 BOARD MEMBER TAKVORIAN: Aye.

25 BOARD CLERK GARCIA: Supervisor Vargas?

1 Vice Chair Berg?

2 VICE CHAIR BERG: Aye.

3 BOARD CLERK GARCIA: Chair Randolph?

4 Madam Chair, the motion passes.

5 VICE CHAIR BERG: Thank you very much.

6 Our next item on the agenda is Item 22-12-2, the  
7 Innovative Clean Transit Program update and comprehensive  
8 review on 2023 program readiness. If you are here with us  
9 in the room and wish to comment on this item, please fill  
10 out a request-to-speak card as soon as possible and submit  
11 it to the Board assistant. If you are joining us remotely  
12 and wish to comment on this item, please click the raise  
13 hand button or dial star nine now. We will call on  
14 in-person commenters first, followed by remote commenters  
15 when we get to the public comment portion of this item.

16 Improving public transit is a key component of  
17 local, regional, and state efforts to combat climate  
18 change, cut air pollution, and reduce vehicle miles  
19 traveled. Public transit is also a critical social  
20 service that provides mobility options for all  
21 Californians. For people who do not have access to an  
22 automobile, such as low-income residents, children, and  
23 disabled, access to affordable and high-quality public  
24 transit is vital for their daily life.

25 To support a cleaner trans -- transportation

1 system, the Innovative Clean Transit Regulation, or ICT,  
2 was adopted in 2018. This regulation will require  
3 California public transit agencies to gradually transition  
4 their bus fleets to zero-emission technologies, with the  
5 goal for full transition by 2040. When the rule was  
6 adopted, the Board asked staff to provide an update on the  
7 program readiness before the first purchase requirement of  
8 the rule.

9 Today, we will hear from our sister State  
10 agencies, staff, the National Renewable Energy Laboratory,  
11 and the California Transit Association, along with several  
12 transit agencies on market readiness and overall support  
13 for clean transit.

14 The Innovative Clean Transit Regulation is part  
15 of our broader strategy to advance zero-emission  
16 technologies and transit buses serve as a beachhead for  
17 heavy-duty vehicle sectors. Transit agencies are the  
18 pioneers here, demonstrating the viability of technology  
19 opportunities like plug-in charging, overhead charging,  
20 and wireless charging for battery electric vehicles, as  
21 well as back-to-back large fleet hydrogen refueling.

22 California was already a leader in zero-emission  
23 bus transition prior to the Innovative Clean Transit  
24 Regulation, and this regulation is now accelerating the  
25 electrification of transit fleets.

1           Statewide transit agencies in collaboration with  
2 their communities are diligently working to promote  
3 cleaner modes of transportation. Earlier this year, Chair  
4 Randolph visited the Antelope Valley Transit Authority to  
5 celebrate their amazing work on converting their entire  
6 bus fleet to 100 percent zero-emission. They are one of  
7 many making this transition.

8           I want to personally thank the transit agencies  
9 for their leadership and partnership. We did go and ask  
10 for you to be the beachhead exam -- leadership example and  
11 you have done that. And we -- the Board and myself we owe  
12 you a debt of gratitude.

13           Dr. Cliff, would you please introduce this item?

14           EXECUTIVE OFFICER CLIFF: Thank you, Vice Chair  
15 Berg.

16           Resolution 18-60 directed staff to provide the  
17 Board with a one-time comprehensive review of program  
18 readiness before the initiation of any zero-emission  
19 bus -- bus purchase requirements under the Innovative  
20 Clean Transit Regulation. Since the adoption of the  
21 Innovative Clean Transit Regulation in 2018, transit  
22 agencies have worked closely with staff to identify  
23 strategies for zero-emission bus deployment. Today, we  
24 have good news to report.

25           There is a lot of momentum in this space. Since



1 this rule was first adopted in 2018, there has been  
2 significant support for market and technology  
3 improvements, including increased legislation, and  
4 enhanced policy, increased amount of State funding,  
5 infrastructure and workforce training programs, increasing  
6 number of Altoona tested buses types and models, more  
7 pilot projects on deploying zero-emissions buses, or ZEBs,  
8 and progress on electric charging and hydrogen fueling  
9 standardization.

10 In addition, as transit agencies gain familiarity  
11 with maintaining and repairing ZEBs, and as replacement  
12 parts or propulsion systems become less expensive and more  
13 readily available from original equipment manufacturers  
14 and other suppliers, there will be additional savings to  
15 fleets.

16 We are glad to be partners with the transit  
17 agencies. The pandemic started in the first year of ICT  
18 implementation. While having to cope with and recover  
19 from the pandemic, the transit community has also made  
20 significant progress in planning deployment and  
21 integrating zero-emission buses into their daily  
22 operation. To date, more than 50 transit agencies, which  
23 account for a quarter of those statewide, have made  
24 zero-emission bus purchases in California. These early  
25 actions provided transit agencies pilot experience before

1 the zero-emission bus purchase requirements start.  
2 Currently, three transit agencies have fully electrified,  
3 including the Antelope Valley Transit Authority, the City  
4 of Artesia, and the City of South Pasadena. Also, at  
5 least two other agencies have replaced about half of their  
6 fleet with zero-emission buses.

7           Staff will continue to work closely with transit  
8 agencies, the California Transit Association, and the  
9 California Association for Coordinated Transportation to  
10 support transit agencies' efforts in complying with the  
11 Innovative Clean Transit Regulation. Transit agencies  
12 have always and will continue to play an important role in  
13 benefiting local communities, improving the State's air  
14 quality, and mitigating climate change through deployment  
15 of the cleanest technologies. CARB staff will continue to  
16 engage with the transit community, bus manufacturers,  
17 zero-emission technology providers, and sister agencies to  
18 advance the deployment of zero-emission buses and to  
19 ensure successful implementation of the Innovative Clean  
20 Transit Regulation.

21           Just as Vice Chair Berg mentioned, based on the  
22 reported data for year 2021, California transit agencies  
23 collectively have 510 zero-emission buses in fleet and an  
24 addition 424 ZEBs on order, which is a total increase of  
25 over 250 zero-emission buses compared to year 2020. These

1 zero-emission buses have also been showcased at CARB's  
2 technology symposium, as well as at our Riverside  
3 headquarters dedication and open house event. The  
4 majority of these buses were funded by the Transit and  
5 Intercity Rail Capital Program and Hybrid and  
6 Zero-Emission Truck and Bus Voucher Incentive Project.

7           This is a great community air protection effort  
8 too. Transit buses are operated in communities where the  
9 air quality is very often a threat to public health. When  
10 Californians see zero-emission buses go through their  
11 local communities, they can see that the technologies are  
12 viable and can enjoy the benefits of these quiet and  
13 smooth bus operations.

14           Today's presentation will include four parts.  
15 The first part will be delivered by our sister agencies,  
16 the California Department of Transportation and the  
17 California Energy Commission. Caltrans will represent  
18 both Caltrans and the California State Transportation  
19 Agency, discussing their critical funding and planning  
20 efforts to support transit. The Energy Commission manages  
21 energy infrastructure incentive for zero-emission  
22 programs. We are grateful to have them here today to talk  
23 about their programs and how their programs could help  
24 shape an innovative clean public transit future.

25           Part two is going to be delivered by the CARB

1 Innovative Clean Transit Program staff and will provide a  
2 program update and information on how the readiness  
3 assessment was prepared.

4 Part three will be delivered by the National  
5 Renewable Energy Laboratory, who serves as the California  
6 Air Resources Board contractor for the program assessment.

7 And the last part of the presentation will be  
8 delivered by the California Transit Association and its  
9 members about this program readiness assessment.

10 I will now introduce Chief Kyle Gradinger --  
11 Gradinger from Caltrans. Mr. Gradinger is -- oversees  
12 Caltrans Division of Rail and Mass Transportation. Kyle  
13 is a visionary leader and a strong partner as we move  
14 towards clean transportation. Kyle is traveling for work  
15 today and will present virtually.

16 Kyle, the floor is yours.

17 (Thereupon a slide presentation.)

18 KYLE GRADINGER: Thank you very much, Dr. Cliff.  
19 Let me -- I'll arrange my screens here very quickly.

20 All right. Good morning, Chair Randolph, Vice  
21 Chair Berg, and members of the California Air Resources  
22 Board. As Dr. Cliff mentioned, my name is Kyle Gradinger  
23 and I am the Chief of the Caltrans Division of Rail and  
24 Mass Transportation. I greatly appreciate the opportunity  
25 to present to you today.

1 Next slide, please.

2 --o0o--

3 KYLE GRADINGER: As you know, there is a strong  
4 link between transportation and climate change. In  
5 California alone, transportation accounts for more than 40  
6 percent of GHG emissions. And broadly, attention is  
7 turning to moving people away from single occupancy car  
8 trips to clean transit and multi-modal options, such as  
9 biking and walking. We need to continue to shift travel  
10 to cleaner and higher capacity modes.

11 We see these trends and needs recognized in  
12 regional transportation plans, in addition to broader  
13 initiatives, like the California Transportation Plan 2050  
14 and the Climate Action Plan for Transportation  
15 Infrastructure. However, transit has had a rough decade.  
16 I won't make no bones about it. Ridership declined 11  
17 percent from 2008 to 2018. And COVID-19, of course,  
18 caused sharper declines after 34 percent of commuters  
19 began working from home among other disruptions in the  
20 past two and a half years. Many agencies lost more than  
21 half of their ridership and some agencies lost more than  
22 90 percent of their ridership.

23 And we're beginning to see recovery. Some areas  
24 weaker than others, but we are optimistic about the future  
25 of that recovery. And nationwide, there are still funding

1 issues. U.S. transit agencies as a -- as a whole are  
2 seeing a funding shortfall of \$48.8 billion, even after  
3 \$25 billion in federal infusions during the pandemic.

4 Next slide, please.

5 --o0o--

6 KYLE GRADINGER: Shifting back to transit  
7 vehicles and zero-emission technologies in particular.  
8 First, I must say that we applaud CARB's bold actions to  
9 reduce transportation sector emissions at Caltrans. In  
10 particularly, the recent decision to require all new cars  
11 to be zero-emission by 2035 is incredibly bold. This will  
12 bring substantial benefits and much needed climate relief.

13 In terms of transit, CARB's Innovative Clean  
14 Transit Rule has truly set the course for zero-emission  
15 transit by 2030. Together, Caltrans, CARB, and our State  
16 agencies are investing both money and expertise in  
17 accelerating the zero-emission transition.

18 There are two noteworthy programs that we  
19 administer in Caltrans with GGRF funding, the Transit and  
20 Intercity Rail Capital Program and the Low Carbon Transit  
21 Operations Program. The Transit and Intercity Rail  
22 Capital Program just awarded its fifth cycle of projects  
23 this July. Under TIRCP, 91 zero-emission buses have been  
24 procured and another 663 ZEBs are in the pipeline  
25 representing \$1.2 billion of Cap-and-Trade and SB 1

1 investment. Under LCTOP, Caltrans and our parent agency  
2 CalSTA have supported the procurement of 685 zero-emission  
3 buses across 68 agencies.

4 We also work closely with other State agencies,  
5 specifically CARB, the California Energy Commission, the  
6 Governor's Office of Business and Economic Development,  
7 and others to advance the state of the art for battery  
8 electric and hydrogen fuel cell buses and trains in  
9 California. This Zero-Emissions Heavy Transport Working  
10 Group, or ZEHTrans, has become a forum for technology  
11 research and information sharing with partners from  
12 industry, academia, and across the globe.

13 Together with CARB, our joint A team supports  
14 transit operators, primarily small urban and rural  
15 operators by providing technical support for their  
16 transition efforts. And Caltrans and CARB have also been  
17 conducting quarterly executive check-ins over the past few  
18 years that allow us to -- to meet and create opportunities  
19 to share current, relevant projects, grant funding  
20 opportunities, updates on regulations, best practices, and  
21 lessons learned.

22 The innovations coming out of these working  
23 groups and our partner agencies -- I'm sorry, next slide,  
24 please.

25 --o0o--

1           KYLE GRADINGER: -- have already begun having a  
2 significant impact. Using over \$400 million from the FY  
3 21-22 State budget, Caltrans is implementing a program to  
4 advance research and development efforts for zero --  
5 zero-emission intercity trains and long distance buses,  
6 which is a current gap in the product offering of bus  
7 manufacturers.

8           The fruits of these efforts have ripened  
9 substantially just this week. On Tuesday, the first  
10 hydrogen fuel cell train from North America was unveiled  
11 at the InnoTrans Trade Fair in Berlin. That train, funded  
12 by TIRCP and supported our agencies and -- will be heading  
13 to San Bernardino County to operate on the Redlands rail  
14 service extension. And later that same day, CalSTA and  
15 Caltrans signed a Memorandum of Understanding to build on  
16 the knowledge gained on the Redlands Rail Project and to  
17 di -- to pursue a contract to procure additional longer  
18 distance hydrogen fuel cell trains that will run in the  
19 Central Valley by 2026. And just yesterday, I presented  
20 Caltrans Zero-Emission Intercity Rail Strategy to an eager  
21 audience at the annual meeting of the American Association  
22 of State Highway and Transportation Officials Rail  
23 Committee.

24           Next slide, please.

25                           --o0o--



1           KYLE GRADINGER: So zero-emission technology is  
2 an important factor in reducing GHG emissions from  
3 transportation, but we also need to do more to shift  
4 travel to high-capacity modes. Simply put, we need more  
5 zero-emission buses carrying more people and we need to  
6 prioritize transit. I focused on the technology so far,  
7 but transit systems must also be accessible, connected,  
8 and equitable if we are to attract more trips. I will now  
9 discuss four strategy areas that Caltrans is working on to  
10 support clean transit growth.

11           Next slide, please.

12                           --o0o--

13           KYLE GRADINGER: The first strategy is to  
14 increase how well transit provides access. Access has  
15 many components, but primarily increasing access is about  
16 making it easier to get between origin and destination  
17 pairs. And analyzing access considers many things, where  
18 does transit go? Is serving the most trips possible? How  
19 quick and frequent is it? How reliable is it? How  
20 affordable is it?

21           The California Integrated Travel Program is  
22 working to reduce barriers to payment and trip planning.  
23 Price and payment can be some of the most significant  
24 barriers that we see. We need to make paying for transit  
25 as easy as paying for a cup of coffee. We also need to

1 simplify the process for qualifying for discounts.  
2 Pursuing the mobility wallet concept, CalITP is working to  
3 make it easier for travelers to receive discounts by  
4 delivering mobility benefits to the people who need them  
5 quickly and automatically.

6 In addition, we are looking at how to expand  
7 transit coverage statewide. Caltrans Office of  
8 Sustainability and the California Integrated Travel  
9 Program are leading research to understand how useful  
10 transit is today and developing tools to increase transit  
11 access. These tools can be integrated into future project  
12 selection processes. And this is a way to ensure that  
13 CARB- and GGRF-funded projects create strong access that  
14 encourages more ridership.

15 We're also looking at how using those tools we  
16 can expand transit coverage. Much of California is  
17 inaccessible by transit and we are working on several  
18 studies to fill transit serve -- transit coverage gaps,  
19 primarily in rural and intercity markets.

20 And we can't forget about access to transit.  
21 Access and egress modes, first, last mile, walking and  
22 biking, park and ride, can greatly impact how accessible  
23 transit is. We must do more to make it safe, convenient,  
24 and attractive to walk and bike to transit. And that's an  
25 area where Caltrans will have a great -- a great role to

1 play with the infrastructure that we own making it safer  
2 to get to transit.

3 Next slide, please.

4 --o0o--

5 KYLE GRADINGER: The second strategy is to  
6 modernize and prepare for interoperability. As I  
7 mentioned earlier, we want to streamline eligibility  
8 verification for benefits, that -- making it easier for  
9 people to -- to get the benefits that are offered to them  
10 without having to go through rigorous processes to do so.  
11 We want to simplify trip planning through standardized  
12 transit schedules providing infrastructure investments to  
13 make it easier to bring trains and buses together and  
14 offer quick platform -- cross-platform transfers to go  
15 from one agency to another or one service to another and  
16 expand the realm of where transit can take you. And we  
17 want to also make sure that that information is in user's  
18 hands using a GTFS standard to ensure that when you open  
19 Google maps or whatever you may have on the phone in your  
20 pocket, that you see what transit is available to you and  
21 where it can take you. We also want to increase data  
22 analytics using revenue, ridership, performance, and  
23 payment information to manage the network and to plan for  
24 improvements.

25 Next slide, please.

1                   --o0o--

2                   KYLE GRADINGER: The third strategy is to  
3 prioritize transit operations. The average speed of  
4 transit buses in California fell from 15 to 12 miles per  
5 hour from 2012 to 2018. In order to make transit more  
6 active, we also need to increase average bus speeds. We  
7 are looking at ways to improve transit service on the  
8 State highway network using data analysis and considering  
9 capital improvements that can speed up buses.

10                  During the pandemic, we worked with the SFMTA to  
11 make pandemic bus lanes permanent. Muni's average bus  
12 speed is 9.5 miles per hour. And when Muni came to us, we  
13 gladly looked at the opportunity to collaborate to speed  
14 up bus services on the State Highway system in the city.  
15 There are countless opportunities across the state to do  
16 more to speed up the bus.

17                  The graphic on the left shows the information  
18 that we are collecting through the GTFIS Program that I  
19 mentioned in the previous slide, and how we can use that  
20 information to pinpoint those places in the network where  
21 we're slowing down buses and making them less attractive.

22                  And finally, next slide, please.

23                   --o0o--

24                  KYLE GRADINGER: The fourth strategy is to  
25 streamline funding, and awards, and grant administration.

1 Funding is the life blood of transit programs and  
2 complicated funding processes make project development and  
3 management all the more difficult. We can streamline  
4 funding and project selection workflows.

5           On the administrative front, we are working on  
6 ways to streamline funding processes beginning with a  
7 consolidated application, or ConApp, for the transit  
8 programs that we administer at Caltrans. We also want to  
9 look at opportunities to stack funding sources.

10           At Caltrans, we manage multiple funding sources  
11 for transit, more than a dozen federal and State programs  
12 and we need to make it clearer to transit agencies what  
13 funds are stackable. We like CALSTART's funding finder  
14 and we would love to try to work to improve some --  
15 improved that -- on that model. We want to start small,  
16 maybe identify some of the top funding sources here at  
17 Caltrans and work with CALSTART and others, such as those  
18 who work with HVIP, and hopefully build a tool that will  
19 make it easier for transit agencies to understand the  
20 funding opportunities available to them.

21           And finally, we can apply those access, equity,  
22 and performance tools that I described earlier to project  
23 selection processes. This will enable -- enable faster  
24 analysis and improved project outcomes that help transit  
25 achieve its full potential for everyone's benefit.

1 Next slide, please.

2 --o0o--

3 KYLE GRADINGER: Finally, we want to continue the  
4 strong collaboration between CARB, Caltrans, other State  
5 agencies and other partners to accelerate growth in  
6 transit. Transit capital projects are big and  
7 complicated, and one-off -- one-off programs don't do the  
8 trick. We must make a commitment to provide secure  
9 adaptable programs and create tools for stacking to make  
10 it clearer to agencies what funds can be combined and how  
11 to do so. And we need a family of investments to fund  
12 projects that will get more people onto transit.

13 Second, pilots are great to prove and test, but  
14 we also need to know when to determine success and to  
15 scale them and require new requirements.

16 And then finally, the most impactful and lasting  
17 work requires looking at the big picture and understanding  
18 how all of our goals at our State agencies interact to  
19 support each other. So for example in the coming weeks,  
20 Caltrans will be collaborating with CARB on the Scoping  
21 Plan. We look forward to using meetings such as these as  
22 the jumping off point for our agencies to align on bigger  
23 picture values. I appreciate the opportunity to speak to  
24 you today.

25 Thank you very much.

1 EXECUTIVE OFFICER CLIFF: Mr. Gradinger is  
2 traveling today...(technical difficulties.)

3 VICE CHAIR BERG: Can I just double check online  
4 here. So, yes, I just have one question. Thank you so  
5 much for this comprehensive review for us. I was just  
6 wondering in -- on your strategies, if you could also just  
7 speak a little bit on your Strategy 1 and safety, and  
8 in -- increased accessibility from also a safety  
9 perspective, because I understand that is also a barrier.

10 KYLE GRADINGER: Thank you. That's a great  
11 question. And when I think of safety, I think of two  
12 aspects, one is physical safety and the other is -- is  
13 sort of a personal safety or security. And so I think  
14 that first is -- and Dr. Cliff freshly returned from the  
15 National Highway Traffic Safety Administration. I look  
16 forward to -- to working with you and -- and our Chief  
17 Safety Officer at Caltrans, Rachel Carpenter would love to  
18 work with you directly.

19 You know, transit is an incredibly safe mode of  
20 transportation. But getting to transit, walking and  
21 biking can be an incredibly unsafe mode depending on the  
22 location or the situation. And so we need to make sure  
23 that -- that the infrastructure is physically safe and  
24 accommodating for all users, whether you're on foot, in a  
25 wheelchair, on a bicycle.

1           And then in terms of personal security or safety,  
2 the -- the environment and how safe someone feels or is it  
3 can also be a major detriment. I've seen some fantastic  
4 studies across the state looking at how different user  
5 groups feel about their walk to transit and what their  
6 risks are in terms of crime and other personal security  
7 issues. And that's something that we can address through  
8 multiple different means, including physical  
9 infrastructure design and other methods, but those are  
10 certainly areas where we need to continue to make it  
11 easier and safer to get to transit to make it more  
12 attractive.

13           VICE CHAIR BERG: Well, thank very much. You've  
14 done so much work. It's really impressive hearing your  
15 report. It also will be, I think, important to be able to  
16 start getting information out to our communities, because  
17 often we have opinions about things on past experiences,  
18 rightfully so. And as we change and become both more  
19 accessible in all the ways that you outlined and to get  
20 that information out to communities will be really  
21 important.

22           Hey, thanks so much for joining us this morning  
23 and safe travels.

24           KYLE GRADINGER: Thank you.

25           EXECUTIVE OFFICER CLIFF: Vice Chair Berg, I see



1 Supervisor Vargas hand raised.

2 VICE CHAIR BERG: Supervisor Vargas.

3 BOARD MEMBER VARGAS: Hi. Thank you so much. I  
4 had -- just had a quick question, but I think he's gone  
5 now, because I know that one of the items is reducing  
6 barriers to payment. But I think it's not just reducing  
7 barriers to payment, it is actually looking at costs from  
8 different areas. I know that we in San Diego have been  
9 very proud of leading the efforts to make sure that we  
10 have no con -- no cost transit for youth under 18 and  
11 we're working on trying to get it to 24. And it has  
12 really changed the ridership and the amount of people who  
13 actually are using transit.

14 So I'm really interested in -- and I really  
15 appreciate the presentation and the fact that CARB and  
16 Caltrans are going to be working together on this, but  
17 I -- I would like to encourage also maybe the opportunity  
18 to work with the different entities locally, like in our  
19 county with SANDAG, to make sure - and Caltrans of  
20 course - to make sure that we are gathering this data, and  
21 that we use it to really think about how we're going to  
22 increase ridership for -- for our communities, and then  
23 making sure that it's part of the access protocols, and,  
24 of course, all of the other things that -- that we're  
25 mentioned before.

1           But I am -- I really appreciated again the  
2 presentation, but I want to make sure that cost is --  
3 continues to be a priority, especially in our communities  
4 where, you know, transit is still super expensive. And so  
5 I wanted just to make sure that -- that it continues to be  
6 part of the -- the discussion and that, as a state, we  
7 really begin to think about, if we are going to meet our  
8 goals, then we need to start thinking about this as -- as  
9 investing in our communities when we make sure that we  
10 provide no-cost transit as well.

11           So thank you.

12           VICE CHAIR BERG: Thank you, Supervisor Vargas.  
13 I apologize. I jumped the gun and I do believe that he's  
14 off the line, so we will circle back.

15           BOARD MEMBER VARGAS: No worries.

16           KYLE GRADINGER: I'm available, if you can hear  
17 me.

18           VICE CHAIR BERG: Oh, you are. Great. Thank  
19 you.

20           KYLE GRADINGER: My apologies. I went too -- to  
21 quick with the camera button.

22           Thank -- thank you, Board Member Vargas for  
23 that -- that point. I'll just mention that the Low Carbon  
24 Transit Operations Program over the last few years has  
25 supported a -- one of the more popular applications for

1 that program has been for free and reduced fare programs.  
2 And we are monitoring what's happening globally in terms  
3 of free and reduced fares. I'm traveling in Kansas City  
4 today, and the downtown street car is free. And I think  
5 that just not having to worry about payment has made it so  
6 that many of the other people at this conference where I  
7 am, have the confidence to go and explore and have access  
8 beyond the conference site. But we're very interested  
9 in -- in what those trends are, but I think that other  
10 speakers today, such as perhaps the California Transit  
11 Association, could perhaps dive more into the economic  
12 details. But we see these trends statewide, and  
13 nationally, and internationally, and I think it's  
14 absolutely something worth exploring how free and reduced  
15 fare transit provide accessibility.

16 BOARD MEMBER VARGAS: Thank you.

17 VICE CHAIR BERG: And we have one more commenter  
18 and that is Board Member Hurt.

19 BOARD MEMBER HURT: Thank you. Since I heard he  
20 returned, I thought I would go ahead and get my question  
21 in really quickly.

22 As it relates to the current working groups that  
23 you spoke about earlier, I was wondering if you could  
24 expand on their conversations with regards to the  
25 conversion to zero-emission. I think it's going to be

1 absolutely essential, especially for small transit  
2 organizations to communicate, and collaborate, and just  
3 harmonize regularly. And I was just hoping you could talk  
4 a little bit about what the plan is to keep everybody  
5 discussing how it is to implement and just what are the  
6 best practices in this conversion.

7           KYLE GRADINGER: Thank you. That's another great  
8 question. I don't want to make it appear that Caltrans  
9 has -- corners the market on -- on this research. We've  
10 convened partners to work on some of these issues, but  
11 there are great efforts being led across the state from  
12 transit agencies, to academic institutions, and other  
13 nonprofits, but I think that there is an incredibly strong  
14 and healthy discussion going on among all partners, you  
15 know, and again because of the Innovative Clean Transit  
16 Rule, you know, lighting the first under all of us to get  
17 this done.

18           So we -- we work through groups like the  
19 Zero-Emission Heavy Transport Group to encourage  
20 discussion and bring ideas to the table. That group is  
21 primarily involved with State agencies and technology, but  
22 I think that perhaps that's something we could work on  
23 together is consolidating the resources and bringing  
24 together all of the great work that's being done by groups  
25 across the state, so that there's some constant updated

1 information on opportunities and support for the smaller  
2 transit agencies to make sure that everybody knows what's  
3 the -- the -- the latest and greatest thinking and what  
4 the opportunities are. And we'd be happy to support that.

5 BOARD MEMBER HURT: That's great. I appreciate  
6 that. Thank you.

7 VICE CHAIR BERG: Thank you. Thank you, Board  
8 Member Hurt.

9 And our last commenter from the Board I believe  
10 will be Ms. Pacheco-Werner.

11 BOARD MEMBER PACHECO-WERNER: Hi. Thank you. I  
12 wanted to just learn a little bit more about any  
13 strategies that are happening at the -- at that level to  
14 incentivize municipalities for, you know, faster  
15 implementation, particularly in places where transit --  
16 you know, public transit may not be an investment  
17 priority, what -- you know, how do we help incentivize  
18 getting those people there, and if there's been -- if you  
19 could speak -- and I'm thinking about in terms of the San  
20 Joaquin Valley, but I also know that there's other places  
21 that have more challenges in terms of the virality as  
22 well.

23 KYLE GRADINGER: Thank you.

24 One suggestion is that, you know, the tools that  
25 we're developing to measure access I think can be very eye

1 opening. And I hope that we'll be able to roll these  
2 tools out broadly to municipalities and RTPAs, and MPOs,  
3 and transit agencies. And I think just enhanced  
4 discussion with them and showing municipalities what the  
5 opportunity lost is that -- that if they're putting  
6 resources today into transit and not achieving the  
7 ridership that they would hope, perhaps looking at the  
8 performance and the access created by their transit  
9 agencies may help them realize the opportunities that are  
10 left on the table or ways to spend existing money more  
11 efficiently. So that's certainly something where we at  
12 Caltrans would love to -- to engage and always discussions  
13 with Caltrans district offices, we are open to ideas and  
14 look forward to discussions with -- with locals.

15 VICE CHAIR BERG: Well, thank you very much. We  
16 really, really appreciate your participation and  
17 willingness to engage with us this morning and we'll turn  
18 it back over to Dr. Cliff.

19 KYLE GRADINGER: Thank you.

20 EXECUTIVE OFFICER CLIFF: Thank you, Vice Chair  
21 Berg. Kyle, thank you very much for the input and  
22 partnership. Have a safe trip.

23 Now, I want to introduce Ms. Elizabeth John. Ms.  
24 John is the Office Manager of the Medium- and Heavy-Duty  
25 Zero-Emission Technologies Office at CEC. Elizabeth is

1 also presenting virtually.

2 Elizabeth, the floor is yours.

3 (Thereupon a slide presentation.)

4 ELIZABETH JOHN: Good morning, Vice Chair Berg  
5 and Board members. My name is Elizabeth John and I'm the  
6 Manager of the Medium- and Heavy-Duty Zero-Emission  
7 Technologies Branch with the California Energy Commission.  
8 Thank you for having me here today to discuss the  
9 California Energy Commission's incentive funding for  
10 zero-emission transit bus infrastructure.

11 Next slide, please.

12 --o0o--

13 ELIZABETH JOHN: As the State lead for ZEV  
14 infrastructure, the CEC administers the Clean  
15 Transportation Program, which provides up to \$100 million  
16 per year for projects that reduce greenhouse gas emissions  
17 within the transportation sector. In the past two years,  
18 the CEC has announced funding awards for over \$40 million  
19 in transit funding to projects and communities that can  
20 immediately accrue health, environmental, and economic  
21 benefits from these investments.

22 This included funding for three hydrogen  
23 refueling projects and four electric charging projects to  
24 support more than 300 new zero-emission transit buses,  
25 which will demonstrate large-scale infrastructure

1 deployments and provide best practices and key lessons  
2 learned for future replicability at other transit  
3 agencies.

4 Funding also included awards for two innovative  
5 charging solutions projects, which will demonstrate a  
6 wireless inductive charging system and an automated  
7 inverted pantograph to be used in transit bus  
8 applications.

9 Finally, the CEC has supported transit efforts to  
10 prepare for ZEV transitions through blueprint planning  
11 funding, which allow fleets to analyze their needs and  
12 future approve their fleets and infrastructure.

13 Next slide, please.

14 --o0o--

15 ELIZABETH JOHN: Additionally, in the past two  
16 budget cycles, Governor Newsom strengthened California's  
17 commitment to a clean energy future by approving funding  
18 that prioritizes diesel emission reduction in medium- and  
19 heavy-duty vehicles. While this slide shows the funding  
20 from the Budget Act of 2021, the CEC has been allocated  
21 nearly \$230 million total over the next five years  
22 earmarked specifically for zero-emission transit bus  
23 infrastructure.

24 I would like to note that information regarding  
25 fiscal year 22-23 and 23-24 budget funding on this slide



1 is outdated and does not match the budget most recently  
2 funded by Governor Newsom.

3 Next slide, please.

4 --o0o--

5 ELIZABETH JOHN: With this funding, the CEC is  
6 coordinating closely with the California Air Resources  
7 Board and other State agencies to partner funding to  
8 produce holistic transit projects and provide a seamless  
9 experience for grantees wishing to invest in both ZEVs and  
10 infrastructure. The CEC recently launched a block grant  
11 project called EnergIIZE Commercial Vehicles, which is  
12 implemented by CALSTART. This project provides financial  
13 incentives to increase the deployment of commercial  
14 zero-emission medium- and heavy-duty vehicle  
15 infrastructure.

16 This project is expected to complement vehicle  
17 incentive programs, such as HVIP, with necessary  
18 infrastructure, and offer a streamlined process for  
19 application. Currently, EnergIIZE has up to \$276 million  
20 in funding for infrastructure incentives to support all  
21 MD/HD vehicle types, including zero-emission transit  
22 buses.

23 Over the next year, CALSTART will work with the  
24 CEC to develop strategies for future funding, including a  
25 specific carve-out lane for transit bus zero-emission

1 infrastructure.

2 Next slide, please.

3 --o0o--

4 ELIZABETH JOHN: The CEC is also supporting  
5 workforce development and training in the transit sector.  
6 The CEC with early ZEV adopter transit agencies have  
7 already begun the investment and preparatory work for the  
8 ZEV transition. Under the ideal ZEV workforce pilot  
9 project, ZEV transit bus training will be provided to  
10 transit agencies over the next two years, and a ZEV  
11 transit bus program will be established at eight high  
12 schools throughout the state.

13 The CEC, in partnership with other State  
14 agencies, will continue to listen and learn from the  
15 transit agencies on the workforce needs and provide  
16 support where needed.

17 Next slide, please.

18 --o0o--

19 ELIZABETH JOHN: Lastly, I would like to briefly  
20 touch on the planning assessments that CEC conducts to  
21 inform investments and to prepare the state for widescale  
22 zero-emission vehicle adoption. First, we published the  
23 AB 2127 report, which analyzes charging needs for all  
24 vehicle types and other elements of planning, operating,  
25 and financing charging infrastructure.

1           Second, we published the SB 1000 report, which  
2 assesses whether plug-in electric vehicle charging  
3 infrastructure is disproportionately deployed by  
4 population density, geographical area, or population  
5 income level. The CEC's analysis projects that more than  
6 157,000 chargers will be needed to support 180,000 medium-  
7 and heavy-duty vehicles anticipated for 2030.

8           But the agencies of CEC, the CPUC, and CARB are  
9 working together to address barriers through early  
10 planning. And CEC staff are working with utilities to  
11 understand how to help prepare the grid for the load and  
12 what the costs may be.

13           Next slide, please.

14                           --o0o--

15           ELIZABETH JOHN: Furthermore, to inform our  
16 hydrogen refueling infrastructure investments, we also  
17 conduct complimentary assessments. AB 8 requires annual  
18 review and reporting by the CEC and CARB to describe the  
19 investment, planning, development, and, use of hydrogen  
20 refueling stations to support fuel cell electric vehicles  
21 in California.

22           The CEC will also be conducting a new report  
23 under Senate Bill 643. This report will be a statewide  
24 assessment of the fuel cell electric vehicle  
25 infrastructure, fuel production, and distribution needed

1 to meet California's zero-emission truck, bus, and  
2 off-road vehicle goals as set in Executive Order N-79-20,  
3 as well as any CARB regulation that requires or allows  
4 zero-emission heavy-duty and off-road vehicles.

5 Next slide, please.

6 --o0o--

7 ELIZABETH JOHN: I will end by saying these  
8 investments put us in a good position to reach  
9 zero-emission operations for transit buses. We at the CEC  
10 are committed to continue to collaborate and coordinate  
11 with CARB to support transit fleets with infrastructure  
12 investments.

13 Thank -- thank you for your time today.

14 EXECUTIVE OFFICER CLIFF: Thank you, Ms. John.

15 I will now Ask Dr. Jing Guo of CARB's Mobile  
16 Source Control Division to begin the staff presentation  
17 (Thereupon a slide presentation.)

18 MSCD AIR RESOURCES ENGINEER GUO: Thank you, Dr.  
19 Cliff. Good morning, Vice Chair Berg and Board members we  
20 are here today to provide an update on the Innovative  
21 Clean Transit Regulation, along with the results from a  
22 comprehensive review that assesses program readiness.

23 The review is conducted by the National Renewable  
24 Energy Laboratory. For today's presentation, I will  
25 provide an overview on the important role that transit

1 agencies play in addressing climate change. The key  
2 components of the Inno -- Innovative Clean Transit  
3 Regulation, the status of its implementation, and some key  
4 findings of NREL's assessment. NREL will follow my  
5 presentation with technical details.

6 --o0o--

7 MSCD AIR RESOURCES ENGINEER GUO: Public transit  
8 serves as a key component of local, regional, interstate  
9 efforts involving combating climate change. It also  
10 provides basic mobility to individuals that do not have  
11 access to personal vehicles or are unable to drive.  
12 Public transit is a backbone of a multi-modal  
13 transportation system with the goal to reduce dependence  
14 on personal vehicles.

15 With involving world public transit also evolves  
16 to meet changing community needs and identify ways to  
17 increasing ridership. Since public transit is integrated  
18 with urban form and infrastructure, it can be affected by  
19 a variety of factors. Therefore, solutions to better  
20 serving the communities are not limited to what transit  
21 agency can do, rather the solutions should incorporate  
22 urban development that is pedestrian and bicycle friendly,  
23 and closely integrated with public transit, so housing  
24 jobs and services are within proximity of public transit  
25 hubs.

1           We know transits agencies strive to provide the  
2 best service possible, which requires strategic investment  
3 in not only their operations, but also ensuring they have  
4 the infrastructure, capital, and the cleanest  
5 transportation options available.

6                               --o0o--

7           MSCD AIR RESOURCES ENGINEER GUO: For this  
8 reason, transit agencies spearhead and accelerate the  
9 benefits of the zero-emission technology. Transit buses  
10 are also operated in congesting -- congested areas where  
11 pollution is already a problem. Reducing tailpipe  
12 emissions, such as soot, particular matter, and nitrogen  
13 oxides has an immediate and a direct health benefit on  
14 local communities. Zero-emission buses also provide  
15 affordable clean transportation for everyone. This is  
16 especially important for the transit-dependent rider,  
17 because often these riders are from low-income and a  
18 disadvantaged community. And otherwise, they may not  
19 experience zero-emission vehicles.

20           Other benefits also include much better fuel  
21 efficiency and high quality job opportunities. Examples  
22 are the community benefits agreements of BYD and Proterra  
23 with Jobs to Move America to support the creation of  
24 robust job programs, especially for the priority  
25 population, such as veterans and returning citizens who

1 face significant barriers to employment, transit agencies  
2 utilizing zero-emission buses to make them true partners  
3 in helping State in meeting climate and air quality goals.

4 --o0o--

5 MSCD AIR RESOURCES ENGINEER GUO: Not only do  
6 zero-emission buses provide community in the rider  
7 benefits, but we're looking to them to serve a beachhead  
8 for many heavy-duty applications. The zero-emission bus  
9 deployment experience can demonstrate reliability of the  
10 technology. It is a critical first step in transitioning  
11 California's heavy-duty fleet to zero-emission. The  
12 experience gained from implementation of the ICT  
13 regulation and that deployment can also serve a model for  
14 other states wanting to achieve zero-emission fleet  
15 transition goals.

16 Early deployment of ZEVs also leads to the  
17 deployment and approval of various -- various charging and  
18 fueling standards, which will benefit and promote the wide  
19 deployment of ZEVs.

20 --o0o--

21 MSCD AIR RESOURCES ENGINEER GUO: For these  
22 reasons, CARB adopted the ICT Regulation in 2018. In  
23 partnership with transit, we crafted a rule that would  
24 serve as a lynchpin for zero-emission fleet  
25 transformation. The ICT Regulation utilizes a phase-in

1 approach with the ultimate goal of full transition to  
2 zero-emission technology by 2040. There were three major  
3 elements to this rule. There was an early action bus  
4 purchase target that if met would delay or discharge the  
5 first purchase requirement. It also requires that every  
6 transit agency submit a rollout plan that would serve as  
7 the blueprint for how a transit agency could transition to  
8 an all zero-emission bus fleet by 2040 without having to  
9 retire their vehicles earlier.

10 And the rule indicates flexibility compliance  
11 options that has bonus credits for early purchases,  
12 mobility options, and allows for joint groups. It also  
13 provides several safeguard exemptions for circumstances  
14 like range or bus unavailability. The innovative and  
15 groundbreaking nature of this regulation was of critical  
16 importance when adopted. As a contingency of adoption,  
17 the Board directed staff to monitor implementation and  
18 program readiness to ensure there was a smooth transition  
19 for transit agencies.

20 With that as background, I will now describe the  
21 details of the ZEB purchase schedule.

22 --o0o--

23 MSCD AIR RESOURCES ENGINEER GUO: This regulation  
24 phases in fleet purchases requirements. The first  
25 requirements apply only to large transit agencies and



1 their standard buses and then slowly ramp up to include  
2 everyone else.

3 Other types of buses and small transit agencies  
4 will not be phased in until 2026. This approach provides  
5 transit ample time to learn, plan, and carry out a smooth  
6 transition. This is of special importance for small  
7 transit agencies, since they have limited resources.  
8 Beginning in 2029, all purchases must be new zero-emission  
9 buses. Bonus credits are available for early purchases.

10 --o0o--

11 MSCD AIR RESOURCES ENGINEER GUO: To date, the  
12 ICT regulation has met several milestones from the  
13 agencies has reported into the ICT reporting tool for the  
14 second year. We have allocated 183 bonus credits. All  
15 large transit agencies submitted their rollout plans  
16 indicating how they expect to make the full transition to  
17 zero-emission, their plan for infrastructure, training  
18 their workforce, and identifying potential funding  
19 sources.

20 More transit agencies are currently working on  
21 their rollout plans due in 2023. Staff have provided  
22 multiple webinars for small transit and will continue to  
23 support by offering pre-reviews.

24 Unfortunately, the early action target that was  
25 set to discharge the purchase -- first purchase

1 requirement was not met due to the pandemic. However,  
2 transit agencies have continued their strong commitment to  
3 zero-emission buses and have continued momentum.

4 --o0o--

5 MSCD AIR RESOURCES ENGINEER GUO: In California,  
6 there are about 200 transit agencies, 21 of them are large  
7 transit agencies, which account for 70 percent of the  
8 total buses in California. To date, we have more than  
9 13,000 buses on road, 70 percent of them are standard  
10 buses. In addition, as of December 31st of 2021, there  
11 were 510 zero-emission buses in service and 424 are on  
12 order throughout California.

13 We have seen more planning in the deployment of  
14 fuel cell electric buses statewide, including the far  
15 north area, Bay Area, central and south coastal area, the  
16 greater Los Angeles area, Coachella Valley, and the  
17 Central Valley.

18 --o0o--

19 MSCD AIR RESOURCES ENGINEER GUO: Despite  
20 significant impact from the pandemic, transit agencies  
21 continue to work diligently to overcome obstacles,  
22 provide essential services, and look for innovative and  
23 safe solutions to bring back the ridership to pre-pandemic  
24 levels and keep the purchase momentum for zero-emission  
25 buses.

1 In this slide, you can see how much the transit  
2 agencies are ahead of the game. The graph provides us two  
3 different scenarios of zero-emission bus numbers. The  
4 blue dotted line on the upper part of this graph shows the  
5 cumulative number of buses that are currently deployed or  
6 are -- or on order due to early action. The yellow dotted  
7 line on the bottom of this graph shows the cumulative  
8 number of buses that have to be purchased under the ICT  
9 regulation. As you can see, it's not a lot in the early  
10 years. Transit agencies will soon place over a total of  
11 1,600 zero-emission buses in California fleet, which will  
12 exceed the ICT 2027 target. This achievement is a result  
13 of both transit agencies dedication and strong funding  
14 support.

15 --o0o--

16 MSCD AIR RESOURCES ENGINEER GUO: This slide  
17 highlights the major funding programs for zero-emission  
18 bus transition. In this slide, CARB provides significant  
19 support and administers a hybrid and a zero-emission truck  
20 and bus voucher program, also known as HVIP, and the  
21 California Volkswagen Mitigation Trust. There have been  
22 over 600 vouchers issued for ZEBs since HVIP program's  
23 inception.

24 The State budget has planned 520 million to  
25 support 2,600 ZEBs over a five-year time span. In

1 addition, there is up to 65 million in the Volkswagen  
2 Mitigation Funds for transit agencies and available over  
3 the next several years. Other incentive programs include  
4 the Carl Moyer and AB 16 Community Air Protection,  
5 Cap-and-Trade Program. Zero-emission buses, transit buses  
6 are an eligible funding category. And this program can be  
7 used if these project are a local priority. This program  
8 provide a wide range of assistance in vehicle purchase,  
9 infrastructure building, and other operational activities.  
10 They have also been one of the major reasons contributing  
11 the transit agencies' early action.

12 --o0o--

13 MSCD AIR RESOURCES ENGINEER GUO: While we have  
14 gained a lot of momentum from early action, the  
15 resolution, which accompanies ICT Regulation, directed  
16 staff to provide a one-time comprehensive review of the  
17 program prior to the -- the initiation of any  
18 zero-emission bus purchase requirement, which is 2023.

19 The purchase of -- the purpose of the  
20 comprehensive review is to ensure the transit community is  
21 poised to begin implementation in a seamless way. The  
22 comprehensive review examines key categories and metrics  
23 that would affect ZEB deployment. To ensure the  
24 objectivity of the comprehensive review, we contracted the  
25 work to the National Renewable Energy Laboratory with

1 University of California at Berkeley as the subcontractor.

2 In addition to the comprehensive review, staff  
3 also provided annual report to the Board starting last  
4 year and we continue to keep the Board apprised on that  
5 status.

6 --o0o--

7 MSCD AIR RESOURCES ENGINEER GUO: Being the first  
8 zero-emission heavy-duty regulation in the nation, the  
9 implementation of the ICT Regulation inspires a lot of  
10 movement and improvement. The regulation sends a strong  
11 market signal to manufacturers to further investments and  
12 continued innovation. We're also having more original  
13 equipment manufacturers participate in the market and  
14 produce more models.

15 While transit agencies have taken -- taken  
16 advantage of incentives and other funding, the dedicated  
17 amount of funding for zero-emission buses from both the  
18 State and the federal program has been significantly  
19 increased. More electric charging and hydrogen fueling  
20 standards are now in place. And deployment of both  
21 zero-emission buses and associated infrastructure bring  
22 more high quality green jobs in California.

23 --o0o--

24 MSCD AIR RESOURCES ENGINEER GUO: California  
25 transit agencies have proven to be strong leaders in

1 zero-emission technologies. They bring a lot of expertise  
2 and strength with over decades of demonstration to work  
3 through challenges and identify solutions. Lessons  
4 learned have also been shared broadly to flatten the  
5 learning curve. Their hard work has demonstrated --  
6 demonstrated the viability of the technology. When paired  
7 with significant steady investments, the effect --  
8 establish a zero-emission bus-ready environment for the  
9 initial 25 percent purchase requirement. The investment  
10 is more than just voucher, it is about the portfolio  
11 approach that injects human resources, capital investment,  
12 and the policy support.

13           One of the examples of the supporting environment  
14 also includes Assembly Bill 2622 that was signed into law  
15 last week. This bill will extend the exemption of ZEB  
16 sales tax for additional two years through January 1st  
17 2026. You will also hear from NREL presenting detailed  
18 information that supports the finding.

19                           --o0o--

20           MSCD AIR RESOURCES ENGINEER GUO: With a great  
21 deal of investment in California, we are now home to  
22 zero-emission bus and truck manufacturers, and  
23 technologies. Industries come to California for the  
24 market we created, the incentives we provided, and the  
25 human resources we have trained, educated, and cultivated.

1 Manufacturers, such as BYD, Complete Coach Works, El  
2 Dorado National California, Gillig, GreenPower, and  
3 Proterra all have zero-emission bus production facilities  
4 here in California. Many core zero-emission technologies  
5 in the supply chain are established and developed in  
6 California.

7 Our leading transit agencies, such as the AC  
8 Transit and Sunline Transit have also been conducting  
9 various training programs to develop the skilled workforce  
10 and to prepare for the transition to zero-emission  
11 technologies.

12 --o0o--

13 MSCD AIR RESOURCES ENGINEER GUO: CARB's vision  
14 for public transit is clean, safe, efficient, and  
15 affordable transportation for all Californians. CARB,  
16 along with other sister State agencies, such as CalSTA,  
17 Caltrans and the CEC are working to make this  
18 zero-emission transition successful, including providing  
19 significant incentive funding. We also committed --  
20 committed to work closely with California Public Utility  
21 Commission and GO-Biz to provide support.

22 At this point, the market is ready for the 25  
23 percent ZEB purchase starting in 2023, but we also know we  
24 have more work to do and we look forward to continued --  
25 continuing to work with transit agencies as they continue

1 to lead with the cleanest technology.

2 This concludes my presentation. Now, I will  
3 introduce Mr. Kenneth Kelly. Mr. Kelly is the chief  
4 engineer for commercial vehicle electrification of the  
5 National Renewable Energy Laboratory.

6 Ken, the floor is all yours.

7 (Thereupon a slide presentation.)

8 KENNETH KELLY: Thank you, Jing and thank you to  
9 the -- to Dr. Cliff and distinguished members of the Board  
10 for this opportunity to present the results of NREL's work  
11 with CARB staff to develop a comprehensive review focused  
12 on program readiness to meet the 2023 requirements by  
13 large transit agencies and standard bus purchase  
14 requirements of 25 percent.

15 We worked closely together with Dr. Tim Lipman of  
16 UC Berkeley, who was not be -- able to be here today, but  
17 was a -- his team greatly contributed to the effort and --  
18 next slide, please.

19 --o0o--

20 KENNETH KELLY: So for those of you who may not  
21 be familiar with the National Renewable Energy Lab, we are  
22 one of the U.S. Department of Energy's national  
23 laboratories. And we're located in Golden, Colorado.  
24 We're the key laboratory for U.S. Department of Energy's  
25 Energy Efficiency and Renewable Energy Office. And the



1 folks that worked on this comprehensive review at NREL  
2 come from the Center for Integrated Mobility Sciences, and  
3 that's NREL's transportation center, where we do work on  
4 all aspects of clean and efficient energy  
5 transportation -- transportation energy technologies,  
6 including things like energy storage, power electronics  
7 and electric machines, deployment, batteries, and  
8 efficient mobility.

9           Our main campus is in Golden, Colorado, where we  
10 have approximately 3,000 dedicated professionals working  
11 on creating a clean energy future for the world. And then  
12 as I mentioned, we partnered on this effort with UC  
13 Berkeley and Dr. Tim Lipman's Transportation  
14 Sustainability Research Center in Berkeley. Dr. Lipman's  
15 team focused on specific aspects of the comprehensive  
16 review, including supporting our work with interviewing  
17 stakeholders and gathering information through that  
18 process, also evaluation of State funding incentive  
19 programs, and workforce development activities.

20           Right now, I'm going to turn it over to my  
21 colleague Matthew Jeffers, who has extensive experience  
22 with the National Renewable Energy Lab conducting  
23 evaluations of transit in-service application. He's going  
24 to walk through the methodologies, and approach, and then  
25 I'm going to come back and talk about some of the key

1 findings from the comprehensive review.

2 Matt.

3 MATTHEW JEFFERS: Thank you, Ken.

4 Next slide, please.

5 --o0o--

6 MATTHEW JEFFERS: So diving right in, the  
7 objective for this comprehensive review for the Innovative  
8 Clean Transit Regulation was to as regulation was to  
9 provide comprehensive assessment for the program readiness  
10 specifically for the ZEB purchase requirements, such as  
11 take place in 2023.

12 Our approach to conducting this comprehensive  
13 review is laid out here and included: Conducting a  
14 literature review that can combine all the latest  
15 information on ZEBs to learn the state of the industry and  
16 all the other important information out there regarding  
17 the industry; soliciting input from all the ZEB  
18 stakeholders, which included transit agencies, original  
19 equipment manufacturers, and other technology providers,  
20 also the electric utilities and fuel providers; to combine  
21 analyzed data that is available on initial ZEB studies and  
22 deployment, including some of NREL's own detailed state  
23 evaluations from early ZEB deployments; and also to  
24 combine -- to utilizing our modeling tools comparing both  
25 the economics of individual purchases of zero-emission

1 buses compared to conventional buses, as well as  
2 estimating the broader economic impact of the ZEB  
3 transition in California.

4 Next slide, please.

5 --o0o--

6 MATTHEW JEFFERS: So these are some of the key  
7 components of our comprehensive review that I'd like to  
8 briefly touch on in the next few slides to give you a  
9 better sense of our approach, our methodology as we  
10 conducted this comprehensive review, and then I'll turn it  
11 back over to Ken.

12 Next slide, please.

13 --o0o--

14 MATTHEW JEFFERS: So beginning with the  
15 literature review, in order to collect, combine, and  
16 analyze all the important information out there to learn  
17 about the current state of the zero-emission bus industry  
18 particularly in California. This included everything from  
19 the zero-emission bus rollout plans that had been  
20 submitted by the large transit agencies in California, new  
21 product offerings from OEMs, and, you know, test results,  
22 as I mentioned, many of the initial findings from  
23 zero-emission bus evaluations that have been conducted so  
24 far. And we happened to have over 180 references cited  
25 sources in on comprehensive review report from a wide

1 variety of academic literature documents, websites, so on  
2 and so forth.

3 Next slide, please.

4 --o0o--

5 MATTHEW JEFFERS: Next, we conducted a  
6 comprehensive review of the available ZEB models that are  
7 available in the market place, as well as hydrogen fueling  
8 infrastructure, and the necessary charging infrastructure  
9 for those zero-emission bus models. NREL and UC Berkeley  
10 worked on this collaboratively to collect all the  
11 information, and update, and certainly expand the existing  
12 dated database that we had been building related to the  
13 ZEB models and technologies that were initially gathered  
14 and compiled through a number of years of our  
15 zero-emission bus evaluations, and many of those were for  
16 transit agencies here in California.

17 I should note that this list of actual vehicle  
18 models available today in the marketplace and the  
19 infrastructure available is increasing rapidly.

20 Next slide, please.

21 --o0o--

22 MATTHEW JEFFERS: Next, we also conducted a  
23 comprehensive review of the incentive funding programs  
24 that are available, particularly to California transit  
25 agencies. UC Berkeley led this effort in close

1 collaboration with NREL to evaluate all these sources of  
2 funding. And this includes everything from national level  
3 programs, such as those funds administered through the  
4 FTA; State programs that were mentioned earlier, such as  
5 those administered through CARB, and California Energy  
6 Commission and others; regional programs, such as those  
7 that at the air quality management districts, as well as  
8 make-ready infrastructure programs through the electric  
9 utilities, for example; and a variety of other more local  
10 sources.

11 So we were identifying all the major funding  
12 programs available to California transit agencies in order  
13 to highlight a lot of the recent improvements and  
14 increases in funding levels, as well as to highlight some  
15 of the remaining needs and challenges as voiced by transit  
16 agencies as they make the transition.

17 Next slide, please.

18 --o0o--

19 MATTHEW JEFFERS: Next on the topic of the ZEB  
20 fleet performance and economics. Our objective was to  
21 review the operational performance and cost data that  
22 exists out there from these initial deployments to assess  
23 the economics of these bus purchase decisions. For this  
24 we used one of NREL's tools called the Vehicle and  
25 Infrastructure Cash-Flow Evaluation model, shorthand as

1 VICE. And this was customized for California specific  
2 inputs, and as well as we expanded it to include a  
3 scenario for fuel cell electric bus options. It was  
4 originally created with a focus on battery electric bus  
5 purchase decisions, and also to evaluate the most  
6 influential parameters in those purchase decisions.

7 Next slide, please.

8 --o0o--

9 MATTHEW JEFFERS: And just to give you a little  
10 more background on this VICE model, a very brief overview  
11 at a high level. This is a discounted cash flow analysis  
12 model that considers both the up-front capital costs,  
13 including any rebates or incentives, and for both the  
14 capital for the vehicle as well as infrastructure that's  
15 necessary. It also considers long-term operational costs,  
16 such as fuel costs, maintenance, and other operational  
17 costs. And the results of this model, this comparison,  
18 are reported in a payback period and net present value for  
19 a particular scenario.

20 As I mentioned, we expanded this to include fuel  
21 cell electric bus scenarios that we modeled scenario both  
22 for battery electric buses and full cell electric buses  
23 Compared to a purchase for conventional buses. This VICE  
24 model was used to evaluate typical ZEB economics,  
25 recognizing that these factors vary widely for a lot of

1 different transit agencies depending on the vehicles  
2 needed to be purchased.

3 Next slide, please.

4 --o0o--

5 MATTHEW JEFFERS: We also conducted a macro  
6 economic assessment of the ZEB deployments, building on  
7 those initial inputs for the previous model. This was  
8 focused more on looking at the economic benefits of the  
9 ZEB transition to the entire State economy here in  
10 California. And for this model, we used a framework  
11 called the IMPLAN Model to estimate the direct, indirect,  
12 and induced economic activity in the State.

13 Next slide, please.

14 --o0o--

15 MATTHEW JEFFERS: And once again, just to give a  
16 little more information about that modeling framework,  
17 this is an accounting system in order to describe the  
18 structure of the economy -- the State economy as a network  
19 of sectors. The image in the top right helps illustrate  
20 that there are direct effects, there are indirect effects,  
21 and then induced effects from a particular activity, such  
22 as the purchase of zero-emission buses. And this modeling  
23 framework was used to estimate those effects on jobs, in  
24 terms of total number, the types of jobs, personal income,  
25 gross regional product, taxes, as well as the broader

1 industry output. We looked at both the temporary effects  
2 and the permanent effects.

3 Next slide, please.

4 --o0o--

5 MATTHEW JEFFERS: Part of our comprehensive  
6 review also included a quantitative and qualitative look  
7 at the impact of the COVID-19 pandemic and what that did  
8 for -- how that affected the ZEB deployment plans for  
9 transit agencies. This was done with a -- through a  
10 combination of literature review, and data analysis, and  
11 interviews with transit agencies to find out how it was  
12 affecting their specific plans. As we know, the pandemic  
13 had a very dramatic impact on transit ridership and their  
14 operations, which heavily impacted the revenue generation,  
15 and ultimately impacted many transit agencies' transition  
16 plans towards zero-emission buses.

17 Next slide, please.

18 --o0o--

19 MATTHEW JEFFERS: And finally, we had an outreach  
20 effort in order to solicit feedback during the course of  
21 this comprehensive review, in order to inform up front and  
22 also validate our work throughout the process. NREL and  
23 UC Berkeley also worked on -- on this aspect very closely  
24 and took a multi-pronged approach, which included targeted  
25 interviews with a wide variety of key stakeholders in the



1 zero-emission bus industry, a number of briefings with the  
2 California Transit Association to keep them updated on our  
3 progress and to ask for input, and finally a public  
4 comment period and series of reviews of our draft  
5 comprehensive review report. This was all in the aim of  
6 ensuring that all the stakeholder perspectives and voices  
7 were well represented in our findings.

8 Next slide, please.

9 --o0o--

10 MATTHEW JEFFERS: And now I'd like to pass it  
11 back to my colleague Ken -- Ken Kelly to provide a brief  
12 summary of our key findings.

13 --o0o--

14 KENNETH KELLY: Thanks, Matt.

15 Based on the information that Matt outlined and  
16 the methodology that Matt outlined, our takeaways from the  
17 comprehensive review at this point for standard buses  
18 collected and evaluated under this comprehensive review is  
19 that the California transit industry appears to be well  
20 poised to proceed with the 2023 requirement of 25 percent  
21 of new bus purchases being zero-emission buses for large  
22 transit agencies.

23 This -- this statement is supported by the  
24 information gathered in the comprehensive review and in  
25 the historical progress and knowledge gained by the

1 California transit industry. And it's further supported  
2 by large transit agencies' zero-emission bus rollout  
3 plans, which include up to 8,000 vehicles by 2040. So in  
4 the next 20 years, 8,000 zero-emission vehicles are  
5 planned in the rollout plans.

6 Also, momentum developed from over a decade of  
7 zero-emission bus demonstrations and deployment. So Matt,  
8 and the NREL team, and many, many people in California  
9 have been involved in this -- this evolution of  
10 zero-emission bus technology, from the early proof of  
11 concept that were, you know, developed by the H -- by --  
12 working together with the agencies and the bus OEMs, to  
13 early demos where getting buses out there, testing them  
14 out, figuring out what the requirements are, how they  
15 performed, doing unbiased evaluations, collecting data,  
16 getting the vehicles in operation, in revenue service, and  
17 then commercial market expansion, which is where we are  
18 today. So we see a wide number of vehicles being offered  
19 and growing availability of those vehicles.

20 Progress made since the 2018 adoption of the ICT  
21 Regulation, which I'll cover on another -- on the next  
22 slide. And then successful partnerships and  
23 collaborations of the California transit agencies, vehicle  
24 manufacturers, charging, and fueling equipment suppliers,  
25 utilities, and others all working together to figure out

1 what are the key barriers, challenges, and what's it going  
2 to take to make this a success.

3 Next slide.

4 --o0o--

5 KENNETH KELLY: So I mentioned significant  
6 progress made since the 2018 adoption of the ICT  
7 Regulation. And this is covered in detail in the report  
8 that has been made available to the Board. In particular,  
9 each one of these eight or so bullet points, there's a  
10 paragraph in the executive summary that describes these in  
11 more detail, but I'll just kind of run through them fairly  
12 quickly today in the interests of time.

13 So one of the elements is an increase -- we see  
14 an increase in the number of buses tested at the Altoona  
15 testing facility, which is a standard national test  
16 protocol to approve bus's performance and evaluate the  
17 performance, efficiency, reliability of those buses in  
18 using standard protocols, and to develop test reports for  
19 each bus that's being tested at Altoona. So we've seen  
20 over the -- over the first -- I'm trying to remember, it's  
21 like 15 years or so, approximately 13 reports have been  
22 generated, test reports, from Altoona. Just in the last  
23 four years or three years, 15 new test reports have been  
24 generated on zero-emission buses.

25 So you're seeing expansion of buses that are

1 being tested at Altoona. We're also seeing, as we  
2 mentioned, increased number of commercially available  
3 zero-emission buses, expansion of the vehicle  
4 manufacturers, the number of manufactures that are  
5 often -- offering zero-emission, both battery electric and  
6 fuel cell, buses, as well as each one of them providing  
7 different models to meet the needs of the trans -- their  
8 clients, their transit agency customers.

9           Enhanced policy in the state of California, and  
10 increased legislation supporting the zero-emission  
11 deployment has been critical. And then increased amount  
12 of State funding, also federal funding we're seeing come  
13 to support the expansion of zero-emission buses,  
14 deployments as well as infrastructure. And an increase in  
15 the concept of group procurement opportunities to  
16 consolidate procurements among smaller agencies to build  
17 momentum. The economic impact and environmental justice  
18 aspects have made progress understanding their impact --  
19 significant impact on the economy and opportunities for  
20 environmental justice.

21           And then increased electric charging and hydrogen  
22 fueling standardization. So we're seeing both in the  
23 industry and in the certification and agencies, such as  
24 the Society of Automotive Engineers and the IEEE.  
25 Consolidation, understanding development of what the --

1 what the standardized protocols for both charging  
2 equipment and hydrogen fueling stations.

3           And then positive impacts, an increase  
4 investments on the job market. So the job market is  
5 multi-faceted for electric vehicles, including bus  
6 equipment manufacturing coming to the state of California,  
7 transit operations and maintenance capabilities, and  
8 jobs -- good -- good jobs in those areas, utilities, and  
9 people focused on being able to figure out, you know, what  
10 the utility infrastructure needs to be to support the  
11 electric vehicles. Electrical workers, jobs in that --  
12 those areas growing. And energy engineering and site  
13 construction jobs and availability.

14           All of these -- we see progress made in all of  
15 these areas over the last -- since the adoption of 2018  
16 ICT Regulation.

17           Next slide.

18                           --o0o--

19           KENNETH KELLY: But the industry is not without  
20 challenges. As we look to the future of a 100 percent  
21 zero-emission bus transit fleet in the coming years, some  
22 of the greatest challenges that we identified through our  
23 experience and through our interaction with stakeholders  
24 in the state of California is that we need to see  
25 sustained progress from the vehicle, and equipment, and

1 infrastructure manufacturing base. You know, that's  
2 needed to continue driving down costs, improving  
3 reliability, and optimize performance. There has been  
4 progress made in all of these areas since the ICT  
5 Regulation has been passed, but we believe that there  
6 needs to be continued progress in these key areas.

7           Expansion of charging and fueling infrastructure  
8 is a fundamental need that will require a coordinated  
9 effort and forward-looking planning by transit agencies,  
10 utilities, developers, and regulatory interest.

11           Comprehensive and standardized training programs  
12 are needed to continue to develop to provide a highly  
13 skilled workforce for the state of California to the  
14 sort -- support this industry as it grows and as it  
15 evolves from transit to commercial vehicles like trucks  
16 and buses. So having that is both an opportunity and a  
17 challenge to develop that highly skilled workforce.

18           And then continued financial support for  
19 purchasing, installing, and operating zero-emission  
20 vehicles, and the necessary fueling and charging  
21 equipment. Federal and State funding for zero-emission  
22 buses and related charging and fueling infrastructure are  
23 critical to achieving reasonable payback and up-front  
24 costs.

25           So in our VICE model analysis that Matt

1 mentioned, you know, we included having incentives to  
2 evaluate the payback period. And those incentives are --  
3 remain a critical aspect of the economics for  
4 zero-emission buses.

5 So these key needs are described in detail in the  
6 comprehensive report that's been provided to the Board.  
7 And I look forward to your review of that report and any  
8 feedback you may have.

9 And then I'll say one other thing, as we continue  
10 to -- to deploy these vehicles, it's critical to have the  
11 information to inform the future, to identify barriers  
12 earlier on. So I would encourage the state to continue to  
13 conduct and work together with the transit agencies who  
14 have been very cooperative at providing data and  
15 information on the performance and technical barriers.  
16 And I would encourage the State to continue to collect  
17 that kind of information to make sure that you can make  
18 informed decisions and respond to issues that arise as we  
19 move forward.

20 Next slide.

21 --o0o--

22 KENNETH KELLY: With that, I'd like to  
23 acknowledge and thank the collaboration and -- with the  
24 CARB staff for the continuous support throughout this  
25 process, as well as the transit industry who we've

1 gathered a lot of information, and have been very  
2 cooperative in providing the kind -- kinds of information  
3 that we were needing to inform the State on the status of  
4 this industry.

5 Thank you.

6 EXECUTIVE OFFICER CLIFF: Thank you, Mr. Kelly.

7 Now, let's invite the California Transit  
8 Association and their members. Mr. Michael Pimentel is  
9 Executive Director of the California --

10 BOARD MEMBER SPERLING: Dr. Cliff.

11 VICE CHAIR BERG: Just a second.

12 BOARD MEMBER SPERLING: Just one -- I just want  
13 to ask one small question while they're still here. And  
14 that is that study was only through 2023 and was not  
15 forward-looking in terms of the resources of the agencies  
16 and so on, is that correct?

17 KENNETH KELLY: The study is focused on the  
18 readiness of the industry to meet the 2023 requirements.  
19 Many of the issues and topics that are covered in the  
20 report discuss like, you know, what's the current state of  
21 the industry and how -- how -- you know, what are the  
22 needs moving forward.

23 BOARD MEMBER SPERLING: Okay. Thank you.

24 VICE CHAIR BERG: Dr. Cliff, there seems to be  
25 some appetite to ask just a couple of questions, please.



1 Dr. Balmes.

2 BOARD MEMBER BALMES: Thank you, Vice Chair. The  
3 specific question I had was a -- could you be a little  
4 more specific about how jobs would be created in low  
5 income communities of color. I'm a little skeptical,  
6 because these are skilled jobs and it would require major  
7 investment to train these individuals. And I wanted to  
8 know if you looked into that.

9 KENNETH KELLY: I'm going to ask Matt my  
10 colleague.

11 BOARD MEMBER BALMES: Yeah, sure.

12 MATTHEW JEFFERS: Yeah, I'll just say briefly  
13 that the IMPLAN modeling effort was -- the results of it  
14 are separated into temporary effects and permanent effects  
15 roughly break down into manufacturing and construction  
16 related jobs to build up the capacity to manufacture more  
17 zero-emission buses and then the permanent effects fall  
18 more into the category of operating and maintaining these  
19 vehicles into the future at the transit agencies and  
20 elsewhere.

21 Unfortunately, I'm not the expert on the IMPLAN  
22 modeling. We had a team back at NREL that does this  
23 macroeconomic based modeling that perhaps follow up.  
24 Yeah, I'm not prepared to answer that real specifically.

25 BOARD MEMBER BALMES: Okay. Thank you.

1           KENNETH KELLY: But we'll take that question as  
2 an action item and get back to you to -- on the specifics  
3 and how low-income and people of color job opportunities  
4 were addressed in that -- in that analysis.

5           BOARD MEMBER BALMES: I would appreciate it.  
6 Thank you.

7           VICE CHAIR BERG: So, Dr. Cliff, just to give the  
8 Board a sense, all of the presenters now will be staying.  
9 And so after our final presentation, we'll be able to  
10 bounce back and forth and open up discussion, is that  
11 correct?

12          EXECUTIVE OFFICER CLIFF: That is correct.

13          VICE CHAIR BERG: Okay. So with that, we'll  
14 continue then with the final presentation. Thank you.

15          EXECUTIVE OFFICER CLIFF: Thank you.

16          Mr. Michael Pimentel is Executive Director at the  
17 California Transit Association and has been instrumental  
18 in working with us to craft the main structure of the ICT  
19 Regulation. Michael, we appreciate all the collaboration  
20 and look forward to hearing CTA comments and input from  
21 transit agencies.

22          MICHAEL PIMENTEL: Well, thank you. Madam Vice  
23 Chair and Board members, thank you for the opportunity to  
24 be before you this morning to discuss the status of the  
25 zero-emission transit bus deployment in California, the

1 findings of the Innovative Clean Transit Regulation  
2 comprehensive review, as well as our recommendations for  
3 further facilitating the transition to zero-emission  
4 technologies, while ultimately limiting the financial and  
5 operational impacts of the transition to California  
6 transit agencies.

7 I want to note at the start that it's been a  
8 pleasure to work with CARB staff and NREL on development  
9 of this comprehensive review throughout 2021 and 2022.  
10 And we are excited for the opportunity to once again work  
11 with Steve Cliff in his new role as Executive Officer of  
12 this agency.

13 I'll just note that he's a wonderful pick to  
14 oversee this organization. We've had nothing but strong  
15 partnership with him throughout the years. We know that  
16 that will continue moving forward.

17 And so as Mr. Cliff noted, I am Michael Pimentel  
18 Executive Director of the California Transit Association.  
19 And in this joint presentation that's presented to you on  
20 behalf of California's transit industry and as reflected  
21 on the next slide --

22 --o0o--

23 MICHAEL PIMENTEL: -- I'll be joined by Doran  
24 Barnes, Chair of the Association's Zero-Emission Vehicle  
25 task force and CEO of Foothill Transit, Felicia Williams,

1 Board member for Foothill Transit, and Michael Hursh,  
2 General Manager and CEO of the Alameda Contra Costa  
3 Transit District.

4 I will function as your MC for this joint  
5 presentation, which begins with background presented by me  
6 on my association and role we play for California's  
7 transit industry generally and with regards to this  
8 regulation specifically.

9 Doran will then discuss the actions we've taken  
10 as an association following the adoption of the ICT  
11 Regulation to support our industry in deploying  
12 zero-emission buses, and to deliver on the goals of  
13 converting all transit buses in California to  
14 zero-emission technologies by 2040.

15 Felicia Williams and Michael Hursh will then  
16 follow and will speak to the status of the transition to  
17 zero-emission buses at their respective agencies and the  
18 challenges that lie before them. It's worth noting that  
19 Foothill Transit and AC Transit are amongst the earliest  
20 adopters of zero-emission buses having respectively  
21 deployed battery electric and hydrogen fuel cell buses in  
22 their pre-commercial phases.

23 Today, both agencies are national leaders in  
24 advancing these technologies, not just for the transit  
25 industry, but for the medium- and heavy-duty sector as a



1 the transit industry on this critical transition.

2 Our dominant function as an association is to  
3 affect State and federal policy and funding sources  
4 impacting public transit. And you'll hear a bit more  
5 about that in a moment from Mr. Barnes, but we also  
6 facilitate information exchange within the industry and  
7 oversee a robust program of industry education on topics  
8 including -- I should say increasingly including this  
9 focus on zero-emission technologies.

10 Next slide, please.

11 --o0o--

12 MICHAEL PIMENTEL: Now, from 2015 to 2018, the  
13 Association represented the transit industry in the  
14 development of the ICT Regulation, participating in  
15 working group meetings, cost modeling discussions,  
16 engaging CARB program and executive staff on the  
17 regulatory concepts and alternatives, and then ultimately  
18 negotiating the final provisions of the regulation, which  
19 did include the inclusion from the Board resolution of the  
20 comprehensive review.

21 And while at times our pre-adoption positioning  
22 as an association was skeptical of the regulation, we have  
23 now become a leading advocate at both the State and  
24 federal level in ideating, pursuing, and securing  
25 legislation and funding sources to make this transition a

1 reality. And here, I do want to acknowledge that at the  
2 hearing to adopt the regulation, then CARB Board Chair  
3 Mary Nichols had challenged my predecessor to lean in to  
4 this transition as an industry. And here, I'm going to  
5 acknowledge we have leaned in.

6 And so next slide, please.

7 --o0o--

8 MICHAEL PIMENTEL: Now, one of the ways in which  
9 we have done exactly that is by establishing a  
10 zero-emission vehicle task force. And this task force,  
11 which is now at its second post-adoption term provides me  
12 and my staff and our industry with technical guidance to  
13 inform my association's ongoing educational programming  
14 related to this transition, help steer our engagement on  
15 policy matters related to the transition, and finally  
16 helps us track and respond to compliance and  
17 administrative challenges as they arise.

18 Now, the roster for the current committee is on  
19 the next slide. And I do want to dwell on this roster for  
20 just a moment. Again, it's on the next slide --

21 --o0o--

22 MICHAEL PIMENTEL: -- because I think that it  
23 does capture well the level of expertise that we have  
24 cultivated and directed as an association to supporting  
25 this transition, and ultimately compliance with ICT

1 Regulation. Now, this task force has met roughly monthly  
2 since being established in early 2019 and has guided our  
3 ICT-focused advocacy endeavors and educational offerings.  
4 And to highlight some of the work that this task force has  
5 overseen, I'd now like to invite to the podium Task Force  
6 Chair and again CEO of Foothill Transit Doran Barnes.

7 Next slide, please.

8 --o0o--

9 DORAN BARNES: Well, good morning. It's a  
10 pleasure to be with you. I have the honor of serving as  
11 the Chair of Zero-Emission Vehicle Task Force. And I have  
12 to think about that, because we actually changed it from  
13 the Zero-Emission Bus Task Force to now include  
14 locomotives, rail, and waterborne craft really  
15 encompassing the work that we're trying to do as a public  
16 transit association in this space.

17 Our work has really been focused on the capital  
18 issues, the operating issues, the workforce development  
19 issues. And unlike many industries, public  
20 transportation, which is purely publicly funded, our  
21 funding streams are such that a dollar is not necessarily  
22 a dollar. There are some funding sources that can only be  
23 used for capital, some that can only be used for  
24 operating. For example, if we -- if a transit operator  
25 receives a Low-No emission grant from the Federal Transit



1 Administration, that can only be used for capital costs.

2           So as we look at the economics of all of these  
3 things, the way the funding flows becomes important in  
4 terms of how we rollout this technology.

5           Moving on to the next slide.

6                           --o0o--

7           DORAN BARNES: I think one of the -- I know one  
8 of the themes you're going to hear from us over and over  
9 again is it's all about the money. It takes the resources  
10 to be able to move the program forward. And as Michael  
11 indicated, we've been leaning in as an association, as an  
12 industry really heavily to try to secure those resources  
13 to be able to move these programs forward. We were big  
14 advocates for the additional funding that was realized in  
15 the IIJA at the federal level, very supportive of the  
16 State funding that's been received to support these  
17 programs, and even at a smaller scale, every dollar  
18 counts. So the exemption on sales tax for transit  
19 vehicles that was just approved by the Governor or signed  
20 by the Governor again helps move these programs forward.

21           CEQA exemptions for refueling, while that's not a  
22 direct cost, being able to streamline that CEQA process to  
23 put these programs in place has been absolutely critical.

24           Our association has sponsored the two bills, the  
25 CEQA bill and the sales tax exemption that again helps

1 provide the resources to be able to move all this forward.

2 Moving on to the next slide.

3 --o0o--

4 DORAN BARNES: We've done a -- again a number of  
5 things that go even beyond that, supporting the master  
6 agreement for zero-emission vehicle purchases, which  
7 allows transit operators to buy vehicles more efficiently.  
8 That's been key for us. Michael has been working very  
9 directly with the California Energy Commission in advising  
10 the statewide investment plan that again provides  
11 resources. Working with our investor-owned utilities is  
12 yet another lane that we've had to focus in on. And as  
13 transit operators, understanding how to use electric power  
14 as a fuel has been a completely new realm for us. It's  
15 something we've never had to do before and it's not as  
16 simple as buying a unit of fuel.

17 In the old days, a gallon of diesel was a gallon  
18 of diesel. What you paid for it in the morning what you  
19 paid for it in the afternoon was pretty much the same on  
20 any given day. With electric power, we can see huge  
21 adjustments based on time of day, based on demand. All of  
22 that has been a big learning curve for us.

23 In terms of the work we've done internally, as  
24 Michael indicated, the Transit Association is very much a  
25 learning and sharing organization. That's one of the

1 things that we do. Zero-emission vehicle discussions have  
2 been a dominant topic at our fall conference, at our  
3 spring legislative conference. Really leaning in to make  
4 sure that we're sharing not only best practices, but also  
5 sharing what didn't necessarily go quite right, so we can  
6 learn from those things as we go forward. So again, lots  
7 of sharing, lots of collaboration, a huge effort to lean  
8 in on advancing the ICT.

9 On the next slide.

10 --o0o--

11 DORAN BARNES: And in spite of all of -- all of  
12 that great work, and again the energy, the enthusiasm that  
13 we put into that, our industry is facing some huge  
14 challenges. I could probably spend the rest of the  
15 afternoon talking about COVID, and COVID impacts, and all  
16 of the things that COVID has -- has brought to our  
17 industry that we never expected.

18 In some cases, it slowed down the movement  
19 towards zero-emission vehicles, simply because we were  
20 dealing with that health emergency that absolutely nobody  
21 could have expected. Coming out of COVID, and hopefully  
22 we're moving slowing into -- to that phase, we're  
23 continuing to see huge disruptions. We've all heard about  
24 the inflationary costs, labor shortages. All of those  
25 things are issues that are facing our industry that create

1 huge headwinds for us as we move forward.

2 Many transit operators are seeing labor  
3 agreements that are being approved with six and seven  
4 percent annual increases in labor costs over the next  
5 three to four years. That means that four years from now  
6 just purely on labor, our cost to operate is going to be  
7 30 percent higher than what it is today. The funding  
8 streams are not catching up and so that is again a huge,  
9 huge challenge for us.

10 In relation to the technology, there has been  
11 great strides made with the technology to move towards  
12 zero-emission vehicles, but there continue to be  
13 challenges. We haven't seen costs come down nearly as  
14 quickly as we had hoped. There's still a significant  
15 differential in both operating and capital for  
16 zero-emission vehicles compared to CNG or diesel-powered  
17 vehicles. And that's a hurdle again, as we look to how do  
18 we balance our budgets, we need to be able to work through  
19 that.

20 We're not yet at a one-to-one replacement for  
21 grid-powered vehicles. We are -- at least I hope we are  
22 with hydrogen fuel cell. And my Board Member Felicia  
23 Williams will tell you more about our program there. But  
24 there are some very, very significant challenges that we  
25 still need to work through.

1           The other thing that's not up here that's not a  
2 bullet, but I would note is that the -- the rollout plans  
3 I think have been a very valuable and important tool. The  
4 rollout plans have to be though informed by all of these  
5 other economic and operational pressures that we're  
6 dealing with. And so I really view the rollout plans as  
7 being aspirational, but each step along the way, they have  
8 to be reevaluated to see can we get there?

9           Going on to the next slide.

10           --o0o--

11           DORAN BARNES: And to -- to sort of cap my  
12 component of -- of the presentation here, I want to leave  
13 you with two things from my role as the Zero-Emission  
14 Vehicle Task Force leader. One, in the transit industry,  
15 there is great enthusiasm, and excitement, and energy  
16 towards moving to achieving these goals. When I talk to  
17 my colleagues, everybody wants to do this. We believe  
18 it's the right thing to do for the environment, it's the  
19 right thing to do for our communities. So we bring that  
20 momentum, we bring that excitement to -- to the work that  
21 we're doing.

22           At the same time, the list of challenges is huge.  
23 There are a variety of things, much of them are economic,  
24 some of them are operational. They relate to resiliency.  
25 We've got to figure all of these things out and we've got



1 that really is something that we take to heart.

2 So next slide.

3 --o0o--

4 FELICIA WILLIAMS: A little bit about Foothill  
5 Transit. So we serve the area that covers Pomona and the  
6 San Gabriel Valley. So if you look at Los Angeles, it's  
7 basically the area east of downtown LA over to the San  
8 Bernardino County border. East LA County is our service  
9 territory. It's 327 square miles, 1.5 million service  
10 population. We have 30 local and six express routes.  
11 Those express routes normally go downtown to downtown LA.  
12 And as you know, the work environment has changed down  
13 there, so that's part of the ridership changes that we're  
14 dealing with.

15 And normally we have a fleet of about 360 to 370  
16 vehicles. So what we have now is 337 compressed natural  
17 gas and 33 electric buses. And we have hydrogen fuel cell  
18 buses on order that I will get to. And once again,  
19 innovation is really part of our mission here.

20 Next slide.

21 --o0o--

22 FELICIA WILLIAMS: And I don't -- I know -- I  
23 know many of you have been to Los Angeles, so I don't need  
24 to tell you about the air quality in Los Angeles. One  
25 thing I will note is I am a native Angeleno, which is not

1 that common. And I remember days when we had smog alerts  
2 that we could not go out to recess and play. And that's  
3 very different nowadays because of the work you do. So  
4 we're happy to continue to move this work forward, but  
5 poor air quality that's recognized throughout the nation  
6 and a very large population base, especially a service  
7 population in Los Angeles County.

8 Next slide.

9 --o0o--

10 FELICIA WILLIAMS: And so now I will get into our  
11 timeline on our electric bus purchases.

12 Next slide.

13 --o0o--

14 FELICIA WILLIAMS: So we were one of the early  
15 adopters in 2010 through ARRA funds, if you remember those  
16 from the federal government. We purchased our first three  
17 35-foot buses and some fast charging equipment. Over the  
18 next few years, we purchased up to a fleet of 33 electric  
19 buses, including extended range and various types of fast  
20 charging and Level 2 charging vehicles.

21 In 2020, we purchased two electric double-decker  
22 buses. And those buses came from Scotland, from -- let's  
23 see, what's the company's name again, Alexander Dennis,  
24 and I've nicknamed them Nessie, because they came from  
25 Scotland. So they are beautiful buses that everybody



1 loves to look at. And that has been our timeline. A  
2 little bit of a spoiler alert, we are working with the  
3 same company to produce a hydrogen fuel cell double-decker  
4 bus that may come out in 2025, so stay tuned.

5 Next slide.

6 --o0o--

7 FELICIA WILLIAMS: And so there are two paths to  
8 zero-emission buses and we have been on both paths. So  
9 one is the electric buses, which we had our experience.  
10 We've shared with NREL our experience and they've put that  
11 in their models. And -- and we have now purchased what I  
12 believe today may change tomorrow is the largest order of  
13 fuel cell electric buses in the nation, which is the 33  
14 hydrogen fuel cell bus -- buses that are getting  
15 delivered. We're starting to get them delivered now.  
16 They should all be here by the end of the year.

17 We are also b-u-i-l-d-i-n-g fueling?

18 Infrastructures thats

19 will fuel about a hundred fuel cell buses and  
20 that should come into -- into effect in January when that  
21 facility should be done.

22 Next slide.

23 --o0o--

24 FELICIA WILLIAMS: Some ongoing challenges in  
25 addition to what CTA has mentioned and Doran has

1 mentioned. It's been very difficult economically to move  
2 to scale on these buses. There have been some issues with  
3 fleet reliability. This week we've had less than 50  
4 percent of the electric buses available for service. And  
5 these are essential services for our riders. As you may  
6 remember, two weeks ago with the flex alert and the demand  
7 response calls, we had to not charge some of our buses and  
8 they couldn't be put out on routes, because of the higher  
9 temperatures. So these are some of the issues that we  
10 deal with, in addition to workforce development, and we  
11 will say it over and over, funding, funding, funding.

12 Next slide.

13 --o0o--

14 FELICIA WILLIAMS: So the funding examples. We  
15 wanted to give some numbers here just to show how we deal  
16 with sort of our capital and operations. But the funding  
17 levels are very important. For us right now, the hydrogen  
18 fuel cell buses cost about \$429,000 more than a regular  
19 CNG bus. Now, HVIP covers a lot of that, but the reality  
20 is still a gap there as the prices are not coming down for  
21 us to cover.

22 On the operations side, hydrogen is more than  
23 double the cost of CNG. So as CARB moves towards truck  
24 regulations and we can get more disbursement of hydrogen  
25 fueling facilities, and even green hydrogen, and bring the

1 price of hydrogen down, that will really help a lot. The  
2 electric vehicle -- the electric charging infrastructure  
3 and the hydrogen infrastructure is costly as well. And we  
4 have not found great funding for the facilities for that.  
5 And fundamentally, we don't want to have to make major  
6 service cuts or changes that affect our riders in order to  
7 do this. So we really want to balance zero emissions and  
8 our services.

9 Next slide.

10 --o0o--

11 FELICIA WILLIAMS: So the States and the federal  
12 funding is a little bit unsure and our example are with  
13 the 33 fuel cell buses that we purchased, that we're going  
14 to purchase in the next six months. We didn't get any  
15 federal bus, bus facility funding for that. We got zero  
16 Low/No funding and we didn't get any TIRCP funding either.

17 And so those are kind of stories that we can  
18 share, but as you know, a lot of the federal funding was  
19 way oversubscribed. It's very popular in California. So  
20 we didn't get any of that allocation for our next purchase  
21 of fuel cell buses.

22 So the next slide.

23 --o0o--

24 FELICIA WILLIAMS: I think the biggest takeaways  
25 are that we are here to collaborate. We are here to share

1 data. If we have sort of two takeaways that we would want  
2 here from our experience is, one, collaboration between  
3 the various agencies that not only provide funding and do  
4 regulations, but also the entities that cover our electric  
5 energy sources in the future, our permitting for fuel  
6 facilities, all of the various entities working together.  
7 And then lastly, I can't say it enough is funding, funding  
8 to be able to cost -- cover the capital, the operating,  
9 and the facility as well.

10 So thank you so much. And with that, I will turn  
11 it to Mike Hursh from AC Transit, who I believe is online.

12 Thank you.

13 --o0o--

14 MICHAEL HURSH: Good morning. Thank you so much.  
15 I am Mike Hursh, General Manager, Chief Executive Officer  
16 for AC Transit, Alameda-Contra Costa Transit.

17 Next slide, please.

18 --o0o--

19 MICHAEL HURSH: I'm also the Chair of the  
20 zero-emission bus resource advocacy group which is a  
21 nationwide group of transit agencies that are really  
22 fighting for advancing zero-emission and meeting the  
23 timelines to meet the 2040 rule in California and in  
24 general in the United States. And a lot of the points in  
25 my slides have already been made, so I will move fairly



1 largest bus-only agency in California. We're the third  
2 largest bus-only agency, a fleet of about 637 buses.  
3 Third largest in the United States bus only. Currently,  
4 43 -- 43 zero-emission buses, 21 more on order, and 34  
5 fuel cells about to -- to be put on order.

6           The one thing I will tell you about even our  
7 buses in the pipeline, unprecedented development for me,  
8 is that because of supply chain and inflation, the Federal  
9 Transit Administration not only has advised, but  
10 instructed us that it's okay and that we should pay more  
11 than the bid prices on the buses already in the pipeline.  
12 I've never heard of that before, but the FTA has  
13 recognized both the delays and costs related to both the  
14 pandemic and the supply chain problems. So the price we  
15 contracted for and the price we're paying are upwards of  
16 10 to 15 percent more.

17           It was good news on the cost of zero-emission  
18 buses. The trend was down. However, now, it's reversed  
19 and gone the other way, and the same with fuel, which I  
20 will -- will touch on.

21           Next slide, please.

22   --o0o--

23           MICHAEL HURSH: Again, just quickly, we have  
24 hydrogen. A question came up earlier. They are a  
25 beautiful bus for us because they are range agnostic. We

1 can operate the bus on any route we need. The range is  
2 the same day, night, hot or cold. And most importantly,  
3 they fuel the same as the fueling cycle we are used to.  
4 You can fully fuel a hydrogen fuel cell bus in 8 to 12  
5 minutes, in line with our regular fueling island.

6 I want to really raise one of the red flags. It  
7 was a huge wake-up call for us several weeks ago, which  
8 has already been mentioned, for our battery buses when we  
9 got the urgent demand to reduce energy demand. Had my  
10 600-bus fleet been zero-emission battery buses, we would  
11 not have made pull-out. I am very concerned in a  
12 resiliency posture of if there's an earthquake, if there's  
13 a massive grid-down situation, can we get the fleet out.  
14 With hydrogen and diesel generator, I can run my fueling  
15 station and keep my buses on the road.

16 Next slide, please.

17 --o0o--

18 MICHAEL HURSH: Again, I have battery electric.  
19 We are fairly new in the battery side. Currently, five  
20 buses, with more on order. What I would tell you is  
21 this -- this comment I have made about the utility. And I  
22 won't name the utility in Northern California. I think we  
23 all know who it is, but it has been absolutely pulling  
24 teeth to get the infrastructure connected, and really to  
25 ensure that there's the scalability.

1           My board is grappling with do we go battery, do  
2 we go hydrogen? We are currently on both paths. And the  
3 downside of hydrogen is the cost of fuel and seeming  
4 inability for it to ever come down to be a competitive  
5 cost. And the difficulty the board struggles with on the  
6 electric side is -- is the grid there and capital funding.

7           And I -- and I want to touch on that real quick.  
8 It's not just fleet procurement. I have about a \$500  
9 million, \$495 million annual budget. Our capital need for  
10 our four bus divisions is \$2.1 billion. And this is not  
11 negative. Air Resources Board and California have been  
12 leaders in finding money, but the facility money is not  
13 there at the fate -- at State or the federal level. We,  
14 too, were zero in the Low-No. We are playing lottery when  
15 it comes to funding both capital, fleet and facility.  
16 Some years you get a grant. There is no dedicated  
17 funding.

18           Next slide, please.

19                           --o0o--

20           MICHAEL HURSH: This is really the money slide of  
21 my presentation. We are doing what's called a 5 by 5  
22 study. It is peer reviewed data by our partner Stanford  
23 University. We are operating the same manufacturer  
24 hydrogen, battery, and comparison to diesel and hybrid  
25 buses. We have two manufacturers of -- of fuel cell.



1 We've kept our legacy fuel cell buses in there. And you  
2 can see cost per mile on the upper right of this slide for  
3 hydrogen is \$2.14, the battery bus is \$1.60, and the  
4 diesel is \$1.72.

5 Now, when you apply the fuel standard credits,  
6 the battery bus is \$0.57. Clearly the winner here. The  
7 hydrogen \$1.42. The issue is since this presentation was  
8 prepared, my hydrogen cost has gone from \$9 a diesel  
9 gallon equivalent to \$11 a diesel gallon equivalent. We  
10 need \$5 a diesel gallon equivalent to break even with what  
11 we're paying today.

12 And that's where I really want to wrap-up and  
13 touch about the pandemic. My ridership is 61 percent of  
14 what it was pre-pandemic. That's about 110,000 riders of  
15 what was originally 180,000. Our ridership patterns have  
16 completely changed. We believe that hybrid work, or work  
17 from home, work remote is here to say, at least two days a  
18 week. That's a 40 percent reduction in ridership,  
19 permanent we believe. My agency alone, again on \$495  
20 million annual budget predicts a \$23 million deficit in 14  
21 months, blooming to \$53 million years after that.

22 We're in a very, very real situation where we  
23 will have to cut service exactly when we should be  
24 expanding service, getting people out of automobiles.  
25 Traffic as we know is worse than it was pre-pandemic.



1 ridership patterns are evolving. I encourage you to go to  
2 ACTransit.org and look at our ZEB study. It's available  
3 for everyone, and that's part of my position on the ZEBRA  
4 group as well as with CTE -- CTA. We're making this data  
5 available. You -- you heard the report from NREL today.  
6 We're giving you real-world, side-by-side comparison, so  
7 that's it's easy for various boards to make these agencies  
8 on where to go with their -- with their ZEB transition.

9 Next slide, please.

10 --o0o--

11 MICHAEL HURSH: Last thing I want to touch on --  
12 again, this is hydrogen costs over time. This -- since  
13 this slide was published, we've gone up to \$11 per gallon.

14 Next slide, please.

15 --o0o--

16 MICHAEL HURSH: And that is the workforce  
17 development. We're very proud of our ZEB University. We  
18 have over 150 mechanics from my agency alone that need to  
19 be retrained or trained into the zero-emission technology,  
20 whether that be hydrogen or battery dominant bus. We also  
21 train our operators on really what does it mean to be a  
22 leader in this climate change remarkable opportunity we  
23 have transitioning to zero emission.

24 Our intention is to open up our university for  
25 workforce development training for our community, but also

1 for other transit agencies. Our number one issue to  
2 restoring service, in addition to the economic challenge,  
3 is finding candidates that want to come to work. We will  
4 take someone with zero experience, as long as they have a  
5 clean regular driving -- driver's license record. It's a  
6 top wage of \$35 an hour, living wage union job. We will  
7 also do the same. If you basic automotive mechanic  
8 experience, we will put you through the training. And we  
9 intend to -- to expand that, because we see that the  
10 availability of trained technician, if you will mechanics,  
11 are just not out there, and the high schools and community  
12 colleges are not growing them any more.

13 Next slide, please.

14 --o0o--

15 MICHAEL HURSH: That's it. If you have time,  
16 scan the QR code, it will take you to the reports that I  
17 mentioned. Very proud to be here with you today. I'm  
18 sorry I'm not in Sacramento. I appreciate your indulgence  
19 for the virtual meeting. Really want to recognize Michael  
20 Pimentel and CTA for really getting the transit industry  
21 whipped into shape. We support 2023. The canary is  
22 coughing. We need to work together the see where we go  
23 from here.

24 Thank you very much.

25 MICHAEL PIMENTEL: We could go to the next slide,

1 I'm going to attempt to bring us home and talk more  
2 specifically about where we go from here.

3 --o0o--

4 MICHAEL PIMENTEL: So you heard us talk about the  
5 work that we've done to facilitate the transition and the  
6 challenges that lie before us, and to restate the point  
7 that Michael Hursh just made. As an industry, we believe  
8 that we are ready for 2023. And largely that is a  
9 reflection of the early action that was taken by the  
10 industry to get out ahead of the purchase requirement to  
11 deploy buses in large numbers and to generate credits  
12 under the regulation that will allow them -- allow the  
13 agencies to meet their 2023 compliance obligation. But  
14 what we're now focused on is 2024 and beyond. And  
15 certainly in the years -- the out-years you're going to  
16 see an increase in the purchase requirements that are  
17 going to apply to the transit agencies.

18 And here, we have offered a series  
19 recommendations that have been developed by our  
20 Zero-Emission Vehicle Task Force. There are six on the  
21 screen. I'm going to focus in on three, because those are  
22 the actions that we believe are most operative for CARB to  
23 pursue and really do fall within your direct purview.

24 Now, the first one relates to CARB funding  
25 sources and CARB policies that govern those funding

1 sources. Now, programs like HVIP were specifically  
2 designed to incentivize early action. But as you heard  
3 from the transit agencies as they spoke, and agency's  
4 ability to have taken early action was highly dependent on  
5 the luck in securing competitive funds. And so there are  
6 agencies out in the state who have endeavored to secure  
7 monies to have taken early action and just unfortunately  
8 weren't lucky enough to have been granted those funds to  
9 have taken that early action.

10           And I do want to offer one statistic that I think  
11 also just underscores this point, both Doran and Mike made  
12 reference to the most recent solicitation for federal  
13 dollars in the Low-No Grant Program. There were a billion  
14 dollars in requests from the state of California from  
15 California transit agencies. Ultimately, \$200 million in  
16 grant requests were funded. And so that demonstrates  
17 again the huge demand in energy for this transition, but  
18 also the criticality of funding to facilitate this  
19 transition.

20           And so our request here is to simply allow  
21 agencies to continue to access HVIP dollars, even after  
22 the compliance requirements are imposed on them. In the  
23 absence of that type of flexibility, we're actually going  
24 to have a -- we're going to see a chilling effect on the  
25 transition to these technologies, as agencies are staring

1 down more expensive vehicles, more compromised funding  
2 sources due to the pandemic, are now charged with moving  
3 forward with this transition, they may elect to instead  
4 not purchase vehicles and therefore not have a compliance  
5 obligation under this regulation.

6 That is, unfortunately for an environmental  
7 perspective, the wrong decision to make. We want to find  
8 ways to encourage these agencies to move into cleaner  
9 vehicles. Again, HVIP will be a critical component of  
10 that.

11 Now, the second recommendation we have relates to  
12 our request that CARB establish implementation of working  
13 group with your sister agencies, departments, boards, and  
14 commissions. We note CEC, CPUC, GO-Biz. That may not be  
15 a fully comprehensive list, but we think it's a good start  
16 to begin to work through the barriers that we have  
17 identified and to troubleshoot challenges as they arise.

18 Now here, I don't want to go into the minutia of  
19 the challenges, the barriers, and ways in which all these  
20 agencies, departments, boards, and commissions can be  
21 commandeered to ultimately break past them. But we would  
22 just argue that having this more frequent and tactical  
23 conversations with the State will allow us make a more  
24 thorough progress on this transition, and so again are  
25 requesting the CARB establish this group. And we as an

1 association will love to be part to those conversations,  
2 so we can elevate the barriers, elevate the challenges as  
3 we see them and commit to supporting you all in breaking  
4 past them.

5           And this final recommendation I'll touch on  
6 relates to Low Carbon Fuel Standards Program. We  
7 understand that the regulations for this program are going  
8 to be under review by CARB in the short term. Here, it is  
9 a minor request, and that is just to allow agencies to  
10 track their electricity usage, and therefore their credit  
11 generation at the meter. We have agencies today that have  
12 meters that are siloed only to their electric charging  
13 infrastructure.

14           Unfortunately, in their regulatory structure  
15 today, agencies have to track electricity usage and  
16 therefore credit generation at each of the chargers. That  
17 may be a satisfactory position to be in in the early years  
18 when you have very few chargers, very few depots and  
19 divisions that have electric buses in them. As we reach  
20 scale from an administrative standpoint, it's going to be  
21 a nightmare for agencies to ultimately comply with that  
22 type of structure. And we're trying to get ahead of what  
23 we know is going to be an administrative nightmare moving  
24 forward.

25           And so with all that said, items 4 through 6,



1 work the frankly CARB has been doing, we've seen it, we've  
2 been party to the conversations to moving it forward.  
3 Just want to encourage you to continue to do that great  
4 work to bring funding resources home to the agencies, for  
5 the vehicles, for the infrastructure, and then also to  
6 continue to work with the CPUC on the collective --  
7 commercial electric vehicle tariffs. You heard Mike Hursh  
8 talk about some of the cost savings that they're realizing  
9 for those battery electric buses relative to their  
10 operations.

11           That can be the norm for the agencies.  
12 Unfortunately, in just a few years, demand charges are  
13 going to be reimposed on the agencies, and we may actually  
14 see the economics of the battery electric buses become  
15 less economic from an operational perspective than the  
16 diesels and CNG counterparts. We do think that it's  
17 important for the CARB board to intercept that potential  
18 future, provide some guidance to CPUC about the  
19 appropriateness, the righteousness of continuing to  
20 maintain these beneficial tariff structures that advantage  
21 this transition to zero-emission technologies.

22           And so with all this said, I -- I again want to  
23 thank you for the opportunity to present to you all.  
24 Doran, and I, and Mike are available to take questions as  
25 we move forward, and again just appreciate the strong

1 partnership over these past few years.

2 EXECUTIVE OFFICER CLIFF: Thank you, Mr.  
3 Pimentel. And thank you to CARB staff, our partner  
4 agencies, NREL, and the transit agencies for your  
5 presentation today. This concludes all the presentations  
6 for this item.

7 VICE CHAIR BERG: Well, thank you very much, Dr.  
8 Cliff. I think you set a record for the number of slides  
9 right off the bat.

10 (Laughter)

11 VICE CHAIR BERG: And so we do have currently  
12 three people signed up for public comments. And we would  
13 like -- we have 73 in attendance. So if one -- if you  
14 would like to sign up for public comment, if you could  
15 please raise your hand or -- or push star nine now, that  
16 would be helpful.

17 And do we have some in-person -- okay. Can I  
18 just take a quick -- do we just need a five-minute stretch  
19 break or shall we jump into public comment?

20 Plow through.

21 Okay. We know our people online they can stand  
22 up and stretch. Please feel free too. And I'll call on  
23 the Board Clerk to start the public comment. Thank you.

24 BOARD CLERK ESTABROOK: We do have one person  
25 in-person and that is Sean Edgar.

1           SEAN EDGAR: Great. Good morning, Vice Chair  
2 Berg and Board members. Sean Edgar with Clean Fleets.  
3 Happy to be in front of you today. I captured from the  
4 Innovative Clean Transit discussion, the very informative  
5 federal and State budgets are tight is what I captured.  
6 Cuts in service are possible when there's a crisis, I  
7 captured that. And just to distinguish that ICT  
8 experience as being reported to you in real-time, next  
9 month the Board is going to be talking about Advanced  
10 Clean Fleets. I'll spend a minute to talk about what  
11 we've just learned and how we might think about applying  
12 that to the discussion in the following months about  
13 Advanced Clean Fleets.

14           There are three aspects of Advanced Clean Fleets.  
15 And I think the three parties I guess that we could apply  
16 what we just learned. The first we have public agency  
17 fleets that are covered under the Advanced Clean Fleets  
18 proposal, and they don't currently have a funding source,  
19 like the ICT folks to deal with what ACF requirements  
20 would be. And those are largely providers of essential  
21 public service, sanitation districts, waste collection,  
22 and disposal, as an example.

23           We have private fleets that also are still paying  
24 for the last round of statewide truck and bus compliance  
25 with the deadline at the end of this year. So some of

1 those folks, of course, are obviously concerned about ACF.

2           And -- and then we have a third category, which  
3 is not in the provider of essential service category, but  
4 is definitely in the realm of critical to society, which  
5 is drayage trucks, which we found out from the supply  
6 chain crisis that we have to be very concerned about how  
7 freight and goods flow.

8           So I guess learning what we just discussed, I  
9 guess I have the \$64,000 question, or I guess it would  
10 probably be more appropriately a \$64 billion question,  
11 because I think the scale of this electrification is in  
12 that -- exceeds 64 billion. So if there's no dedicated  
13 funding for the public agencies that you just heard from  
14 in the transit space, and they're concerned about that, I  
15 guess we've got to ask ourselves who would providers of  
16 essential public service covered by ACF be in any better  
17 position? That would be my first question. And then what  
18 aspects of the ICT that we just learned about could we  
19 perhaps borrow for the upcoming ACF discussion?

20           And just to touch on, we heard economics and  
21 technology are actually going to guide how quick these  
22 vehicles get to be rolled out. And we heard from Mr.  
23 Hursh pulling teeth, that was one expression. I'm not  
24 sure if a public transit agency could pull teeth any  
25 better than a private refuse or recycling company or a

1 public agency. I'm not sure how that would work. We  
2 heard about less economic. Mr. Pimentel said less  
3 economic. That doesn't sound good to me. And I guess the  
4 last thing is we heard potentials for reduction in service  
5 or stopping service.

6 So I'll just reserve some comments for later, but  
7 there are a lot of lessons that we've learned here that  
8 will have to be part of the discussion with ACF that are  
9 not covered in the staff report that was just released on  
10 August the 31st.

11 Thank you.

12 BOARD CLERK GARCIA: And then we also have three  
13 remote commenters that we'll hear from at this time.

14 That's Janet Dietzkamei, Carolina Martinez, and  
15 Adrian Martinez.

16 So Janet, I have activated your microphone. You  
17 can unmute and begin.

18 JANET DIETZKAMEI: Good morning, Vice Chair Berg,  
19 Board members, and staff members, and today's presenters.

20 I am speaking for asthmatics regarding ridership.  
21 My comments are pertaining to ridership. We are talking  
22 about a program to clean air and to address greenhouse  
23 gases. But those of us who are asthmatic, we will choose  
24 a private vehicle over standing in air that is unsafe for  
25 us to breathe waiting for public transit. There are days

1 when in the San Joaquin Valley, PM2.5 and ozone are too  
2 high for us to breathe. Another point of ridership is --  
3 so in other words, we have to wait till the air is clean.  
4 Another point of ridership is the amount of time it takes  
5 to wait for a bus and get to Point B from Point A is three  
6 times what it would take to go in a private vehicle.

7           And that's another thing that needs to be  
8 addressed as far as ridership goes, because one thing I  
9 hear from people is I won't take a bus. It takes way too  
10 long. City planning, we have a lot of suburban in the San  
11 Joaquin Valley. We have land that is ready -- saved  
12 for -- for commercial use, but there's nothing being built  
13 on that land. The point of this land is for those of us  
14 in suburban to keep us in our neighborhoods, so that we  
15 will at least take public transit from Point A to Point B  
16 within our neighborhood using the commercial buildings  
17 that are built in our neighborhood.

18           And this is a new concept, we're trying to get  
19 urban, where we have apartments over businesses, so that  
20 we could keep people in their neighborhoods rather than  
21 commuting as we do now, those of us who are using  
22 public -- our own personal vehicles.

23           I am very impressed with the progress here. I  
24 am -- I feel we are on the right road to clearing our  
25 air. San Joaquin Valley is one of the worst in the United

1 States for PM 2.5. And my comments are on ridership and  
2 how we can encourage ridership in at least Fresno City.

3 Thank you.

4 BOARD CLERK GARCIA: Thank you.

5 Next, we'll from Carolina. I have activated your  
6 microphone. Please unmute and begin.

7 CAROLINA MARTINEZ: Good morning. I am Caroline  
8 Martinez with the Environmental Health Coalition. We're  
9 here to speak on the service needs improvements in our  
10 mass transit system and the ICT implementation.

11 We support the recommendations for strategic  
12 investment in transit to accelerate an urgent and no  
13 longer optional transition to affordable, frequent,  
14 zero-emission, mass public transit. We clearly know the  
15 climate impacts, but there are also economic impacts. For  
16 example, in San Diego, 70 percent of the jobs are now  
17 reachable by transit. The good news is that we have  
18 solutions. Mass public transit is one of the most  
19 promising solutions for both the economic and climate  
20 crisis.

21 In our communities, we've been working on a  
22 campaign. It's called the 10 Transit Lifelines. And our  
23 communities -- environmental justice communities in San  
24 Diego have identified the acceleration of the electric bus  
25 fleet transition to be completed in our region by 2030 as

1 a priority.

2           So first, I wanted to talk about the service  
3 priorities. As Supervisor Vargas mentioned, the youth  
4 opportunity pass is demonstrating a huge success in our  
5 region. Twenty-five percent -- we are seeing a 25 percent  
6 increase over -- overall on youth ridership in general and  
7 countywide, and a 68 percent increase on Saturdays, 90  
8 percent increase ridership on Sundays.

9           So we know that the cost is a -- it's a huge  
10 need, and improvement, and opportunity. We also know that  
11 frequency is freedom and is something that needs to be in  
12 line with the affordability of the transit system. So we  
13 want to elevate a need for both affordability and  
14 frequency.

15           And then lastly, I want to talk about the bus  
16 electrification transition. At this time, our local  
17 agency, the MTS is running 12 electric buses, and we have  
18 an 800-bus fleet. And so we're asking for support of the  
19 acceleration of the transition, both for buses itself and  
20 infrastructure. It is an -- it is an urgent, -- it is a  
21 priority for our community. And -- and the agency does  
22 require support, but we want to make sure that that  
23 support is prioritized to deliver solutions to  
24 disadvantaged communities first. So we're here to support  
25 the staff recommendation for strategic investments in



1 transit with a priority in disadvantaged communities.

2 Thank you.

3 BOARD CLERK GARCIA: Thank you.

4 Next, we'll hear from Adrian Martinez and LaDonna  
5 Williams.

6 So Adrian, I have unmuted -- or activated your  
7 microphone. Please unmute and begin.

8 ADRIAN MARTINEZ: Hi. Good morning. My name is  
9 Adrian Martinez. And I'm a Senior Attorney with  
10 Earthjustice.

11 I just wanted to tune in today to congratulate  
12 staff, congratulate the Board, and congratulate the  
13 California Transit Association. I think it's pretty  
14 remarkable. I was looking back at our notes from December  
15 2018 when this item was passed, and there was a lot of  
16 concern. But I think the comprehensive review that  
17 occurred today shows that the regulation is really  
18 working.

19 As an anecdote, this morning, I was walking up to  
20 school with my daughter who's a seven year old and first  
21 grader and we saw two electric buses. Without the  
22 regulation that was passed in 2018, I don't think we would  
23 have seen those electric buses. When I was talking to  
24 daughter Caroline and saying what I was going to attend  
25 and listen to this morning, and testify to, she said tell

1 them that the electric buses are working. So she wanted  
2 to pass that information on. They seem to be working very  
3 well.

4           This is -- this is huge. I think there's a lot  
5 of environmental benefits. There's a lot of job benefits.  
6 And I'm just very impressed that we are where we are right  
7 now. I think it bodes well for future regulations that  
8 when they're passed, there might be skeptics and concerns  
9 raised from folks who would be subject to those  
10 regulations. But I think what this shows is that  
11 California is on the right path to pursuing a  
12 zero-emission future. I hope this is -- you know, this  
13 type of success occurs in all sorts of larger vehicles  
14 like trucks, and off-road equipment, and other equipment  
15 as we're approaching -- as we're pursuing a zero-emission  
16 future. And I look forward to continual progress.

17           And then finally, I support the staff  
18 recommendations in increasing transit. I think one of the  
19 things that the CTA has done really well is try to gauge  
20 support for electrification and other zero-emission  
21 technologies for its fleet, all while trying to get more  
22 support for expanding transit service.

23           This is really important and we love to continue  
24 working with the Board and CTA to make sure that's a  
25 reality.

1 Thank you.

2 BOARD CLERK GARCIA: Thank you.

3 LaDonna, I have activated your microphone.  
4 Please unmute and begin.

5 LaDONNA WILLIAMS: Yes. Good morning. LaDonna  
6 Williams, All Positives Possible.

7 I just wanted to say it was a lot of information  
8 to take in this morning and trying to keep the thoughts  
9 together. And hopefully in the -- in the future, when you  
10 put on a presentations, maybe you could pause and allow  
11 the community to comment on the presentations that are at  
12 hand, as opposed to just taking in so much information and  
13 trying to put it into something that makes sense.

14 But I also wanted to point to the fact that I'm  
15 hoping what doesn't get lost in this process is the need  
16 to actually put disadvantaged communities as the top  
17 priority, particularly those in Black American  
18 communities, because we have these continuing increasing  
19 blocks and burdens that prevent them from being able to  
20 take advantage of these opportunities. Case in point, I  
21 believe it was Director -- or Board Member Balmes that  
22 asked a question of -- and I apologize if I don't remember  
23 the organization he was representing, but Michael  
24 Pimmel[SIC] when me mentioned having these opportunities  
25 for disadvantaged groups or communities, and when Board

1 Member Balmes questioned him further on it, he was unable  
2 to provide any real answer to it.

3           And so again, that just, you know, raises our  
4 concerns that our communities continue to be left behind.  
5 It's an afterthought. It's a mention in these, you know,  
6 voluminous presentations. But when it comes down to  
7 implementation, we're lost in that process.

8           And also when -- I believe it was Michael Hursh  
9 mentioned the workforce and the university. Absolutely  
10 great ideas. However, again when we question what  
11 percentage of Black folks are involved or able to take  
12 advantage of those opportunities, we see how low those  
13 numbers are, again because of systemic racism, being  
14 targeted, driver license revocation and suspension, simply  
15 because they're black. We have a lot of issues to be able  
16 to discuss, which we know couldn't be covered in this  
17 short period of time.

18           But we need to keep the disadvantaged,  
19 particularly Black American communities issues in the  
20 forefront as we move through these processes. And I would  
21 like to see more clarity on the outreach funding to be  
22 able to engage in these processes. I realize this is  
23 transit, but this is also one of those subjects where you  
24 really see the least involvement from Black Americans.  
25 And so again, thank you for the opportunity to speak and

1 be part of these proceedings or hearings.

2 Thank you.

3 BOARD CLERK GARCIA: Thank you. And then we just  
4 had one more hand go up. That's Todd Campbell. So Todd,  
5 I have activated your microphone. Please unmute and  
6 begin.

7 Todd, are you there?

8 It look like you've muted again. Let me --

9 TODD CAMPBELL: Am I unmuted?

10 BOARD CLERK GARCIA: Yep, there you go. We can  
11 hear you.

12 TODD CAMPBELL: Oh, hi. Good morning. Sorry.  
13 The button didn't come up. My name is Todd Campbell. I  
14 represent Clean Energy as its Vice President of Public  
15 Policy and Regulatory Affairs. And I wanted to thank  
16 staff and all the transit agencies for providing -- as  
17 well as the other agencies as well for providing some  
18 great analysis.

19 I just wanted to emphasize what Michael Pimentel  
20 mentioned as a concern, in that if we don't get this  
21 right, this transition right, there could be a potential  
22 chilling effect on a technology transition. And, you  
23 know, we cannot afford to allow that to happen, given the  
24 state of our air quality here in California. I think  
25 what's really important to note is that the transit

1 agencies who are rightfully receiving preferences in  
2 funding, collaboration, et cetera, are still  
3 understandably struggling to make this transition.

4           And I think there's some very important lessons  
5 here to also think about next month with the Advanced  
6 Clean Fleet rule. The cost figures from the transit  
7 agencies, what I like about them is they're not academic  
8 projections. They are really costs for vehicles,  
9 infrastructure, fuel, and they are going up, not down,  
10 unless they're subsidized, in some cases, by the LCFS,  
11 which rightfully they should be. I think the LCFS is a  
12 great program, so good work there.

13           I also think that the redundancy concern it's a  
14 rightfully clear concern for transit agencies that I think  
15 also will be felt by businesses. The need to meet rollout  
16 for a public agency or a private ins -- you know, a  
17 company is very important. Budgets are also top of mind.  
18 Running deficits that keep ballooning due to cost  
19 ballooning increases is not sustainable. So we need to  
20 think about how do we address those issues. Of course, we  
21 haven't even addressed where the power mix come from. And  
22 I think the near power shortage in the state earlier --  
23 was it earlier this month, or a couple weeks ago, let's  
24 just say, is of concern. We need to make sure that we  
25 have resiliency.

1           And then, of course, what I think is going to be  
2 very critical is for this agency to think about if we are  
3 unable to make a full transition in the near term, how are  
4 we reducing emissions in the near term? Are we requiring  
5 the cleanest technologies that could support this  
6 transition to zero?

7           And with that, I'd like to thank you for your  
8 time, great presentations, and appreciate the opportunity  
9 to speak.

10           BOARD CLERK GARCIA: Thank you. And that  
11 concludes the commenters for this item.

12           VICE CHAIR BERG: Thank you so much.

13           Staff, I first want to turn to you to see if  
14 there was any issues raised in the comments that you want  
15 to address. That said, I do know that there's lots of  
16 Board discussion and interaction.

17           EXECUTIVE OFFICER CLIFF: No, I think we're good.  
18 We're looking forward to the discussion.

19           VICE CHAIR BERG: Great. Okay. So Board  
20 members, if those online wouldn't mind, I'm just going to  
21 change my screen here to get you guys on, if you will  
22 raise your hands. And as you're doing that, I will start  
23 to my right and start with Professor Sperling.

24           BOARD MEMBER SPERLING: Thank you very much. We  
25 certainly got a lot of information this morning. I took

1 good notes. I do want to acknowledge that, you know, this  
2 is a situation where we have a stakeholder group that is  
3 on board with us. This is not one where there's  
4 resistance or -- or opposition. And, in fact, you know,  
5 some of the presentations we heard, you know, reflect  
6 leadership on moving towards electric and hydrogen buses  
7 that goes way back. I remember when George Bush was  
8 President and he came out here and visited California and  
9 highlighted AC Transit's efforts with fuel cell buses.  
10 So, you know, that's a lot of years ago, right?

11 And so there's been a lot of leadership. Now, on  
12 the other hand, public transportation is in crisis. And I  
13 think the transit leaders even underplayed what's going on  
14 here. The challenge is that they referred to, they're not  
15 exaggerating. In fact, it's -- I think it's even much  
16 worse. So you just -- if I -- I'll frame it a little bit  
17 broader.

18 Public transportation has been losing -- had been  
19 losing ridership starting around 2010 going right into the  
20 pandemic, had been losing ridership. Ridership plummeted  
21 during the pandemic. And now even after kind of the --  
22 we're out of the pandemic now, right, I've been told.  
23 Buses are at about 30 percent lower ridership than before  
24 the pandemic. BART is down like 60 percent and it ain't  
25 coming back. You know, there's -- a lot of people are



1 reluctant to use it for one reason or another. A lot of  
2 people are remote -- working remote.

3           So we -- we have a transit agency industry that's  
4 in crisis. And they're only existing now and functioning  
5 more or less now because they've gotten huge bailouts,  
6 mostly from the federal government, but also the State.  
7 And when some of that federal money stops coming in a few  
8 years, which is almost definite, many of these agencies  
9 are just going to go over the cliff. They're not going to  
10 even be able to function unless there's a huge amount of  
11 new money to bail them out.

12           Another way of putting it is transit ridership is  
13 about -- transit accounts for only about two percent of  
14 our passenger travel before the pandemic. It's probably  
15 down to about one percent now.

16           And what that means is we're doing a horrible job  
17 of serving people that have been marginalized by our  
18 transportation system, that are physical limitations,  
19 economic limitations, and other kinds of discrimination  
20 that might exist in some communities.

21           So here we are creating -- we've created a  
22 program, which in principle is a great program, but we're  
23 asking these transit agencies not only to spend a huge  
24 amount of new money, but also to revamp their operations  
25 at a time when they're dying. Okay. Maybe that's

1 exaggerating a little bit, but they're in dire -- they're  
2 in dire situations.

3           And what do we do about this? So I would -- you  
4 know, one of the thing -- you know, we hear -- hear a lot  
5 about environment justice and serving disadvantaged  
6 communities. You know my own take on it is that the first  
7 priority should be service. It's already -- service has  
8 been cut back by every one of these operators. And so the  
9 first priority should be service. And yes, a high  
10 priority is zero-emission buses.

11           So what do we do about this going forward? So,  
12 yes, you know, for a variety of reasons, the funding  
13 programs and inertia, you know, the situation through 2023  
14 is okay. Agencies have the money in place to continue,  
15 you know, to comply, but they don't after that.

16           And so I guess a principle that I would  
17 suggest -- and so this is not for today. You know, we can  
18 put this off till next year, but we can't put it off  
19 probably beyond that, is that this regulation more  
20 explicitly acknowledge and link funding to compliance.  
21 You know, these are public agencies. Let me put it  
22 another way -- explain another way how -- how -- how dire  
23 it is.

24           So it used to be in the good days, they would get  
25 about 25 percent of their funding from the fare box. In

1 other words, passengers paid -- money passengers paid  
2 covered 25 percent of their operating costs. None of  
3 their capital costs, 25 percent of their operating costs.  
4 Now, that's down to 10 or 15 percent. So these are  
5 agencies that are not -- these are not profit entities.  
6 These are entities that depend totally, almost totally, on  
7 public funding.

8           And so this is a really awkward situation for us,  
9 I think at CARB, but I think we need a principle -- and  
10 I'm not sure how to translate that principle into action,  
11 but we need a principle that says compliance is dependent  
12 on funding becoming available, whether through federal  
13 sources, through State sources, through HVIP, wherever it  
14 comes from. And it's coming from a lot of different  
15 sources, so it's kind of hard to track it. They're  
16 tracking it, but, you know, for us.

17           So I would say, you know, they had a request to  
18 form a working group. You know, that seems like a good  
19 idea, but it -- it just barely scratches the surface of  
20 the challenge here and what to do about it.

21           So on that dire note --

22           (Laughter)

23           BOARD MEMBER SPERLING: -- I'll pass it on to...

24           VICE CHAIR BERG: Thank you.

25           Just for a point of order, Board Member De La

1 Torre, and then Davina Hurt, and then I'll call on  
2 Barbara.

3 (Laughter)

4 BOARD MEMBER DE LA TORRE: Thank you. I'm not  
5 laughing about Dan's comments. Those were very dire.

6 I want to start by thanking staff and thanking  
7 the transit agencies for this very, very, very positive  
8 status report. When I was briefed about it, I was very  
9 pleasantly surprised, because I remember that discussion a  
10 couple years back. So the fact that you've gone out there  
11 and making it happen is tremendous, so thank you.

12 Your concerns -- you know, we're all taking a big  
13 leap here, not just in your sector, in others as well,  
14 so -- as we heard just a minute ago. So we -- we  
15 understand. We're monitoring. We're watching. We're  
16 being grateful for the support we're getting from the  
17 federal government, but, you know, California is all in on  
18 this and it is a major market transformation across the  
19 Board. We understand that and, you know, we're going to  
20 continue to do as much as we can.

21 I also wanted to acknowledge my surprise at how  
22 many fuel cell buses there are up and down the state, how  
23 many transit agencies are using fuel cell as their  
24 solution here. I expected it would be two or three, and  
25 it's a lot more than that. And so very impressed that

1 there's -- our policy of all-of-the-above is being  
2 reflected out statewide.

3           The ridership question is the thing that I -- and  
4 I mentioned it in -- in my meetings with this sector. I'm  
5 very concerned about what that is and finding best  
6 practices around the country, and trying to implement them  
7 here to drive up that traffic. You know, I live in LA  
8 County, and I recall I think it was at this -- when we --  
9 when we took this action, where they said that they hadn't  
10 reviewed their routes in 10 years. You know, we can't  
11 help that, right? Times change, our activities change,  
12 locations change, and, you know, we want to get people  
13 where they want to go, not where they went 10 years ago.  
14 So things like that are -- you know, help us out here with  
15 that kind of stuff.

16           And then finally, there was one of the points in  
17 the presentation about a multi-agency dialogue or  
18 discussion as we move forward. I do want to incorporate  
19 that into what we're doing and include the transit  
20 association as part of those discussions with us, with our  
21 other agency partners. I think because of the massiveness  
22 of this change, you should be dialoguing with us directly,  
23 all of us together, because otherwise it's just, you know,  
24 herding chickens and that's not -- that's not fair to you  
25 and it's not effective for us.

1           So thank you.

2           VICE CHAIR BERG: Thank you.

3           Board Member hurt.

4           BOARD MEMBER HURT: Thank you, Vice Chair Berg.

5           So from everything you've heard today, there's no  
6 doubt that this is going to be a heavy lift for transit  
7 agencies. And that's for multiple reasons. I mean, we  
8 talked about coming out of the pandemic a reduction in  
9 ridership. I know even in the Bay Area, there's been a  
10 large push for remote work. And I, like the speakers that  
11 have come before me, am really concerned about these  
12 agencies moving into the future and meeting some of our  
13 ambitious requests.

14           And I'm also -- I've read and I've received  
15 direct feedback that, you know, some of these agencies are  
16 at a financial cliff, and that's from large to small  
17 transit agencies. So no one is immune from the reduction.  
18 And so I know that we need to move forward in passing this  
19 regulation. It needs to happen for many of the reasons  
20 that's already be -- been spoken about as far as  
21 communities who are already suffering in very polluted  
22 areas, disproportionately impacted. And so to clean their  
23 air through the transportation they use is essential. So  
24 I think we're all committed to this emission --  
25 zero-emission future.

1           But I -- I am really worried about that next leap  
2 that next walk up in 2026 as it relates to the 50 percent.  
3 That is still a large question mark for me. And I -- and  
4 I think we should -- without a doubt, I think it's  
5 necessary that we facilitate a transit agency sharing best  
6 practices, tips, since we're the agency that's  
7 promulgating this rule. So the working group that's even  
8 at Caltrans, the transit agencies through CTE -- CTA, we  
9 should definitely consider.

10           It's not clear to me one place or one group  
11 that's really monitoring and thinking about these things.  
12 So again, I hope we, as CARB, can facilitate that.

13           I appreciate that we'll be monitoring  
14 implementation annually and do one-time comprehensive  
15 review, but I think really to thread the needle on this  
16 and to make sure that we don't crush our transit agencies,  
17 that they're talking more often and then we're gathering  
18 either quarterly or whatever time is best -- best to  
19 collaborate especially for small transit agencies.

20           And then I just want to uplift another area that  
21 is really concerning for me and it's around  
22 infrastructure. And I'm thinking as the cost and the ease  
23 of purchasing buses is increasingly getting better, we saw  
24 that in the purchase readiness summary statement, you  
25 know, that we're on good footing.

1 I've heard the real difficulty on the ground is  
2 building new or upgrading energy connections for battery  
3 electric and hydrogen buses. In fact, I've heard someone  
4 say quote/unquote, it has been a nightmare. So CARB, with  
5 its sister agencies, I hope we can intervene and help  
6 support, and bring balance, and focus alongside the  
7 agencies like PG&E in Northern California just to  
8 streamline this processes -- process -- processes for --  
9 to seamless permitting, building, and service. Because if  
10 this piece isn't supported, this conversion will be more  
11 painful and more costly. And I don't think we want that  
12 for our public transit agencies.

13 So I -- I will probably move forward in passing  
14 this, but I really think that we have to walk a fine line,  
15 because our public transit agencies are struggling with  
16 low ridership. And while I think that there might be a  
17 marketing piece or, you know, a media campaign in saving  
18 the environment, ride this electric bus or a zero-emission  
19 bus, I just don't know if we can get folks pivoted and  
20 turned to that space by 2026 with this 50 percent and  
21 helping transit agencies pay for what's going to be a  
22 really heavy lift.

23 I'll stop there. Thanks.

24 VICE CHAIR BERG: Thank you, Davina.

25 Okay. A couple of things. One, I did not



1 mention, and I just want to make sure to welcome Chair  
2 Randolph. She is online and really appreciate her ability  
3 to multi-task and to join us. So welcome, Chair Randolph.  
4 Great to have you here.

5           Second, I do want to clarify for Board Member  
6 Hurt, we are not voting on this regulation. This  
7 regulation was adopted in 2018. Today, we are getting --  
8 as part of the regulation, the Board required this  
9 comprehensive update. So this is kind of an opportunity  
10 for the -- it isn't kind of. This is an opportunity for  
11 the Board to give direction to staff as we're all on the  
12 precipice of the go, no-go for 2023. So I think your  
13 comments were terrific and spot on. And I know that our  
14 staff is taking copious notes. And obviously, we are  
15 going to be walking through this very carefully, but there  
16 will not be a vote. There isn't a resolution. This is --  
17 this is just an opportunity for us to check-in at this  
18 time.

19           So with that, I'm going to turn the mic over to  
20 Ms. Riordan.

21           BOARD MEMBER RIORDAN: Thank you, Madam Chair.  
22 Let me express, first, my appreciation for what I believe  
23 is a most comprehensive and understandable report that  
24 we've had in a long time. And thanks to those of you who  
25 have come to share your real-time experiences with us,

1 because that is vital to I think the success of this  
2 program.

3 I want to make very quickly some suggestions.  
4 One is to Elizabeth John. I hope she's still on with us.  
5 I don't know. But if she's not, staff, if I could ask you  
6 to communicate with her. It is on the future study that  
7 she mentioned for chargers and how many -- I assume, where  
8 they might be. I would hope that they would also put a  
9 price on that, because I think it's going to tell us what  
10 we need to do and by way of providing infrastructure. And  
11 there's got to be somebody who finally comes up with a  
12 number. I know it's going to be difficult, because there  
13 are different requirements in different areas and  
14 different problems. But I can tell you that if we don't  
15 understand that, we will never have then the evidence and  
16 the wherewithal to make the request of the governmental  
17 agencies that I think are going to need to support this.  
18 So that's number one.

19 Number two, to the point of the recommendations  
20 that came from our transit agencies, I'm going to support  
21 all six of them. I think they're good. I think we need  
22 to look seriously at them. And I recognize we're not  
23 taking a vote today, but what I would suggest is, staff,  
24 that you really work on these in a very serious way,  
25 because I think they would help to make this program more

1 reasonable and more successful in the long run.

2           And finally, I want to talk a little bit about  
3 training for the future of those folks who are going to be  
4 working on these new vehicles that are coming into us, and  
5 it -- included in that is those requirements that we have  
6 made on others, whether it's automotive, or light trucks,  
7 or the new very large transit trucks that we have asked  
8 for. And different areas may be different. I heard AC  
9 say that they would be willing to train, that they would  
10 take people and give them that training that's necessary.

11           Where I am from, which is Southern California  
12 area, there are junior colleges that would love to do  
13 this. And now here's my request to staff, not in this  
14 conversation right now. I need to have somebody contact  
15 me, because I know of one junior college that tried to  
16 access the charging companies and got the door just closed  
17 on them, because -- I don't know why. I don't know the  
18 reason, but I know what the result was.

19           And you've got to be able to work with these  
20 automotive people at the junior college level to be able  
21 to know what is required and how to establish their  
22 curriculum, because this is something new for them too.  
23 So this -- this particular professor wanted to establish a  
24 curriculum. Well, how is he going to do it? He needs to  
25 talk to the people that are manufacturing those chargers.

1 So please contact me and I'll give you the name of this  
2 particular professor and maybe we can make something  
3 happen.

4 But I think, given the reasonableness of transit  
5 agencies training, junior college -- and I believe junior  
6 college is very affordable, so we can get into some of the  
7 low- and moderate-income areas and potential students, and  
8 then potential mechanics. I don't even know if you call  
9 them mechanics now, but these -- these jobs are going to  
10 be really needed and pay very well. So, with that, I'm  
11 going to conclude and say thank you to everybody who made  
12 the presentations today.

13 VICE CHAIR BERG: Thank you.

14 Dr. Balmes.

15 BOARD MEMBER BALMES: Thank you, Vice Chair Berg.  
16 And even though I wanted to go after Professor Sperling.

17 (Laughter)

18 VICE CHAIR BERG: Well, when they make you Vice  
19 Chair, you can do that.

20 (Laughter)

21 BOARD MEMBER BALMES: No. No. Only because --

22 (Laughter)

23 BOARD MEMBER BALMES: -- I wanted to echo his  
24 concern about the dire straits of the public transit  
25 sector. And by the way, I agree wholeheartedly with Mr.

1 De La Torre that it's really refreshing to see how the CTA  
2 and its members had stepped up to try to work with us, and  
3 to make the Innovative Clean Transit Rule a reality.

4 But there's a lot that's intervened since that  
5 rule was passed. I'm glad we're having this review. I  
6 usually like reviews -- mid-term reviews, if you will, of  
7 our important regulations. And I think that Dr.  
8 Sperling's idea of trying to come up with a way to require  
9 compliance as funding is available is, I think, a very key  
10 issue here.

11 Jus a shout-out to AC Transit. You know, there's  
12 a bus stop right in front of my house. Right now, it's  
13 just a -- there's no hydrogen fuel cell vehicles,  
14 because -- as Dr. Sperling knows, he used to live near  
15 there -- Spruce Street isn't a main thoroughfare. But the  
16 people I see on those buses often, especially at the start  
17 or the end of the day, are low-income people of color, who  
18 are gardeners, housekeepers, et cetera. And how are  
19 they -- you know, they need service. And, you know, AC  
20 Transit, Mr. Hursh said, is better off than many of the  
21 transit agencies in the state.

22 I'm -- as most people know, environmental justice  
23 is sort of number one in terms of my priorities with our  
24 regulatory actions, but is it environmental justice to  
25 have the -- no service or limited service for low-income

1 people of color to get to their jobs? You know, I think  
2 that, you know, I'm all for the goals of the Innovative  
3 Clean Transit Regulation that we passed, but I think the  
4 reality of the pandemic and the decreased ridership is, as  
5 Dr. Sperling eloquently stated, it's dire. So I think we  
6 need to consider a course correction. I don't -- I  
7 think -- I'm -- if conditions change and there's a lot  
8 more money available for the transit agencies, I think  
9 that's great, we can keep going full blast. And I --  
10 again, I appreciate the positive attitude that I'm hearing  
11 from CTA and I'm totally supportive of the interagency  
12 work group to try to bring the reality of the transit  
13 agencies into State policies, but basically echo Dr.  
14 Sperling's concerns and his suggestion for compliance  
15 based on funding.

16 I also am glad that Ms. Riordan brought up  
17 training. You know, I -- I was the one who asked Mr.  
18 Kelly and Mr. Jeffers about the jobs in low-income  
19 communities of color. Glad that LaDonna Williams brought  
20 that up as well.

21 We really have to work hard to make that a  
22 reality. I think that it's not to say that we're going to  
23 create all these jobs. I mean, the jobs will be created.  
24 There's no -- I think there's no question about that,  
25 because the new vehicles, and their maintenance, and the

1 infrastructure will require a lot of work. But, you know,  
2 the infrastructure is going to be put in by union  
3 electricians. I'm all supportive of that, but maybe there  
4 should be some incentives for an apprentice program, so  
5 that low-income, you know, workers of color can  
6 participate in that infrastructure buildout.

7           But we have to have more than words about the  
8 just transition, in terms of jobs. We have to make it a  
9 reality. And that -- you know, that takes more money,  
10 which is going to come from probably mostly State sources,  
11 maybe public -- there could be public-private partnerships  
12 in that regard. So I'll stop there.

13           Oh, one more thing. I really do appreciate --  
14           (Laughter)

15           BOARD MEMBER BALMES: I wanted to say despite the  
16 fact that LaDonna Williams I think was correct in that  
17 we -- it was just a lot of presentations in a row, it was  
18 really good and I appreciate all the presentations, and  
19 was following along. And, you know, I think staff has  
20 done a great job, especially coordinating with the other  
21 presenting agencies in CTA and the NREL. Did I say that  
22 right? Good. Good.

23           VICE CHAIR BERG: Thank you very much. Those are  
24 all really great points. Really appreciate that.

25           Supervisor Serna.

1 BOARD MEMBER SERNA: Thank you.

2 VICE CHAIR BERG: Oh, and can I just let my two  
3 people online, so Board Member Takvorkian[SIC] and  
4 Supervisor Vargas we'll -- we'll be getting to you next.

5 Thank you.

6 BOARD MEMBER SERNA: Thank you, Vice Chair Berg.

7 I'll start by thanking staff and certainly the  
8 multitude of presenters here that I think really gave us a  
9 lot to think about, in terms of the opportunities, and  
10 especially the challenges that are involved with what I  
11 think all of us want to see happen, which is an expansion  
12 of zero-emission transit fleets in the state of  
13 California.

14 But as Professor Sperling clearly alluded to, you  
15 know, those challenges aren't -- aren't fleeting. They're  
16 very serious. And as a member of a local transit district  
17 board of directors for over a decade now, I can tell you  
18 that, especially during questionable or challenging  
19 economic circumstances, they are that much deeper.

20 But what I would like to do is kind of preface my  
21 comments for here with the fact that I'm speaking really  
22 to the particular challenges that medium and large transit  
23 agencies in the state have in particular. And it's  
24 because those -- those size transit agencies more often  
25 than not do not just have bus fleets. Many of them also



1 have kind of the first zero-emission vehicle components of  
2 their -- of their districts and that is light rail. And  
3 that goes for the Sacramento Regional Transit District  
4 here. In fact, many of you I'm sure probably have used  
5 the light rail system here in Sacramento.

6 One of the additional things that I think we need  
7 to consider here, in terms of the interests of our transit  
8 districts with light rail systems is that while we want to  
9 increase the zero-emission bus fleets, we also have, at  
10 least I believe, we have an obligation to make sure that  
11 existing light rail systems continue to operate  
12 efficiently, effectively. Many of the systems -- I know  
13 for a fact here in Sacramento, our system is compromised  
14 right now, because we are kind of well past our useful  
15 life for our rail cars. We're actually still using the  
16 original light rail cars that were commissioned back in  
17 1987.

18 In many of those transit districts that do  
19 operate light rail, and are using rolling stock that is --  
20 has aged, many of them are not kind of state-of-the-art,  
21 they're not the low floor cars, for instance, that you  
22 might see in other parts of the country. Here in  
23 Sacramento, we are intent on bringing low -- low floor  
24 cars into the system is very near. In fact, we'll be  
25 retrofitting our train platforms to accommodate the low

1 floor cars in the very near future.

2 But I guess the gist of what I'm trying to convey  
3 here is that when we consider how we get to where we all  
4 want to be in terms of the zero-emission transition, let's  
5 not forget about those systems that actually do continue  
6 to rely upon the -- kind of the original zero-emission  
7 vehicle in those fleets, and those are the light rail  
8 trains.

9 And, of course, for the districts with the aging  
10 stock, you know, we're looking here at -- in Sacramento at  
11 a -- the cost of over \$150 million to replace those aged  
12 light rail vehicles. So that on top of bring in new zero  
13 emission, whether it's fuel cell or battery electric  
14 buses, is that much more challenging. And that really I  
15 think speaks to Professor Sperling's earlier points.

16 So thank you.

17 VICE CHAIR BERG: Thank you.

18 Board Member Takvorian.

19 BOARD MEMBER TAKVORIAN: Thank you, Vice Chair.  
20 And thanks to all of the CARB staff, Caltrans, the Energy  
21 Commission, the transit agencies. These were a lot of  
22 reports, very comprehensive, and honestly, in many ways,  
23 really inspiring. I think what a difference four years  
24 makes. There's remarkable technology advancements and a  
25 very high level -- high level of collaboration with the

1 transit agencies, which I think is very much appreciated.  
2 And we're all on the same team at this point, so that that  
3 feels pretty good.

4 I think CARB is really leaning in to transit  
5 support, not only with the ICT, but also with the  
6 significant proposed targets in the Scoping Plan for  
7 reduction in VMT and support for transit expansion. But  
8 that said, I, too, am very concerned about the ridership  
9 and there's lots of reasons for it. But putting it in  
10 context is that in many places like in San Diego, we're  
11 working to build an effective, accessible, affordable, and  
12 equitable transit system at the same time as we're working  
13 to create a clean transit system.

14 So I think in many places, we've haven't had a  
15 very functional or effective transit system. And CARB's  
16 work and that of the transportation advocates have shined  
17 a light on not just the air quality and climate issues,  
18 but on the inequities that have been inherent in our  
19 transit systems.

20 So we're doing all of this at once. I just want  
21 to say that I think we need to appreciate the fact that  
22 the transit agencies are stepping up in many ways. And we  
23 have a distance to go, because we have decade of  
24 inequities to make up for.

25 I think a good example is the MTS in San Diego --

1 the Metropolitan Transit System in San Diego put out a  
2 report in August, just last month, that they've been able  
3 to recover approximately 75 percent of pre-pandemic  
4 levels. So we're actually moving in the -- in the right  
5 direction in that case. And some of the largest increases  
6 in ridership were along the routes that served major  
7 school and employment centers, so getting people where  
8 they need to go in an efficient, affordable, and effective  
9 way is -- is critical.

10 MTS has also experienced a very significant  
11 ridership with the launch of free transit opportunities  
12 especially for youth, a 38 percent increase for youth. So  
13 there's things that can be done. And that's not saying  
14 that we don't need more funding. We do. I would agree  
15 with that. And incentives for transit ridership I think  
16 should really exceed the incentives provided for passenger  
17 vehicles. And, you know, that will be a conversation I'm  
18 sure, but we have to address the discriminatory practices  
19 in BIPOC communities, which is included a lack of  
20 accessible transportation. So that's a way that we can  
21 make sure that we're benefiting the most -- benefiting  
22 disadvantaged communities the most.

23 And I just wanted to -- to say on the jobs point,  
24 I really agree with all of the comments that have been  
25 made. And I had the opportunity yesterday to represent

1 CARB at the Grossmont Union High School District, where  
2 they just purchased 17 new zero-emission buses. I  
3 understand those aren't transit buses, but they are also  
4 launching or have launched the job training program and  
5 have a beautiful new facility for training students to  
6 be -- to work on these new high tech buses.

7 So that's part of the new world I think that  
8 we're creating. So it's not the whole answer, but it's an  
9 exiting thing that CARB is part of. And I think -- I  
10 think there's some positive news in that regard as well.

11 So thank you.

12 VICE CHAIR BERG: Thank you.

13 And Supervisor Vargas.

14 BOARD MEMBER VARGAS: Thank you so much and thank  
15 you, Diane, and everyone else for all your comments. I  
16 think, you know, I absolutely support all the comments  
17 that a lot of my colleagues have made already. I think  
18 the -- the couple things that I want to make sure that we  
19 don't lose -- that I want to make sure we continue to  
20 emphasize, as part of these regulations, you know, there  
21 really -- when these regulations were created, there  
22 really wasn't like an equity statement created, as part of  
23 what this component would be. And I think as -- as Member  
24 Takvorian has said, things have changed a lot in the last  
25 four years due to leadership of the Governor, this Board,

1 and -- and so many transportation advocates that have made  
2 this so -- such an important issue as it's connected to  
3 being able to meet our -- our goals.

4           But, you know, and I'm extremely sympathetic to  
5 the challenges that our transit agencies have and have  
6 been navigated. But I would challenge them to really  
7 think about this as an opportunity to really look at this  
8 from a very different lens and really, you know -- I  
9 really appreciated those that were able to call in today  
10 and provide feedback. I mean, when you're talking about  
11 workforce -- I served on the community college board for  
12 about seven years. Southwestern College, which was the  
13 only public institution in -- in south county and in San  
14 Diego. And we were do -- making a lot of investments, but  
15 I think this part about working together maybe with the  
16 Chancellor's office in making those connections I think  
17 are -- I highly think that there's opportunities for that  
18 in terms of investment.

19           There's also I think an opportunity for us as  
20 we're looking at how we support public transit in our  
21 local -- in our lower income communities, I think it's  
22 really important that we really think about as -- as  
23 Member Takvorian said is how do we invest beyond the  
24 vehicle component or the transportation component, and how  
25 do we make sure we have incentives for essential workers,

1 home health workers, hospital workers, grassroots workers  
2 to be able to -- to use transit.

3 I think one of the biggest challenges that we,  
4 and I can speak to San Diego specifically, you know,  
5 trying to get on a bus from San Ysidro was -- is right by  
6 the border to Chula Vista, which is, you know, about --  
7 via car about 20 minutes, it takes about three hours to  
8 get Point A to Point B.

9 And so I think that part of the reason why  
10 ridership continues to be a challenge for so many is not  
11 only, you know, the affordability piece, but also how  
12 transit doesn't go where people -- where people need to  
13 go. And so as we're looking at this work and we're trying  
14 to really think about making sure that people are  
15 getting -- you know, are using our bus systems and our  
16 rail systems, we need to make sure that they're -- that  
17 they're working for people as well, because we can -- we  
18 can make a lot of requests and changes, but the  
19 opportunity I think right now for all of us is to  
20 reimagine not only what these agencies look like as we're  
21 moving forward -- and I appreciate that there are so many  
22 committees that people are participating, and so on and so  
23 forth, but I want to make sure that we don't forget that,  
24 you know, ours of operation, access to infrastructure,  
25 investing in our communities is really, really important.

1           And I am really, really concerned about the fact  
2 that we keep saying that cutting services is something  
3 that may happen, because a lot of people don't have any  
4 other options, right? And we're creating regulations that  
5 I think in the end, important, critical, and what we need  
6 to be able to meet our goals, but let's not forget about  
7 the regular folks, you know, our community members, and  
8 folks who may not be able to access cars that need to be  
9 able to get from Point A to Point B.

10           And so I just wanted to reemphasize that. And  
11 again, thank you for the very thorough presentation and  
12 for providing this all -- with all of this as well.

13           Thank you.

14           VICE CHAIR BERG: Thank you, Supervisor Vargas.

15           Just checking my notes here, I think my next  
16 given -- so I'd like just to do a quick wrap-up. I think,  
17 you know, there's -- let's start with -- thank you. There  
18 is really -- this is great news. We asked you in 2018 to  
19 come to the table and lead the way and transit truly has  
20 done that. The leadership has stepped up. The technology  
21 has stepped up. Anytime you have a huge transition like  
22 this, there is going to be all sorts of implementation  
23 challenges and we all know those.

24           But in 2018, we were shuttering at the fact of  
25 could we even approach the implementation issues. And so



1 what transit has done, and you have heard from my fellow  
2 Board members, great job. And Dr. Cliff, you're  
3 Absolutely right, this is a terrific update. It gives us  
4 a total foundation that zero-emission vehicles of all  
5 sorts are right on the horizon, if not here today. And  
6 now it has to be the will to overcome the barriers. And  
7 today has also demonstrated that that is going to be a  
8 mount, you know, Olympus climb. It is going to be huge  
9 and we have to have a leadership, a coalition of the  
10 willing, because it's going to be tough.

11 So what I heard from my fellow Board members,  
12 including congratulations and job well done. Thank you  
13 for the tremendous update, the heavy lift on doing this  
14 project and rail. You guys are great partners. Of  
15 course, so is UC Berkeley. We really appreciate that.

16 But now focusing on transit, I think you heard  
17 very loud and clear we acknowledge that transit is at a  
18 precipice of what could be described as a cliff or a  
19 soaring into something totally different. We've heard  
20 that ridership is crucial, but you also have a constituent  
21 out there that desperately needs public transit. And so  
22 you've done such an amazing job. And you know that the --  
23 for sure when you do a great job, you're only asked to do  
24 more. You know how that works, Mr. Barnes.

25 And so it does appear from my personal

1 perspective certainly could be a really interesting  
2 challenge to look into the future and meet with our  
3 communities, our equity communities, and really look into  
4 the future of transit, because we keep tripping over the  
5 real missteps in equity, the real missteps, and maybe this  
6 is a real opportunity and that's one avenue.

7           Sticking back to what we're here for today, there  
8 was absolutely, staff, a huge concern across the board on  
9 truly making transit our partners. And as partners this  
10 is not a regulated industry that we need to push, prod,  
11 cajole, finally say, okay, if you want to go do business  
12 in another state, sobeit. These are partners. And so we  
13 heard a principle of looking into regulation linked to  
14 funding and compliance. So I'm just putting that out  
15 there.

16           Very much support for the multiple -- multiple  
17 agency dialogue and including transit at the table. And  
18 there was also a request for the working group, but I  
19 think those two go together.

20           We've definitely heard a concern about 2026 at 50  
21 percent. And that's when we add our small agencies, and  
22 quite frankly we didn't hear from them at all, probably  
23 because they could be apoplectic, but also they're putting  
24 together their plan and those are due to us next year, is  
25 that correct timing, Dr. Vergis, on the small agencies?

1 MSCD DIVISION CHIEF VERGIS: (Nods head.)

2 VICE CHAIR BERG: And so we heard a concern about  
3 that. We also heard a support of the six recommendations  
4 by the California Transit Association. And I think that  
5 that would all be part of that interagency dialogue.

6 And I really did -- do appreciate all the  
7 discussion led by Dr. Balmes around job creation, and  
8 specifically how we're tracking that within our equity  
9 communities. We do know that jobs are going to be  
10 created. We saw an opportunity here for all boats to  
11 rise. That hasn't happened in past transformations like  
12 this. And I do think that Dr. Balmes saying we need to do  
13 more than words, have it look good on paper, we really  
14 need to be able not only to track it, but how fabulous  
15 would it be to hear from our equity communities that  
16 they're starting to see those differences within their  
17 communities.

18 We also heard advanced training through the  
19 community colleges, which I know we are doing, but a  
20 greater effort to that, as well as congratulations to the  
21 transit agencies that are doing a lot.

22 We would appreciate even more information about  
23 how you're interacting with some of our equity  
24 communities, and that also would be very helpful.

25 I also heard don't forget that we have some

1 zero-emission leaders in here like light rail. And those  
2 are going to need to be upgraded. Yet, there's no credits  
3 for those. And yet, funding that's going to be needed.

4           And at the end of the day, both Board Member  
5 Takvorian and Board Member Vargas really did a wonderful  
6 job in pointing out the investment that's truly needed to  
7 make the transit of the future work and truly reducing  
8 vehicle miles driven. And there has been skepticism about  
9 whether that's possible or not, but I think it is. But  
10 it's going to take a considered effort to leave behind  
11 what we've done and look at it in the future of -- of what  
12 you can create.

13           And so I really, really appreciate. It was a lot  
14 of presentations, but I found them very well organized,  
15 very well presented. And I really thank you for all of  
16 your efforts. I want to turn very quickly to my fellow  
17 Board members to see if I missed anything.

18           And looking online, Board Member Hurt or Board  
19 Pacheco-Werner, I see your hands up. Do you have a last  
20 minute comment?

21           BOARD MEMBER HURT: I have a last minute question  
22 and I'll make it really quick.

23           VICE CHAIR BERG: Thank you.

24           BOARD MEMBER HURT: Sure. So I apologize. I was  
25 not as clear earlier about voting to do something

1 different. And so maybe this is a procedural question  
2 that I'll just clarify a little bit on. What is the  
3 process if we do want to pivot on these timelines or alter  
4 the regulation to a funding available clause? Can staff  
5 just speak to that, because I think transit agencies will  
6 continue to push forward. But breathing a little easier  
7 in something more concrete in regulation seems  
8 appropriate. So just curious.

9 VICE CHAIR BERG: Thank you so much, Board Member  
10 Hurt. Can I just find out what Dr. Pacheco-Werner is also  
11 asking. We might be able to combine some answers.

12 Thank you. Stay tuned.

13 Dr. Pacheco-Werner.

14 BOARD MEMBER PACHECO-WERNER: Yeah, definitely.  
15 I think that speaking to the main challenge, which was  
16 brought up about ridership, and kind I segueing into our  
17 segueing into our next item, but not so much, how can we,  
18 as an agency, really start envisioning how public transit  
19 is something that's for everyone that we really need to,  
20 in order to meet our climate goals, change the way that we  
21 all transit and not just thinking it's something for those  
22 that are low income. And to that effect then, is there  
23 anything on our end in terms of commitments or from the  
24 local air districts that -- that we can start thinking  
25 about in terms of incentivizing ridership, again not --

1 not even from a land-use perspective, but just really from  
2 incentivizing public transit over single car ridership.

3 Thank you.

4 VICE CHAIR BERG: Thank you, Dr. Pacheco-Werner.

5 I think that truly is the question. And -- and I  
6 am going to ask Dr. Cliff to respond. But two things,  
7 Steve, we've got what is the process if we wanted to amend  
8 the rule. And so if you could just inform us of that and  
9 give us some closing thoughts on Dr. Pacheco-Werner's  
10 question of total ridership for everyone looking at -- in  
11 conjunction with our climate goals that we do need to look  
12 at the mono-car a lot differently.

13 EXECUTIVE OFFICER CLIFF: Thank you, Vice Chair  
14 Berg and really appreciate all the comments. I'm going to  
15 turn to others in just a minute, but wanted to just say  
16 with regard to amending a regulation, that would be, of  
17 course, a full new regulatory process. The goal, when the  
18 original regulation was adopted in 2018, was to do a  
19 check-in prior to the onset of requirements. And that  
20 check-in is -- is today.

21 And I think -- I think what you see is that we're  
22 ahead of the schedule and staying ahead of what's required  
23 of transit agencies as part of that regulation.

24 Going forward, we'll continue to update and  
25 monitor to ensure that we're staying on track. And to the

1 extent that modifications are necessary, we can evaluate  
2 that based on those future evaluations.

3           At this point, we're not seeing a need to change  
4 the regulation, based on what we're seeing in the  
5 pipeline, from what's been ordered, as well as those  
6 transit buses that are on the ground.

7           The advantage of keeping ahead of the  
8 requirements is that the funding can help still  
9 incentivize early action, rather than paying for  
10 compliance with a regulation. So I'd like to turn it over  
11 to Dr. Vergis quickly to talk a little bit more and put  
12 that -- put the funding into context, if I could.

13           MSCD DIVISION CHIEF VERGIS: Thank you, Dr.  
14 Cliff.

15           So we've talked a lot about HVIP today, but I  
16 think what we'll see is our core -- our funding portfolio  
17 is a big commitment to support the sales of zero-emission  
18 transit buses in California, Carl Moyer, there's the AB  
19 617 CAPP program, there's VW, but, of course, there's also  
20 HVIP. As Dr. Cliff mentioned, transits are out way ahead  
21 of the regulatory requirements, which allow us the  
22 flexibility to continue to support them through the HVIP  
23 Program.

24           I'll also note that this is really great news,  
25 given the Legislature has committed to a 520 million

1 multi-year zero-emission transit carve-out over the next  
2 several years. So those opportunities to continue to  
3 support transit will remain going forward.

4 And then, of course, also look forward to, as we  
5 committed to in the 2018 resolution for this item, we are  
6 committed to tracking what we're seeing in terms of the  
7 zero-emission transit market and reporting back to you all  
8 on a regular basis.

9 VICE CHAIR BERG: Thank you very much.

10 Dr. Cliff.

11 EXECUTIVE OFFICER CLIFF: I just wanted to ask  
12 Craig Segall if he could respond a bit to Dr.  
13 Pacheco-Werner's question and comment.

14 VICE CHAIR BERG: Thank you.

15 DEPUTY EXECUTIVE OFFICER SEGALL: Certainly.

16 So I think fundamentally what we're talking about  
17 here is a shifting transportation system, right? And  
18 something that many of the Board members mentioned,  
19 including Board Member De La Torre, about needing to look  
20 at routes, needing to look at service. It's fundamental,  
21 because what we don't want to do, what's it's  
22 fundamentally I think not something anyone is advocating  
23 is to pit service against electrification, right? We need  
24 both. You never want to be in a place where you're  
25 consigning people to dirty buses, especially in the



1 context where the industry is actually well ahead, where  
2 our partners are charging forward.

3 But you also want to see continued innovation and  
4 support with a real eye toward our systematic underfunding  
5 and lack of support from many neighborhoods for good  
6 transit. So what we're hoping for is shared design. And  
7 there's a lot of elements. You know, advances on pricing,  
8 not just pricing on roadways but on fares, thinking about  
9 how we serve folks in an environment where people are  
10 doing errands during the day, or in the first and they're  
11 just commuting during commute hours to doing new and  
12 better things.

13 So what I've always experienced from the transit,  
14 and what I'm sure we keep well is innovation, really  
15 thinking about how to provide a vital public service that  
16 makes everything better, whether it's making how it would  
17 seem more reachable and more affordable or getting people  
18 to work. So I think that combined focus to especially  
19 reduce VMT is just critical.

20 VICE CHAIR BERG: Well, thank you very much. I  
21 think that there's no question we have our work cut out  
22 for us. I am hearing from staff that we are in agreement  
23 that close monitoring, including supporting the  
24 interagency dialogue will continue.

25 EXECUTIVE OFFICER CLIFF: Yes, absolutely. Thank

1 you.

2 VICE CHAIR BERG: Thank you very much.

3 So with that, I think we will bring this to a  
4 close. Please know that you have a Board that is very  
5 attuned and is really paying attention. We heard that  
6 2023 we're going to be okay. We do expect to hear from  
7 you towards the end of that year. So let us be a partner.

8 Thank you.

9 So, Board members, we're going to take a lunch  
10 break. And so we will take a -- think we could do it in  
11 30 minutes? Let's do a 30-minute lunch break. Let's be  
12 back at 20 after. So that gives you a couple of more  
13 minutes.

14 And then Chair Randolph will be here and kick-off  
15 our third SIP item. Thank you. Thyme time

16 (Off record: 12:46 p.m.)

17 (Thereupon a lunch break was taken.)

18

19

20

21

22

23

24

25

1 AFTERNOON SESSION

2 (On record: 1:27 p.m.)

3 VICE CHAIR BERG: Welcome back, we're -- we'll  
4 resume our final Board item and delighted to have Chair  
5 Randolph online with us and I'll kick it over to her.

6 Chair Randolph.

7 CHAIR RANDOLPH: Thank you so much, Vice Chair  
8 Berg. Thank you all for indulging me in not being there  
9 for the first item and for part of the second item. I --  
10 I am doing a bit of a whirlwind tour. Went to the Climate  
11 Week in New York and now I'm at the Clean Energy Action  
12 Forum in Pittsburgh. And I have been really struck, as I  
13 was listening to the last item, about how many of the  
14 themes are similar, right? How do we decarbonize  
15 transportation and other sectors in a way that is  
16 equitable, and in a way where we are creating jobs and  
17 benefiting communities, and developing the infrastructure  
18 that we need to really support the transition.

19 And then the other theme dovetails nicely with  
20 our next item, which is I had a chance to see and speak  
21 with some federal officials. And so I had a chance to  
22 advocate for the importance of federal action to improve  
23 our air quality and protect our communities So I've been  
24 really happy to be part of the folks representing  
25 California in those international discussions and really

1 happy to be with you here today.

2           And really excited -- I know Vice Chair Berg had  
3 a chance to welcome Steve Cliff back to CARB, but I wanted  
4 to express my welcome as well. We're really excited to  
5 have your expertise and your experience in State and  
6 federal government, and really happy to do a lot of great  
7 work together.

8           So I'm going to introduce our last item on the  
9 agenda, which is Item number 22-12-3, consideration of the  
10 proposed 2022 State SIP Strategy. If you are there in  
11 the room and wish to comment on the item, please fill out  
12 the request-to-speak card as soon as possible and submit  
13 it to a Board assistant -- assistant. If you are joining  
14 us remotely and wish to comment on this item, please click  
15 the raise hand button or dial star nine now and we will be  
16 first calling on the in-person commenters followed by the  
17 remote commenters when we get to the public comment  
18 portion of this item.

19           In 2015, U.S. EPA set a new more health  
20 protective 8-hour ozone standard of 70 parts per billion.  
21 Over the next 15 years, California will need to build upon  
22 its successful mobile source strategy control program and  
23 drive down emissions even further in order to meet this  
24 standard and other air quality standards and provide  
25 healthy air for all California residents. Mobile sources

1 are the largest contributor for ozone formation in  
2 California and contribute substantial air pollution in low  
3 income communities of color.

4           In February, staff presented the draft 2022 State  
5 SIP Strategy, which expanded on the concepts from the 2020  
6 Mobile Source Strategy and acknowledged that more  
7 reductions still needed to be identified for the South  
8 Coast. The State SIP strategy also included measures  
9 targeting consumer products and space and water heaters.  
10 After consultation with the public and additional work  
11 with the South Coast Air District, the updated strategy  
12 being presented today includes additional measures  
13 suggested by the public and now identifies all of the  
14 emissions reductions needed to reach attainment in the  
15 South Coast. The strategy also specifies actions the  
16 federal government needs to take to provide healthy air  
17 for all Californians.

18           These programs will not only reduce emissions  
19 toward attainment of the ozone standard, but will also  
20 significantly reduce toxic diesel particulate in  
21 communities and reduce greenhouse gas emissions, thus  
22 contributing towards the State's carbon neutrality goal.

23           Today, staff is presenting the proposed 2022  
24 State SIP Strategy for public comment and Board  
25 consideration to support attainment of the 70 ppb ozone

1 standard across California and the Final Environmental  
2 Analysis.

3 Dr. Cliff, will you please introduce the item.

4 EXECUTIVE OFFICER CLIFF: The 2022 State SIP  
5 strategy is a critical element of California's State  
6 Implementation Plan, or SIP, especially considering the  
7 significant contribution of mobile sources to statewide  
8 emissions.

9 SIPs consist of a combination of state and local  
10 air quality planning documents that must demonstrate how  
11 California will meet federal air quality standards.

12 Given the severity of the challenge in the south  
13 coast and the San Joaquin Valley, substantial reductions  
14 from both mobile and stationary sources are necessary to  
15 meet ozone standards in these regions. And there are an  
16 additional five nonattainment areas that also need SIP  
17 measures and reductions to attain the standard.

18 BOARD MEMBER KRACOV: Chair, I believe we're  
19 having trouble hearing Dr. Cliff online.

20 CHAIR RANDOLPH: I was just wondering the same  
21 thing. I couldn't hear either.

22 I thought it was just me.

23 EXECUTIVE OFFICER CLIFF: All right. We'll  
24 try --

25 CHAIR RANDOLPH: Are you close enough to the

1 microphone?

2 EXECUTIVE OFFICER CLIFF: We'll try a different  
3 mic.

4 Okay. Any better online?

5 CHAIR RANDOLPH: Really close to the mic and  
6 really loud, because I can hear you but you're a little  
7 faint.

8 EXECUTIVE OFFICER CLIFF: In the room it's loud,  
9 believe me.

10 (Laughter.)

11 EXECUTIVE OFFICER CLIFF: We're going to try  
12 something here. Hold please.

13 Any better?

14 CHAIR RANDOLPH: Yes.

15 EXECUTIVE OFFICER CLIFF: Okay. Great. Thank  
16 you.

17 Over the last 15 months, staff has held public  
18 workshops and meetings, released multiple draft documents,  
19 and actively engaged with communities and organizations to  
20 solicit feedback and ideas, many of which were  
21 incorporated into SIP measures and the strategy before you  
22 today. With the 2022 State SIP Strategy, CARB is  
23 proposing an unprecedented variety of new measures to  
24 reduce emissions from the sources under our authority  
25 using all mechanisms available.

1           This level of action is needed to ensure federal  
2 air quality standards are attained and to deliver on our  
3 commitments to protect public health, particularly in  
4 light of the growing body of evidence on the adverse  
5 impacts of air pollution.

6           Meeting the air quality standards in California  
7 will greatly reduce negative health impacts associated  
8 with air pollution. We know that low-income communities  
9 of color and disadvantaged communities experience  
10 disproportionate levels of air pollution and the measures  
11 in this strategy will help to address these long-standing  
12 environmental justice challenges.

13           Today staff will present for the Board's  
14 consideration, the 2022 State SIP Strategy and Final  
15 Environmental Analysis.

16           I will now ask Austin Hicks of the Air Quality  
17 Planning and Science Division to begin the staff  
18 presentation.

19           Mr. Hicks

20           (Thereupon a slide presentation.)

21           AQPSD AIR POLLUTION SPECIALIST HICKS: Thank you,  
22 Dr. Cliff.

23           Hello Chair Randolph and members of the Board. I  
24 last updated you in February and I'm happy to I have this  
25 opportunity to present to you today the proposed 2022



1 State Strategy for the State Implementation Plan,  
2 otherwise known as the State SIP Strategy.

3 --o0o--

4 AQPSD AIR POLLUTION SPECIALIST HICKS: Before we  
5 dive into the materials and measures in the 2022 strategy,  
6 I'm going to provide some quick background on federal  
7 standards that is a genesis of this planning effort. In  
8 2015, U.S. EPA revised the 8-hour ozone standard from 75  
9 parts per billion, or ppb, to the more stringent and  
10 health protective level of 70 ppb. Then, U.S. EPA  
11 designated and classified 19 areas in California as  
12 nonattainment areas for this standard in 2018.

13 The map to the right shows all 19 nonattainment  
14 area boundaries and current classifications. These areas  
15 are required to attain the standard between 2020 and 2037,  
16 depending on their classification. Together, local air  
17 districts and CARB developed these attainment plans, which  
18 must identify both the magnitude of emission reductions  
19 needed to provide for attainment and the actions necessary  
20 to achieve those emission reductions.

21 South Coast and San Joaquin Valley are the only  
22 two nonattainment areas in the country currently  
23 classified as extreme for the 70 ppb standard, with the  
24 most critical challenge towards attainment. That being  
25 said, the 70 ppb standard is going to be a challenge for

1 many areas across the state. While historically, most  
2 nonattainment areas have been able to demonstrate  
3 attainment of ozone standards based on reductions from  
4 existing regulations, seven nonattainment areas will need  
5 emission reduction commitments from this Strategy to meet  
6 the 70 ppb standard.

7 --o0o--

8 AQPSD AIR POLLUTION SPECIALIST HICKS:

9 Collaborating with our partners is key to  
10 developing the control strategy that is included in each  
11 SIP. Each of our partners has a role over resources they  
12 control. The SIP can and will include emission reductions  
13 from CARB and the local air districts as needed to attain.  
14 CARB's emissions reduction measures and commitments are  
15 developed through the State SIP Strategy. The Strategy  
16 builds upon previous strategies and CARB's regulatory  
17 efforts by including additional measures and commitments  
18 to reduce emissions from our sources to support attainment  
19 across the state.

20 While the local air districts are responsible for  
21 developing and adopting their measures, the State SIP  
22 Strategy identifies CARB measures and is also identifying  
23 action at the federal level for primarily  
24 federally-regulated sources and ways to better facilitate  
25 and support transportation planning agency's action to

1 reduce vehicle miles traveled for VMT. Collectively,  
2 District and CARB measures, along with federal and  
3 transportation planning agency measures provide the  
4 pathway towards meeting the standard.

5 --o0o--

6 AQPSD AIR POLLUTION SPECIALIST HICKS: Staff  
7 released the Draft State SIP Strategy on January 31st and  
8 the proposal before you today was released on August 12th.  
9 The Strategy describes the State's proposed measures and  
10 commitments to reduce emissions needed to meet the 70 ppb  
11 ozone standard as part of the SIPs due this year. In this  
12 document, we identify the proposed measures, associated  
13 emission reductions, and other elements needed to support  
14 attainment of the 70 ppb ozone standard.

15 With this Strategy, CARB is proposing an  
16 unprecedented variety of new measures to reduce emissions  
17 from sources under our authority using all available  
18 mechanisms. This level of action is needed to ensure all  
19 air quality standards are attained and deliver on our  
20 commitments to protect public health, particularly in the  
21 light of the growing body of evidence on the adverse  
22 impacts of air pollution. The Strategy is aggressive and  
23 drives the pace and scale of CARB's rulemakings due to  
24 California's air quality challenges.

25 And finally, the Strategy identifies the specific

1 federal actions needed and associated emission reductions  
2 needed to attain the 70 ppb ozone standard in the South  
3 Coast.

4 --o0o--

5 AQPSD AIR POLLUTION SPECIALIST HICKS: To put it  
6 simply, the measures in our proposed Strategy target the  
7 continued transition away from combustion and towards  
8 zero-emission technologies. Moving to zero everywhere  
9 feasible is what is needed to reduce emissions to the  
10 levels needed to support attainment of the 70 ppb ozone  
11 standard for all nonattainment areas in California. The  
12 Strategy discusses the pathway to zero for measures under  
13 State control through regulations, incentives, and  
14 voluntary programs. That said, regulations continue to be  
15 the core and bulk of CARB's strategy to provide for  
16 attainment of the 70 ppb ozone standard and other federal  
17 air quality standards.

18 --o0o--

19 AQPSD AIR POLLUTION SPECIALIST HICKS: Since the  
20 release of the draft in January throughout -- and  
21 throughout the public process, we have been working hard  
22 to identify new SIP measures and flesh out the additional  
23 details needed for existing measures.

24 In the proposed Strategy that we released on  
25 August 12th, we have added a pesticide measure from our

1 sister agency, California Department of Pesticide  
2 Regulation, or DPR. DPR is developing a regulation to  
3 address both the cancer and acute risk to non-occupational  
4 bystanders from the use of 1,3-dichloropropene, or 1,3-D,  
5 which will provide volatile organic compound, or VOC,  
6 benefits.

7 In the proposal, the federal actions needed in  
8 the airport sector was expanded by adding a measure called  
9 the, "Airport Aviation Emissions Cap." Including this new  
10 airport aviation cap, the proposed Strategy now provides  
11 all the measures and emission reductions to support  
12 attainment in the South Coast. Further, the emission  
13 reduction estimates that were published in the draft  
14 Strategy have been updated and include estimates for  
15 additional nonattainment areas.

16 Specific to the transportation conformity  
17 budgets, the proposal includes a sub-commitment to  
18 emission reductions specifically from on-road mobile  
19 sources as part of our aggregate emission reduction  
20 commitment for each nonattainment area. This  
21 sub-commitment involves reflecting measures that are  
22 recently adopted or under development that are needed for  
23 the attainment and will more closely align transportation  
24 conformity budgets with the on-road emissions used in  
25 attainment demonstrations.

1           And finally, we incorporated the most recent  
2 regulatory adoption and implementation schedules.

3                           --o0o--

4           AQPSD AIR POLLUTION SPECIALIST HICKS: As we  
5 discuss the updates and evolution of our proposed  
6 Strategy, it's important to note that a robust public  
7 process has been critical in the development of an  
8 effective strategy.

9           We kicked off the public stra -- process with a  
10 workshop in July 2021 that provided staff's initial ideas  
11 for measures to be pursued in the 2022 State SIP Strategy.  
12 Specifically, staff presented the status of measures from  
13 the 2016 State SIP Strategy and how concepts from the 2020  
14 Mobile Source Strategy would transition into measures for  
15 the 2022 State SIP Strategy.

16           After the kickoff, staff also held stakeholder  
17 meetings where many shared suggestions, opportunities and  
18 ideas staff should be pursing in the Strategy.

19           Last October, staff released the 2022 State SIP  
20 Strategy Draft Measures document, which included measures  
21 developed by staff, some of which area already undergoing  
22 independent public processes, potential federal actions,  
23 and these potential measures suggested by the public.  
24 Staff then walked through the potential measures  
25 identified in the Draft Measures document in a second

1 workshop to hear additional input, suggestions, questions,  
2 and comments from the public.

3 In October and November 2021, staff participated  
4 in the San Joaquin Valley and South Coast Air District  
5 control measure workshops as part of their SIP development  
6 process.

7 After release of the Draft Strategy in January,  
8 staff hosted our third workshop, and in February provided  
9 a high-level overview of the draft Strategy to the Board,  
10 listened to input from Board members, stakeholders,  
11 solicited ideas, and answered questions.

12 And finally, we released the proposed Strategy  
13 and hosted our fourth workshop in August, prior to  
14 bringing the Strategy to you for consideration today.

15 The workshops were well attended by stakeholders,  
16 including community-based organizations. Later in this  
17 presentation, I will present the comments received at this  
18 last workshop.

19 --o0o--

20 AQPSD AIR POLLUTION SPECIALIST HICKS: Pollutant  
21 nonattainment areas and disadvantaged communities are  
22 interconnected so much that 99 percent of disadvantaged  
23 community populations in California are within the 70 ppb  
24 ozone standard nonattainment areas. We are keenly aware  
25 that emissions from mobile and stationary sources have a

1 disproportionate impact on disadvantaged communities and  
2 people of color, for example, many of whom live adjacent  
3 to transportation corridors and industrial operations.

4           The measures in the proposed Strategy will  
5 benefit low-income and disadvantaged communities by  
6 providing opportunities to significantly reduce emissions  
7 and exposure in communities of concern. Such  
8 opportunities include the rapid transition to  
9 zero-emission technologies.

10           The Strategy measures strive to complement AB 617  
11 strategies while being consistent with CARB equity goals.  
12 Staff solicited public input and met with community-based  
13 organizations early in the process to discuss the best  
14 ways to support community-level emission reductions as  
15 part of the 2022 State SIP Strategy. And as we know, we  
16 must do more to provide benefits to the low-income and  
17 disadvantaged communities for -- who for generations have  
18 been bearing the brunt of combustion emissions.

19           Throughout this process, the public ideas and  
20 suggestions from community-based organizations have helped  
21 inform the measure development process.

22                           --o0o--

23           AQPSD AIR POLLUTION SPECIALIST HICKS: As a  
24 result of this outreach and engagement, CARB received  
25 suggestions from the public for State measures to be



1 included in the 2022 Strategy, which we refer to as the  
2 public measure suggestions. Many of the items in the  
3 table have been included or discussed as a part of the  
4 various community emission reduction programs developed by  
5 select communities, together with their air district  
6 partners under CARB's AB 617 Community Air Protection  
7 Program.

8 CARB has incorporated five of the public measure  
9 suggestions into proposed Strategy measures. CARB  
10 incorporated the on-road heavy-duty vehicle useful life  
11 concept, as well as the option to use additional incentive  
12 programs for zero-emission trucks, and Indirect Source  
13 Rules in the Zero-Emissions Trucks Measure.

14 For appliances, CARB is proposing to set  
15 zero-emission standards for space and water heaters and  
16 are including in the measure as a possibility to expand to  
17 other types of appliances.

18 And finally, CARB and DPR are proposing a  
19 pesticide measure from D -- from DPR for 1,3-D. I will  
20 discuss these measures more in the coming slides.

21 CARB will continue to explore the remaining  
22 public measures, including how these can meet federal  
23 Clean Air Act requirements for SIP measure approvability,  
24 and research any new concepts as we move forward

25 --o0o--

1           AQPSD AIR POLLUTION SPECIALIST HICKS: The items  
2 listed here are the proposed measures that CARB staff have  
3 included in the Proposed Strategy. On August 12th, we  
4 released the proposal, which included a description of  
5 many of these measures, and for many of them, the  
6 associated emission reductions. These measures are  
7 categorized into on- and off-road mobile sources,  
8 primarily federally-regulated sources, and other sources  
9 for consumer products and appliances.

10           I will describe these measures more in the next  
11 few slides.

12                           --o0o--

13           AQPSD AIR POLLUTION SPECIALIST HICKS: Again,  
14 here is the list of CARB measures in the Strategy and the  
15 proposed schedule for Board consideration and  
16 implementation for each item. This schedule is important,  
17 because this is one of the elements that the Board will be  
18 considering today to be submitted to EPA. For future SIP  
19 commitments, EPA requires a commitment to the timelines  
20 and this schedule fulfills that requirement.

21           The gold stars represent the year the measures  
22 are scheduled to be brought to the Board for  
23 consideration. And as you can see, most of these measures  
24 will be brought to you in the next few years.

25           Following adoption, the dark blue squares

1 represent the years planned for implementation to begin  
2 for each measure.

3 Let's now turn to spec -- to the specifics of the  
4 measures.

5 --o0o--

6 AQPSD AIR POLLUTION SPECIALIST HICKS: For  
7 on-road mobile sources, the Strategy includes the Clean  
8 Miles Standard Regulation, Advanced Clean Fleets  
9 Regulation, and On-Road Motorcycles New Emissions  
10 Standards. The Advanced Clean Fleets Regulation is well  
11 under development and will accelerate zero-emission  
12 vehicle adoption by setting zero-emission requirements for  
13 heavy-duty fleets, specifically target -- targeting the  
14 larger fleets first. The Board will have the first  
15 hearing for this measure next month.

16 The Zero-Emissions Trucks Measure is an  
17 innovative new approach that will build -- that builds on  
18 the public measure suggestion for a Heavy-Duty Vehicle  
19 Useful Life Regulation. The Zero-Emissions Trucks Measure  
20 targets the replacement of older trucks in order to  
21 increase the number of heavy-duty ZEVs as soon as possible  
22 and reduces emissions from fleets not affected by the  
23 Advanced Clean Fleets Measure.

24 The Measure includes the possibility of doing a  
25 regulation to directly force retirement of trucks when

1 they reach the end of their useful lives. Because this  
2 kind of regulation could be especially hard on small  
3 businesses and single owner-operators, we also discuss in  
4 this measure new methods and tools that could be used to  
5 replace older trucks if CARB were to be given additional  
6 legislative authorities, including using market signal  
7 tools that would not unduly burden low-income truckers,  
8 provide flexibility and target reductions in areas that  
9 need it most.

10 With the On-Road Motorcycle New Emissions  
11 Standards, CARB would develop new exhaust emissions  
12 standards that achieve harmonization with more aggressive  
13 current European motorcycle emission standards. The Clean  
14 Miles Standard Regulation was adopted by the Board in 2021  
15 and reduces emissions from ride-hailing services. While  
16 it has been already adopted, this was not included as a  
17 measure in CARB's previous 2016 State SIP Strategy and  
18 thus it is being included as a measure here for inclusion  
19 in the SIP.

20 Finally, the Enhanced Regional Emission Analysis  
21 in SIPs Measure primary goal is to reduce on-road mobile  
22 vehicle emissions through VMT reductions. CARB is  
23 considering the following options to support reductions in  
24 VMT: a change to motor vehicle emission budgets  
25 development process, reasonably available control measures

1 analysis for transportation control measures, and updated  
2 guidance for the Congestion Mitigation and Air Quality  
3 Improvement Program and the expenditure of motor vehicle  
4 fees. These measures will provide additional on-road  
5 mobile source emission reductions to support attainment of  
6 the 70 ppb ozone standard.

7 --o0o--

8 AQPSD AIR POLLUTION SPECIALIST HICKS: Next, I'll  
9 cover the proposed measures for off-road vehicles and  
10 equipment. Our list of potential measures to control  
11 emissions from off-road vehicles and equipment includes a  
12 broad range of programs that go far beyond those in  
13 previous SIP strategies. Emissions from off-road vehicles  
14 and equipment are significant and contribute about 35  
15 percent of total statewide oxides of nitrogen, or NOx,  
16 emissions in 2017, with that contribution expected to  
17 continue to grow into the future.

18 The Tier 5 Off-Road New Compression-Ignition  
19 Standards would require more stringent exhaust standards  
20 for all power categories. Amendments to the In-Use  
21 Off-Road Diesel Fueled Fleets Regulation would target the  
22 oldest and dirtiest equipment allowed to operate under the  
23 current regulation structure by adding an operational  
24 backstop to the current regulation for the dirtiest  
25 engines between 2024 and 2036.

1           The Transport Refrigeration Unit Regulation part  
2 2 would require zero-emission for trailer and other TRUs.  
3 This would be the second phase of a TRU rulemaking that  
4 the Board passed earlier this year. Amendments to the  
5 Commercial Harbor Craft Regulation were also adopted by  
6 the Board a few months ago. This action requires the  
7 vessels to meet the cleanest possible standard and  
8 retrofits based on compliance schedule.

9           The Cargo Handling Equipment Regulation proposes  
10 to start transitioning to fully electric in 2026 to  
11 achieve over 90 percent penetration of electrical  
12 equipment -- of electric equipment by 2037.

13           The Off-Road Zero-Emission Targeted Manufacturer  
14 Rule would propose to require manufacturers to produce for  
15 sale zero-emission equipment as a percentage of their  
16 annual sales volume. This would increase availability of  
17 zero-emission options in the off-road sector and support  
18 other potential measures that promote or require the  
19 purchase and use of such options.

20           The Clean Off-Road Fleet Recognition Program  
21 would create a voluntary program encouraging fleets to  
22 incorporate advanced technologies into their fleets.

23           And finally, the Spark-Ignition Marine Engine  
24 Standards proposes to adopt more stringent exhaust  
25 standards and evaluate zero-emission technologies.

1                   --o0o--

2                   AQPSD AIR POLLUTION SPECIALIST HICKS: Along with  
3 on-road sources and off-road equipment, the Strategy  
4 proposes measures for consumer products, appliances, and  
5 now pesticides as well. CARB is proposing to amend the  
6 Consumer Products Regulation to achieve additional  
7 reductions in VOCs beyond those achieved through the 2020  
8 and prior amendments.

9                   The proposed Strategy is also proposing a new  
10 zero-emission standard for space and water heaters sold in  
11 California that would go into effect in 2030. For this  
12 measure, staff is considering that it could expand --  
13 could be expanded to include other end uses consistent  
14 with suggestions received from the public for additional  
15 building and appliance emission standards.

16                   During the public process, we have received many  
17 comments concerning pesticides. Pesticides are used for  
18 urman -- urban and agricultural pest management across the  
19 state and are a source of VOC emissions. Pesticides are  
20 regulated under both federal and State law. As part of  
21 the public measure suggestions in the draft Strategy,  
22 staff included a potential pesticide measure. CARB staff  
23 have been collaborating closely with staff at our sister  
24 agency, DPR, to work towards identifying actions to reduce  
25 pesticide emissions that could be pursued in the SIP. As

1 a result of these efforts, the proposed Strategy now  
2 includes a measure to be included in the SIP, the  
3 regulation that DPR is developing to address both the  
4 cancer and acute risk to non-occupational bystanders from  
5 the use of 1,3-D by shifting to application methods with  
6 lower 1,3-D emissions or that use other measures to reduce  
7 their exposure. The regulation will be developed in  
8 consultation with CARB, the county agricultural  
9 commissioners, and other relevant State and local  
10 agencies.

11 --o0o--

12 AQPSD AIR POLLUTION SPECIALIST HICKS: As I  
13 mentioned early, CARB staff is exploring all mechanisms to  
14 control emissions in order to improve air quality and  
15 better protect public health. It is important to mention  
16 that some mobile sources are primar -- are primarily  
17 regulated at the federal and international level. Even  
18 so, CARB will pursue measures as shown on this slide for  
19 locomotives, aviation, and ocean-going vessels to the  
20 extent available under our authority.

21 CARB is currently undergoing a public rulemaking  
22 process to propose an In-Use Locomotive Regulation, which  
23 would accelerate the adoption of advanced, cleaner  
24 technologies, including zero-emission technologies, for  
25 locomotive operations. The associated emission reductions



1 from this proposed measure are significant.

2 For aviation and ocean-going vessels, CARB is  
3 evaluating relevant authorities and exploring potential  
4 approaches to reduce emissions from these sources to  
5 support attainment of air quality standards and to provide  
6 reductions in toxics and other emissions to the  
7 communities near airports, ports, and other freight  
8 facilities.

9 --o0o--

10 AQPSD AIR POLLUTION SPECIALIST HICKS: While CARB  
11 and the districts are working to identify all actions  
12 within our jurisdiction to reduce emissions from primarily  
13 federally-regulated sources, I want to highlight that we  
14 cannot achieve the air quality standards without action at  
15 the federal level. The graph here shows statewide mobile  
16 source NOx emissions from 2000 to 2040, with the blue line  
17 representing California regulated mobile sources with  
18 adopted rules, and the gold line representing the  
19 primarily federally-regulated sources, such as interstate  
20 trucks, planes, trains, and ships.

21 Emissions from primarily federal-regulated  
22 sources surpassed California sources in 2020, and without  
23 more stringent federal requirements, emissions will be  
24 doubled to California sources by 2030 -- by 2031. Given  
25 the contribution from these sources, federal action is

1 critical to attain the 70 ppb ozone standard, as well as  
2 to support attainment of other federal standards and  
3 protect public health.

4 --o0o--

5 AQPSD AIR POLLUTION SPECIALIST HICKS: In the  
6 proposed Strategy, we identify the regulatory actions  
7 needed from federal and international entities for  
8 interstate on-road, heavy-duty vehicles, preempted  
9 off-road equipment, locomotives, aviation, and ocean-going  
10 vessels. These are shown on the slide here. For on-road  
11 heavy-duty vehicles, CARB outlined a petition in the 2016  
12 State SIP Strategy for a federal low-NOx standard. Since  
13 that time, a petition was sent and EPA is now moving  
14 forward with the federal Clean Trucks Plan.

15 Beyond this though, CARB would petition or  
16 advocate to EPA for federal zero-emission, on-road,  
17 heavy-duty vehicle requirements. For preempted off-road  
18 equipment, CARB would petition or advocate EPA to require  
19 off-road equipment Tier 5 compression-ignition standards,  
20 new spark-ignition standards, and zero-emission standards  
21 where the technology is feasible.

22 For locomotives, CARB included in the 2016  
23 Strategy a measure to petition for more stringent national  
24 locomotive emission standards. CARB submitted this --  
25 this petition and is waiting for EPA to respond or act.

1 Beyond cleaner combustion standards, CARB would petition  
2 or advocate to EPA to promulgate national zero-emission  
3 standards for locomotives and to address remanufacturing.

4 For ocean-going vessels, CARB would petition or  
5 advocate to adopt more stringent Tier 4 marine standards  
6 and require visits made by Tier 3 or cleaner vessels.

7 And finally, for aviation, CARB would petition or  
8 advocate to EPA, and the International Civil Aviation  
9 Organization, and other regulating agencies for more  
10 stringent standards for aircraft engines to require the  
11 use of cleaner fuels and engines when traveling through  
12 California, and to require zero-emission, on-ground  
13 operations at California airports.

14 As I mentioned earlier, our new addition to the  
15 proposed Strategy for the aviation sector is for an  
16 airport aviation emissions cap. This emissions cap would  
17 set an emissions level for all aircraft activities related  
18 to each airport preventing emissions to increase with  
19 airport growth and reduce existing emissions by replacing  
20 airport activities with cleaner combustion and  
21 zero-emission technologies.

22 Emission reductions from these federal and  
23 international actions are necessary for California, and  
24 more specifically the South Coast, to attain the 70 ppb  
25 ozone standard. Nonetheless, when EPA acts on CARB's

1 commitments to support South Coast's attainment  
2 demonstration, they will have to classify these measures  
3 as Clean Air Act 182(e)(5), or black box measures, because  
4 these measures are action at the federal level.

5 That said, this is very different -- this is very  
6 different than the use of black box measures in the past,  
7 due to the fact that these federal actions are identified  
8 in detail with emission reductions as needed to achieve  
9 attainment in the South Coast.

10 --o0o--

11 AQPSD AIR POLLUTION SPECIALIST HICKS: The new  
12 measures contained in the proposed Strategy reflect a  
13 combination of State actions, and petitions, and advocacy  
14 for federal and/or international action. Listed here on  
15 this slide are the potential NOx emission reductions from  
16 the measures in the 2022 Strategy, along with a small  
17 portion from the remaining 2016 State SIP Strategy  
18 measures that are not yet accounted for in the baseline  
19 emissions inventory. Even with the substantial emission  
20 reductions associated with ongoing implementation of the  
21 existing control program, these reductions from new  
22 measures are needed to provide for attainment of the 70  
23 ppb ozone standard in these areas as shown in the table.

24 Similar to the schedule mentioned above,  
25 aggregate emission reductions from the measures identified

1 in the Strategy are a required element for attainment  
2 demonstrations. Because the district plans are still  
3 under development, emission reduction estimates could  
4 change slightly as the attainment demonstrations are  
5 finalized. For this reason, these aggregate emission  
6 commitments will be proposed by CARB staff alongside each  
7 70 ppb ozone SIP in the coming months.

8 --o0o--

9 AQPSD AIR POLLUTION SPECIALIST HICKS: As I  
10 stated earlier, South Coast remains the biggest challenge  
11 when it comes to attaining ozone standards, but the  
12 proposed Strategy now includes measures and reductions  
13 needed from state sources to show a pathway for attainment  
14 in the South Coast. At the February Board hearing, staff  
15 provided a similar bar chart that had yet -- that had not  
16 yet identified all of the measures and reductions needed.  
17 Since then, staff has been working closely with South  
18 Coast District to identify additional measures and  
19 quantify benefits from certain measures that were still in  
20 development. The chart here shows South Coast NOx  
21 emissions.

22 From the left to right, the bar charts shows the  
23 emissions starting point in 2037 for the South Coast by  
24 category. The line going across the chart at 60 tons per  
25 day represents the emissions levels need to meet 70 ppb

1 ozone standard.

2 Next, after accounting for 73 tons per day of NOx  
3 reductions from CARB measures in the 2016 and the 2022  
4 Strategies, and proposed district actions from the revised  
5 Draft Air Quality Management Plan.

6 Finally, with the 52 tons per day of NOx emission  
7 reductions from the proposed federal action, we are able  
8 to reach the 60 tons per day NOx carrying capacity level,  
9 thus demonstrating attainment for the 70 ppb 8-hour ozone  
10 standard in the South Coast.

11 --o0o--

12 AQPSD AIR POLLUTION SPECIALIST HICKS: As part of  
13 the proposed Strategy, staff assessed the potential  
14 statewide impacts to the California economy from the suite  
15 of emission reduction measures. The table below is a  
16 summary of statewide impacts. Over the life of the  
17 strategy, from 2023 through 2037, the total net cost of  
18 the proposed measures is estimated as \$96.2 billion, which  
19 includes \$42.7 billion from the proposed CARB measures and  
20 \$53.4 billion as a result of measures that require federal  
21 actions. The average annual cost from 2023 to 2037 is  
22 estimated at \$8.8 billion, which is less than 0.3 percent  
23 of projected G -- California GDP in 2037.

24 The cumulative statewide NOx reduction is  
25 estimated to be 1.04 million tons through 2037. From 2023

1 through 2037, the Strategy will lead to an average annual  
2 decrease of 53,000 jobs compared to the projected baseline  
3 levels. It is important to note that this is not a  
4 decrease in 53,000 jobs every year, but an average over  
5 the 15-year period when compared to the baseline. The  
6 cost effectiveness is \$92,000 per ton of NOx, which is the  
7 ratio of the total amortized cost divided by the  
8 cumulative NOx reductions through 2037.

9 In contrast to most of the economic analysis  
10 brought before the Board for regulations in other items,  
11 this analysis is purely based on cost at this time. It  
12 does not factor in it -- in any monetization of the  
13 substantial public health benefits that will result.  
14 Because this Strategy is focused on ozone attainment,  
15 staff felt it appropriate that quantified health benefits  
16 include benefits from reduced ozone levels.

17 Staff in our Research Division is currently  
18 working and undergoing a public process to refine and  
19 further establish the methodology by which CARB will  
20 quantify ozone health benefits into the future, and we  
21 look forward to being able to share these results with the  
22 Board and the public through the future planning efforts.

23 --o0o--

24 AQPSD AIR POLLUTION SPECIALIST HICKS: As I  
25 mentioned early, staff held the fourth workshop in

1 conjunction with the release of the proposed Strategy in  
2 August. Staff presented a high-level overview of the  
3 Strategy with the new measures and economic analysis, and  
4 has -- and also heard significant input and feedback from  
5 stakeholders and answered questions. The staff -- the  
6 workshop was well attended and CARB staff received  
7 significant feedback.

8 --o0o--

9 AQPSD AIR POLLUTION SPECIALIST HICKS: We wanted  
10 to highlight the main feedback we received at the  
11 workshop, most of which was consistent with -- with what  
12 we had received through recent comment letters in other  
13 venues over the last few months.

14 First, it is important to note that stakeholders  
15 and the public were very thankful for the inclusion of the  
16 Zero-Emissions Trucks Measure and for the significant  
17 emission reductions the proposed In-Use Locomotive  
18 Regulation is anticipated to achieve. Stakeholders also  
19 provided significant input on more opportunities for a  
20 stronger pesticides commitment, accelerated Zero-Emission  
21 Truck Measure schedule, BACT/BARCT determinations, and  
22 equitable transition to a zero-emission future.

23 On the next slides, I will discuss each of these  
24 in more detail.

25 --o0o--



1           AQPSD AIR POLLUTION SPECIALIST HICKS: CARB added  
2 DPR's 1,3-D regulation to the proposed Strategy, which was  
3 released on August 12th. This regulation is currently  
4 under development by DPR and will address cancer and acute  
5 risk from the use of 1,3-D by shifting to application  
6 methods with lower 1,3-D emissions or use other measures  
7 to reduce exposure.

8           At the August workshop, advocates continue to  
9 recommend a stronger pesticide measure beyond on the 1,3-D  
10 me -- beyond the 1,3-D measure in the proposal. They  
11 provided several rec -- recommendations including DPR  
12 committing to a broader measure that addresses more  
13 pesticides and CARB pursuing a pesticide measure under our  
14 authority.

15           Finally, advocates want a targeted percent VOC  
16 emission reduction commitment by specific years.

17                           --o0o--

18           AQPSD AIR POLLUTION SPECIALIST HICKS: Over the  
19 last month since our workshop, CARB has been working  
20 closely with DPR to consider options for additional  
21 measures or emission reduction commitments. DPR is now  
22 working to estimate potential emission reductions for  
23 their 1,3-D measure and will be including these measures  
24 in our aggregate emission reduction commitments that we  
25 will be considering by the Board in January for the San

1 Joaquin Valley and for other areas alongside their  
2 respective ozone SIPs.

3 Moving forward, CARB will be partnering with DPR  
4 to proactively assess ways to reduce VOC emissions and  
5 also greenhouse gas impacts throughout DPR's programs.

6 --o0o--

7 AQPSD AIR POLLUTION SPECIALIST HICKS: At the  
8 August workshop, stakeholders expressed appreciation for  
9 developing and adding the Zero-Emissions Trucks Measure in  
10 the Strategy. This measure is currently proposed for the  
11 Board consideration in 2028 and implementation would begin  
12 in 2030. Stakeholders are advocating to accelerate this  
13 measure by two years, so adoption would be in 2026 and  
14 implementation would begin in 2028.

15 Across CARB, staff continues to pursue an  
16 aggressive regulatory schedule that prioritizes measures  
17 to achieve the greatest emission reductions and most  
18 benefit to public health, while also continuing to work  
19 with stakeholders to ensure we're developing programs with  
20 deadlines that can be met and that place the least burden  
21 on small businesses.

22 The schedule for the Zero-Emissions Truck Measure  
23 in the proposed Strategy was designed to allow  
24 implementation of the Advanced Clean Fleets regulation to  
25 begin, starting the first wave of our zero-emission truck

1 requirements with large fleets. It has always been CARB's  
2 intention to go further, so this new measure is that  
3 second wave which will be pushing the transition to zero  
4 in the smaller fleets.

5 Staff strives to approach this in a flexible way  
6 that does not overburden small businesses and single  
7 owner-operators. And the time laid out in the proposed  
8 schedule is what staff anticipated is needed to have the  
9 best chance at accomplishing this goal while also  
10 continuing to drastically reduce emissions from heavy-duty  
11 trucks.

12 --o0o--

13 AQPSD AIR POLLUTION SPECIALIST HICKS: Also,  
14 during the August workshop, advocates voiced the need for  
15 CARB to develop best available control technology or best  
16 available retrofit control technology, BARCT -- BACT and  
17 BARCT, determinations for stationary sources as a SIP  
18 measure. While this is not included as a SIP measure at  
19 this time in the proposed Strategy, CARB is still  
20 evaluating BACT/BARCT determinations and how actions such  
21 as these at the State level could potentially meet Clean  
22 Air Act requirements for SIP measure approvability in the  
23 future.

24 As local air districts have primary regulatory  
25 authority over stationary sources, submittal into the SIP

1 of district attainment plans and adopted district rules  
2 that require controls at BACT and BARCT levels are the  
3 mechanism by which these demon -- determinations are able  
4 to be included in the SIP and made federally enforceable.

5 That said, CARB staff is working closely with the  
6 local air districts to identify existing BACT  
7 determinations and BACT guidelines across the state in  
8 order to better support statewide consistency and  
9 collaboration.

10 --o0o--

11 AQPSD AIR POLLUTION SPECIALIST HICKS: And  
12 finally, at the public workshop and throughout the  
13 process, staff has heard from the public about the  
14 importance of ensuring equity in CARB's programs as we  
15 drive forward toward zero emissions everywhere feasible.  
16 While there is a broad support for zero-emission measures  
17 in the Strategy, advocates have expressed that equity and  
18 incentives for low-income populations need to be a focus  
19 as these zero-emission measures are developed.

20 Specifically, we've heard from advocates a need  
21 to ensure that the Zero-Emission Standards for Space and  
22 Water Heater Measure in the Strategy is designed as  
23 equitably as possible and through a process that involves  
24 thorough engagement with communities and community-based  
25 organizations. CARB has been in regular communication

1 with advocates on these issues and staff will continue to  
2 coordinate with them and others during the formal  
3 regulatory process. Staff also continues to hear comments  
4 on the ongoing need for targeted incentives to support  
5 low-income and disadvantaged communities in the transition  
6 to zero-emission vehicles.

7 Staff is committed to continuing to work to  
8 identify and develop programs that will provide additional  
9 targeted incentive funding, as you will hear more about  
10 when the funding plan is brought to the Board in a few  
11 months.

12 --o0o--

13 AQPSD AIR POLLUTION SPECIALIST HICKS: To  
14 summarize, the proposed 2022 State SIP Strategy identifies  
15 the pathway to attain the 70 ppb ozone standard across the  
16 State. The measures as outlined in the Strategy meet  
17 EPA's SIP approvability requirements and are needed to  
18 support the attainment SIPs that the districts across the  
19 state are releasing. These SIPs are due to EPA and will  
20 be adopted by each district and brought to this Board for  
21 consideration in the coming months.

22 Looking forward, staff will continue to work with  
23 the public to potentially incorporate additional measure  
24 suggestions through the upcoming Board actions.

25 --o0o--

1           AQPSD AIR POLLUTION SPECIALIST HICKS: Based on  
2 everything I've covered in this presentation, CARB staff  
3 recommends that the Board adopt the Proposed 2022 State  
4 SIP Strategy and the commitments to pursue measures  
5 according to the defined schedule. We also recommend that  
6 the Board certify the Final Environmental Analysis and  
7 response to environmental comments, and direct the  
8 Executive Officer to submit the 2022 State SIP Strategy to  
9 EPA for inclusion in the California SIP alongside the  
10 relevant district SIPs.

11                           --o0o--

12           AQPSD AIR POLLUTION SPECIALIST HICKS: So what  
13 are the next steps?

14           Today, the Board will be considering the proposed  
15 Strategy along with the federal environmental analysis.  
16 The districts are currently developing the nonattainment  
17 area SIPs. For the seven areas needing emission  
18 reductions beyond adopted programs, the plans will include  
19 the measures and reductions from the State SIP Strategy to  
20 demonstrate attainment. These district SIPs will come to  
21 the Board for consideration over the next several months,  
22 after they are approved by their respective District  
23 Boards.

24           Once adopted by this Board, these district SIPs  
25 will be submitted to EPA for inclusion in the SIP. And

1 finally, over the next 15 years, CARB will be developing  
2 and implementing the ambitious suite of measures  
3 identified in the Strategy, thereby ensuring that all  
4 nonattainment areas in the state can meet the 70 ppb ozone  
5 standard and bringing healthier air to all Californians.

6 Thank you, Chair Randolph and members of the  
7 Board.

8 CHAIR RANDOLPH: Thank you so much for that  
9 presentation. And it is now time to hear from the public  
10 who signed up to speak on this item either by submitting a  
11 request-to-speak card or a raised hand in Zoom. And is --  
12 as is our practice, we will close the Zoom queue after a  
13 certain point in time. So I'm going to go ahead and  
14 suggest that that happen at 2:30. So the Board Clerk will  
15 close the Zoom queue at 2:30.

16 All right. So I will now ask the Board clerks to  
17 begin calling the public commenters.

18 BOARD CLERK ESTABROOK: Thank you, Chair. We  
19 have five people in person. And the first is Bill  
20 Magavern.

21 BILL MAGAVERN: Got it. Thanks. Good afternoon,  
22 Madam Chair, and Board members. And Dr. Cliff,  
23 congratulations on moving up from the federal government.

24 (Laughter)

25 BILL MAGAVERN: Good to have you back.

1 I really, really admire the staff presentation.  
2 And we support so many of these measures, and look forward  
3 to working with all of you over the next many years to  
4 implement them for the good of the people of California.

5 I do have to point out though that I do not think  
6 that these measures will add up to reaching attainment,  
7 which is unfortunate, because, you know, that's really  
8 what the mission of this agency is and the mission of my  
9 group is, is to deliver healthy air to the people of  
10 California who have been denied for a long time. And as  
11 this presentation pointed out, that's particularly true of  
12 people in disadvantaged communities.

13 And while we strongly agree that the federal  
14 government should be doing much more in the areas where it  
15 has primary jurisdiction. I cannot confidently say that I  
16 expect the federal government to do that. And so it's I  
17 think very telling that the two biggest items in this plan  
18 from a perspective reducing NOx are locomotives and  
19 ocean-going vessels, both areas where we really need the  
20 federal government to step up and we've seen very, very  
21 little action.

22 So what I take from that, for purposes of today,  
23 is that, you know, we need to do more, as I think many of  
24 you have indicated. We need to find all of the emission  
25 reductions we can. And you will be seeing the locomotive



1 measures soon, which is -- is really crucial. We do need  
2 to do a lot more in ocean-going vessels.

3           And I want to talk specifically about trucks,  
4 because we have over more than a year been suggesting that  
5 we need to put in place a measure to turnover the oldest,  
6 dirtiest diesel trucks. And I really appreciate the fact  
7 that the -- the staff heard us and included a measure.  
8 And I think speaks really well this agency that has  
9 suggestions from the public can be included in this really  
10 important plan. So this Zero-Emission Trucks Measure,  
11 we're -- we're very appreciative that it's been included.

12           It is, in terms of NOx reductions, the fourth  
13 biggest item in this plan, so it's essential that any  
14 hopes we have of reaching attainment in the South Coast  
15 and the San Joaquin Valley. And, you know, we also -- we  
16 hear about the Governor's Executive Order, which says that  
17 by 2045 all the trucks on the road are going to be  
18 zero-emission heavy-duty trucks. But as of now, there's  
19 no measure in place to actually make that happen. So to  
20 actually accomplish that, we need to have the trucks  
21 turnover. And the fact is that the Legislature in 2017  
22 basically invited you to require that heavy-duty trucks be  
23 retired --

24           (Timer concluded.)

25           BILL MAGAVERN: Wow. I hope that wasn't like a

1 flex alert or something.

2 (Laughter)

3 BILL MAGAVERN: -- that they be retired at the  
4 end of their useful lives, and that's defined as being at  
5 the latest 18 years.

6 So the rationale --

7 BOARD CLERK ESTABROOK: Thank you.

8 BILL MAGAVERN: -- for having --

9 BOARD CLERK ESTABROOK: That's your time. Thank  
10 you, Bill.

11 BILL MAGAVERN: Okay.

12 BOARD CLERK ESTABROOK: And just for everyone in  
13 the room, we turned up the volume, so that the folks in  
14 Zoom could hear us better, so that's why that sound is so  
15 alarming.

16 BILL MAGAVERN: Great.

17 BOARD CLERK ESTABROOK: Will.

18 Okay. So we've tried turning it down a little  
19 bit for those in the room. So on Zoom, if you can't hear,  
20 Chair Randolph maybe just let me know.

21 All Right. Go ahead.

22 WILL BARRETT: All right. Thank you, all. I'm  
23 Will Barrett with the American Lung Association. I've  
24 lowered the thing, because I'm not as tall as Bill and  
25 certainly not as eloquent, so I'll just dive right in.

1 I wanted to say first I wanted to thank everyone  
2 for the great work that's been done in this plan.  
3 Certainly, it's a core public health function of the  
4 California Air Resources Board to move this process  
5 forward, and, you know, we support many, many elements  
6 that are in this plan. We certainly support and  
7 appreciate the focus on zero-emission technologies across  
8 the board, as was discussed in the presentation from  
9 trucks, to fleets, to locomotives, to appliances. We know  
10 the shift way from combustion is critical to improving air  
11 quality in California, meeting standards, and improving  
12 health in our communities across the board.

13 Like Mr. Magavern said, I -- you know, we were  
14 calling for the inclusion of the useful life measure for  
15 several years, many Board hearings about that, and very  
16 much appreciate it being included in the -- in the  
17 document.

18 On the issue of broad support for that measure,  
19 we submitted a letter to today with 19 health  
20 organizations on it that really again reiterate our, you  
21 know, appreciation and support for that measure. We also  
22 though call out, as was noted in the presentation which I  
23 appreciate, the fact that we think that that measure can  
24 move more quickly and deliver health benefits more  
25 quickly. So if we're looking at 2010 trucks, we think

1 that at the 18-year mark under SB 1, 2028 is an  
2 appropriate implementation time.

3 We think that the process should be accelerated  
4 in a way that by 2024, the staff should come back to the  
5 Board looking at the two options that were evaluated in  
6 the SIP, either seeking out new authorities or using  
7 existing authority, to make this measure happen. So we  
8 think by 2024, the staff should come back with a report  
9 saying we've gotten nowhere on new authorities with the  
10 Legislature, we'll use our existing authority. It has to  
11 be very clear, kind of go/no-go moment as far as what the  
12 path is to making sure we're moving forward adopting the  
13 policy. And again, we'd like to see the policy adopted in  
14 2026 and moved into implementation in 2028, again to  
15 capture those 2010 trucks, again at the outer bounds of  
16 where SB 1 sets useful life.

17 A quick rundown. Very exited to work with the  
18 Board on the locomotive elements coming up in November. I  
19 think that's going to be critically important, not only  
20 for ozone attainment, but local diesel reduction health  
21 benefits. Also, we'll continue to work closely with our  
22 federal staff on federal issues, because we know that  
23 those gaps have to -- have to be closed. We need more  
24 pressure on the federal government to step up for the  
25 people of California.

1           So with that, I'll just say thank you. Look  
2 forward to working with the Board and staff. And that's  
3 it. Thank you very much.

4           BOARD CLERK ESTABROOK: Thank you.

5           Teresa.

6           TERESA BUI: Good afternoon, everyone. My name  
7 is Teresa Bui with the environmental non-profit group  
8 Pacific Environment. We hold a consultative status with  
9 the International Maritime Organization.

10           I just wanted to echo the comments made by Bill  
11 Magavern and Will Barrett on the -- that the timetable for  
12 the Zero-Emission Truck Measure should be accelerated. We  
13 will be focusing the bulk of our comments on the  
14 ocean-going vessels. I just want to thank staff for all  
15 their hard work on the State Implementation Plan.  
16 However, we are very disappointed to see that the -- the  
17 proposed time measure got -- in the SIP got weaker and  
18 that we think the time -- the proposed time frame is too  
19 weak and too slow.

20           The shipping industry has skirted regulations for  
21 decades and is one of the worst polluters. For far too  
22 long, Black and Brown working class communities in West  
23 Long Beach, Wilmington, and San Pedro have been  
24 contaminated with ship -- toxic ship pollution as major  
25 ship companies and retailers chose the cheapest and most

1 toxic deadly fossil fuel to ship cargo.

2 CARB estimates that ship import pollution  
3 contributes to an estimated 2,400 premature deaths each  
4 year in the state. At the same time, cargo -- cargo  
5 owners are making record profits, more money than they've  
6 ever made before. And we're urging CARB to commit to  
7 zero-emission shipping by 2040.

8 Just this week, shipping giant MAERSK, one of the  
9 top shipping carriers has endorsed U.S. Representative  
10 Lowenthal's Clean Shipping Act, demonstrating there's  
11 industry support for a regulation that levels the playing  
12 field and clear market signals for industry  
13 decarbonization. And just this morning, Target joined  
14 major retailers Amazon and Ikea in supporting  
15 zero-emission shipping by 2040.

16 And so now we need clear market signals from the  
17 firth largest economy in the world. Ships have the  
18 highest NOx emissions. And the public health benefit from  
19 regulating ships surpasses all other transportation  
20 sectors. CARB's only -- own study shows the ship  
21 congestion from the San Pedro Port congestion as  
22 equivalent to a NOx emission increase from 5.8 million  
23 passenger cars and equivalent to 100,000 big rig trucks  
24 per day.

25 And so these cargo owners are making more money

1 than Google and Amazon combined and should be forced to  
2 fund the transition to zero emission. In addition, the  
3 recently enacted impleme -- Inflation Reduction Act has  
4 provided \$3 billion for port cargo transition and  
5 California has provided \$1.2 billion for port  
6 modernization to help fund this.

7 So similar to cars and trucks, we need ships to  
8 go zero emission to save lives. And CARB's sulfur fuel  
9 standards has punted to IMO to adopt a global -- a similar  
10 global rule. And California passed the world's first  
11 sulfur emission on maritime emissions in 27 -- 2007. And  
12 because so many ships go through California, this  
13 regulation has forced oil and gas --

14 (Timer concluded.)

15 TERESA BUI: Oh, shoot.

16 With that, we're urging CARB to, once again, show  
17 us leadership and adopt zero emissions for all vessels by  
18 2040. Thank you so much for your time.

19 BOARD CLERK ESTABROOK: Thank you.

20 Daniel.

21 DANIEL BARAD: Good afternoon. Daniel Barad on  
22 behalf of Sierra Club California and our 500,000 members  
23 and supporters statewide.

24 We thank the staff for all their work on the SIP  
25 strategy and we appreciate the overall effort of the SIP

1 to transition away from combustion and towards  
2 zero-emission technologies. There are three major  
3 components that we are particularly excited to support.

4 First, we applaud the measure requiring 100  
5 percent zero-emission space and water heater sales in the  
6 State by 2030. This will reduce the building sector's  
7 carbon footprint and improve public health. We also  
8 appreciate the commitment to equity-centered engagement  
9 and community input at all stages of this process.

10 Second, we strongly support the inclusion of  
11 locomotive measures in the SIP to cut down on the  
12 significant NOx, GHG, and toxic air pollution across all  
13 classes of locomotives. We support limitation --  
14 limitations on idling, the establishment of a spending  
15 account to help transition to zero-emission technologies,  
16 and the in-use operation requirements that will phaseout  
17 the dirtiest locomotives in California.

18 Finally, we support the Zero-Emission Truck  
19 Measure and appreciate that CARB has included an Option B,  
20 if it cannot get additional authorities.

21 The combined effects of the ACT and ACF in the  
22 proposed ACF rules will still leave about one million  
23 polluting trucks on California's roads in 2045 when  
24 vehicles everywhere feasible need to be zero emission.  
25 The proposed Zero-Emission Truck Measure acknowledges this



1 gap and seeks to close it. We very much support the  
2 objectives of this measure, but we have recommendations to  
3 improve it.

4           As my -- the three colleagues ahead of me  
5 mentioned, we believe the implementation dates should be  
6 moved from 2030 to 2028, and the first Board meeting  
7 should therefore be moved from 2028 to 2026. This will  
8 allow for greater emission reductions as CARB could retire  
9 2010 trucks as soon as they reach their useful life in  
10 2028. We further urge the Board to decide by the end of  
11 2024 whether they have secured the additional authorities  
12 desired for the Option A or if they should begin on --  
13 again working on Option B. These modifications will  
14 ensure that the Zero-Emission Truck Measure works as  
15 intended to retire polluting trucks as soon as possible.

16           Again, we are supportive of the SIP overall and  
17 urge you to approve it today with our recommendation.

18           Thank you.

19           BOARD CLERK ESTABROOK: Thank you.

20           Sean.

21           SEAN EDGAR: Chair and Board members, Sean Edgar  
22 appearing before you on behalf of the Western States  
23 Trucking Association. Founded in 1941, the Association is  
24 the oldest, independent, non-profit vocational trucking  
25 association in the state, and happy to offer some

1 comments.

2 I'll just recite from the letter that the  
3 Association filed on the draft plan in February of this  
4 year. And the current plan does not appear any more  
5 feasible to our members than the draft plan that was  
6 presented. The members are -- would fall both into the  
7 ACF category, which we had a little bit of a discussion  
8 earlier today. We'll have more discussion next month on  
9 that.

10 Also, the members would fall into Zero-Emission  
11 Truck Measure as proposed. And small business members,  
12 particularly of this Association, are hurting at this  
13 time. So based upon all of the reasons we discussed  
14 earlier about the enormous challenge that it's going to  
15 take to get the zero-emission trucks, the Association does  
16 not feel at this time that it's appropriate to list that  
17 in the SIP document, because as we've found in the past,  
18 once an item is listed in our SIP document, the -- it  
19 seems compelling enough that the Board would have to take  
20 action on it. And once it's in the SIP, it's in the SIP,  
21 and it doesn't seem like it has much opportunity to change  
22 it once in the SIP. So our comments today are consistent  
23 with our written testimony this past February.

24 And I'll just, in the time I have left, reference  
25 Professor Sperling asked a little bit about associations

1 and collaboration. So many of you know, today is an  
2 anniversary. This is the 22nd anniversary of me appearing  
3 in front of the Board the first time. Mrs. Riordan and I  
4 share special memories over trash trucks. I think that a  
5 little bit of perspective on collaboration. In that  
6 particular experience, we had a huge level of effort over  
7 a three-year period to develop what was, at that time, the  
8 first private fleet retrofit requirement. The members of  
9 that association came through that with flying colors.  
10 There was one review in front of the Board in 2004. Other  
11 than that, the Board didn't hear thinking about it until  
12 2019. That left the perception amongst those folks  
13 affected by that rule, that the Board really didn't care  
14 to have a 15-year gap.

15 I've also indicated to you that many of the folks  
16 in that arena that are members of WSTA are also just  
17 getting over implementing the Truck and Bus Regulation at  
18 great expense.

19 And I guess finally, I would point out that when  
20 you staff comes to the shocking, startling conclusion that  
21 natural gas vehicles are more polluting than diesel  
22 vehicles, I think that gives pause to a lot of the folks  
23 that I work with that walked into a bank and bonded or  
24 borrowed over a billion dollars to make renewable natural  
25 gas and natural gas vehicles a possibility. So when --

1 when -- I know -- I know Board staff prides itself on  
2 technical prowess in evaluating all science. I don't  
3 think that's very science based. And if it is science  
4 based and it is correct, then I think the Board probably  
5 owes an explanation to ratepayers and taxpayers that  
6 haven't invested a lot of money as well and public  
7 agencies that have invested in renewable natural gas.

8           So I'll just conclude by saying collaboration is  
9 obviously a two-way street and we look forward to working  
10 with you.

11           BOARD CLERK ESTABROOK: Thank you. That  
12 concludes our in-person commenters. And now it's past  
13 2:30, so the queue is closed for Zoom.

14           With that, we have about 25 people with their  
15 hands raised, so I'll pass it to Lindsay to call on those.

16           BOARD CLERK GARCIA: Thank you.

17           So the first few commenters in Zoom will be  
18 Michael Kapolnek, Jane Sellen, Janie Kilgore, and Ryan  
19 Kenny. And I apologize in advance if I mispronounce  
20 anyone's name.

21           So Michael, I have activated your microphone.  
22 Please unmute and you can begin.

23           MICHAEL KAPOLNEK: Hello. My name is Mike  
24 Kapolnek. I'm a retired engineer living in Sunnyvale,  
25 California. I ma here to comment on the zero-emissions

1 standard for space and water heaters. My wife and I  
2 firmly support building decarbonization efforts in  
3 building electric -- electrification efforts associated  
4 with those, but we cannot support this standard as  
5 written, as we see it has a major flaw. This -- this  
6 standard has the potential to have the greatest impact on  
7 an average Californian since the initiation of smog  
8 checks. First of all, it removes the choice of fuel for  
9 new space and water heaters, but much more significantly  
10 it will force many homeowners into expensive retrofits of  
11 their electrical service in the midst of trying to do an  
12 emergency repair to restore hot water or heating into  
13 their home.

14           These panel upgrades will be required for a large  
15 number of homes to support the zero-emission requirement.  
16 It's an expensive and complicated process requiring design  
17 and coordination with utilities. My wife and I are going  
18 through it right now. We were on track to have a panel  
19 replaced in six weeks at a cost of \$5,000 until PG&E  
20 projected our design. We now have to move to the other  
21 side of the house. Our costs will at least double and the  
22 time frame grow by months.

23           This is not unusual. We're the third homeowner  
24 on our block to have to replace -- to have to move their  
25 service panel as part of an upgrade. This is driven by

1 PG&E rules that treat service panel replacement as if it's  
2 in new construction.

3           So it will take at least a month and several  
4 months to do a panel upgrade during which time anyone that  
5 needs to operate will be without space or water heating.  
6 That is not acceptable. I suggest that we change -- that  
7 this be changed to a set of building code requirements  
8 that specific -- specifically require the zero-emission  
9 appliances in homes who service panel already includes the  
10 capability for those units.

11           Per my looking at your -- your data, the set of  
12 homes requiring panel upgrades represent about one half of  
13 one percent of the total statewide NOx emissions and less  
14 that one percent of greenhouse gas emissions. That  
15 doesn't seem to justify the pain that will be caused to  
16 the homeowner who's trying to do these upgrades in the  
17 middle of a loss of heating or hot water.

18           Some of that loss of emission gains could be  
19 recovered by adding a new rule that any central air  
20 conditioner condenser assembly to be replaced by 2030 be  
21 replaced with a high efficiency heat pump system that they  
22 could be used to both heat and cool the house, thus  
23 replacing gas heating or inefficient electric heating in  
24 those homes.

25           Thank you.

1 BOARD CLERK GARCIA: Thank you.

2 Okay. Jane, I have activated your microphone.  
3 Please unmute and you can begin.

4 JANE SELLEN: Hi. Thank you for the opportunity  
5 to comment. I'm Jane Sellen, Co-Director of the statewide  
6 coalition Californians for Pesticide Reform. We've  
7 advocated extensively for the various BDOs at CalEPA to  
8 heed the role of agricultural pesticides in the public  
9 health and air quality emergency in the San Joaquin Valley  
10 and to take steps to address the extreme racial disparity  
11 and impact across California's agricultural heartland.

12 We appreciated the commitment in the January  
13 draft to consider how DPR and CARB could work together to  
14 address pesticide emissions in the SIP. And we're hopeful  
15 that an update to the 1994 enforceable VOC emissions  
16 reduction commitments would be forthcoming in light of the  
17 stricter federal ozone standard.

18 Instead, the draft your considering merely  
19 describes DPR's ongoing rulemaking for 1,3-D and  
20 explicitly excludes it as an enforceable measure instead  
21 noting that it may reduce emissions. That's not good  
22 enough. The SIP is one key place where the State can  
23 build trust in most impacted communities by prioritizing  
24 this class of air pollutants for real and enforceable  
25 reduction targets.

1           We heard and appreciated CARB staff's  
2 announcement that 1,3-D emissions reductions will be  
3 included in the San Joaquin Valley SIP to be considered in  
4 January, and we welcome that commitment.

5           However, we strongly oppose the plan to use DPR's  
6 calculation of likely emissions reduction based on the  
7 draft rule instead of CARB setting an ambitious target  
8 that DPR's regulation must attain. CARB, not DPR, is  
9 primarily responsible for the quality of California's air,  
10 and in other spaces has acknowledged their authority to  
11 regulate pesticide toxic air contaminants after their  
12 pesticidal use once they volatilized in the air. CARB  
13 should exercise this authority and must lead not follow  
14 when it comes to setting the target for 1,3-D emissions.

15           A preview of DPR's draft 1,3-D regulation is not  
16 reassuring and may even result in increased use with no  
17 guarantee of reduced emissions. With CARB's leadership,  
18 the 1,3-D rule could be much stronger, which brings me to  
19 my next ask, which is that CARB resolve today -- tonight  
20 to correct the language in this draft SIP that misstates  
21 DPR's authority and must instead proactively assert CARB's  
22 primary authority. Yes, DPR regulates pesticides, but  
23 it's CARB that's in charge of setting air quality targets.

24           And we also want to voice our concern that the  
25 singular focus on 1,3-D leaves the door open for other



1 equally noxious fumigants to increase as a substitute for  
2 1,3-D. CARB and DPR should work together to update the  
3 overall VOC emissions targets established in 1994.

4 We're frustrated by this continued battle to  
5 bring the agricultural industry to the table and to have  
6 it take responsibility for its share of the San Joaquin  
7 Valley's public health and air quality crisis. Pesticides  
8 continue to be an exempt class of pollutants in the  
9 state's drive to zero.

10 We call on CalEPA to convene the leadership  
11 necessary across its BDOs to take the collective action  
12 necessary to achieve the --

13 BOARD CLERK GARCIA: Thank you. That concludes  
14 your time.

15 JANE SELLEN: Thank you.

16 BOARD CLERK GARCIA: Janie, I have activated your  
17 microphone. Please unmute and you can begin.

18 JANIE KILGORE: Good afternoon, Madam Chair and  
19 members of the Board. I am Janie Kilgore, associate  
20 regulatory counsel with POET. Thank you for this  
21 opportunity to comment. POET is the largest biofuel  
22 producer in the world with 33 bioprocessing facilities  
23 across eight states. POET is committed to sustainability  
24 and to reducing greenhouse gas and air toxic emissions  
25 from the transportation sector.

1 POET strongly supports CARB's air quality and  
2 greenhouse gas reduction goals. Bioethanol can play a key  
3 role in helping California achieve its air quality goals.  
4 Recent studies showed that higher bioethanol blends in  
5 gasoline reduce air pollutants, including total  
6 hydrocarbons, carbon monoxide compounds, PM2.5, and BTECs  
7 without increasing NOx emissions.

8 Total hydrocarbons include VOCs, meaning that  
9 higher ethanol blends reduce a primary ozone precursor.  
10 Another recent study showed that these emissions  
11 reductions from higher bioethanol blends deliver health  
12 benefit to disadvantaged communities. These emissions  
13 reductions are most prominent under cold start conditions,  
14 which tend to be in areas where disadvantaged communities  
15 are located.

16 In addition to these area toxic benefits,  
17 bioethanol has significant climate benefits. Bioethanol  
18 is about 46 percent cleaner than gasoline and POET is  
19 engaged in a number of activities to reduce greenhouse gas  
20 emissions associated with bioethanol even further.

21 POET has committed to producing carbon-neutral  
22 fuel by 2050. The air quality benefits demonstrated in  
23 these studies show that biofuel can play a key role in  
24 helping CARB achieve federal and State air quality  
25 standards and meet that State's climate goals.

1           We have previously provided these studies to CARB  
2 staff and would be happy to discuss in detail further and  
3 provide any additional information.

4           BOARD CLERK GARCIA: Thank you.

5           Ryan -- after Ryan, we will hear from David  
6 Rothbart, Adrian Martinez, and Alison Torres.

7           So Ryan, I have activated your microphone.  
8 Please unmute and you can begin.

9           RYAN KENNY: Yes. Thank you. Good afternoon,  
10 Chair Randolph and members of the Board. My name is Ryan  
11 Kenny with Clean Energy.

12           There are two Primary issues I would like to  
13 briefly discuss. The first of which is today's State SIP  
14 document item includes the Advanced Clean Fleets  
15 Regulation as a measure, which of course requires  
16 heavy-duty ZEVs, but heavy-duty ZEVs are not expected to  
17 be commercially available on a widescale for many years.  
18 This specific SIP measure is only a partial solution to  
19 non-attainment, because it fails to place the cleanest  
20 available truck technology on the road today. Waiting for  
21 heavy-duty ZEVs is a recipe for more pre-omnibus diesel  
22 trucks on the road.

23           The development of heavy-duty renewable fueled  
24 natural gas trucks powered by carbon-negative RNG is the  
25 most immediate and cost-effective solution to achieve

1 near-term reductions in NOx emissions that will improve  
2 public health. Yet, this technology has been  
3 intentionally omitted as a near-term solution in the  
4 pro -- proposed 2022 SIP due to an overreliance on  
5 measures that contain yet-to-be-adopted goals and  
6 aspirations that present monumental hurdles and may prove  
7 incapable of achieving their promises.

8           The second item I want to bring up is -- was  
9 actually brought up by Sean Edgar a few moments ago, and  
10 that is actually on page 63 of the proposed SIP. And the  
11 document on that page states in part quote, "Low NOx  
12 vehicles pollute in the field more than expected", end  
13 quote. And this is footnoted to a July 2021 fact sheet on  
14 a 200-vehicle project study.

15           Also, the ACF ISOR does also mention the study  
16 and says quote, "Unfortunately, vehicles certified to the  
17 optional -- optional low NOx standard do not perform as  
18 expected within real-world applications, as was  
19 demonstrated by a recent study conducted by South Coast  
20 AQMD, CEC, CARB, and SoCalGas". The citation does not --  
21 the citation does go on to mention the contractor's report  
22 was not yet ready at the time of publication.

23           I want to emphasize that these quotes -- the data  
24 used in the study wasn't from certification cycles, so  
25 it's inappropriate to draw such a conclusion to low NOx in

1 the field. It's -- the statement found the study was low  
2 NOx vehicles pollute in field and this is -- this is  
3 around testing methodology, and it's actually not because  
4 of certification issues. So we urge CARB to remove these  
5 inaccurate statements in the SIP and the ACF ISOR and  
6 correct the record.

7           Again, we are concerned about near-term emission  
8 reductions and any false portrayal of the effectiveness of  
9 low NOx vehicles within the certification process and in  
10 the field.

11           Thank you.

12           BOARD CLERK GARCIA: Thank you.

13           David, I have activated your microphone. Please  
14 unmute and you can begin.

15           DAVID ROTHBART: Thank you. This is David  
16 Rothbart. Thank you, Chair Randolph and Board members.  
17 I'm representing the Southern California Alliance of  
18 Publicly Owned Treatment Works, or SCAP. SCAP represents  
19 over 80 public water and wastewater agencies in Southern  
20 California and we provide essential water and wastewater  
21 treatment for approximately 20 million people in Southern  
22 California.

23           Our members, we treat waste. The people flush  
24 the toilets, we have to treat that. That treatment  
25 process generates a non-fossil wastewater-derived biogas

1 that could be used today to reduce greenhouse gases,  
2 reduce NOx, and reduce diesel PM now. The reason that's  
3 important is most of my members operate in the South Coast  
4 Air Basin. As staff showed, there's a lot of reductions  
5 needed there. And unfortunately, the presentation didn't  
6 talk about achieving the 1997 ozone standard that's  
7 required by 2023. And if we go back a few years, the CARB  
8 Board adopted the 2016 SIP for the South Coast Air Basin.  
9 And essentially, we didn't get the reductions that were  
10 necessary to get to attainment.

11 So the consequence of that is going to be in  
12 2023, we're going to fail to achieve the ozone standard  
13 and organizations like the one I work for will have to pay  
14 penalties due to failing the Clean Air Act, and my  
15 organization might have to pay upwards of a million  
16 dollars per year until we achieve attainment.

17 In addition, the South Coast Air District has  
18 said there may be a permanent moratorium where I couldn't  
19 even get a permit to put something in to clean the air,  
20 and also federal highway funding may be withdrawn. So  
21 this is a really big problem looking back at the past  
22 standard.

23 My point I'm trying to make is moving forward, we  
24 need to look at all the tools in the toolbox. I'm an  
25 engineer and I look at things as what can we do to clean

1 the air quickly? And if we just say there's one  
2 solution -- that by the way we agree with electrification.  
3 It's a great idea. But if we only look at  
4 electrification, we're bypassing other possible things  
5 that we could reduce emissions today. And the non-fossil  
6 fuel that we generate can be used today in vehicles to  
7 address problems quickly and help us to achieve clean air  
8 for EJ communities and others.

9           So we really encourage you to direct staff to  
10 consider this and other measures, all the tools in the  
11 toolbox to get to clean air as quickly as possible.

12           Thank you very much.

13           BOARD CLERK GARCIA: Thank you.

14           Okay. Adrian, I have activated your microphone.  
15 Please unmute and you can begin.

16           ADRIAN MARTINEZ: Good afternoon, members of the  
17 Board. My name is Adrian Martinez and I'm a senior  
18 attorney with Earthjustice.

19           I'm here today to say that this State Strategy is  
20 very different than prior State strategies. I think it's  
21 proposing a suite of measures that is much more  
22 aggressive. In response to the prior two speakers, Mr.  
23 Rothbart and Mr. Kenny, I'd have to say I respectfully  
24 disagree. I think all evidence is pointing to the fact  
25 that relying on combustion technologies will not get us to

1 attainment, even of the 1997 ozone standard.

2 I think evidence is pointing that the amount of  
3 emission reductions we need requires wholesale shift to  
4 zero emissions and we need to start now. I do want to  
5 raise a few suggestions. First, I think in relation to  
6 the hundreds of thousands of combustion trucks that will  
7 be on the roads in 2037, I think the Board should explore  
8 tightening the Advanced Clean Fleets out date of  
9 compliance to 2036. I think that would help eliminate  
10 some of those trucks.

11 I also think the Board should explore pursuing  
12 some type of Advanced Clean Trucks Part 2 standard to  
13 create more trucks produced to meet ACF demands. In a  
14 meeting yesterday with industry stakeholders at the ports,  
15 this issue came up. And there was concerns I think  
16 revising the ACT standards could be a very wise use of  
17 time and resources.

18 Finally, I want to reiterate some of the concerns  
19 expressed from my colleague Teresa Bui about marine  
20 vessels. I think moving quicker on marine vessels is  
21 going to be needed and really expanding the -- the efforts  
22 of the agency on this.

23 And then finally, I want to really applaud staff  
24 for including measures looking at transportation  
25 conformity. I think this has been a tool in the toolkit



1 that hasn't been used. And we hope they can move faster  
2 to kind of figure out how can we use the conformity  
3 process to make sure we're investing in wise  
4 transportation projects. I also think reviewing things  
5 like how CMAQ funding is spent in other transportation  
6 control measure strategies is a really important tool in  
7 driving down NOx emissions.

8 But overall, we look forward to working with  
9 staff on this plan. We hope we can move up some of those  
10 deadlines of when they're going to bring rules to the  
11 Board, because the emission reductions are just so  
12 necessary to make sure that we can get on a track to  
13 breathe clean air.

14 Thank you and have a good day.

15 BOARD CLERK GARCIA: Thank you.

16 Next -- after Alison, we will hear from Leah  
17 Louis-Prescott and then Janet Dietzkamei, and Brent  
18 Newell.

19 So Alison, I have activated your microphone. You  
20 can unmute and begin.

21 ALISON TORRES: Good afternoon, Madam Chair and  
22 Board members. My name is Alison Torres with Eastern  
23 Municipal Water District. I'm also the Vice Chair of the  
24 SCAP Air Committee. And EMWD is also a member of the  
25 California Association of Sanitation Agencies, also known

1 as CASA. EMWD is a water, wastewater, and recycled water  
2 agency located in the South Coast Air Basin. And we serve  
3 more than 827,000 people. Thank you for the presentation  
4 on the proposed State Strategy for the State  
5 Implementation Plan and the work that staff have put into  
6 the Plan. My comments today focus on the ozone  
7 non-attainment status of the South Coast Air Basin, the  
8 implications of continued non-attainment, and how this  
9 proposed SIP Strategy addresses these factors.

10 As you know, the Clean Air Act requires the South  
11 Coast Air Basin, which is in extreme non-attainment for  
12 ozone to come into compliance with the 1997 standard by  
13 2023. Upon failing to meet this federal deadline, the  
14 Clean Air Act sections 179 and 185 allow the U.S. EPA to  
15 withhold federal highway funding, increase offsetting  
16 requirements and impose an annual penalty on major  
17 stationary sources. This includes wastewater treatment  
18 plants. And this can also impact the ability for an  
19 essential public service to obtain a permit from the local  
20 air district, which includes biogas projects that aid in  
21 SB 1383 implementation.

22 Unfortunately, the State SIP Strategy presented  
23 today does not address achieving the 1997 ozone standard  
24 by the federal deadline and focuses on long-term  
25 reductions. The State SIP Strategy for on-road vehicles,

1 more specifically with the Advanced Clean Fleets  
2 Regulation, heavily focuses on zero-emission vehicles,  
3 which essentially delay attainment by focusing on  
4 long-term reductions rather than using some of the  
5 existing tools for near-term reductions.

6 We're not opposed to zero-emission. However, per  
7 law, and the Governor's Executive Order, all available  
8 technologies should be utilized to achieve attainment.  
9 Wastewater biogas is unique and offers co-benefits and  
10 will always be generated. A pathway for use of the  
11 non-fossil fuel RNG derived from wastewater treatment in  
12 vehicles uses existing tools and provides PATHWAYS for  
13 improved resiliency for essential public services.

14 Furthermore, the Clean Air Act penalties and  
15 permit moratoriums are concerning as they impact essential  
16 public services and can prevent permitting on-site biogas  
17 projects.

18 Thank you for the opportunity to comment. And  
19 the wastewater Industry looks forward to continuing to  
20 work with CARB staff. I urge the CARB Board to direct  
21 staff to pursue diversity in the SIP strategy that aligns  
22 with the Clean Air Act deadlines, maximizes the near-term  
23 solutions, minimizes stranded assets, and maintains  
24 multiple pathways for renewable non-fossil fuel biogas.

25 The inclusion of multiple pathways is critical

1 for ensuring the reliability and resilience of our  
2 critical services.

3 Thank you.

4 BOARD CLERK GARCIA: Than you.

5 Okay. Leah, I have activated your microphone.  
6 Please unmute and you can begin.

7 LEAH LOUIS-PRESCOTT: Hello. And thank you for  
8 the opportunity to comment. My name is Leah  
9 Louis-Prescott. I'm in the Manager in the Oakland office  
10 of RMI. Thank you, Board members and staff for your  
11 leadership in protecting air quality and health by  
12 pursuing zero-emission technologies in this plan,  
13 especially in buildings.

14 I support the Board's proposed zero-emission  
15 standard for new appliances by 2030 and I urge the Board  
16 the pursue this landmark standard as quickly as possible,  
17 while ensuring equitable implementation. Buildings emit  
18 four times more NOx than all of our state's power plants  
19 and nearly two-thirds the NOx pollution of all passenger  
20 cars. It is well past time that we address Building  
21 pollution. And I'm grateful that today CARB is pursuing a  
22 regulation that can catalyze a statewide transition to  
23 clean and healthy appliances.

24 As CARB develops its zero-emission appliance  
25 standards, I ask the Board to consider three

1 recommendations. First, the standard should be expanded  
2 to consider all residential and commercial end uses. Not  
3 only will this maximize our desperately needed pollution  
4 reductions, but also it can create opportunities to retire  
5 portions of the gas system supporting the State's broader  
6 decarbonization goals.

7           Second, the Board should convene a cross-sector  
8 working group that will help the state prepare for and  
9 pursue an equitable, affordable transition to clean  
10 appliances. The working group should begin immediately  
11 with leadership from environmental justice communities to  
12 ensure equitable processes and outcomes. This coordinated  
13 effort should yield complementary and equity-promoting  
14 policies by the time the rule takes effect in 2030.

15           Third, this essential rule should be finalized as  
16 soon as possible. 2025 seems far too long to finalize  
17 this measure, especially when market actors are seeking  
18 regulatory certainty and other states are watching  
19 California's leadership. I suggest the Board prioritize  
20 this measure and aim to finalize the rule by 2024 at the  
21 latest.

22           Once again, thank you for pursuing this historic  
23 standard that will set an example for the nation on how  
24 states and transform their building sector to be free of  
25 pollution. Thank you for all of your leadership and thank

1 you for your consideration of these comments.

2 BOARD CLERK GARCIA: Thank you.

3 Janet, I have activated your microphone. Please  
4 unmute and you can begin.

5 JANET DIETZKAMEI: Thank you and good afternoon,  
6 chair Randolph. I am -- I live in Fresno. I have asthma.  
7 I want to share what it is like to have asthma.

8 In ozone at the real-time air monitoring, or  
9 RAAN, high level of good, Level 1, of 59 parts per  
10 billion, I can't breathe. I have to stay in the house in  
11 the afternoons. Breathing in ozone for me is like putting  
12 a plastic bag over my head, gathering it at my neck, and  
13 trying to draw in air. That is exactly what it is like.

14 I have to have my husband drive me to a door in  
15 the summertime when ozone is high. Having an asthma  
16 attack relative -- reacting to PM2.5 starts with coughing,  
17 gagging, retching, and inability to intake air. Now, when  
18 I -- when we moved in our neighborhood, there was no free  
19 way, and there was no business park. Both have been  
20 created. There's a freeway. I can see the freeway from  
21 outside when I look from my yard. And the business park  
22 has been built in an area that was already a residential  
23 area with new houses being built right next to the  
24 business park. We already have delivery trucks and the  
25 large 18-wheeler type trucks coming more and more into the

1 business park as more and more of the buildings are being  
2 built.

3 All communities, especially those populations who  
4 have no air conditioning or any way to protect themselves  
5 by keeping their windows closed, as I am, I'm able to  
6 protect myself inside of a home. But there are a lot of  
7 us in this neighbor -- in this valley who cannot -- do not  
8 have air conditioning, cannot close the windows, and the  
9 ozone comes in, and the other pollutants come in.

10 And these people end up in the emergency rooms.  
11 Asthma is dangerous. Asthma can kill. One can get to a  
12 point where one cannot breathe, cannot get air in. All  
13 measures that we can accomplish are necessary for those of  
14 us -- for all of us, we are all affected, but those of us  
15 with asthma and breathing problems, we suffer from this  
16 air.

17 I thank you for your listening to my comments. I  
18 hope you can understand what it is like to have asthma in  
19 the San Joaquin Valley.

20 Thank you.

21 BOARD CLERK GARCIA: Thank you.

22 After Brent, we will hear from Christine Wolfe,  
23 Jessi Fierro, and Mark Rose.

24 So, Brent, I have activated your microphone.  
25 Please unmute and you can begin.

1           BRENT NEWELL: Good afternoon, Madam Chair,  
2 members of the Board. My name is Brent Newell. I'm an  
3 attorney. I am appearing today on behalf of the Central  
4 Valley Air Quality Coalition.

5           I'd like to thank CARB staff for their work in  
6 putting together the State Strategy. I also share Bill  
7 Magavern's concern that the ozone plans will not attain  
8 the 2012 ozone standard by the 2037 attainment deadline.  
9 Our concern underscores the need for meaningful  
10 contingency measures.

11           The 2022 State Strategy lacks any discussion of  
12 contingency measures. So as the districts adopt their  
13 plans, and as CARB considers the plans prior to submission  
14 to EPA, the Central Valley Air Quality Coalition urges the  
15 Board to direct staff to ensure that CARB and the  
16 districts include meaningful contingency measures in the  
17 State Implementation Plan.

18           Now, contingency measures are measures that  
19 should be fully adopted and take effect upon a failure to  
20 meet reasonable further progress or a failure to attain.  
21 The threat that air basins, especially the San Joaquin  
22 Valley and the South Coast, will fail to attain the 2012  
23 ozone standard is reasonably likely, given the challenges  
24 that this State Strategy discusses. Moreover, the history  
25 of failures to attain other standards also would inform a



1 reasonable belief that a failure to attain the 2012 8-hour  
2 standard is reasonably likely.

3 I'd like to point out just several missed  
4 attainment deadlines and failures to attain just in the  
5 San Joaquin Valley. The San Joaquin Valley failed to  
6 attain the 1-hour ozone standard by 1999. It failed to  
7 attain the PM10 standard by 2001. It failed a second time  
8 to attain the 1-hour ozone standard by 2010. In 2015, it  
9 failed to attain the 1997 24-hour and annual PM2.5  
10 standards. Also, EPA has disapproved the 1997 annual  
11 PM2.5 attainment plan, because data showed that the valley  
12 has failed to attain that standard by 2020.

13 Given that, the Central Valley Air Quality  
14 Coalition urges the Board to ensure that the State  
15 Strategy and the district plans include meaningful  
16 contingency measures.

17 Thank you very much.

18 BOARD CLERK GARCIA: Thank you.

19 Christine, I have activated your microphone.  
20 Please unmute and begin.

21 CHRISTINE WOLFE: Hello, Chair Randolph and Board  
22 members. This is Christine Wolfe from the California  
23 Council for Environmental and Economic Balance.

24 I want to start by thanking staff for all their  
25 hard work on the 2022 State SIP Strategy and by

1 underscoring the importance of finding an achievable  
2 pathway to attainment of the 70 parts per billion 8-hour  
3 ozone standard.

4           If CARB's on-road emissions reduction commitment  
5 will rely on the widescale deployment of ZEV technologies,  
6 as the responsible party for achieving those emissions  
7 reductions, CARB must spearhead efforts to deploy  
8 zero-emission infrastructure and support the development  
9 of zero-emission truck markets, so that vehicles are  
10 financially accessible to affected fleets and meet their  
11 operational needs.

12           CARB and its interagency partners must engage  
13 with stakeholders to ensure both public and private  
14 infrastructure networks are deployed in tandem with  
15 vehicle and equipment rollouts. CARB must also ensure  
16 that incentive programs are designed to ensure success of  
17 its programs, particularly in the near term and that the  
18 state is maximizing opportunities to leverage federal  
19 funds. And as discussed this morning, workforce  
20 development is a key piece in making these programs  
21 successful, and we're glad to hear the Board members  
22 thinking about how the State can look at this more  
23 holistically.

24           CARB and the CEC have only begun to do the work  
25 that's necessary to describe the totality of future

1 infrastructure needs, not just for on-road sources, but  
2 for all zero-emission measures envisioned by the State SIP  
3 Strategy. Understanding energy demands and where in the  
4 state it will be concentrated is important not only to  
5 facilitate coordination between fleets and utilities at  
6 the local level, but to plan for and execute grid  
7 expansion and hydrogen infrastructure buildout.

8 CCEEB appreciate CARB spearheading infrastructure  
9 workshops early in 2022 and hopes these interagency  
10 conversations will continue as CARB develops rules and  
11 programs to meet its SIP emission reduction commitments.

12 The 2022 State SIP Strategy envisioned  
13 significant technological transformations across nearly  
14 every sector of California's economy. Achieving these  
15 measures in the timelines needed to meet attainment will  
16 pose unprecedented challenges for both policy-making and  
17 real-world implementation. It will be more important, not  
18 less, to consider economic impacts and technological  
19 feasibility as individual measure -- measures are  
20 developed.

21 We ask that CARB report on progress towards  
22 attainment at least every three years to ensure  
23 transparency and accountability by all parties. We look  
24 forward to continuing to work with CARB to ensure  
25 statewide measures support attainment of federal air

1 quality standards.

2 Thank you.

3 BOARD CLERK GARCIA: Thank you.

4 Jessi, I have activated your microphone. Please  
5 unmute and you can begin.

6 JESSI FIERRO: Good afternoon. I am Jessi  
7 Fierro, Director of Air Quality Planning at the San  
8 Joaquin Valley Air Pollution Control District.

9 Due to the San Joaquin Valley's geography and  
10 meteorology, we face some of the biggest air quality  
11 challenges in the nation. We are geographically the  
12 largest non-attainment area in California. We are home to  
13 4.4 million people, California's fifth largest city, the  
14 state's most agriculturally productive counties, important  
15 goods movement corridors, and many of the state's  
16 underserved communities.

17 The District has a history of strong  
18 collaboration with CARB in developing and implementing our  
19 SIPs. And the SIP strategies for this 2015 ozone NAAQS  
20 are no exception. The Valley Air District and CARB have  
21 the toughest regulations in the nation and the valley's  
22 peak ozone and PM2.5 concentrations are decreasing as a  
23 result.

24 Based on recent data, the valley's like  
25 unattainment of EPA's 1997 8-hour ozone standard just

1 ahead of our 2023 deadline. This is a testament to the  
2 district and CARB's work adopting and implementing our  
3 2007 ozone SIP, as well as the work of valley resident and  
4 our regulated community. More ozone improvements are  
5 needed, of course, for our region to reach EPA's 2008 and  
6 2015 8-hour ozone standards.

7           Despite already having stringent measures  
8 locally, we are continually updating our rules and looking  
9 for new emissions reductions and new investments. We  
10 recently amended several stationary source rules for  
11 industrial sources, such as glass melting furnaces,  
12 internal combustion engines, boilers, flares, steam  
13 generators, and more.

14           Additionally, we're the only region in the state  
15 and nation to, in cooperation with CARB, implement an  
16 aggressive phaseout of remaining agricultural burning by  
17 the end of 2024. Recently amended regulations requires  
18 significant investment in new technologies and will  
19 achieve major new emissions reductions in the coming  
20 years.

21           We are currently in the process of amending five  
22 regulations for leak detection and repair. We are  
23 actively evaluating additional opportunities to support  
24 control measure development and leverage State, federal,  
25 and regional partnerships for building decarbonization,

1 lawn and garden, and locomotives. Mobile sources  
2 constitute about 85 percent of the valley's NOx emissions.  
3 Mobile source emissions reductions are critical for ozone  
4 attainment, decarbonization, and toxics reductions in the  
5 valley and beyond.

6           The District recommends that mobile source  
7 reductions and funding continue to receive priority in our  
8 upcoming attainment efforts. Mobile source measures can  
9 take many years to fully implement. The Valley Air  
10 District supports opportunities to expedite mobile source  
11 emissions reductions as much as possible in the near term  
12 to expedite attainment of current NAAQS, as well as more  
13 stringent NAAQS on the horizon. CARB and its air  
14 districts must also work together in advocating for EPA to  
15 reduce emissions from federal sources for the benefit of  
16 California's ozone air quality.

17           The Valley Air District looks forward to  
18 continuing to cooperate with CARB in adopting our local  
19 SIP later this year, implementing these ozone SIPs, and in  
20 advocating for increased federal funding as federal  
21 reductions.

22           Thank you.

23           BOARD CLERK GARCIA: Thank you. After Mark, we  
24 will hear from Sylvie Ashford, Sarah Aird, and Cynthia  
25 Pinto-Cabrera.

1           So Mark, I have activated your microphone.  
2 Please unmute and you can begin.

3           MARK ROSE: Good afternoon, Madam Chair and  
4 members of the Board. My name is Mark Rose and I'm a  
5 Program Manager with National Parks Conservation  
6 Association.

7           I want to start by thanking CARB staff and Board  
8 members for their hard work on this proposed SIP Strategy  
9 and willingness to meet with us to discuss areas where we  
10 think this plan could be improved. NPCA supports many of  
11 the proposed measures included in the SIP Strategy,  
12 especially those aimed at reducing emissions from mobile  
13 sources, such as heavy-duty trucks and locomotives and the  
14 electrification of household boilers and heaters.

15           That being said, we believe several of the  
16 proposed measures could be strengthened to ensure  
17 additional and timely emission reductions that will put us  
18 on track to actually meet attainment across the state.  
19 For instance, while we strongly support the proposed  
20 Zero-Emission Truck Retirement Rule, because of its  
21 outsized potential to reduce NOx emissions across the  
22 state, NPCA echoes the calls from our allies to move up  
23 the implementation of that rule from 2030 to 2028. We  
24 believe this is necessary to ensure the retirement of  
25 trucks from 2010 that reached the end of their useful

1 lives, as well as to reflect additional funding from the  
2 Inflation Reduction Act.

3 We also strongly urge CARB to take steps  
4 necessary to ensure all heavy-duty truck programs and  
5 related funding disbursements are implemented in an  
6 equitable and strategic manner that target communities and  
7 operations with the highest needs and greatest potential  
8 for on-the-ground public health improvements.

9 In addition to strengthening the measures that  
10 were included in this proposed SIP, NPCA is disappointed  
11 to see that CARB staff is not moving forward with a number  
12 of the proposals from previous drafts. Chief among these  
13 measures is the outstanding proposal for CARB to develop  
14 statewide BACT and BARCT determinations. We believe this  
15 measure is necessary to streamline the unwieldy patchwork  
16 of differing air district BACT and BARCT rules, and to  
17 ensure that the whole state is controlling stationary  
18 sources to their full potential and not just on paper.

19 This measure could also help address some of the  
20 unfortunate inconsistencies that arose during the  
21 implementation of the AB 617 expedited BARCT process.  
22 NPCA also urges curb to move forward with their draft  
23 proposal to develop a model Indirect Source Rule and ask  
24 that the CARB do everything they can to push air districts  
25 to adopt or tighten their existing ISR measures to be at



1 least as stringent as the rule adopted in the South Coast.

2           Finally, NPCA asks that CARB take a stronger  
3 position to ensure that air districts that are  
4 non-attainment with the standard carry their weight moving  
5 forward. With 15 years to go before the attainment  
6 deadline, it is not good enough for air districts to  
7 propose plans that mere -- merely reiterate the rules that  
8 they already have on the books without proposing any new  
9 or strengthened control measures. This is especially true  
10 for entirely unregulated source of emissions, such as  
11 anthropogenic soil NOx, which despite years of requests  
12 from advocates to address, are currently inaccurately  
13 being counted in the State's emissions inventory as being  
14 entirely natural emissions.

15           I thank you for this opportunity to comment and  
16 urge you to do all you can to protect California's  
17 communities and the numerous National Parks that rank  
18 amongst the most polluted in the nation for ozone.

19           BOARD CLERK GARCIA: Thank you.

20           Sylvie, I have activated your microphone. Please  
21 unmute and you can begin.

22           SYLVIE ASHFORD: Good afternoon, everyone. My  
23 name is Sylvie Ashford and I'm speaking on behalf of the  
24 Natural Resources Defense Council. Thank you so much for  
25 the great presentations and all the discussion here today.

1 NRDC would like to thank CARB for its work on the  
2 Strategy and encourage the Board to adopt the proposal  
3 requiring that all new space and water heaters be zero  
4 emission by 2030. As others have mentioned, this proposal  
5 will accelerate the electrification of residential and  
6 commercial buildings, which is critical for meeting  
7 California's climate goals as well as the health and  
8 safety of its residents, in particular low-income and  
9 Black, Indigenous, and POC residents that  
10 disproportionately suffer the harms of indoor air  
11 pollution.

12 Along with this requirement, it is essential that  
13 all Californians have the means to switch from gas to  
14 electric space and water heating. Thus, as acknowledged  
15 in the presentation, it's important that this proposal be  
16 coupled with meaningful community-centered engagement and  
17 interagency collaboration to protect tenants' rights,  
18 ensure that buildings are safe and weatherized, and keep  
19 up-front costs and energy bills affordable for everyone.

20 Finally, CARB should expand this proposal to  
21 include all building end uses to send a clear signal that  
22 California is committed to a fully decarbonized BUILDING  
23 sector to achieve these important benefits from reducing  
24 greenhouse gas emissions and air pollution.

25 Thanks very much.

1 BOARD CLERK GARCIA: Thank you.

2 Sarah, I have activated your microphone. Please  
3 unmute and you can begin.

4 SARAH AIRD: Good afternoon. My name is Sarah  
5 Aird and I'm Policy Director for the statewide coalition  
6 Californians for Pesticide Reform.

7 First, I want to thank CARB Board members and  
8 staff for meeting with us and the importance of including  
9 pesticide emission reduction targets in the SIP.  
10 Pesticides are a top priority environmental justice issue  
11 contributing to the health crisis in farm-worker  
12 communities around the state, and particularly in the San  
13 Joaquin Valley, which is one of only two extreme ozone  
14 non-attainment air basins in the entire nation, which we  
15 really should necessitate the use of all tools to reduce  
16 unhealthy air emissions.

17 We ask that you not lose this opportunity to  
18 reduce pesticide VOC emissions that contribute to such an  
19 unhealthy air basin and to pollution across the state.  
20 Just to be clear, the current SIP draft includes no  
21 enforceable pesticide VOC emission reduction targets, but  
22 it is our understanding that CARB, working with DPR, has  
23 committed to inserting a SIP-enforceable emissions  
24 reduction target for the fumigant 1,3-D into the San  
25 Joaquin Valley SIP in January, for which we're grateful.

1           1,3-D is a carcinogenic fumigant that has been  
2 banned in 34 other countries, including the entire  
3 European Union. Due to a court order, DPR is in the  
4 process of drafting a new 1,3-D rule. However, we are  
5 concerned that DPR's upcoming 1,3-D rule is likely to be  
6 insufficiently protective. Therefore, we are asking the  
7 Board to proactively set a 1,3-D emissions standard that  
8 DPR must regulate to accordingly and not the other way  
9 around.

10           We are concerned that setting a standard that's  
11 simply achievable under DPR's proposed rule will not be  
12 nearly health protective enough based on what we've  
13 learned about DRP's proposed rule thus far. We ask CARB  
14 to take the opportunity to push DPR to make a better 1,3-D  
15 rule by setting a strong standard.

16           Equally important, we remain concerned that the  
17 SIP only addresses the fumigant 1,3-D. Setting emissions  
18 reduction targets for only the fumigant 1,3-D runs the  
19 risk of increasing use of other equally harmful VOC  
20 fumigants. We have seen that when there are restrictions  
21 on just one fumigant, that can lead to dramatic increases  
22 in use of other fumigants. We make what we think is a  
23 reasonable request in this regard, that CARB and DPR  
24 simply build upon their past history together and update  
25 the 1994 SIP. The 1994 SIP included a commitment to adopt

1 pesticide VOC emission reduction targets that were  
2 eventually developed together by DPR and CARB.

3           We ask that CARB now work DPR to set a new  
4 overall pesticide VOC emission reduction target in light  
5 of the new 70 parts per billion ozone standard.  
6 Specifically, we urge CARB to include a commitment in the  
7 SIP to reduce pesticide VOC emissions by 30 percent by  
8 2030 and by 75 percent by 2037 from 2020 levels in high  
9 pesticide use non-attainment air basins.

10           Finally, we ask that CARB correct the  
11 misstatement in the August draft SIP that claims the  
12 California Department of Pesticide Regulation may not be  
13 responsible for controlling pesticide emissions. That  
14 statement misrepresents the law and CARB's jurisdiction.  
15 In fact, according to statute and case law, CARB actually  
16 has primary jurisdiction over pesticide toxic air  
17 contaminants after pesticidal use and once they've  
18 volatilized into the in the air. CARB has recently  
19 affirmed this and we than it's critical that this language  
20 be corrected in the SIP draft.

21           Thank you.

22           BOARD CLERK GARCIA: Thank you.

23           And after Cynthia, we will hear from Jasmin  
24 Martinez, Anne Katten, Nicole Rice and Bruce Naegel.

25           So Cynthia, I have activated your microphone.

1 Please unmute and begin.

2 CYNTHIA PINTO-CABRERA: Hello. Good afternoon,  
3 Chair Randolph and members of the Board. Cynthia  
4 Pinto-Cabrera, Policy Coordinator, with the Central Valley  
5 Air Quality Coalition. CVAQ has diligently worked on  
6 State Implementation Plans for two decades and has been  
7 heavily engaged at the State and local levels in advancing  
8 clean air an environmental justice in the valley.

9 CVAQ echoes the comments from various CVAQ  
10 members on trucks, cargo ships, pesticides, and -- well,  
11 the inclusion of locomotives, but our comments today  
12 really pertain to the BACT and BARCT portion that was not  
13 included in the SIP.

14 As we know, the valley remains in extreme  
15 non-attainment with the 1979 1-hour ozone standards that  
16 was set over 40 years ago, as well as with the 1997, 2008,  
17 and 2015 8-hour standard. And despite this, various  
18 loopholes continue to be allowed and varied air district  
19 rules that help allowed best available control technology  
20 from being implemented in the most important -- with the  
21 most important examples coming from facilities located  
22 near communities.

23 CARB should directly enforce best available  
24 control technology and best available retrofit control  
25 technologies starting with the oldest and the largest

1 stationary sources. The top stationary sources in the  
2 valley include five biomass incinerators, five large  
3 natural gas power plants, four major glass manufacturers,  
4 and seven of the valley's largest oil and gas producers.  
5 Together, these facilities represent at least 1,400 tons  
6 of PM2.5, approximately 3,593 tons of NOx in the San  
7 Joaquin Valley annually. And this equates to about lit --  
8 more -- more than half of the PM2.5 and more than 70  
9 percent of all the NOx emitted in stationary sources from  
10 the valley, according to data you all have.

11 As mentioned, like -- as mentioned, these  
12 facilities are located near communities. For example, the  
13 Covanta -- Covanta Stanislaus and Rio Bravo Fresno are  
14 located near elementary schools. DTE Stockton, which  
15 impacts AB 61 -- impacts the AB 617 Stockton community.  
16 Valley communities are suffering due to loopholes in rules  
17 that value costs to industry over costs to the community.

18 Therefore, as mentioned, CARB must indir -- must  
19 directly enforce this best available control technology,  
20 BACT and BARCT. EJ communities are feeling the lack of  
21 progress in these commitments when it comes to cleaning up  
22 oldest and the largest stationary sources of pollution.  
23 And EJ communities are still waiting for the stationary  
24 source review that this Board committed to in 2019.  
25 Cleaning up these facilities would not only lead to

1 improvement of public health, but also the quality of  
2 life.

3 And with that, thank you. And we hope we  
4 continue conversations that include this.

5 BOARD CLERK GARCIA: Thank you.

6 Jasmin, I have activated your microphone. Please  
7 unmute and you can begin.

8 JASMIN MARTINEZ: Hello. Good afternoon. This  
9 is Jasmin Martinez. I am a Kern County resident and  
10 coalition coordinator with the Central Valley Air Quality  
11 Coalition, or CVAQ.

12 CVAQ supports the request by our Building Energy  
13 Equity, and Power, or BEEP, Coalition to for an  
14 interagency work group to collaborate with communities on  
15 addressing barriers to equitable building decarbonization  
16 prior to the adoption and implementation of any standards.

17 Earlier this year, our BEEP Coalition completed a  
18 series of statewide listening sessions, including two in  
19 the San Joaquin Valley, where we heard directly from  
20 community members participating in the AB 2672 pilots to  
21 reduce reliance on propane and wood burning, along with  
22 those who were interested in learning more about  
23 decarbonization benefits.

24 Our final report with learnings and  
25 recommendations was shared with CARB to improve existing



1 programs. And although it was -- it is a great starting  
2 point, we need the commitment of a work group to ensure  
3 the reality of any standards do not further burden our  
4 most disadvantaged community members.

5 I also urge CARB to reconsider its approach to  
6 pesticide emissions in the statewide strategy for the  
7 ozone SIP. The current version contains nothing other  
8 than the 1,3-D measure, but its language is weak, saying  
9 it may reduce emissions and makes no SIP-enforceable  
10 commitment to do so.

11 Without stronger language, the SIP ignores our  
12 San Joaquin Valley communities, which have clearly named  
13 pesticides as a priority source of pollution concern.  
14 This has been most evident in our existing community  
15 emission reduction plans.

16 Stronger pesticide regulation is long overdue and  
17 I stand in solidarity with fur -- some of our recent  
18 comments about asking for a memorandum of 30 percent VOC  
19 reduction by 2030, followed by a planned phaseout of  
20 pesticide use across the state. We also want language  
21 that solidifies CARB's primary or at least shared  
22 responsibility with DPR to address pesticide use in this  
23 SIP.

24 Thank you for your time.

25 BOARD CLERK GARCIA: Thank you.

1 Anne, I have activated your microphone. Please  
2 unmute and you can begin.

3 ANNE KATTEN: Yes. Good -- good afternoon, Chair  
4 Randolph and Board members. I'm Anne Katten from  
5 California Rural Legal Assistance Foundation. We join the  
6 call by Californians for Pesticide Reform to include both  
7 an overall pesticide VOC emissions reduction target and a  
8 specific 1,3-dichloropropene emissions reduction target in  
9 the revised SIP, because pesticides are a significant  
10 source of ozone and a major source of toxic air  
11 contaminants in the San Joaquin Valley.

12 While DPR should be estimating emission  
13 reductions for the proposed 1,3-D regulation, such  
14 estimates alone don't constitute an adequate or  
15 enforceable emission reductions target. The draft DPR  
16 1,3-D regulation relies on estimated emission reductions  
17 from new application methods that have only been tested in  
18 very small pilot studies. And it continues to allow other  
19 application methods with setbacks that won't reduce  
20 emissions.

21 The 1,3-D regulatory proposal also eliminates the  
22 backstop of a 1,3-D township emissions adjusted use cap,  
23 so there is no enforceable emission control target in the  
24 regulation and CARB needs to address this.

25 Thank you for the opportunity to comment and your

1 dedication to improving the state's air quality.

2 BOARD CLERK GARCIA: Thank you.

3 Nicole, I have activated your microphone. Please  
4 unmute and you can begin.

5 NICOLE RICE: Yes. Hello. Good afternoon, Chair  
6 Randolph, Board members. My name is Nicole Rice. I'm the  
7 President of the California Natural Gas Vehicle Coalition.  
8 I first just want to say welcome to Mr. Cliff and I look  
9 forward to talking with you soon.

10 First, I wanted to state that I disagree with the  
11 speaker from Earthjustice who said only by electrification  
12 can we achieve our federal attainment requirements. In an  
13 August 3rd letter from last year from the South Coast AQMD  
14 Executive Officer, it states, and I quote, "It would be  
15 irresponsible for our agency to effectively throw up our  
16 hands and not explore all options for reducing emissions  
17 now". That letter goes on to explain about the benefits  
18 of low-NOx trucks, or what they call near zero-emission  
19 technology.

20 And so I submit that if the agency that is  
21 responsible for maintaining positive and clean air quality  
22 in the greater Los Angeles area is making this type of  
23 statement about having an all-inclusive approach to  
24 emission reductions, then that statement should not be  
25 taken lightly, which is why we urge the CARB Board to

1 adopt a strategy that treats all technologies equally and  
2 evaluates their ability to achieve immediate emission  
3 reductions, especially during the interim when ZEV  
4 technology is maturing.

5 I also want to align my statements with Mr.  
6 Rothbart, Mr. Edgar, Mr. Kenny, Ms. Torres and others, and  
7 join them in saying that while we appreciate all the work  
8 that staff has done to put together this proposed plan, it  
9 is deficient for one major reason, and that is because it  
10 neglects to address how near-term NOx emission reductions  
11 can be immediately achieved from the heavy-duty  
12 transportation sector.

13 In the proposed SIP executive summary, it states  
14 that California would need significant mobile source  
15 emission reductions to meet the ozone standard in the  
16 upcoming attainment years. Yet, the proposed strategy  
17 before you fails to include a pathway for technologies  
18 that can significantly reduce NOx emissions today, like  
19 heavy-duty low-NOx trucks.

20 This technology was created with significant  
21 support from CARB. It is immediately available. It's  
22 proven to reduce NOx emissions by 90 percent compared to  
23 diesel. It also meets CARB's own 0.02 gram per brake  
24 horsepower-hour optional low-NOx standard and operates on  
25 net negative carbon renewable natural gas.

1           With the exclusion of a viable clean technology  
2 alternative and a lack of a suitable, workable near-term  
3 strategy, this plan once again risks missing yet another  
4 critical (Timer concludes) (Inaudible) -- in the  
5 inevitable continued use of diesel as a default fuel  
6 option.

7           Thank you for allowing these comments today.

8           BOARD CLERK GARCIA: Thank you.

9           And after Bruce, the last five commenters that  
10 signed up before the queue closed will be Mary Dateo,  
11 Perry Elerts, Stephen Jepsen, Laurel Moorhead, and Todd  
12 Campbell

13           So Bruce, I've activated your microphone. Please  
14 unmute and you can begin.

15           BRUCE NAEGEL: Yes. I want to thank the  
16 Committee for putting together this presentation. It's  
17 rich detail and has a lot of very important comments in  
18 it. And I want to comment on a couple of things in  
19 regards to that. First off, I think we do need to think  
20 about who we're doing this for. And the important issue  
21 is is that we have ourselves and our generations beyond us  
22 that are going to inherit this planet. And so the work  
23 we're doing is important and we should keep in mind the  
24 ability to address those kinds of concerns, because that's  
25 why we're here.

1 I also wanted to mention something in regards to  
2 the -- doing something about the heat pump water heaters  
3 and heat pump space heaters and making sure that we get  
4 them into existing buildings as well as new buildings.  
5 The 2030 standard addresses the new buildings. It does  
6 not address existing ones. And it's something we need to  
7 move forward on.

8 Last thing I want to comment on is there's a  
9 technology that has not been mentioned at all during this  
10 seminar that is key to this, and it addresses a problem  
11 that was stated by a person earlier in regards to  
12 overloading electrical panels. There are now new  
13 generations of energy efficient electrical appliances.  
14 The limit is most formed at this point is 110-volt heat  
15 pump water heater. And we should be looking at that as  
16 another piece of the toolkit in order to address -- or  
17 making our things as pollution free as possible.

18 Thanks again for the opportunity so speak and  
19 thanks for the effort that was put into this presentation.

20 BOARD CLERK GARCIA: Thank you.

21 Mary, I have activated your microphone. Please  
22 unmute and begin.

23 MARY DATEO: Hello. I'm Mary Dateo. I wanted to  
24 thank the Board and staff for all -- all the work you're  
25 doing in protecting our health and the environment. Until

1 recently, it's been easy for most of the world to ignore  
2 the effects of emissions, but the evidence continues to  
3 grow that emissions cause significant health problems,  
4 just as we heard a previous speaker describe. And the  
5 climate catastrophes we're starting to experience are  
6 alarming. It's clear that we must stop burning fossil  
7 fuels.

8           The requirement by the Board to the -- and the  
9 new strategy to require 100 percent of new space and water  
10 heaters to be zero-emission is absolutely critical. A  
11 clear signal is needed as soon as possible to get everyone  
12 moving in the right direction. Clearly, as was recognized  
13 in the presentation this is going to take careful planning  
14 and thoughtful collaboration, especially to address  
15 low-income households equitably.

16           Please finalize this policy as soon as possible  
17 and please accelerate the deadline by several years and  
18 expand the policy to address all building appliances.

19           Thank you.

20           BOARD CLERK GARCIA: Thank you.

21           Perry, I've activated your microphone. Please  
22 unmute and you can begin.

23           PERRY ELERTS: Good afternoon, Chair and members  
24 of the Board. My name is Perry Elerts. I'm a staff  
25 attorney with Leadership Counsel for Justice and

1 Accountability, a community-based organization that works  
2 alongside communities in the San Joaquin and Eastern  
3 Coachella Valley, both of which are in the air basins in  
4 the extreme category of non-attainment for ozone. We have  
5 eight recommendations for improving the draft 2022 State  
6 Strategy SIP.

7           First, CARB should include the SIP -- in the SIP  
8 a mandate to enact and ISR Suggested Control Measure to  
9 assist air districts air pollution from indirect sources,  
10 such as those associated with warehouses and airports  
11 significantly increase particulate matter and toxic air  
12 contaminants in surrounding communities, which are  
13 disproportionately low income and communities of color.

14           Second, we are against the use of including  
15 biogas and biofuels counted as clean fuels. Biogas  
16 reduction from livestock implicates local pollution in the  
17 form of air pollution and groundwater contamination.  
18 Furthermore, combustion and/or conversion of hydrogen, of  
19 biogas has the same polluting impacts as conventional gas.

20           Third, building decarb strategies must ensure  
21 that building decarb programs and investment reach the  
22 bene -- reach and benefit lower income households and  
23 disadvantaged communities. The Strategy must include  
24 reliance on direct install programs that target lower  
25 income households and communities of color, tenant



1 protections that ensure tenant benefits and guard against  
2 displacement, and must include a strategy to support  
3 holistic home upgrades that ensure access to affordable  
4 and clean energy.

5 Fourth, CARB must ensure a strengthened ACF rule  
6 to accelerate targets for zero-emission vehicles to reduce  
7 emissions faster. CARB should mandate 10 percent of ZEVs  
8 by 2036 instead of 2040, as well as lower the minimum  
9 fleet size from 50 to 10 for all Class 7 and 8 trucks, and  
10 move up the transition start from 2027 -- from 2027 to  
11 2030.

12 Fifth, CARB should include a State Strategy for  
13 dealing with emissions from all pesticides under their own  
14 regulatory authority and in conjunction with DPR.

15 Sixth, the State Strategy should consider the  
16 impacts of dairies and in themselves and the implication  
17 of dairy methane conversion to biogas. Dairies are a  
18 major source of emissions of ozone precursors, including  
19 VOCs.

20 Seventh, commitment to VMT reductions generally  
21 lack an equity perspective and can do more to take  
22 advantage of opportunities across State departments to  
23 deduce VMTs including with firm commitments to address VMT  
24 reduction weakness.

25 And lastly, I'll thank CARB staff for their

1 commitment and work on the State Strategy.

2 Thank you.

3 BOARD CLERK GARCIA: Thank you.

4 Stephen, I've activated your microphone. Please  
5 unmute and begin.

6 STEVE JEPSEN: Hi. My name is Steve Jepsen. I'm  
7 the Executive Director for the Southern California  
8 Alliance of Publicly Owned Treatment Works, or SCAP. We  
9 represent 80 public water and wastewater agencies in seven  
10 counties of Southern California.

11 Thank you for the opportunity to comment today.  
12 My comments focus on the wastewater sector's role in  
13 overall methane reduction and maintaining essential public  
14 services protecting public health and the environment,  
15 while balancing SIP requirements for those members with  
16 non-attainment zones for ozone.

17 We manage society's waste that all of us flush  
18 and have capacity to accept and co-digest all divertible  
19 food waste from landfills. In turn, recovering valuable  
20 resources, including renewable, non-fossil fuel wastewater  
21 derived biogas that can be used in technology available  
22 today to displace diesel used in vehicles and achieve  
23 significant NOx reductions necessary to meet the Clean Air  
24 Act requirements in the near and long term.

25 As our biogas will be produced in perpetuity, we

1 cannot turn it off. It's a product of treating society's  
2 waste. We also use this biogas to maintain our operations  
3 during power outages or flex alerts to avoid power outages  
4 by powering our operations and removing ourselves from the  
5 grid. We support the Low Carbon Fuel Standard and have  
6 invested in projects to support SB 1383 implementation,  
7 further increasing our biogas and many more members have  
8 been developing plans to do so.

9 We ask that the wastewater sector be provided an  
10 exemption for the continued use of our wastewater-derived  
11 biogas to improve our resilience as an essential public  
12 service and provide immediate air quality benefits.

13 Thank you for the opportunity to comment today.  
14 We look forward to working with staff on future dialogue  
15 regarding the SIP.

16 BOARD CLERK GARCIA: Thank you.

17 Laurel, I've activated your microphone. Please  
18 unmute and begin.

19 LAUREL MOORHEAD: Hi. My name is Laurel  
20 Moorhead. And I'm here on behalf of Transfer Flow.  
21 Transfer Flow has been in business for 39 years in  
22 Northern California, manufacturing liquid fuel systems.

23 In 2016, the California State Legislature awarded  
24 Transfer Flow the small business award of the year. I'd  
25 like to start by taking the time to thank the CARB Board

1 and staff for their hard work.

2 CARB's failing to recognize that in many  
3 applications, ZEVs are not feasible and may never be  
4 feasible in some applications only serves to undermine the  
5 goal CARB is trying to achieve. CARB's lack of fuel and  
6 technology neutral approach is impractical. If an  
7 internal combustion engine was invested that took more  
8 emissions into the intake than it put out the tailpipe,  
9 hence cleaning the air, CARB would still want to outlaw  
10 that, because it does not contain a highly polluting  
11 electric vehicle battery.

12 The term ZEV is highly misleading, because your  
13 battery electric vehicle is only as clean as the  
14 electricity used to charge it and that doesn't include the  
15 emissions created by mining and manufacturing those highly  
16 polluting electric vehicle batteries. How much diesel  
17 fuel is burnt mining the minerals needed to manufacture  
18 electric vehicle batteries?

19 Today, and in various rulemaking activities, we  
20 have repeatedly heard from many experts actively working  
21 in the field requesting that biofuels be ramped for  
22 applications that ZEVs will never be able to fulfill.

23 There used to be a time when democracy meant that  
24 rulemakers had to respond to stakeholders, but CARB is  
25 consistently ignoring the input of stakeholders from the

1 biofuel industries. And your early complications with the  
2 rollout of the Innovative Clean Transit Program perfectly  
3 illustrates this.

4 CARB should be ramping up and implementing all  
5 near-zero technologies as soon as feasible. How does  
6 requiring a farmer or a wastewater treatment facility who  
7 is creating their own biofuels from waste to put those  
8 biofuels into a pipeline, to be shipped to a power plant,  
9 to be turned into electricity, to be shipped back to that  
10 wastewater treatment facility or that farmer to charge  
11 their equipment, create fewer emissions than just allowing  
12 that waste the water treatment plant or that farmer to  
13 power their own equipment using their own locally created  
14 and consumed fuels. Logistically, that doesn't make any  
15 sense.

16 I request that CARB take a more reasonable stance  
17 and reevaluate the feasibility of these draconian measures  
18 that may look good on paper, but are not actually  
19 practical in the real world. If CARB had included these  
20 biofuels in their innovative -- Innovative Clean Transit  
21 Strategy, they wouldn't be having the concerns with the  
22 implementation you heard about earlier today. I'd like to  
23 point out that just not even a month ago when you passed  
24 the Advanced Clean Cars II Act, the very next week, the  
25 California Energy Commission had to ask consumers to

1 please not charge their electric vehicles thus undermining  
2 the public's trust in CARB.

3 Thank you for taking your time to hear my  
4 comments.

5 BOARD CLERK GARCIA: Thank you.

6 Todd, I have activated your microphone. Please  
7 unmute and you can begin.

8 TODD CAMPBELL: Good afternoon. First, I'd like  
9 to thank CARB staff for the work in pulling together the  
10 plan before you. Also, welcome back, Dr. Cliff.  
11 Congratulations.

12 So I have bad news and I have good news. The bad  
13 news is many of the stakeholders today do not think this  
14 the SIP is strong enough. They are concerned about SIP  
15 not meeting near- and long-term attainment deadlines.  
16 They also lament the fact that past SIPs have failed to  
17 meet past standards. I also don't think we can count on  
18 the Feds to -- for their fair share, so we -- we must do  
19 more.

20 The good news is, whether your stakeholders agree  
21 or not about how we get there or get to clean air, we want  
22 you to succeed and we want a stronger plan. My ask is  
23 simple. When businesses purchase their next truck, and if  
24 that truck cannot be a ZEV or operational, commercially  
25 available, or other practical reasons, please require

1 optional low-NOx trucks for purchases, so that we do not  
2 have a new truck purchase that meets a less stringent  
3 standard.

4           Why? Because if we don't, that dirtier truck  
5 running on diesel could stay on our roads for up to 18  
6 years. That means the woman who spoke earlier about her  
7 asthma condition will have to wait longer to breathe  
8 easier. That means our diesel death zones will remain  
9 diesel death zones for that much longer.

10           On the 200-truck study, even the advisory  
11 committee members, Dr. Gottam and Dr. Millen, and others  
12 have serious concerns about how CARB staff, in this case,  
13 is interpreting the data. Without doing -- going into  
14 details, even if some 0.2 -- 0.02 engines emit up to four  
15 times above their certification, which I don't believe  
16 though do -- certainly, I don't think the certification  
17 has been removed, and in only one scenario that I -- that  
18 I can tell, that would be 0.08 grams NOx, which is far  
19 cleaner than a diesel that's currently at 0.2 grams NOx.

20           So I don't care what low carbon fuel goes into  
21 that truck, just require the cleaner truck, because after  
22 watching this morning's transit presentations, our  
23 transition to zero in my view will take substantial time,  
24 significant resources, and major technological  
25 breakthroughs in vehicle infrastructure and power

1 generation.

2           What's really important to me, stepping outside  
3 of my role, is that we get to clean air. And it's very  
4 frustrating, and I know you share my frustration that each  
5 time we come and introduce a plan, sometimes that -- you  
6 know, well, currently, all the time our plans are not  
7 getting us to where we need to go. And we need to get  
8 there. So I urge this Board to bring multiple strategies  
9 to get the goal. I know that not everyone agrees on how  
10 we get there, but let's make sure that whatever we do, we  
11 get to clean air.

12           Thank you.

13           BOARD CLERK GARCIA: Thank you.

14           And that concludes the commenters for this item.

15           CHAIR RANDOLPH: Thank you.

16           Does staff have any responses to any comments  
17 they need to make before I close the record on this item?

18           EXECUTIVE OFFICER CLIFF: No, Chair Randolph.

19           CHAIR RANDOLPH: All right. Thank you. Okay.

20           At the outset, I just wanted to note, as some of  
21 you may be aware, we have a new Secretary at the  
22 Environmental Protection Agency here in California,  
23 Secretary Yana Garcia. And I had a chance to meet with  
24 her a few days after she started and one of the issues I  
25 raised with her was something that several of our



1 commenters spoke about, which is the issue of pesticides  
2 and working with DPR. And she expressed to me that it is  
3 a very high priority for her to make progress on the issue  
4 of pesticides and to really work with DPR to have a robust  
5 and effective regulation.

6 And so I really appreciate staff's thinking  
7 around the 1,3-D question and asking DPR to set a VOC  
8 target. And I appreciate that and definitely want to make  
9 sure that our staff works closely with DPR staff. I know  
10 they're going to give us their thoughts on what that  
11 target should be, but I want to make sure we have the  
12 technical folks working together on that, so that we're  
13 both -- CARB and DPR are comfortable with the identified  
14 target.

15 And so I know there's a lot of work that will  
16 continue to happen with pesticides in the coming months  
17 and years. And so we definitely want to be as supportive  
18 of Secretary Garcia's work as possible.

19 Okay. I am going to go to the Board members from  
20 their respective districts that we've been spending a lot  
21 of time speaking about during this item.

22 First, Dr. Pacheco-Werner and then Board Member  
23 Kracov.

24 BOARD MEMBER PACHECO-WERNER: Thank you, Chair.  
25 I think if -- yeah, and I may come back after Board Member

1 Kracov's comments later, but I do want to just reemphasize  
2 what some of the commenters said in terms of how we  
3 continue as CARB to engage in the pesticide question,  
4 really to -- to learn about -- more about what other  
5 alternatives are going to be used as this regulation comes  
6 into effect and what's the public health impact of those  
7 alternatives. And I think really -- the point really  
8 being that we do need to have broader -- broader policy  
9 around pesticides to make sure that we are targeting those  
10 emissions, but most importantly that we're not having  
11 unintended consequences for our commitments in the SIP.  
12 So I'd really like to see more of a broader policy  
13 commitment there.

14           And I don't know if we'll get there before the  
15 end of the year, but it really feels like the path should  
16 be to have a more broader comprehensive discussion to  
17 avoid unintended consequences.

18           And I'm glad that we will continue to see more  
19 uniformity in the BACT/BARCT determinations. I know that  
20 the District and -- the districts and CARB are working  
21 towards that and I appreciate it. I do think that working  
22 with them hand in hand is necessary in order to make the  
23 most enforceable and applicable guidelines. I think it  
24 would be helpful though in the interim, and I mean  
25 relevant to this SIP discussion, but more about broader

1 things that we do at CARB, I'd like for us to use the  
2 tools we do have at the disposal for mobile source  
3 emissions in the communities or near the facilities that  
4 are most of concern for the communities.

5           For example, how we can continue to use our Smog  
6 Rule and enforcement, how we can continue to allocate more  
7 funding for more targeted enforcement activities by com --  
8 in those communities that are most affected by the -- the  
9 issues that remain sort of unresolved. I think that also  
10 goes with the -- the biggy here, which -- for me which is  
11 the zero-emission trucks proposed pathway here. I --  
12 while I do support that happening in general, I do see  
13 that we are -- we do face a lot of pushes and pulls on  
14 both ends, both to -- to really bring up the timeline  
15 sooner and also the fact that we have some major  
16 infrastructure problems in those communities, where those  
17 single truck owners particularly live and where they'll  
18 have, you know, the most impact.

19           So I -- I'd like to think about how we, as a  
20 Board, really attack this much sooner than -- than 2028,  
21 if not from the regulatory standpoint and how we can  
22 actually come together to see what the feasibility of this  
23 is and how we can move forward, either in an accelerated  
24 timeline or how we can bring resources and infrastructure  
25 and push that to -- to make sure that even our proposed

1 SIP measure timeline happens. And so I'd like to -- to  
2 hopefully hear from -- from staff before then. And I know  
3 that maybe others will share a little bit more about that  
4 as well or concerns around that.

5 I think that we -- if there is some room around  
6 the locomotives I do -- I would like to see that  
7 strengthened as well. And I think that, particularly in  
8 terms of how we can think about our SIP in terms of the  
9 worst case scenario, in terms of the federal guidelines  
10 and not the best case scenario in terms of what needs to  
11 be -- happen at the federal level, just because these are  
12 really volatile political times at the federal level, and  
13 I think that we're going to need to be leaders on some  
14 of -- some of that. And so I would like us to really  
15 think about what -- what is in our purview that we can --  
16 that we can commit to to really see those -- those  
17 reductions happen, even if there's fluctuation at the  
18 federal level while we continue to obviously push for  
19 those commitments.

20 And I thank you, Chair, for all of your advocacy  
21 on that end as well as staff's ongoing conversations at  
22 the federal level.

23 So those are -- those are the principal pieces  
24 I'm concerned with, but also I want to recognize that the  
25 commitments that we have on the books right now to do in

1 this draft are very strong. And I do commend staff for  
2 really bringing in an ambitious agenda of regulatory  
3 commitments that we have ahead. So look forward to  
4 working on the State end and the local level to make sure  
5 that we see those to fruition.

6 Thank you.

7 CHAIR RANDOLPH: Board Member Kracov.

8 BOARD MEMBER KRACOV: Remind me, Chair, to go  
9 before Dr. Pacheco-Werner not after next time.

10 Very appreciative of staff on this one, Dr.  
11 Cliff, Michael Benjamin, Sylvia Vanderspek, Austin Hicks,  
12 Ariel Fideldy, Sara Forestieri, including the whole SIP  
13 team. We have so many conversations about this, probably  
14 like a dozen or more this year.

15 And I have to say, Chair, you know, we have  
16 overflow auditoriums, and hundreds and hundreds of  
17 commenters on our GHG Scoping Plan, many concerned about  
18 our efforts to reduce co-pollutants. Yet, when it comes  
19 to the SIP, it is all about localized and regional  
20 pollution, maybe we get a couple dozen commenters. For  
21 those of you who came and testified and advocated who see  
22 the importance of this SIP, you know, thank you today.

23 You know as ripped from the South Coast, the  
24 statewide SIP ozone is really important. You know, we're  
25 in extreme non-attainment in the South Coast. To get to

1 the 70 part per billion standard is an enormous challenge.  
2 I think Vice Chair Berg a few months ago called it a Don  
3 Quixote quest. You're going to see this Board members  
4 when the South Coast SIP, which we call the AQMP, comes to  
5 us here at CARB. I think it's in January or December.

6           Colleagues, it is very expensive. And no matter  
7 what we do, the bottom line is we can't get to attainment  
8 without controlling mobile sources. The medium- and  
9 heavy-duty trucks alone are about a third of the problem,  
10 another 40 percent is locomotives, off-road equipment,  
11 ships and planes. That's why this -- this SIP, and what  
12 CARB is going to do, and especially the federal  
13 commitments are so important to the South Coast.

14           When you look at the -- I have it here on page 34  
15 in the SIP document under federal measures, there's a  
16 dozen TBDs, to be determined, black box without federal  
17 action the attainment demonstration in the SIP will not  
18 occur. And we're going to be in the same place in 2037  
19 that we are now, that's non-attainment.

20           So as you know, the South Coast is working on a  
21 federal strategy with CARB. Senator Padilla is convening  
22 work groups. I believe Chair Randolph participates.  
23 We're working our relationships with Region 9 and Regional  
24 Administrator Guzman. We also have a legal strategy at  
25 South Coast. The bottom line is that EPA -- if you're

1 going to hold CARB and South Coast accountable to  
2 attainment, EPA and the Feds need to do their part too.  
3 You can't have one without the other.

4           So off that soap box and back to the SIP with  
5 CARB's measures. I'm so pleased to see the In-Use  
6 Locomotive Rule, the In-Use Off-Road Diesel Equipment  
7 Rule. These have huge emission reductions. The  
8 locomotive rule is huge. And these rules are coming to us  
9 soon, colleagues, I think November and December. And then  
10 we've got proposed work on fuels for ocean-going vessels  
11 and aviation. Those are pretty tough sources to address  
12 within the scheme.

13           So as Dr. Pacheco-Werner mentioned, the trucks.  
14 This is a place we do have solid legal authority. And we  
15 spoke about this when we saw the SIP draft in February.  
16 The truck measures in this SIP are Advanced Clean Fleets,  
17 and what is called the Zero-Emission Truck Measure. The  
18 ACF rule comes to us next month and is proposed for fleets  
19 with a cutoff of 50 in SOx. There's a big early focus on  
20 drayage, which is very important issue in the South Coast.  
21 And I'm so excited about ACF. Can't wait to learn more  
22 about it, and deliberate that extremely important and  
23 citing rule.

24           But ACF is only going to cover about half of  
25 California's medium- and heavy-duty truck fleet, only

1 half. Half the fleets are less than 50 in size. So that  
2 means that by 2045 still 800,000 to a million trucks will  
3 still be internal construct -- combustion engines. Now,  
4 thankfully we have this Smog Check I&M Program that we  
5 voted on last year. Eventually, that's going to be four  
6 times a year for those fleets and we have the omnibus  
7 standards. But it's still a lot of diesel and NOx.

8           So if we want to get to attainment and Governor  
9 Newsom's Executive Order of 100 percent of the medium- and  
10 heavy-duty trucks to be zero emission by 2045, everywhere  
11 feasible, we need more. We need this SIP, we need the  
12 Zero-Emission Truck Measure, and we especially need it in  
13 the South Coast.

14           So quickly, what are the details of this truck  
15 measure? It says we're going to adopt the rule in 2028.  
16 It would take effect in 2030 for these smaller fleets.  
17 It's framed as an option. Option A is new authority to  
18 use market signal tools like different registration fees,  
19 maybe and Indirect Source Rule, or as a backstop, Option  
20 B, if we don't get those new legislative authorities, is  
21 to require mandatory retirement of these trucks at their  
22 SB 1 useful life. After all, why should these trucks be  
23 running past their useful life of 13 or 18 years in the  
24 South Coast where we're in extreme non-attainment.

25           And it's a lot of reductions. This measure for



1 zero-emissions trucks is 15 tons a day in this SIP. I  
2 support this. I'm going to vote for this SIP and I want  
3 to thank staff for including this in the proposal.

4           So 2028 and 2030, as proposed, it's a long way  
5 from there for this Zero-Emission Truck Measure. I don't  
6 know how many of us current Board members would even still  
7 be on the dais then. Now, my understanding, however, is  
8 that these dates are appropriate, because we need to see  
9 how ACF for the fleets on a demand side rolls out for the  
10 larger fleets, and how the SB 1 useful life rules interact  
11 in real life with ACF for the larger fleets. Frankly, I  
12 also imagine that ACF may create a used market for older  
13 dirtier trucks sold by the bigger fleets, and purchased by  
14 the smaller fleets, and put into service in non-attainment  
15 areas like the South Coast and San Joaquin. I hope staff  
16 hears that and we'll see.

17           But we also need to see how ACT for the  
18 manufacturers on the supply side works out. Is quality  
19 equipment in zero emissions available? Do the dealers  
20 have it, and et cetera?

21           So I understand we need to see how some of this  
22 works out. Maybe we could do this sooner and be more  
23 focused on clean diesel or natural gas. We heard about  
24 that today. But I don't think that's a bridge that the  
25 Governor, or this Board, or many of the environmental

1 justice stakeholders want to keep building, perhaps with  
2 the narrow exception of hard-to-decarbonize, early  
3 adopter, waste and wastewater utilities who have to comply  
4 with CalRecycle procurement rules.

5           Now, I also know, and I'm finishing up, that  
6 we're going to have a mandated, updated SB 1 useful life  
7 report in 2024 or 2025 that's going to analyze, Chair, all  
8 these topics. We just did the last SB 1 report, and I  
9 think we have a UC Berkeley - Go Bears - contractor  
10 assessing this program.

11           And this is another reason why it's great to have  
12 Dr. Cliff back. You know, I'm just learning this, but  
13 there's probably not many people in the world that know  
14 more about SB 1 and the useful life truck rules than Dr.  
15 Cliff. Nevertheless, despite all this, you know, we did  
16 hear today, Chair, that commenters are asking us to move  
17 this up, that we need to make sooner progress than 2028  
18 and 2030, and that it's sensible to get an update in a few  
19 years on how efforts to obtain new legislative authorities  
20 like the fees and the ISR authority are coming along, and  
21 I think my South Coast colleagues feel this way too.

22           So very supportive of these efforts. But could  
23 we get, Chair, staff's perspective, maybe Dr. Cliff's  
24 perspective on this timing issue with the zero-emission  
25 truck proposal and then maybe I could briefly follow-up.

1 So thank you, Chair.

2 CHAIR RANDOLPH: Sure. Steve, did you want to  
3 comment on the useful life issue.

4 We're not hearing you if you're talking.

5 We are still not hearing you.

6 I'm assuming that the tech people are still  
7 working on this, because we're not hearing you yet.

8 (Technical difficulties)

9 BOARD MEMBER KRACOV: Sorry I asked, Chair.

10 (Laughter)

11 CHAIR RANDOLPH: I think we heard something.

12 BOARD CLERK ESTABROOK: Testing. Can you hear  
13 us?

14 CHAIR RANDOLPH: Yes.

15 EXECUTIVE OFFICER CLIFF: Chair, Randolph, can  
16 you hear me?

17 CHAIR RANDOLPH: Yeah. You're a little faint,  
18 but we can hear you.

19 EXECUTIVE OFFICER CLIFF: I'm moving away,  
20 because I'm talking so loud.

21 (Laughter)

22 EXECUTIVE OFFICER CLIFF: I was going to turn to  
23 Michael Benjamin to address the question regarding useful  
24 life and some potential language that we could add to the  
25 resolution in response to Board member Kracov's comments.

1           AQPSD CHIEF BENJAMIN: This is Michael Benjamin,  
2 Chief of the Air Quality Planning and Science Division.

3           Board Member Kracov, you're correct that CARB  
4 staff is one of the requirements of SB 1 must develop a  
5 report that assesses the effectiveness of -- of SB 1 and  
6 the turnover requirements. And as part of that, we also  
7 entered into a contract, as you noted, with UC Berkeley,  
8 where they are looking at the introduction of  
9 zero-emission trucks and the progress with that happening.

10           And so there is an existing mechanism in place by  
11 which staff are evaluating the implementation of SB 1.  
12 And we're actually required to submit a report to the  
13 Legislature by January 1st of 2025. We anticipate having  
14 a draft report completed next year and then a final report  
15 towards the end of 2024.

16           But with that in mind, staff have developed the  
17 following language that we propose to include in the Board  
18 resolution. And it reads as follows: "As part of the SB 1  
19 report, staff will evaluate and report on progress and  
20 options for accelerating the turnover to zero-emission  
21 trucks. Staff shall also prioritize beginning to develop  
22 a regulation that accelerates reductions in communities  
23 that need it the most and ensures that fleets get access  
24 to affordable and diverse types of zero-emission truck  
25 makes and models".

1           So we hope that with inclusion of this language  
2 in the Board resolution, that it addresses the concerns  
3 that you've raised as well as some other stakeholders.

4           CHAIR RANDOLPH: Thank you.

5           Board Member Kracov, did you want to follow up on  
6 any additional comments.

7           BOARD MEMBER KRACOV: Very pleased to hear that.  
8 I think we've got a firm commitment from our staff that  
9 they're, you know, taking this issue seriously and that  
10 we'll have the opportunity to get this information and  
11 plan for the future, while some of us are still -- still  
12 on the Board here. And maybe some other colleagues will  
13 speak to this issue too. Thank you, Chair, and thank you  
14 Dr. Cliff and Michael Benjamin.

15           CHAIR RANDOLPH: Okay.

16           VICE CHAIR BERG: Chair Randolph, it's Sandy  
17 Berg. Board Member Riordan just has a clarifying question  
18 on this item. On this reso -- the addition.

19           BOARD MEMBER RIORDAN: The question I have to Mr.  
20 Benjamin is are you going to consider infrastructure in  
21 your review? Yes, in the report --

22           AQPSD CHIEF BENJAMIN: In the report that we are  
23 developing?

24           BOARD MEMBER RIORDAN: Yes.

25           AQPSD CHIEF BENJAMIN: Yes, that's part of the

1 assessment that we UC Berkeley is doing.

2 BOARD MEMBER RIORDAN: Thank you. Would you note  
3 that in some way in the addition to this -- your SIP.

4 AQPSD CHIEF BENJAMIN: Yes.

5 BOARD MEMBER RIORDAN: Could you, please?  
6 Thank you.

7 CHAIR RANDOLPH: And to be clear, you cut out a  
8 little bit for those of us online. You said  
9 infrastructure, correct, Board Member --

10 BOARD MEMBER RIORDAN: Correct, Madam Chair. It  
11 was infrastructure. I want the report to not only talk  
12 about the trucks and their implementation, but I think  
13 it's critical that we also know about the infrastructure  
14 capabilities.

15 CHAIR RANDOLPH: Got it. Got it. Thank you very  
16 much.

17 Okay. So now I'm going to go to some of the  
18 Board members who have put themselves in the queue in the  
19 room and then we'll come back to our online Board members.  
20 We will be starting with Dr. Balmes.

21 BOARD MEMBER BALMES: Thank you, Chair. And I  
22 want to start off with thanking the staff for a lot of  
23 really hard work and good thinking. And I -- I'm glad  
24 that I'm following Mr. Kracov with his lengthy exposition  
25 about the truck situation. And -- and I appreciate Mr.

1 Benjamin's additional language that the staff has thought  
2 about, because I guess I go back to Bill Magavern and Will  
3 Barrett, early on in public testimony. You know, I don't  
4 think we can trust the federal regulate -- regulations we  
5 need for the South Coast and San Joaquin Valley to come  
6 through. I wish I could count on that, but I -- I don't,  
7 especially if administrations change. So I think we have  
8 to -- it's incumbent on us to do as much as possible.

9           And I'm persuaded if 18 years is the useful life  
10 that's already been considered in -- in other contexts  
11 that trying to move up the implementation of the  
12 Zero-Emission Truck Rule to 2028 -- the implementation in  
13 2028 is the way to go, if we can pull that off. And I  
14 appreciate the staff has already, you know, thought about  
15 that. And that's, to me, the most important item that I  
16 wanted to highlight.

17           I also want to highlight that we need to do  
18 all -- all that we can with regard to Both locomotives and  
19 ocean-going vessels. I realizes we have limited  
20 authority, but whatever we can do on the margins is really  
21 important.

22           And then the last point, got two parts, several  
23 people alluded to this, including, I guess, Austin in the  
24 staff presentation. I think it's important to try to have  
25 statewide -- what's the word I'm looking for --

1 equivalence with regard to certain things. And, you know,  
2 right off would be BACT and BARCT definitions. I -- I'm  
3 not enough of a legal scholar about the Clean Air Act and  
4 requirements in terms of SIPs. But I think it's an  
5 important issue for us as a Board that we have sort of  
6 common understanding across air districts of what BACT and  
7 BARCT, you know, really mean, and the same with ISR,  
8 Indirect Source Review.

9 I'm, you know, very pleased about the South Coast  
10 Air Quality Management District's new ISR about  
11 warehouses. And I'm also -- always been happy that the  
12 San Joaquin Valley Air Pollution Control District was the  
13 first out of the box with an ISR. But now the San Joaquin  
14 Valley ISR isn't as strong as the South Coast Air Quality  
15 Management ISR. So again, I think it would be good if we  
16 could move towards the most stringent ISR feasible under  
17 the Clean Air Act.

18 So those were the -- those are the points I'd  
19 like to make. I think that it's going to be tough to  
20 achieve attainment -- ozone attainment, the 70 part per  
21 billion rule in the San Joaquin Valley and the South  
22 Coast. I think it's really important. I've been studying  
23 ozone health effects most of my career in academia. And  
24 to the -- the witnesses that commented about ozone and  
25 asthma, it's an important trigger of asthma attacks, and



1 might even contribute to the new onset of asthma in  
2 children.

3           So I think we have to try to get there. And I --  
4 I think we have to do all that we can at the State level,  
5 because I -- I really don't think the Feds are going to  
6 come through in as timely a manner and as we need to see.

7           Thank you.

8           CHAIR RANDOLPH: Okay. Thank you.

9           Then we have Hector De La Torre followed by John  
10 Eisenhut.

11           BOARD MEMBER DE LA TORRE: Thank you, Chair.  
12 Thank you, staff.

13           I mean, the fact that we're doing this massive  
14 SIP and we're talking about what, like three or four  
15 issues, is a really impressive accomplishment. So thank  
16 you. I'm going to touch on Gideon's comments and then on  
17 pesticides. Those are my two things here.

18           In terms of the timing, I appreciate that  
19 you're -- you're going to incorporate it into the report  
20 that's already happening. That's great.

21           In terms of timing for those legislative  
22 possibilities, I've been telling people that to me it  
23 makes more sense to go through the 2025 legislative  
24 calendar before we revisit anything. You know, that may  
25 be that we have to work on hitting that 2028 target for

1 useful life and scrappage. It may be, because we don't  
2 know what else we're going to be able to accomplish. But  
3 that gives us time. You know, we're openly talking about  
4 the possibility that we could do that for that 2028 year.

5 To me, that SB 1 deal was a floor and a ceiling.  
6 And I know Steve was in the room, but, you know, it can be  
7 both things at once. I'm sure they think of it as just a  
8 floor. I think of it a little differently and I think  
9 some of my colleagues do as well. So -- so that's on the  
10 trucks.

11 On the pesticides, no less than the 1994  
12 language. We've done it before. I don't know why we went  
13 away from it for our jurisdiction in this space and I  
14 think we should adopt it again in this SIP. The 1,3-D  
15 issue it should be enforceable. And so I think whatever  
16 we need to do to make sure that that's done. And then for  
17 the other issue, I know we're not quite ready on the VOC  
18 front, but we should have some language like we do in the  
19 Scoping Plan -- we proposed for the Scoping Plan to have a  
20 multi-agency discussion about what -- what that would look  
21 like collaboratively with DPR and any others that are part  
22 of that discussion to see, you know, what that looks at.  
23 If we're -- if we're looking at pesticides as volatile  
24 organic compounds, what does -- what does that look like?  
25 What is already out there? What's the baseline, et

1 cetera, et cetera, et cetera, all of that kind of work.  
2 I'm not -- I'm not saying we should -- need to do any  
3 deadlines or targets right now, because I don't think we  
4 have enough data to do that.

5 So that's it. Thank you.

6 CHAIR RANDOLPH: Thank you.

7 Board Member Takvorian.

8 BOARD MEMBER TAKVORIAN: Thank you, Chair. This  
9 is the advantage of going after my smart colleagues, so I  
10 can reduce my -- my comments. But I did want to say that  
11 I appreciate all -- appreciate all of the hard work that  
12 went into the proposal and the clear significant progress  
13 we're making, and the more ambitious measures that are  
14 being proposed. I think as we said this morning on the  
15 transit issue, it's exciting and encouraging to see the  
16 progress that's been made in this area and their very  
17 substantial changes.

18 But I do think that there are improvements that  
19 we could make. One has already been talked about at  
20 length, and that has to do with the truck issue. I wanted  
21 to clarify from Mr. Benjamin, I understood that the report  
22 would be submitted in January of 2025. Are you saying  
23 that that would be the option description that's being  
24 requested? Would it be then in front of the Board in  
25 January of 2025? And I have one other issue, but I wanted

1 clarification on that.

2           AQPSD CHIEF BENJAMIN: Okay. Board Member  
3 Takvorian, under SB 1, the requirement is that CARB  
4 provide that report to the Legislature by January 1st of  
5 2025. We haven't discussed whether the report would come  
6 to the CARB board, but it would go to the Legislature. It  
7 needs to go to them by January 1st of 2025. We will have  
8 a draft report completed by mid-2024, so that I just  
9 wanted to give -- give you a sense of the timing, and the  
10 steps, and the process.

11           BOARD MEMBER TAKVORIAN: So then would the draft  
12 report come to the Board in mid-2024? Sorry, I'm just  
13 trying to get clear on what it looks like.

14           AQPSD CHIEF BENJAMIN: That's certainly an  
15 option, yes.

16           BOARD MEMBER TAKVORIAN: Okay. So I'd like to  
17 request that we include that then. If that conforms with  
18 the schedule that staff already have, it seems like a good  
19 opportunity for us to act sooner, as I think we -- many of  
20 us believe we should, and then take the steps from there  
21 in terms of potential rulemaking. So thank you for the  
22 clarification.

23           And then on the pesticide issues, I do appreciate  
24 and support Member Pacheco-Werner's comments calling for  
25 broader inclusion of pesticides. You know, this issue has

1 been discussed on numerous occasions. And one of the most  
2 recent, I guess, was in Shafter in 2020, which I think was  
3 kind of a watershed moment when CARB empowered community  
4 members in Shafter, via the AB 617 process, to tell us  
5 what issues they were most concerned about. And they  
6 repeatedly said reducing pesticides that are also VOCs.  
7 So while I appreciate the inclusion of 1,3-D in the -- in  
8 the SIP, and I also appreciate Secretary Garcia's  
9 commitment to pushing DPR to address these issues, I  
10 really do believe that CARB needs to step up our  
11 commitment.

12           So I would agree with Member De La Torre that we  
13 need to adopt a version of the 1994 language. I would say  
14 that we should include a mandatory emission reduction  
15 target for 1,3-D that it be enforceable within the SIP,  
16 and that we commit to looking at emission reductions and  
17 doing the research that we need to do in order to bring  
18 that back.

19           I think if -- honestly, for the communities  
20 that are most impacted by pesticide use, if there was  
21 actually satisfaction there, and if there was relief, I --  
22 I don't know that they would be here at CARB, but I don't  
23 think that's happening. And we have a legitimate role to  
24 play, given that these pesticides are also VOCs. So I  
25 would like to ask staff if we could include that language

1 into -- into the resolution.

2 CHAIR RANDOLPH: So let me see just follow up for  
3 a moment with staff on this -- the pesticide issue,  
4 because I think we have clear consensus that we need a VOC  
5 target for 1,3-D, and our staff will work with DPR staff.  
6 I think we also need to revisit the language that was in  
7 the draft SIP and have it more clearly state CARB's  
8 authority around pesticides. I think, at this point, we  
9 don't really have the data and the supporting analysis to  
10 set a VOC target, and I don't think, you know, for the --  
11 a broader suite of pesticides, and I don't know that we  
12 have the ability to do that by January.

13 So, to me, that I think would be part of that  
14 larger continued work we will do with Secretary Garcia and  
15 DPR in terms of how best can CARB be helpful and  
16 supportive in making progress on issues around pesticides.

17 Does staff want to add anything else on that  
18 issue specifically?

19 EXECUTIVE OFFICER CLIFF: No, Chair Randolph.  
20 That's an excellent summary. Thank you.

21 CHAIR RANDOLPH: Okay. And I accidentally  
22 skipped over John Eisenhut. And so he may also have some  
23 input on this pesticide issue as well.

24 So Board Member Eisenhut.

25 BOARD MEMBER EISENHUT: There we go. There's a

1 beauty in being last, and there's not much new. I have on  
2 my notes first, 2024, because in the original revision to  
3 the motion, I heard some good language about inclusion,  
4 but I did not hear a date. And I believe we now -- Diane  
5 had requested that we be more specific in the timing of  
6 that report, which I assume corresponds to the SB 1  
7 report, and that 2024 would be included in the language.  
8 So I appreciate that.

9           And then I really have nothing to add to the  
10 Chair's summary. I -- it would be sort of gratuitous to  
11 say I support the Secretary and the Chair in their  
12 comments, but I -- I do so. And I think the -- the  
13 continued coordination with DPR, but we own the VOCs. And  
14 going back to Hector's comment about 1994 and our role in  
15 those compounds I think is appropriate. It -- it -- I --  
16 my observation about 1,3-D is that the material does not  
17 change its form. And the -- the action on the part of DPR  
18 to either inject more deeply or to tarp delays the release  
19 of the VOCs rather than precludes it.

20           I realize there's some disagreement in this  
21 arena, but I think that what happens is material changes  
22 from a liquid to a gas form, but does not lose its  
23 toxicity. And so I think it's incumbent on us to continue  
24 our pursuit with DPR in the research surrounding 1,3-D and  
25 other VOCs.

1           So those are -- those are my comments and -- on  
2 that topic. Thank you.

3           CHAIR RANDOLPH: All right. Thank you.

4           Okay. The -- so I think we have -- we know where  
5 we're going on pesticides at this point and we know we  
6 are -- we have the SB 1 report coming. And are there any  
7 other last minute details anybody wants to share before we  
8 entertain a motion? Because I believe we need to do a  
9 motion and a vote on this item, is that correct, staff?

10          BOARD CLERK ESTABROOK: That's correct.

11          CHAIR RANDOLPH: Okay. Dr. Pacheco-Werner.

12          BOARD MEMBER PACHECO-WERNER: Yeah, Chair. I  
13 just wanted to -- to bring back to -- to staff and just  
14 even if they could just entertain me in terms of what are  
15 some options that we might have on the table in terms of  
16 locomotives, given the time that we have -- the timeframe  
17 to strengthen some of that.

18          DEPUTY EXECUTIVE OFFICER CHANG: Dr.  
19 Pacheco-Werner, this is Edie Chang, Deputy Executive  
20 Officer. As I think you know, we are developing an In-Use  
21 Locomotive Regulation right now and it will be coming to  
22 the Board in November. And so the Board will have an  
23 opportunity in November to hear the proposal that we have,  
24 which is addressing in-use of locomotives in California.  
25 So EPA, as we talked about a lot in our presentation, they



1 have primary regulatory authority, but we have the ability  
2 to regulate those locomotives in-use. And so there's a --  
3 there is a fairly -- there's a regulation that will be  
4 coming to the Board for your consideration. And at that  
5 point, I think it would be a good opportunity to talk  
6 about if there are more things that the Board wants to  
7 pursue on locomotives after hearing that proposal.

8 BOARD MEMBER PACHECO-WERNER: Thank you.

9 CHAIR RANDOLPH: All right. Is there a motion to  
10 approve the SIP, recognizing that we will be coming back  
11 with the South Coast SIP and the San Joaquin SIP as well.  
12 And we'll have the opportunity to ensure that the VOC  
13 reduction target is incorporated at that point.

14 BOARD MEMBER FLOREZ: I will move it.

15 VICE CHAIR BERG: Chair -- oh, I'll second.

16 CHAIR RANDOLPH: All right. Will the Clerk  
17 please call the roll.

18 BOARD CLERK ESTABROOK: Dr. Balmes?

19 BOARD MEMBER BALMES: Yes.

20 BOARD CLERK ESTABROOK: Mr. De La Torre?

21 BOARD MEMBER DE LA TORRE: Yes.

22 BOARD CLERK ESTABROOK: Mr. Eisenhut?

23 BOARD MEMBER EISENHUT: Yes.

24 BOARD CLERK ESTABROOK: Senator Florez?

25 BOARD MEMBER FLOREZ: Aye.

1 BOARD CLERK ESTABROOK: Ms. Hurt?  
2 BOARD MEMBER HURT: Aye.  
3 BOARD CLERK ESTABROOK: Mr. Kracov?  
4 BOARD MEMBER KRACOV: Yes.  
5 BOARD CLERK ESTABROOK: Dr. Pacheco-Werner?  
6 BOARD MEMBER PACHECO-WERNER: Yes.  
7 BOARD CLERK ESTABROOK: Mrs. Riordan?  
8 BOARD MEMBER RIORDAN: Aye.  
9 BOARD CLERK ESTABROOK: Supervisor Serna?  
10 BOARD MEMBER SERNA: Aye.  
11 BOARD CLERK ESTABROOK: Professor Sperling?  
12 Ms. Takvorian  
13 BOARD MEMBER TAKVORIAN: Aye.  
14 BOARD CLERK ESTABROOK: Supervisor Vargas?  
15 Vice Chair Berg?  
16 VICE CHAIR BERG: Aye.  
17 BOARD CLERK ESTABROOK: Chair Randolph?  
18 CHAIR RANDOLPH: Yes.  
19 BOARD CLERK ESTABROOK: Madam Chair, the motion  
20 passes.  
21 BOARD MEMBER VARGAS: Vargas, yes. I'm sorry.  
22 BOARD CLERK ESTABROOK: Perfect. I heard you.  
23 BOARD MEMBER VARGAS: Thank you.  
24 BOARD CLERK ESTABROOK: Madam Chair, the motion  
25 passes.

1           CHAIR RANDOLPH: All right. Great. Thank you  
2 very much.

3           Now, we will move on to public comment on items  
4 that are not on the Board agenda. And so, Clerk, will you  
5 please call public commenters

6           BOARD CLERK ESTABROOK: Yeah. We have one person  
7 who signed up in -- to speak in person and then it looks  
8 like there's one with their hand raised in Zoom at this  
9 time. So Sean Edgar, you're first.

10          SEAN EDGAR: Chair and Board members, Sean Edgar.  
11 And I know what you're thinking this is the third time  
12 you've seen me today, so it's time for us to pack up and  
13 get going, so I'll be brief.

14          I'm going to depart from my regular comments --  
15 or my prepared comments just to say that on behalf of the  
16 renewable natural gas producers, wastewater agencies,  
17 companies that are developing anaerobic digestion  
18 technology, I was very excited and will take Board Member  
19 Kracov up on his discussion that we should have a more  
20 extensive dialogue on that topic. And the reason I will  
21 say that is because I'm speaking to you on behalf of folks  
22 that make green boxes. So we just got done talking about  
23 black boxes. These are green boxes where your green bin  
24 that you roll out to the curb goes into a really clean,  
25 really expensive truck, to a real expensive facility to

1 make biogas, to reuse on the circular economy. So those  
2 are the type of green boxes we want to discuss. And  
3 thanks, Board Member Kracov, for bringing that up.

4           And for Dr. Cliff, Dr. Vergis, and Ms. Sahota, or  
5 any other folks on staff, including Board members that  
6 want to do that, we're immediately available. You pick  
7 the team, you pick the place, we'll be there. So I wanted  
8 to let you know that.

9           And I also have a -- something that is not  
10 covered. It's educational materials. So I'm going to  
11 offer, for anyone who wants to hear, California Burning.  
12 And it's a four-year investigative study by the Wall  
13 Street Journal environmental reporters about the history  
14 of PG&E. So without belaboring the topics that we had  
15 earlier today about how difficult it's going to be to  
16 electrify, it's really a stunning indictment of how power  
17 company has done business here in Northern California.

18           So when we talk about -- I heard a few words  
19 earlier, tooth extraction -- no, I think it was tooth  
20 pulling. I heard nightmare, that was another word I  
21 heard. So I don't know that PG&E is equipped. They might  
22 get there in increments of time, but it's a very good  
23 book, a very good read. Because it's educational  
24 materials, it's not covered under any of the Political  
25 Reform Act reportable gifts, so anybody who wants one as a

1 Board member, I have one here for you.

2           And I'll just close up in the brief time I have  
3 left to say that the Little Hoover Commission just did a  
4 focus study on Senate Bill 1383. Your sister agency,  
5 CalRecycle, hails that as one of the greatest  
6 opportunities to deliver near-term emission reductions of  
7 short-lived climate pollutants. And it goes back to my  
8 green box comment earlier, if we don't have support to  
9 make the green box, what is currently a \$40 billion level  
10 of investment in SB 1383, once again to pick up your  
11 organics bin, because you're our customer, if we can't be  
12 successful in kicking that program off, we need a home for  
13 the gas. You heard from the wastewater agencies, they're  
14 be part of our short group to have the discussion I talked  
15 about earlier.

16           And I'll just finalize by saying the climate  
17 investment update, thank you to staff for putting that  
18 out. When you spend your money for climate investments,  
19 the best money you're spending is somewhere in the range  
20 of 10 to 55 dollars a ton for greenhouse gas reductions  
21 what you're diverting organics, and when you're investing  
22 that in vehicles, its over -- well over \$1,000 a ton  
23 for -- so best bang for the buck is RNG.

24           Thank you.

25           CHAIR RANDOLPH: Thank you.

1 SEAN EDGAR: Who would like the first copy?

2 BOARD CLERK GARCIA: And it looks like we have  
3 one commenter in Zoom. So that's a phone number ending in  
4 528. And if you could please state your name for the  
5 record.

6 And you may need to push star six unmute.

7 There you go.

8 LAURA ROSENBERGER HAIDER: Laura Rosenberger  
9 Haider. I'm concerned about the undergrounding of  
10 electric wires, because it will take so much money and it  
11 will not prevent those fires in the next few years.  
12 You're not getting very much wiring done. You have to  
13 store the ark interrupters and over the -- PG&E store the  
14 ark interrupters and cover the bare wires would be a  
15 better approach than allow the PM2.5 from going into the  
16 air.

17 And also I was concerned about all the lights  
18 that are running, like the lights -- the outdoor lighting  
19 that's left on that disturbs the life cycles of animals,  
20 and it also wastes energy and disturbs people's sleep.  
21 You can't be functional and conserve energy. And I'm also  
22 concerned about the electric vehicles -- I think 47  
23 percent of the emissions that are in my notes -- right in  
24 San Diego are coming from small pass -- lightweight,  
25 light-duty vehicles. And there should be incentives for

1 low-income people to get electric vehicles and more  
2 charging stations. You should do the charging stations  
3 too, not just rely on the federal government to do it  
4 everything. And liked your idea of electrifying  
5 buildings. You guys think -- I think that's all for now.

6 Thanks.

7 BOARD CLERK GARCIA: Thank you. That concludes  
8 the commenters.

9 CHAIR RANDOLPH: All right. Thank you.

10 That concludes our Board meeting and we are now  
11 adjourned. Thank you very much.

12 (Thereupon the Air Resources Board meeting  
13 adjourned at 4:29 p.m.)

14

15

16

17

18

19

20

21

22

23

24

25

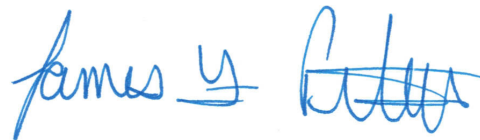
CERTIFICATE OF REPORTER

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 5th day of October, 2022.



JAMES F. PETERS, CSR  
Certified Shorthand Reporter  
License No. 10063