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Ms. Mary Nichols, Chairperson
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Ms. Sandra Berg
Mr. Hector De La Torre
Mr. John Eisenhut
Supervisor John Gioia
Ms. Judy Mitchell
Mrs. Barbara Riordan
Supervisor Ron Roberts
Supervisor Phil Serna
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Dr. Alberto Ayala, Deputy Executive Officer
Mr. Kurt Karperos, Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
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Ms. Cynthia Marvin, Chief, Transportation and Toxics Division
Ms. Sydney Vergis, Staff, Sustainable Freight Section, Transportation and Toxics Division
Mr. Erik White, Chief, Mobile Source Control Division

ALSO PRESENT
Mr. Matthew Allen, Western Growers Association
Mr. Jason Barbose, Union of Concerned Scientists/CCFC
Mr. Tim Carmichael, CNGVC
Mr. Jonathan Clay, Port of San Diego
Mr. Steve Cliff, Assistant Director, Sustainability for Caltrans
Ms. Lucetta Dunn, Chair, California Transportation Commission
Mr. Sean Edgar, CleanFleets.net
Mr. Joel Ervice, Regional Asthma Management & Prevention/CCFC
Mr. T.L. Garrett, Pacific Merchant Shipping Association
Mr. Matthew Hargrove, California Business Properties Association
Mr. Henry Hogo, SCAQMD
Ms. Bonnie Holmes-Gen, American Lung Association/CCFC
Mr. James Jack, Coalition for Responsible Transportation
APPEARANCES CONTINUED

ALSO PRESENT

Mr. Ryan Kenny, Clean Energy
Mr. Richard Lambros, Southern California Leadership Council
Ms. Alison Linder, Southern California Association of Governments
Mr. Jim Lites, California Airports Council
Mr. Bill Magavern, Coalition for Clean Air/CCFC
Mr. Adrian Martinez, Earth Justice/CCFC
Mr. Jim McKinny, California Energy Commission
Mr. Colin Murphy, NexGen Climate America
Ms. Rachael O'Brien, Agricultural Council of California
Mr. Kish Rajan, Director, Governor's Office of Business and Economic Development
Ms. Katrine Robinson, CalSTART
Mr. Tim Schott, California Association of Por Authorities
Mr. Jeffrey Serfass, California Hydrogen Business Council
Mr. Chris Shimoda, California Trucking Association
Mr. Taylor Thomas, East Yard Communities for Environmental Justice
Mr. Bob Toy, Union Pacific Railroad
Mr. Mike Tunnell, American Trucking Association
Ms. Eileen Tutt, CalETC
Mr. James Wagoner, Butte County Air Quality Management District
APPEARANCES CONTINUED

ALSO PRESENT

Ms. Kate White, Deputy Secretary, Environment and Housing, California State Transportation agency

Ms. Morgan Wyenn, NRDC/CCFC
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CHAIRPERSON NICHOLS: Good morning. We are ready to get started.

This is the first time we've been together for a while, so everybody has to meet and greet and exchange stories since we last saw each other.

Welcome, everybody, to the April 23rd, 2015 public meeting of the Air Resources Board. Everyone will please come to order. We are in order. So we'll begin with the Pledge of Allegiance to the flag.

(Thereupon the Pledge of Allegiance was Recited in unison.)

CHAIRPERSON NICHOLS: The Clerk will please call the roll.

BOARD CLERK JENSEN: Dr. Balmes?
BOARD MEMBER BALMES: Here.
BOARD CLERK JENSEN: Ms. Berg?
BOARD MEMBER BERG: Here.
BOARD CLERK JENSEN: Mr. De La Torre?
Mr. Eisenhut?
BOARD MEMBER EISENHUT: Here.
BOARD CLERK JENSEN: Supervisor Gioia?
BOARD MEMBER GIOIA: Here.
BOARD CLERK JENSEN: Ms. Mitchell?
BOARD MEMBER MITCHELL: Here.
BOARD CLERK JENSEN: Mrs. Riordan?
BOARD MEMBER RIORDAN: Here.
BOARD CLERK JENSEN: Supervisor Roberts?
BOARD MEMBER ROBERTS: Here.
BOARD CLERK JENSEN: Supervisor Serna?
BOARD MEMBER SERNA: Here.
BOARD CLERK JENSEN: Dr. Sherriffs?
BOARD MEMBER SHERRIFFS: Here.
BOARD CLERK JENSEN: Profesor Sperling?
BOARD MEMBER SPERLING: Here.
BOARD CLERK JENSEN: Chairman Nichols?
CHAIRPERSON NICHOLS: Here.
BOARD CLERK JENSEN: Madam Chairman, we have a quorum.
CHAIRPERSON NICHOLS: Thank you very much.

A couple of things before we get started. It's a reminder or for anyone who is new here, want to make sure that you know that we request people to fill out a request to speak card. It's available in the lobby or from the Clerk at the beginning of or even before an item is called on the agenda so that the Clerk can sort out the cards and give us a list and we have a better sense of timing and can plan the rest of our day accordingly.

Also a reminder to speakers that we impose a three-minute time limit on your oral testimony, although
we will read any amount of written testimony that you submit. So we appreciate it if when you come up to the Board you get right to the point. And you don't need to give us an oral version of whatever you have been writing.

The safety reminder here is that there are emergency exits at the rear of the room. And in the event of a fire alarm, we're required to evacuate the room immediately and go down the stairs, not use the elevator. And when the all-clear signal is given, we return to this room and resume our hearing.

I think that's it for the beginning comments.

The only other thing I will add is we will be taking a lunch break today. We're planning it for about 12:30. And because this is -- in case anybody wasn't aware of it -- National Picnic Day, the Board is going to actually be walking over to the Capitol Park and our wonderful staff is setting up our box lunches over there. So hope that people will be able to go and get a little fresh air. And we'll hope that the rest of our stakeholders and followers do the same.

So with that, I think we'll begin with the report of our Ombudsman. This is the fifth annual report from the Office of the Ombudsman. For that we turn to La Ronda Bowen.

I should say, La Ronda came here -- she was
recruited by the ARB five years ago because of her background and experience on small business and environmental issues. She has a history in this area, is quite well known at the national level as well as at the state level for her interest in assuring that small business owners are heard early in policy discussions while regulations are being developed, rather than after the fact. And her mission has been to more thoroughly integrate thinking about an awareness of small business issues into our program areas. So she has presided over a period in which the Ombudsman office has been active and involved in all kinds of outreach with respect to all of our programs across the board.

And she has a team of people that work with her, of course, on this that range around the state looking for new economic opportunities that can also emerge from regulations and to connect small businesses to them. She has last year begun a new program that brings together California entrepreneurs and small business owners in a Small Business Advisory Panel, something that we had never had before. And I've attended -- I think I was there for the founding meeting of that group, and it was a little bit rocky at first. I wouldn't say everybody that was there felt really comfortable being inside the Air Resources Board. But they very quickly realized they had
an audience of people who were very interested in what they had to say and they have been providing us with a lot of useful information. They also work with other departments and local governments, always looking for ways to find common grounds and new ideas that strengthen California's economy, while at the same time cleaning up the air.

So I think that's enough by way of introduction. And I think, Mr. Corey, did you have a few words to introduce this item?

EXECUTIVE OFFICER COREY: Very briefly, Chairman.

The Office of the Ombudsman continues to evolve into an important tool for connecting ARB's goal for clean air and reduce greenhouse gas emissions with the energy of California's entrepreneurs and small business owners, as well as organizations that touch them.

So today, La Ronda is going to provide a look back at 2014. Take you on a brief tour of the Ombudsman's office and leave you with the goals of the office for 2015. And with that, I turn it over to La Ronda.

(Whereupon the following overhead presentation was given.)

OMBUDSMAN BOWEN: Thank you, Mr. Corey, Chairman Nichols and Board members.

Today, I'm very happy to inform you that the Air
Resources Board's Ombudsman now has all three elements of the small business outreach and compliance assistance program envisioned by the Clean Air Act. Each of these three elements, outreach and stakeholder engagement, technical assistance, and a Small Business Advisory Panel, as Chairman Nichols mentioned, are functioning well.

We are succeeding, because with Chairman Nichols leading the way, you have spoken and demonstrated your support for California entrepreneurs and small business owners. I personally appreciate your willingness to make this agency more transparent to small businesses.

I recall facilitating the Truck Regulations Advisory Committee with Board Member Berg shortly after I arrived. She set a very high standard for engagement. So I've been following that.

Executive Officer Richard Corey has also been very supportive. We meet regularly, and his guidance helps me focus on ways to integrate small business into all that ARB seeks to achieve.

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OMBUDSMAN BOWEN: Today, we quickly look back at the processes for creating a more proactive office and pause to talk about the Small Business Opportunities Advisory Panel and also the new compliance assistance efforts that were the last major pieces of our program to
come together.

To end the look back, you will hear small business owners who are now ambassadors for climate friendly business practices.

Next, we'll look ahead at how the Ombudsman and California small businesses support the program priorities that our Executive Officer Corey outlined for you in January.

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OMBUDSMAN BOWEN: The mission of the Ombudsman is to support the Board and our fellow ARB staff in achieving federal and State clean air objectives. Clearly, we cannot get from where we are to where we want to be without fully engaging California small business owners and entrepreneurs. Therefore, small business is built right into our mission statement.

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OMBUDSMAN BOWEN: Ombudsman total staffing between the Sacramento and El Monte office is seven full-time and eight part-time employees, plus the Ombudsman. Professional staff lead work in specific program areas and are deployed geographically. The map colors correspond to the staff contact on your right.

We have a few of our staff here today. When I'm talking about them, they will stand up.
Anthony Marin serves the northern California border regions. He is our lead for incentive funding and on truck and bus. Anthony also receives calls to the Ombudsman hot line from Spanish-speaking customers and is assisted in this by part-time staff, Natalie Hernandez.

Ed Wong handles southern California coastal counties and the Mojave Air District. He is the lead for ARB's education program and consumer products rule in the Ombudsman's office.

Gena Latt in our El Monte office and serves southern California. She is lead on developing and implementing our new compliance assistance program.

Judy Nottoli serves the Bay Area and Sacramento region and is lead for AB 32, Cool California, and our one-year-old small business opportunity panel.

Zenia Aguilera is our liaison to Fresno and supports ARB's comment log, special projects, and provides administrative support. The administrative assistant for Ombudsman is Jennette Bronner.

In addition to handling hot lines, the part-time staff in Sacramento provide outreach assistance, research and develop management reports under supervision, and assist Ombudsman with education, environmental justice, and other special projects and events.

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OMBUDSMAN BOWEN: The first step in a successful endeavor is the plan. So in 2010, we developed a business plan for Ombudsman that would help us achieve all of the mandates that we wanted to achieve, including the environmental education initiative, which has already served 2,000 classrooms. Because we knew our success would depend on leveraging our resources, our business strategy was three-fold: Multiply our efforts by collaborating with our natural partners on common objectives, make our web presence more business relevant, and focus on providing support to internal staff to identify and engage small businesses impacted by ARB regulations and policies. That piece we're working on even more now.

Additionally, I reconnected ARB with EPA's National Steering Committee of small business programs. This enables us to benefit from shared discussion of EPA proposed rules and understand their impact on small business, leverage national compliance tools, and promote our efforts on climate. This strategy continues to benefit ARB and California small business.

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OMBUDSMAN BOWEN: The SBOAP is a major piece of to complete our Small Business Compliance Program. Their key role is to advise the agency on the effectiveness of
all aspects of our small business program and to provide recommendations for strengthening it.

In 2013, with support from California Air Pollution Control Officers Association, ARB instituted its SBOAP. The independent business listed here donate their time to ARB and represent most economic sectors that the scoping plan touches. They are our resources. They're free to us.

With this panel, we sought geographic and industry diversity. And leadership is Richard McCaskill, a small business owner and former marine from San Diego. He is the Small Business Co-Chair. Larry Greene, Air Pollution Control Officer for Sacramento Air District is the CAPCOA Co-Chair. And I serve as the ARB Co-Chair.

The panel will focus on helping ARB with economic analysis and outreach, as well as implementing the new programs that we'll discuss later. They meet quarterly, rotating between northern and southern California. And members that can't attend can attend via Go-To-Meeting. They are expected to be an expected resource so we can use them any time.

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OMBUDSMAN BOWEN: The next thing that we implemented was compliance assistance. It has always occurred at ARB through hotlines and training courses.
But to create a Small Business Assistance Program, we needed these efforts to augmented with strong in-the-field compliance assistance. We focused on the refrigeration management program and dry cleaning. Our efforts were concentrated in the South Coast region. This was all in 2014.

For both programs, Ombudsman took ARB staff into business establishments to experience rule compliance from the implementation end as seen by small businesses. Everyone thought this was a really worthwhile endeavor.

Refrigerant management rule requires inspection and reporting of leaks and leak repair and a recording of that to the ARB. Because the El Monte office is located in an area where a substantial number of business do not speak English as a first language, we use the opportunity to reach out to small market chains that focus on ethnic foods. This strategy is proving effective in helping to get the word out to these small businesses: One, that there is a rule; that it applies to them; and that a leaky refrigerant system is actually money blowing away. Business didn't understand how to report or how to find relevant information on their equipment. And the refrigerant repairmen are one-man operations that don't offer reporting services. So ombudsman staff demonstrated how to find the leaks, what to do when equipment tags were
missing or identification information was missing and how
to put the data into the ARB reporting system.

We also did an outreach program and compliance
assistance for dry cleaners with Air Resources Board,
South Coast Air Quality, and L.A. Department of Water and
Power. Each had grant programs designed to encourage dry
cleaners to change from PERC into alternative cleaning.
None of the grant programs was succeeding in getting dry
cleaners interested.

Ombudsman staff lead the dry cleaning
associations and funders in holding the dry cleaning
workshops to demonstrate the benefits of the new equipment
and available funding. They followed up with the
demonstration workshop where a dry cleaner business owner
was the presenter and he demonstrated for his peers how
wet cleaning could be an effective dry cleaning tool.
Afterward, a few of the dry cleaners expressed interest in
the program.

Ombudsman and communication staff are creating
video training tools for the dry cleaners. Through this
effort, we were able to bring two ARB programs together.

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OMBUDSMAN BOWEN: We recognize that small
businesses are challenged to keep up with their business
operations and new rules. Experiences gained in the field
will be incorporated into future rulemaking. The field compliance assistance and feedback program that staff completed last was the last part of a fully functioning three-part program. So these are just the numbers of where we were. So next --

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OMBUDSMAN BOWEN: -- we look at hotline call data. The Ombudsman El Monte hotline is the second busiest after 866-Diesel. And although call volume is down this year, the line receives over 200 calls a day and significantly more when rule deadlines are near.

In 2014, most callers sought information on aftermarket parts, catalytic converters, and diesel issues. Spanish language calls increased from about 1300 in 2013 to 2400 in 2014. And the same effect was felt in Sacramento mainly related to diesel issues.

El Monte hotline staff provided callers with help navigating ARB's website. They answer questions from consumers and smog technicians on aftermarket parts, questions on vehicle registration for out-of-state vehicles, et cetera.

The Department of Motor Vehicles also refers callers to ARB, especially for clarification of registration issues. And this is the default number on many ARB websites. By taking some of these calls, the
Ombudsman team relieves pressure on the program staff.

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OMBUDSMAN BOWEN: As we reach out to serve California small business owners and others, we are not surprised to learn they are appreciative. Many have become advocates of clean air and fewer carbon emissions. We are going to take short video clip and let you meet a few.

(Whereupon a video presentation was made.)

OMBUDSMAN BOWEN: What a nice way to end our look back. From here, we are looking ahead.

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OMBUDSMAN BOWEN: The next few slides identify some of the ways that Ombudsman intends to use the strengths of the program we now have in place to engage small businesses in planning and implementing some of the key priorities Mr. Corey outlined for the Air Resources Board.

For small businesses, the four most critical issues are likely to be: Climate planning, heavy-duty vehicles, climate investments and sustainable communities, and the new health risk assessment guidelines.

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OMBUDSMAN BOWEN: Ombudsman has already begun working with program staff on short-lived climate
pollutant planning through the work on the refrigeration systems at grocery stores, and we will continue to work in this area.

SBOAP members are engaged in converting food waste to biofuel and others make their livelihood in the forests of northern California and the orchards of the San Joaquin Valley. Their knowledge will be helpful as ARB seeks to develop protocols involving methane, forestry, and agriculture.

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OMBUDSMAN BOWEN: Because Ombudsman regularly engages stakeholders outside of ARB, we learn of opportunities where greenhouse gas emissions are taking place which does ARB does not track or take credit for. Yet, these are important to understand in our climate planning. Many small businesses are going green on their own, as you saw from the video clip. The green business network is a nonprofit organization that certifies business who are in compliance with regulations and going beyond in order to be green.

Emission reductions are real, and the steps taken, such as installing low flow toilets and reducing energy consumption, et cetera, are verified by a third party, such as a utility company, inspector, or agency representative.
OMBUDSMAN BOWEN: SBOAP, local air districts, and the ARB are challenged to help the public understand the new OEHHA risk assessment guidelines. Although toxic emissions have been greatly reduced by businesses, the new risk guidelines make it appear as though risks have increased to the public. CAPCOA's communication guidelines will help businesses and others better understand how to communicate this message. SBOAP is a good sounding board for staff developing and reviewing these types of sensitive messages. More small businesses may have to notify residents that exactly the same chemicals, used in exactly the same quantities, now pose higher health risks. What's really changed is not the amount of the emissions so much as our perception of how they effect our health.

OMBUDSMAN BOWEN: These are only preliminary -- on sustainable freight, the SBOAP can be helpful because they can talk to us about and share with us information on how the freight system impacts them. How do they use that freight system. That's not something that's automatically known with the regulatory agencies.

We can also engage focus group type sessions with local economic development, I-hubs and other stakeholders.
that would be non-traditional. That's a way that we have
of leveraging our relationships to get more input to the
Air Resources Board.

Next slide.

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OMBUDSMAN BOWEN: We can seek the support of the
Small Business Opportunities Panel to test the new
ultra-low NOx vehicles in real world applications. It can
also provide us a lot of feedback on how our programs are
working in that area.

We will continue collaborative work and develop
better models for small businesses fleets to access
capital. This is the most important thing from the
Ombudsman point of view, trying to figure out this
capital, getting the small fleets to be able to transfer
to lower NOx vehicles. And we will continue to access our
relationships to help prepare fleet owners for the
transition. The Ombudsman can also help staff identify
economic impacts.

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OMBUDSMAN BOWEN: Historically, on climate
investments, the Ombudsman has not been heavily involved.
We have encouraged small business to connect with their
local metropolitan planning agencies to learn how
investment planning works in their region so they can
familiarize themselves.

We also use the Ombudsman list serve to re-broadcast notices of workshops and meetings by putting a small business focused headline and a little transmittal message into that message before we re-broadcast it.

Most recently, we have connected project proponents with program staff for inclusion in upcoming workshops. We've also helped with individual project concept submissions to ARB staff.

These are only preliminary efforts. I anticipate developing a plan for Ombudsman engagement in this area working with internal staff and external stakeholders later this year. It would include engagement of small businesses, small communities and schools, I imagine. These are all identified in AB 32, along with disadvantaged communities as important constituencies.

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OMBUDSMAN BOWEN: The area of cap and trade and programs that we want to track, like fuels, SBOAP can help us look back at how they're working. This would inform future decision making. We should seek ways to tap the entrepreneurial thinking and business knowledge of SBOAP. They may be able to help think through protocols for natural and working lands, including forests. They're unlikely to develop them, but they would be good
resources. Many small business consulting firms are doing the greenhouse gas reporting work and they may also be able to provide ARB valuable insight as we look back at what we're doing.

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OMBUDSMAN BOWEN: Connecting perhaps the greatest resource the Ombudsman brings to ARB's program priorities and discussions are the connections and relationships we have developed over the past five years. This slide is a sample of organizations we can count on to provide resources for outreach, compliance assistance, policy development, convening, research, and many other services that the Ombudsman needs to do our work for the people of the state of California and this Board. Through this network of unconventional stakeholders, we can help inform policy and identify knowledge gaps and obstacles to our success.

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OMBUDSMAN BOWEN: So finally, we are building on the achievements we've made over the past five years. Small business owners and entrepreneurs we know will ask questions that if we consider at the front end of our process may lead to outcomes different than what we as regulators would imagine. This is a key reason we want to involve them early in our processes.
This concludes my presentation. I will be happy to answer any questions.

CHAIRPERSON NICHOLS: Thanks, La Ronda.

We don't have any witnesses who have signed up to testify on this item, but I think the Board members may want to ask a few questions or comments.

I would just say that clearly the level of activity and the level of interest in our work with respect to small businesses has increased rapidly under your tenure. You create a lot of extra workload for yourself and the rest of us, but in a very positive way.

The important point here being -- I'm joking a little bit. But the important point here is as our mission and mandate reach out ever more into communities, it's extremely important that we have the best kinds of tools for getting and giving information about what we do. And obviously, this goes well beyond the Ombudsman's office. But because of her focus on small business and her expertise in programs and ways of working with small businesses, La Ronda has been able to make that a hallmark of her office's work. And I think you can see that they've got a lot of different irons in the fire. And I know many of you have used them as a resource in the past. And they've been able to contact you and take advantage of your willingness also to pitch in.
But at this point, I'd like to add any comments or questions.

Mrs. Riordan.

BOARD MEMBER RIORDAN: Madam Chairman, having been at the El Monte office on several occasions and talking to people who take our calls for information, that is so important for people to have a human at the end of that phone who can direct them or give them the correct information.

And I just want to say thank you to your staff for that outreach because I think it's so critical for the success of anything that we do here in setting our policies and our requirements. People need to understand. They need to be in some cases given that extra attention so they can succeed. And I just really appreciate that very much, the outreach that you do.

CHAIRPERSON NICHOLS: Thank you.

Yes?

BOARD MEMBER GIOIA: I want to thank you for your work. It's really important to focus here in this area. I just want to personally thank you for your work.

CHAIRPERSON NICHOLS: Ms. Berg.

BOARD MEMBER BERG: I do want to echo congratulations. When we started five years ago, the Ombudsman's office was not as proactive as we needed it to
be, and we are taking on some huge issues. And we all
know that small business is one of the backbones of our
success here economically. And regulation does have an
effect. And you've been able to create, you and your
staff and your outreach -- and congratulations to you guys
as well -- have really been able to reach out, solve
problems, agree to disagree because we don't always agree.
But you've given a voice. I really appreciate that.

I've personally used the Ombudsman's office for
my business. I appreciate that.

And congratulations. This report five years
later is very impressive. A lot of great work. Thanks a
lot.

CHAIRPERSON NICHOLS: Anybody else?

Ms. Mitchell.

BOARD MEMBER MITCHELL: I also want to thank La
Ronda for all of work she's done. You can see she's done
quite a lot of work in the South Coast district. It's
really good to have a personal face and a voice to help
our community with the regulations. And you have been
very instrumental in that regard. I want to thank you
personally for all your work. Thank you.

BOARD MEMBER SERNA: Thank you, Madam Chair.

I'll add to the thanks that's been directed your
way as well, La Ronda, and to your staff.
I particularly want to thank you for pointing out the fact that your staff are multi-lingual. This is something that I mentioned in the past on several occasions. I think it's very important that we have the ability to certainly help educate small business, but to do so in a language that is common to them.

And I also wanted to ask -- I noted one slide referenced business improvement districts. And here in Sacramento, we have several property-based business improvement districts. What has your experience been with specifically working with the business improvement districts across California? Do you find them to be kind of a very appropriate central clearinghouse to kind of get the message across in a full room, so to speak?

OMBUDSMAN BOWEN: First, thank you to the Board members. Thank you. Thank you. That's very heartwarming.

We haven't worked with all the business improvement districts. We have worked with many of them. Our experience is like anything else it depends on who you're working with. But in general, I think they are a good resource. And I think that I know that one of our tasks -- we develop a new business plan. One of our tasks is to focus on strengthening the business improvement districts. Working with them more so they can be more
effective in this small really working with small businesses on ARB kinds of issues. So I hope that answers your question.

BOARD MEMBER SERNA: It does. I appreciate that. Thank you.

CHAIRPERSON NICHOLS: Okay. I just want to add I thought the little video -- excuse me. You were being quiet there. Supervisor Roberts.

BOARD MEMBER ROBERTS: If I could make a quick comment. A couple weeks ago, La Ronda came to San Diego because we had heard testimony a couple meetings ago from a woman who her and her husband have started a refinery. I didn't know we had a refinery in San Diego. What they're doing collecting all of the restaurant --

CHAIRPERSON NICHOLS: Waste oil.

BOARD MEMBER ROBERTS: They created an incredible business out of this. They're even shipping product to Arizona. It's happening just a couple miles from my office, and I didn't know about it.

But it was nice to have this visit. And I told her I'm interested. She said, let's go see what they're doing. It was -- I was really impressed. I was also impressed that if it didn't work out, it looked like the equipment they were using could be changed into a craft brewery without a lot of efforts. They could have an easy
backup plan to all of this. But I appreciate her doing that.

Last year, she was able to come down and be present one of our business awards to a hotel in San Diego, a couple that had done incredible things. I think these are positive things that where the public understands better what we're trying to do. And sees they have a role in it, too. And we all want a cleaner, healthier environment. By us singling these out, it helps. But for her to put energy into doing these things, which some people would think these are minor awards, I think it's really important.

CHAIRPERSON NICHOLS: Well, that actually -- yes, go ahead.

BOARD MEMBER SHERRIFFS: Thank you. And thank you to your office for all that you do for small businesses because I think it is so important. Small businesses are so important. The regulatory maze, the policy maze is so important they have a single portal they can identify and that is really becoming known as a place for a culture of problem solving. Having local points of contact is so important. It's so important to be engaging all of these businesses throughout the state and things like Cool California where people, business want to do these kinds of things, but may not understand where or how
it can benefit them. So it's really a wonderful undertaking and would encourage you to be sure to call on each of us to help wherever you see we can. Thank you.

CHAIRPERSON NICHOLS: You'll find a follow up very quickly. I'm sure. I was over eager, but I wanted to jump in when Ron was talking about the experience of visiting with one of the small businesses in his area. Because I thought that the video was particularly effective in showing the range and diversity and the sheer enthusiasm of the people that were receiving those awards, which are just a piece of stone I guess or glass --

OMBUDSMAN BOWEN: Recycled glass.

CHAIRPERSON NICHOLS: Of course. But it's something that actually does make a difference in people's overall attitude about the program. And while it in no way is a compensation for all that they put into earning those awards, it does show that the Air Resources Board recognizes and cares about what they're doing. So I think that's been a real process of building, getting more and more applicants in, and a broader range of applicants. And it was really great to see the diversity as well as the enthusiasm of those award ease.

So I think with that, thank you very much. And we will expect an even bigger and better report next year.

Our next item is a regulatory item. It's
consideration of adoption of amendments to the
certification and test procedures for vapor recovery
equipment that's used at gasoline dispensing facilities in
California.

Our vapor recovery requirements have been in
place for 40 years now. And the Board has from time to
time amended these regulations to make them more effective
and more cost effective and to improve and clarify the
existing certification and test procedures. So this is
the latest iteration. And we now have the team it looks
like in place that will be presenting this.

Mr. Corey, would you please introduce this item?

EXECUTIVE OFFICER COREY: Yes, thank you,
Chairman.

As stated, vapor recovery program is 40 years
old. And over that period, the Board has adopted and
periodically amended regulations to control hydrocarbon
emissions associated with the storage and transfer of
gasoline. These regulations apply to each step of the
complex gasoline distribution network, including
terminals, bulk storage facilities, cargo tanks, and
approximately 20,000 gasoline dispensing facilities
throughout California.

Over that time, the Board has adopted
certification procedures that establish standards for
equipment and various test procedures that are used to certify systems and the verify compliance with those standards. Today's regulatory proposal includes three elements. These goals are to improve the cost effectiveness and clarity of the existing vapor recovery program while encouraging introduction of innovative new controls.

First, we'll hear amendments designed to reduce compliance costs for owners of above-ground storage tanks while retaining emission reductions in the region with the most needed.

Next, staff will propose performance standards for a new vapor recover nozzle that has potential to more cost effectively control non-retail gas station emissions as California transitions to vehicle-based control systems.

Finally, staff is proposing clarification of documentation requested from vapor recovery control manufacturers as part of the certification process.

Now I'd like to ask Scott Bacon of the Monitoring and Laboratory Division to begin the staff presentation. Scott.

(Thereupon an overhead presentation was presented as follows.)

ENGINEERING AND REGULATION DEVELOPMENT SECTION
MANAGER BACON: Thank you, Mr. Corey.

Good morning, Chairman Nichols and members of the Board. And thank you for the opportunity to discuss our proposed amendments to the certification and test procedures for the gasoline vapor recovery program.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Today's presentation consists of five sections. We will start with a brief history of the program, followed by a description of today's proposed to amend requirements for above-ground tanks.

Section three will cover proposed standards for enhanced conventional, or eco nozzles.

Section four is a summary of proposed administrative amendments to certification procedures.

And we will end the presentation with staff's conclusions and recommendation.

With that said, let's begin with the brief history of the vapor recovery program.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Each year in California, approximately 15 billion gallons of gasoline travels through a complex distribution network, beginning with bulk storage facilities, transferred to fleets of cargo tank trucks.
From there, it moves to approximately -- one of approximately 20,000 fueling facilities and ultimately onto one of more than 20 million vehicle fuel tanks. To protect air quality and public health, the Board has adopted regulations that control emissions during fuel storage and transfer at each step in this process.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: There are three key reasons to control the release of gasoline vapor.

First, gasoline vapors interact with oxides of nitrogen and sunlight to form ground level ozone. Controlling the release of gasoline vapors during retail fueling operations is a key element of California's State Implementation Plan for attaining ozone air quality standards. This is especially important in certain regions of the state, such as the South Coast Air Quality Management District.

In addition to ozone air quality, the Board is also tasked with reducing the near-source risk of exposure to airborne toxics. Gasoline vapors contain Benzene, which is a known carcinogen and has been identified by the Board as a toxic air contaminant. Controlling vapors from gasoline marketing operation helps to reduce benzene exposure for all Californians.
The Board first adopted rules to control gasoline vapor emissions from marketing operations in 1975 and has updated those rules periodically over the subsequent years to further reduce emissions.

Staff continues to look for opportunities to improve the program, which leads us to today's proposed amendments.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: At this point, I would like to discuss the proposal that is being presented for the Board's consideration, starting with staff's proposed amendments to vapor recovery requirements for above-ground storage tanks.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: In June of 2007, the Board approved enhanced vapor recovery, or EVR, for gasoline above-ground storage tanks. Staff estimated that there are about 9,000 above-ground tanks, or AST, storing gasoline in California.

Unlike underground tanks, which are usually used for retail fueling operations, above-ground tanks are most often used for smaller non-retail applications, such as fueling corporate or government vehicle fleets. They are
also commonly found in agricultural operations, which
generally are not subject to vapor recovery requirements
by local air districts.

Staff estimates that about 4,000 of California's
above-ground tanks are subject to vapor recovery
requirements. Although there is a large statewide
population of above-ground tanks, they typically dispense
much less gasoline than the underground tanks found at
average neighborhood gas stations.

Whereas, the typical retail station with
underground tanks dispenses about one and a half million
gallons of gas each year, facilities with above-ground
tanks typically dispense less than 10,000 gallons
annually. This photo taken at a local police department
shows a typical above-ground tank configuration with a
single dispenser attached directly to the above-ground
tank that is used to refuel the department's parole
vehicles. This is probably one of the most common layouts
for an above-ground tank, but their size, lay out, and
usage patterns can vary widely.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: This drawing shows the various vapor
recovery controls that are required for an above-ground
tank in California as a result of ARB's 2007 regulation.
At the left of the drawing, you can see the Phase I system shown in blue. This system controls emissions during transfer of fuel from the cargo truck to the above-ground tanks. As gasoline is transferred into the above-ground tank, vapors are returned from the tank to the cargo truck, which then returns them to the bulk terminal where they are condensed and processed into liquid gasoline. In the center of the drawing is an above-ground tank equipped with standing loss control, shown in brown. Standing loss control is designed to minimize emissions while fuel is stored in the tank. Since above ground tanks are often exposed to sunlight, they tend to heat up during the day. That heat is transferred to the fuel, which causes the fuel to evaporate and vent to atmosphere. Standing loss control minimizes this.

For new facilities, an insulated tank and pressure vacuum vent valve installed on the tank stack reduces emissions by about 90 percent. For existing facilities, a reflective coating on the exterior of the tank and a PV valve reduces emissions by about 60 percent.

At the right side of the drawing, you can see Phase 2 controls, which are shown in purple. Phase 2 systems include a vapor recovery nozzle and a coaxial hose that controls emissions during vehicle fueling by collecting vapors from the vehicle fuel tank and returning
them to the above-ground tank.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: ARB's 2000 regulation for above-ground tanks is being phased in over time. Starting with standing loss control and is followed by Phase I and Phase II EVR systems respectively. You notice that standing loss controls provide the bunk of emissions reductions that are expected to be achieved by the AST regulation, with relatively small reductions expected from Phase I EVR and Phase 2 EVR.

As specified by state law, new gasoline installations must install vapor recovery controls once a certified product is available in the market. Existing stations are then allowed four years to install the same controls. This recognizes that it's typically more expensive to retrofit facilities.

For example, as shown in this table, new above-ground tanks in California were required to install standing loss control starting in April 1st, 2009, while existing installations didn't need to upgrade until April 1st, 2013. Standing loss control upgrades were completed about two years ago while the Phase I EVR upgrade deadline passed last July. Phase II upgrades will not need to be completed until 2019.
ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: As the Phase I EVR implementation was underway in 2013, representatives from several air districts expressed some concerns that Phase I EVR was not cost effective in certain cases and didn't provide emissions reductions that were significant or necessary for certain districts.

ARB staff was asked by the California Air Pollution Control Officers Association, or CAPCOA, to review the 2007 AST ERV rule. We found that standing loss control is very cost effective and provides significant reductions, while the cost of upgrading to a Phase I EVR system was higher in 2013 than staff anticipated in 2007.

We also found that the cost effectiveness of Phase I and Phase II controls is highly dependent on the throughput of the above-ground tank. Phase I and Phase II can be cost effective at higher throughput locations, but most above-ground tanks have very low throughput. And these controls are not cost effective in many cases.

Given the findings of staff's 2013 review, ARB and CAPCOA agreed it would be appropriate to amend the AST ERV regulations for Phase I. Our goal was to maintain the air quality benefits that were originally envisioned when the regulation was adopted while improving the program's
overall cost effectiveness.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: By late 2013, ARB staff and CAPCOA had committed to jointly developing a proposed amendment to AST Phase I EVR requirements. At the time this decision was reached, the Phase I EVR upgrade deadline of July 2014 was less than a year away.

Rulemaking, as you know, is a lengthy process and it was decided that more immediate action was needed to provide near-term implementation guidance for AST owners.

On February 28, 2014, ARB issued a regulatory advisory intended to avoid unnecessary expenses of Phase I EVR upgrades on tanks that we expected would not ultimately be subject to the July 2014 upgrade deadline.

The advisory publicly stated that staff intended to propose regulatory amendments for the Board's consideration and all above-ground tank owners would ultimately need to comply with whatever requirements were approved by the Board.

Today's proposal fulfills that commitment and closely aligns with the terms that were laid out in that AST advisory.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION
MANAGER BACON: Staff has chosen not to propose amendments to standing loss control, or SLC. SLC provides significant reductions. In addition, the deadline to install SLC has passed, and eliminating or amending those requirements at this point would essentially reward any above-ground tank owners who have chosen not to comply.

Staff's 2013 review of the AST EVR requirements found that SLC controls are highly cost effective. In fact, we estimate that in many cases the cost of installing an SLC system on offset by the value of fuel saved by that system in the following few years. Many tank owners will see a positive return on their investment of an SLC system over time.

Most air districts do not require controls on certain AST within their jurisdictions, such as tanks used on farms or non-retail tanks installed prior to a certain date.

While standing loss control would not be required for those above-ground tanks per district rule, ARB staff has developed an informational flyer to inform owners of the potential financial benefits of voluntarily installing standing loss controls. We hope that this effort will result in additional emission reductions from the voluntary use of standing loss controls.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is proposing that certain above-ground tanks be exempted from the current requirement to upgrade their pre-EVR Phase I system to an EVR system by July 1st of 2014.

Exemptions from the upgrade deadline would be based on federal ozone attainment status and federal ozone non-attainment classification, which is an indicator of the severity of a region's ozone non-attainment. The proposal also takes into consideration the throughput of the above-ground tank with Phase I EVR required on tanks above specified throughput levels.

Finally, the requirements will vary based on the population density of the district in which the tank is located. Staff collected AST population and throughput data from all air districts that are not in attainment with the federal ozone standard. We then analyzed the cost and emission impacts of requiring Phase I EVR upgrades based on various throughput levels, ozone non-attainment classifications, and population densities.

In concert with CAPCOA, we settled on a set of criteria that significantly improves cost effectiveness, while closely aligning with the air quality needs of the various districts.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: This map provides a graphical summary of staff's proposal to allow certain above-ground tanks to continue using their existing pre-EVR Phase I systems beyond the current July 1, 2014, upgrade deadline of the required.

Let's start by looking at the red area, which includes the South Coast Air District. This area has the greatest need for additional emission reductions so no relaxation at the 2007 rule is proposed. All pre-EVR systems in the red areas must be upgraded to ERV by July 1st of 2014, regardless of the above-ground tank throughput.

Moving onto the orange-shaded areas, after assessing the non-attainment classification and population density, staff determined that further emission reductions are needed in these areas.

Some relief from the July 2014 upgrade deadline is proposed, but it is limited to only above-ground tanks with throughputs of less than 18,000 gallons per year. All above-ground tanks in the orange areas with annual throughput of over 18,000 gallons must still install a Phase I EVR system by July of 2014.

The yellow shaded areas are less densely populated areas and have less severe ozone non-attainment
classification than the orange areas, so staff is proposing greater relief from the July 2014 upgrade deadline in the yellow areas. All above-ground tanks in these areas with an annual throughput of below 60,000 gallons per year can continue operating with their current pre-ERV system.

Finally, we come to the green shaded areas which are in attainment with the federal ambient ozone standard. There is little benefit in seeking additional emission reductions in these areas. So staff proposes all above-ground tanks located in these areas may continue using their existing pre-EVR systems.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: The proposal includes a requirement that all existing pre-ERV Phase 1 equipment whose use is permitted beyond July 1 of 2014 by must be replaced by a compatible ERV component at the end of its useful life. Through this mechanism, the number of remaining pre-ERV systems will decrease over time as ERV replacement components are installed.

Eventually, all tanks with pre-ERV systems will migrate towards ERV systems. For the purposes of estimating cost savings and emissions impacts of this proposal, staff assumed that Phase I pre-EVR components
have a useful life of five years. The actual useful life will vary and could be greater or less than staff's five-year assumption.

To implement the replacement component requirement, staff has issued an advisory which lists EVR components that are compatible with pre-ERV systems. We will keep that list updated as new EVR components become available.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: This slide shows staff estimates of the controls that would be achieved by AST Phase I systems under the 2007 rule and today's proposal. The 2007 rule is shown in blue -- on the upper pink line, and today's proposal is on the lower line in blue. The difference between these two line is the potential emission reductions that would be foregone by this proposal as compared to the 2007 rule.

You will notice that the lines begin to converge after July 1 of 2014 as pre-ERV systems are replaced through natural turnover. Based on staff's estimated five-year life for pre-EVR systems, the lines converge in July of 2019, at which point all above-tanks will be fitted with Phase I EVR systems as required under the 2007 rule.
Staff estimates under today's proposal the relief provided to tank owners would result in approximately 16 tons of reactive organic gas emission over a five-year period, as compared to what was expected under the original rule.

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CHAIRPERSON NICHOLS: That's statewide?

ENGINEERING AND REGULATION DEVELOPMENT SECTION MANAGER BACON: Statewide, 16 tons in five years.

CHAIRPERSON NICHOLS: Thanks.

ENGINEERING AND REGULATION DEVELOPMENT SECTION MANAGER BACON: Based on staff's analysis of AST population and throughput data provided by districts, we expect about 2100 above-ground tanks will be allowed to continue operating with their current pre-EVR systems.

Owners of these tanks will still need to install ERV components over time as their pre-EVR systems wear out, but they will experience a net savings from this proposal through two primary mechanisms.

First, affected owners will be able to realize the full value of the money that they have already spent on their current pre-ERV equipment.

Second, these owners experience a financial benefit by delaying the expense of purchasing and installing Phase I EVR equipment. Simply put, there is a
net value in being able to buy and install ERV system at a later date.

Staff estimates that the total savings of the proposed AST amendment would be about $3.6 million statewide, or about $1700 dollars per affected tank on average. Of course, that savings would not be spread evenly over all affected tanks. For example, the owner of an above-ground tank whose pre-EVR system was aging and needed to be replaced in August of 2014 would realize very little benefit from this proposal.

On the other extreme, consider the owner who installed a new pre-EVR system just prior to the July 2014 upgrade deadline. That owner would be able to continue using that system for many years and would experience an effective savings of greater than $1700.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: In summary, the proposed amendments to AST Phase I ERV requirements will respond to CAPCOA's concerns and improve the 2007 rule. The proposal would provide significant financial relief for about 57 percent of California's permitted above-ground tanks. Because higher throughput tanks are still required to install ERV by the July 2014 deadline, the proposal will achieve 91 percent of the emission reductions that would be achieved under
full implementation of the current Phase I ERV rule. The remaining nine percent of reductions would be achieved over time as aging pre-ERV systems are replaced with ERV systems.

The proposal also retains 100 percent of emissions benefits in the South Coast district where they are most urgently needed.

The Board generally considers the cost effectiveness of a rule in terms of dollars spent per pound of emissions reduced. This proposal is different because it is actually allowing for a small amount of emission reductions to be foregone over the coming years, resulting in increased emissions as compared to full implementation of the 2007 rule. Staff estimates that the proposed amendments would save approximately $106 for every pound of emission reduction foregone as compared to full implementation of the 2007 rule.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is not proposing to amend Phase 2 ERV requirements for above-ground tanks at this time, but we intend to return to the Board when sufficient cost data are available, most likely in the 2017 or 2018 time frame.

As with Phase I, Phase II ERV systems may prove to be cost effective on high are throughput tanks, but
will certainly not be cost effective for lower throughput tanks.

At this point, the cost of a Phase II ERV system is unclear, so it would be impossible to determine exactly which AST would be upgraded to Phase II ERV in a cost effective manner. The deadline to upgrade existing AST with Phase II EVR is March 13, 2019.

Staff recommends that the Board amend Phase II ERV requirements prior to that date. The methodology used to develop today's proposed amendments to Phase I requirements should serve as a good model for future Phase II amendments.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: At this point, I'd like to move on and discuss staff's proposed for enhanced conventional nozzles.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is proposing adoption of a certification procedure for enhanced conventional nozzles, or eco nozzles for short. These nozzles do not recover vapors from the vehicle fuel tank during fueling, so their use would be only allowed for refueling at non-retail facilities that serve a captive fleet with vehicle-based
vapor controls.

Eco nozzles will incorporate state-of-the-art control of liquid drips and spillage that is more stringent than California’s ERV nozzles, thus providing greater emission benefits that than the current generation of conventional nozzles.

Eco nozzles are expected to be less expensive than EVR nozzles, which has the potential to provide some cost savings at certain facilities. Eco nozzles may also provide significant emission reduction benefits in other states that currently use conventional nozzles for retail fueling.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Currently there are two types of nozzles available, conventional nozzles and enhanced vapor recovery, or ERV, nozzles. Conventional nozzles were used in California prior to the adoption of vapor recovery rules in 1975 and still used in many states and in some California non-retail facilities that serve fleets with vehicle based vapor controls. These nozzles do not include a means of collecting vapors during vehicle fueling, so they depend on vehicle-based vapor control systems.

Conventional nozzles do not have any standards
for spillage or liquid controls during fueling. They are the least extensive type of nozzle available on the market today.

EVR nozzles are currently required at gas stations throughout California. These nozzles capture vapors from vehicles during fueling and return those vapors to the gas station's storage tank. They can be used with all vehicles, even those with no vehicle based vapor control. EVR nozzles also include spillage and liquid control standards which helps to further reduce emissions. Because they incorporate so many features, EVR nozzles are more expensive than conventional nozzles.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is proposing standards for a third nozzle type; the enhanced conventional or eco nozzles. Eco nozzles are intended for use only with vehicles that are equipped with vehicle-based vapor control systems. Eco nozzles would be certified by ARB to meet strict liquid control standards so they would spill and drip much less than conventional nozzles. Because they do not include vapor recovery capabilities, eco nozzles are expected to be less expensive than EVR nozzles.

Depending on district rules, eco nozzles could be used as a replacement for either conventional or EVR
nozzles. Replacing a conventional nozzle with an eco nozzle would have a cost increase and an emission reduction. Staff estimates that emissions reduced by switching from conventional to eco nozzles will cost $1.84 per pound. Replacing an EVR nozzles with an eco nozzle would provide some cost savings and a potential for small emissions reductions. Staff estimates that facilities making the switch from EVR to eco nozzles will save about 31 cents for each pound of emissions reduced.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is proposing several eco nozzle liquid control standards that would be identical to current EVR nozzle standards. This includes strict limits to post-fueling drips, the volume of liquid that is retained within the nozzle after fueling, the volume of liquid spitting when the nozzle lever is pulled while dispenser is turned off, and a requirement that the nozzle is equipped with an insertion interlock that will prevent it from dispensing when it is not inserted into a vehicle fuel pipe.

Staff also proposes a liquid spillage standard of 0.12 pounds for every 1,000 gallons of fuel dispensed. This is about one-half of the current standard for EVR nozzles, and it represents an 80 percent reduction as
compared to fuel performance of conventional nozzles. Nozzle manufacturers have communicated that this lower spillage standard is feasible and can be met without any increase in eco nozzle costs.

All current EVR nozzles performed well below the 0.12 pounds per thousand gallon level during their certification, so staff is confident that the proposed standard is achievable.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: If the proposal is approved by the Board, eco nozzles would be certified in much the same way as EVR nozzles are currently certified. ARB staff would evaluate nozzle performance at an operating fueling facility for at least 180 days using existing EVR test procedures related to the nozzle's liquid controls. The proposed eco nozzle standards are essentially the same standards that EVR certified nozzles have met.

We are confident that EVR liquid control technology and the methods ARB staff uses to evaluate nozzle performance can be successfully applied to EVR nozzles. Upon completion of ARB evaluation, eco nozzles would be listed in an Executive Order that allows for the sale in California and use at non-retail fleet fueling facilities. Subject facilities would have four years from
the date of the first eco nozzle is certified to install
eco nozzles.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: In the near term, eco nozzles are expected
to have only a limited use in California. They are only
intended for use with a fleet that has vehicle-based vapor
controls so they wouldn't be used in retail applications.

Staff estimates that there are currently about
325 fleet fueling facilities in California where an eco
nozzle would be used. These are generally facilities such
as new car dealerships, corporate or government fleet
fueling facilities, or rental car fueling operations, like
the one shown in this photograph. Vehicle-based vapor
controls are included in all newer model light-duty
vehicles, so it is likely eco nozzles would be appropriate
for use at an increasing number of facilities in coming
years as older vehicles are phased out of the fleet.

Looking beyond California borders eco nozzles
have the potential to provide very significant
environmental benefits. In 2012, EPA issued guidance that
vehicle-based vapor controls had achieved widespread use,
meaning that states could begin removing vapor recovering
systems at fueling facilities.

Most states have begun this process and are now
looking for other ways to offset the resulting increase in emissions. ARB staff has contacted air quality regulators across the nation and found that at least 17 states are interested in possibly requiring eco nozzles as a means of reducing emissions from vehicle refueling. If those 17 states replaced their current conventional nozzles with eco nozzles, staff estimates that it would result in reductions of 33 tons per day of reactive organic gases nationwide.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: That concludes my presentation on the eco nozzle proposal.

I will now very briefly cover proposed administrative amendments that seek to clarify existing requirements in the vapor recovery certification procedures.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Staff is proposing several administrative amendments to current certification procedures. The intent is to better clarify what is expected of manufacturers who are seeking to obtain ARB certification for their vapor recovery equipment. These amendments would specify that manufacturers provide more detailed
technical information, which will better allow ARB staff
to conduct thorough evaluations of certification
applications.

For example, current procedures specify that the
applicant must submit engineering drawings of their vapor
recovery system and components. We're proposing changing
the certification procedure to specify those engineering
drawings must include the full production component, as
well as sub assembly and parts with part numbers,
dimensions, tolerances, and materials. So having drawing
in this level of detail is useful for the initial
evaluation as well as subsequent assessment of in-use
equipment performance.

Staff has always requested that manufacturers
submit drawing with this level of detail, but now the
certification procedures would reflect that.

The proposed amendments do not represent new
requirements for vapor recovery equipment manufacturers,
but instead they simply provide more detail and greater
clarification of existing requirements. These changes are
being proposed for certification procedures 201, 206, 207,
which apply to underground tanks, above-ground tanks, and
eco nozzles.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION
MANAGER BACON: That completes the presentation of on today's proposed amendments. I would like to move onto staff's conclusions and recommendation.

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ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: Since its inception, California's vapor recovery program has generally applied a single performance standard to all gasoline dispensing facilities statewide. This approach has been effective, but it tends to limit flexibility for districts implementing the program, and it may not always be the most cost effective solution.

Today's proposal is unique for California's vapor recovery program in that it applies different controls to different stations based on factors such as the regional need for reductions, the throughput of the facility, or the makeup of the fleet being fueled.

As we move forward, staff envisions a vapor recovery program that expands on this concept of tailoring solutions to meet regional or site-specific needs. We expect to apply this thinking to future amendments in order to maximize cost effectiveness and minimize the burden on the regulated community, while continuing to achieve the program goals of protecting public health and the environment.
ENGINEERING AND REGULATION DEVELOPMENT SECTION

MANAGER BACON: In the mean time, to ensure continued program effectiveness, we ask the Board to adopt today's proposed amendments to vapor recovery certification and test procedures. These amendments will ease the burden of compliance for many of California's above-ground tank operators, while retaining must needed emission reductions and will continue California's tradition of leading the nation in the development of innovative new control technologies such as the enhanced conventional nozzle.

Going forward, the vapor recovery program will remain an important part of California's efforts to control ground level zone and limit benzene exposure. We will continue to work towards accomplishing those goals in the most efficient and cost effective manner possible.

Thank you very much for your time and consideration.

CHAIRPERSON NICHOLS: Thank you. That was a very comprehensive presentation and very clear.

Mr. Corey, do you have any closing comments?

EXECUTIVE OFFICER COREY: No.

CHAIRPERSON NICHOLS: Okay. We have a one witness who signed up to speak. James Wagoner from the Butte County Air Quality Management District.
MR. WAGONER: Good morning, Chairman Nichols and Board members. My name is Jim Wagoner. I'm the Air Pollution Control Officer with Butte County Air Quality Management District. Also currently the CAPCOA Vice President.

I'm here speaking on behalf of our organizations in support of the amendments as proposed by your staff. As indicated, CAPCOA engaged with ARB two years ago on this matter. This was a matter where we saw upcoming emission reduction requirements that we weren't getting significant benefits from. Ties back nicely to your previous item related to how ARB's helping small businesses. Your staff engaged with us. We did a review of the data and we found a path forward with amendments to the regulation where we would continue to get the emission reductions in those areas that need them. And then those areas where we didn't need immediate emission reductions we would be get some relief. Helps small businesses. It does help local government. It also helps state government as well because these tanks are primarily non-retail in nature.

Again, we appreciate the help of your staff. Michael Benjamin, George Lew, Scott Bacon, and all your staff. And we appreciate the consideration, and we request you adopt the amendments as proposed.
CHAIRPERSON NICHOLS: Thank you.

Unless there are other witnesses who did not sign up, I think we can close the record at this point and move to a discussion.

Yes, Professor Sperling.

BOARD MEMBER SPERLING: I have a question. And just to provide a little context for this whole thing. I remember years ago there was a huge fight between the automobile industry and the oil industry about where these vapor recovery systems should be imposed. Should it be on the car. Should it be on the tank. So I haven't really followed it. But there is a lot of implicit in this whole regulation. So you talk about vehicle-based recovery systems. I thought all cars had recovery systems on them for a very long time. Is that not true?

MLD CHIEF BENJAMIN: That's not quite correct. U.S. EPA required that beginning with 1997 model year vehicles that they have on-board vapor recovery controls. It's basically a carbon canister and pump that draws in the vapors and burns them when the engine is started.

So the older vehicles in the fleet do not have this on-board vapor recovery system. So our concern, for example, the reason we would not want to see the eco nozzle adopted widely in California for some time to come is that statewide only about 78 percent of the fleet as a
whole has this on-board vapor recovery system. What?

BOARD MEMBER SPERLING: What percentage of miles
is that though? It's much higher than 78 percent, those
cars older --

MLD CHIEF BENJAMIN: That's actually 78 percent
is what fraction of the gasoline is consumed by vehicles.
So it's weighted for vehicle miles driven.

BOARD MEMBER SPERLING: We have a lot of old
cars, don't we?

CHAIRPERSON NICHOLS: This is a program that's
really seared in my memory, because I was on the Board at
the time it first came into effect. And I was personally
the target of a radio talk show campaign on behalf of the
gas station owners in the Bay Area who didn't want to have
to install the nozzles. I well remember San Diego was a
hot bed of activism on this issue as well. It's
interesting to me that we finally arrived at the point
where we're actually willing to consider a sort of
bifurcated program -- a little more nuanced then that --
that does allow for the fact that there are parts of our
state that are much more rural. And there are few
stations, of course. And the risk to consumers or workers
in those places is lower.

I still worry about it though, because the fact
is that there are some benefits from this program no
mater where you are. There are toxic emissions that are captured as a result of the improved systems. But I've become convinced after having been briefed well by staff and asked a lot of questions that we are not leaving very much on the table and that overall we're going to gain more I think as a result of having this additional time and flexibility than we stand to gain as a result of pressing ahead with without the changes.

BOARD MEMBER SPERLING: Just out of curiosity, it sounds like what happened is it ended up being both the vehicles and the stations; right?

CHAIRPERSON NICHOLS: Yes. And in some cases, they're not compatible with each other. I used to complain bitterly that I had a Volvo that had a fill that wasn't compatible with the current generation of nozzles in the South Coast basin. And as a result of that, I could never use the automated fueling provision. So I was -- I had to live by my own decisions.

BOARD MEMBER SPERLING: Good.

CHAIRPERSON NICHOLS: Right. Good. Thanks. All right. Any other questions or comments? If not could we have a motion, please.

BOARD MEMBER RIORDAN: I would move, Madam Chairman, Resolution 15-8.

BOARD MEMBER BALMES: Second.
CHAIRPERSON NICHOLS: All in favor, please say aye.

(Unanimous aye vote)

(Board Members De La Torre and Sherriffs not present for vote.)

CHAIRMAN NICHOLS: Opposed?

Any abstentions? All right. Great. Thank you very much.

CHAIRPERSON NICHOLS: While we're shifting personnel here, I'll briefly mention that the next item is an informational update on recent and ongoing vehicle emissions research studies at the Air Resources Board. I think everyone knows that this agency has a long history of regulating vehicle emissions and that research has played a critical role in providing the information that we needed to develop those regulations and have them be sustainable and sustained.

Despite the large emissions reductions that have already been achieved year over year, vehicles are still a major contributor, if not the major contributor, to California's air pollution and climate problems. More action is needed. And it's extremely important therefore that the Board be aware of the latest and most interesting new findings as we go forward.

So, Mr. Corey, would you please introduce this
EXECUTIVE OFFICER COREY: Yes, thank you, Chairman.

Vehicle emissions research at ARB has three main goals: To understand the real world effects of current programs, to inform the development of new programs, and to inform the Board on emerging issues that fall broadly within our mission to protect human health.

Today's overview of this research includes both extramural contracts and in-house research in support of our efforts to reduce emissions.

I'd like to ask Jorn Herner of our Research Division to begin the staff presentation. Jorn.

(Thereupon an overhead presentation was presented as follows.)

RESEARCH PLANNING CHIEF HERNER: Thank you, Mr. Corey. And good morning, Chairman Nichols and members of the Board.

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RESEARCH PLANNING CHIEF HERNER: The California Resources Board was borne out of Dr. Arie Haagen-Smit's ground-breaking research which showed that most of California's smog resulted from the reaction of emissions from motor vehicles and other sources with sunlight in the atmosphere. This break-through provided the scientific
foundation for the development of California's and the
National Air Pollution Control Programs.

Since 1970, ARB has developed an extensive
in-house emissions research program and has funded more
than 200 mobile source emissions research contracts.
These research programs has supported and continues to
support the development of new emission control
technologies, tracks the effectiveness of ARB's emission
controls programs, and informs the development of new
strategies to cost effectively reduce mobile source
emissions.

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RESEARCH PLANNING CHIEF HERNER: Staff performs
emissions testing for a variety of purposes. This
includes testing of new technology to demonstrate
durability and effect on emissions. Vehicles from the
current fleet are brought in for testing to certify
compliance with warranties, evaluate deterioration rates,
and generate emissions factors for emissions modeling.
Additional testing is also done for the purpose of
research and helps guide programs and policy.

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RESEARCH PLANNING CHIEF HERNER: To carry out
this work, the agency has a variety of resources, the most
critical being our staff experts. The agency has several
chassis dynamometers for both light-duty and heavy-duty testing. Our mobile measurement platform allows us to measure pollutants on California's roads and in our neighborhoods.

Portable emissions measurement systems, or PEMS, brings the laboratory to the vehicle so to speak and allows for measurement during real world driving. We also rely on research contracts through our annual research plan which allows the Board to draw on the expertise of researchers at California's Universities and elsewhere. Using these varied resources, we are able to provide the best science to inform new and innovative programs.

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RESEARCH PLANNING CHIEF HERNER: To prioritize what research is carried out, the executive office sets broad program goals and divisions meet regularly to identify and implement individual projects.

Staff is also active in the scientific community and meets multiple times throughout the year with academics, industry partners, and other government agencies to coordinate our work and identify emerging issues. Through these ongoing coordination efforts, we're able to identify how best appropriate the limited resources available for research.

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RESEARCH PLANNING CHIEF HERNER: Amongst others, the current research portfolio in place is designed to inform the advanced clean cars midterm review, updates to the heavy-duty engine in-use NOx standards, and the freight strategy.

With the adoption of the Advanced Clean Air Program by the Board in 2012 and the targets set by the Governor to have 1.5 million zero-emission vehicles on the road in California by 2025, the light-duty sector is in the middle of a transition away from the internal combustion engine as the main power source for personal mobility.

In forming that transition is a relatively new area of research, but one that is becoming increasingly important. With ever lower emission standards on-road light-duty vehicles are becoming cleaner, but it is important to have real measurements of emissions to understand the durability of emission control technologies.

It is also important to have complete understanding of emissions even beyond the criteria pollutants that are directly regulated. These emissions include ultra fine particles, compounds that are toxic, and are involved in the formation of PM2.5.

The research underway in these areas will inform
several items that will come before the Board over the
next several years, such as the midterm review for the
Advanced Clean Car Program, any regulatory updates that
will follow from that review, and also possible changes to
the incentive programs currently in place.

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RESEARCH PLANNING CHIEF HERNER: Zero emission
vehicles and plug in hybrid electric vehicles are quickly
entering our fleet with many models available from most
major manufacturers and more than 100,000 such vehicles on
our roads today.

In 2014, these vehicles constituted 3 percent of
the total sales and continue to gain market share. Never
the less, there are still many open research questions
that need to be answered to make sure the initial success
in the market of these new technologies continues.

For example, what makes a consumer decide to
purchase or decide not the purchase a ZEV or HEV? How are
PHEVs being used by their owners and what are their
emissions implications of that usage? Do older vehicles
retain their value in the secondary market? And how do we
best use our incentive funds to reach our goals of an
almost all-ZEV fleet in the future? All of these research
questions are currently being investigated, and answers
will be available in time for the advanced clean car
midterm review at the end of 2016.

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RESEARCH PLANNING CHIEF HERNER: Even as we work
to have more zero emission vehicles on our roads, the vast
majority of current cars use internal combustion engines
and emit criteria pollutants. We are getting a better
understanding of on-road emissions from this important
sector through the use of portable emissions measurement
systems, through working with our partners at the Bureau
of Automotive Repairs to make roadside measurements and by
using remote sensing.

Results suggest that emissions of many pollutants
from individual vehicles have been reduced by 99 percent
over the last several decades and that car exhaust control
technologies have become more durable in response to the
increased warranty periods required in our low emission
vehicle programs.

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RESEARCH PLANNING CHIEF HERNER: We often think
of vehicle emissions in terms of the specific pollutants
that we regulate directly. However, exhaust contains
hundreds of compounds whose fate depends on where and when
they are emitted. Using the controlled environment of our
laboratories, we can fully characterize emissions and
develop the complete science to inform our programs and
address emerging issues.

Recent work on characterizing the physical and chemical properties of PM assisted in the evaluation of the new one milligram per mile standard. This work has corroborated the conclusion of that one milligram per mile can be measured accurately.

Ultra fine particles and toxics emissions are not directly regulated but are of general concern for the public health. Recent work from our laboratories shows drastic reductions over the last couple of decades in tandem with reductions in other pollutants, suggesting the possibility that these pollutants need not be regulated directly to be controlled.

Gaseous emissions from light-duty vehicles can also condense after releasing to form secondary PM2.5 in some cases in quantities larger than what is emitted directly from the tailpipe.

A recent study of the cleanest super ultra low emitting vehicle suggests these precursor emissions are removed from the latest control technology.

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RESEARCH PLANNING CHIEF HERNER: We now switch gears to discuss research priority for heavy duty. The main thrust of the research program is focused on informing regulations intended to realize PM and NOx
reductions from this sector. Current research efforts will inform several regulatory items that the Board will be considering over the next couple of years. The research will also inform several of the measures in the freight strategy the Board will hear about next.

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RESEARCH PLANNING CHIEF HERNER: The truck and bus and drayage diesel rules form the backbone of the state's strategy to limit the effect of exposure to diesel particulate matter. Staff have been able to demonstrate the large reductions in black carbon and other emissions that have resulted from these rules, using a mobile monitoring platform.

From 2009 to 2011 alone, the average emission factor of black carbon from trucks traveling on the 710 freeway near the ports of Los Angeles and Long Beach was reduced by 70 percent. Additional research sponsored by ARB has shown similar reductions near the port of Oakland. These reductions are continuing, and we are now starting to see similar reduction in black carbon emissions from trucks traveling on all of California's highways.

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RESEARCH PLANNING CHIEF HERNER: ARB is sponsoring research that explores remote-sensing techniques to measure emissions factors from thousands of
trucks each year in several locations in the state. This work allows us to determine the effect of the truck and bus rule, deterioration rates of aftertreatment, such as diesel particulate filters, or DPFs.

The work suggests that well-functioning DPFs virtually eliminate PM, but also that without proper maintenance and when tampered, DPF equipped trucks can still emit PM above the standard. The picture on the right is of a truck at one of our remote-sensing sites in northern California taken just last week. While the details of the truck emissions controls are still emerging, it is clear that it did not have a functioning DPF.

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RESEARCH PLANNING CHIEF HERNER: To address the issue of poorly maintained or tampered with DPFs, we have two research efforts underway.

One is testing new ways to quickly and cheaply identify trucks with high emissions, such as lower opacity measurement.

The second effort is in the planning stages, but envisions recruiting the trucks identified as high emitters from the remote sensing studies, repairing them to gain an understanding of what triggered the high emissions and quantifying the durability of the repair.
These two efforts will inform several regulatory efforts expected to go before the Board and meant to tighten in-use emissions requirements.

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RESEARCH PLANNING CHIEF HERNER: Since the engine NOx standard was reduced to 2.2 grams per brake horsepower hour effective with model year 2010 engines, manufacturers have relied on aftertreatment in the form of selective catalytic reduction, or SCR, to reduce NOx. SCR chemically removed NOx, but requires relatively high temperatures to function properly, relying on heat from the exhaust to reach those temperatures.

As early as 2009, ARB published research suggesting there might be truck duty cycles where these temperatures would not be reached and NOx would therefore be higher.

Subsequent research has shed additional light on this issue and continues to suggest onroad emissions are higher than expected. The research has been shared with industry and many improvements to manage the temperature in the SCR have already been made.

Never the less, a regulatory structure that continues to ensure further reduction in real world emissions is both appropriate and needed.

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RESEARCH PLANNING CHIEF HERNER: To meet the current and upcoming PM2.5 and ozone ambient air quality standards, especially in the South Coast and the San Joaquin Valley, significant NOx reductions beyond what will be achieved with rules currently on the books will be needed.

With that in mind, staff is looking to lower engine NOx standards and achieve additional in-use reductions through improvement to our in-use certification. Both of these goals are included in the sustainable freight strategy item you will hear about later and is expected to be presented for regulatory action to the Board in 2018.

To inform these strategies, there are two major and complementary efforts underway. The first is a major effort to demonstrate the ability of diesel and CNG engines to meet NOx standards 90 percent lower than today's standard. The project is co-funded by the Manufacturers of Emission Control Association and has an Advisory Committee that includes members from the California Energy Commission, the Engine Manufacturers Association, the South Coast Air Quality Management District, and the US Department of Energy and the US Environmental Protection Agency.

Many of the strategies explored in this project
will also be useful in achieving in-use NOx reductions.

The second goal of achieving low in-use NOx emissions through improved in-use certification protocols is being informed by research to understand the reasons behind the higher-than-expected real-world emissions.

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RESEARCH PLANNING CHIEF HERNER: As with light duty, we use the controlled environment of the laboratory to fully characterize exhaust for heavy duty. Recent results include a study comparing the physical characteristics and chemical compositions of PM from trucks with and without DPFs and showed they were similar and PM from both is still diesel PM.

Catalyzed DPFs in modern diesel trucks also effectively remove other toxic compounds, such as polyaeromatic hydrocarbons and ultra fine diesel soot which are non-regulated pollutants that have negative health impacts.

In order to protect public health, we want to not only reduce criteria pollutants, but also make sure that what is emitted does not become intrinsically more harmful to human health. As a screening method for toxicity, we use chemical and biological tests that measure the ability of the exhaust to induce oxidative stress, cause inflammation, or DNA damage.
These tests such the toxicity is not a function of the number of particles emitted but is reduced along with PM mass. As with light duty, our heavy-duty regulatory program, while not specifically targeting these pollutants, still appears to be effective in reducing them.

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RESEARCH PLANNING CHIEF HERNER: Most of the research on heavy duty is focused on the tailpipe. It is, however, imperative that we start the same transformation to zero and near zero transportation that is occurring with light-duty vehicles in heavy duty. Current research is shedding light on the duty cycles of trucks in various vocations to better understand the potential for employing zero emissions and hybrid technologies in those sectors.

As hybrids penetrate the heavy-duty sector, it will also become important to develop certification programs that will ensure the greatest benefit from those technologies on road. ARB has started to collect additional data from the technologies demonstrated with public funding to further inform those issues.

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RESEARCH PLANNING CHIEF HERNER: There is a strong need to move to zero emission transportation to meet our air quality and greenhouse gas emission reduction
goals. As this figure shows, light-duty vehicles are further along on that path than heavy duty where we're still in the process of getting needed reductions of PM and NOx from vehicles powered by combustion. As we look forward, our research should continue to support the conversion to zero emissions in light duty and start to inform the same conversion in heavy duty. We will also continue to measure the emissions from vehicles currently on our roads and assure reductions continue to occur in line with program expectations.

That concludes the presentation. Thank you very much.

CHAIRPERSON NICHOLS: We have no witnesses who signed up on this item. There is a lot of information packed into that presentations, as I'm sure people appreciated. And I imagine people had an opportunity to get briefed on this in advance. I'm not sure if we need to have much discussion, but if anybody would like to raise a question or make a comment right now, please do, starting with Dr. Balmes.

BOARD MEMBER BALMES: Well, thank you for that presentation. And I was also briefed on it. But first of all, I want to express my appreciation for the long-term staff effort with regard to research on motor vehicle emissions. I think that,
without question, our agency is in the forefront of this internationally and this work is vitally important for clean air, both in our state and elsewhere.

But I had a specific question about ultra fine particle emissions. And you know, I understand we made major progress in terms of reducing overall particle emissions from diesel. But I've heard in the past some discussion about ultra fines not being reduced as other fractions of the particle mission.

I just want to clarify have we made as much progress as this suggested with the ultra fine particles and new diesel engines?

DEPUTY EXECUTIVE OFFICER AYALA: Let me kick it off in terms of an answer and others can add as appropriate. I wish I had an easy answer. But it's a complicated topic.

But the short answer is, as Your Honor stated, the control technology and technologies in general that this agency has forced have led down the path of reducing PM mass emissions as well as the soot related particle emissions, very small, very tiny ones as well as the bigger ones. And we are confident that the control approach is effective in that regard.

I think what you may be hearing is we're also learning that a lot of these tiny particles are not
necessarily emitted out of the tailpipe, but they get formed in the ambient. And the classic example is the impact of busy roadways.

So there is a lot of research going on in that area, as you know. There is a lot of effort, not only by us, as you said. But we feel confident that the approach we are taking is certainly a no-regrets approach. That the vehicles are getting cleaner. The trucks are getting cleaner. The DPF and similar control technologies are the right approach. Certainly enabled by clean fuels. But as we explore these issues, obviously, we are learning a lot of very interesting questions we are going to continue to pursue. Some of these have exactly to do with what you are asking.

BOARD MEMBER BALMES: Thanks. That clarifies it. It's largely second generation of ultra fine particles, not primary emissions we're concerned about.

RESEARCH PLANNING CHIEF HERNER: I will add sometimes when those secondary -- that the conditions that sometimes lead to the formation of those secondary particles, the same condition actually seems to reduce the expression in some of these toxicological assays that we're measuring.

CHAIRPERSON NICHOLS: Supervisor Gioia.

BOARD MEMBER GIOIA: Thanks for the presentation.
I know we approve the work plan as we go forward on these research projects. And it aligns with the work that we're all doing.

I just wanted to ensure -- and I know we get presentations from the ports as well -- that the results of all of the research is up on our website. I know we have an ARB research activities portion of our website. So all of it is up for others to use sort of as a depository to look at the good work here, I assume. So all of it's up.

RESEARCH PLANNING CHIEF HERNER: That is correct. We have our research portal where -- listed -- and a lot of the work that we do internally is published. Have a pretty impressive publication record as an agency on the topic of emissions research --

BOARD MEMBER GIOIA: I was wondering what is put up on the site is included, all the studies. There's not a selective determination of what goes up.

RESEARCH PLANNING CHIEF HERNER: No. That's correct.

BOARD MEMBER GIOIA: Great. Thank you.

CHAIRPERSON NICHOLS: Dr. Sperling.

BOARD MEMBER SPERLING: So, you know, most of these questions are from Professor Sperling, not Regulator Sperling.
CHAIRPERSON NICHOLS: Oh, sorry.

BOARD MEMBER SPERLING: It really is -- I have some curious questions to understand these numbers better, because it is a lot of data. And big picture, I think it's important for the Board to understand what these numbers really mean and the progress, especially given that we're focusing more on the freight side as well.

So let me first say I think what should be emphasized, this is a huge success story, saying 90 percent reduction, that's amazing. That's incredible what's happened in terms of emission reductions. And that should be highlighted here. So let me understand really that.

So first of all just following up on Dr. Balmes' question, these numbers are all PM2.5 -- for the particulate is PM2.5 numbers. That's what it is, right.

RESEARCH PLANNING CHIEF HERNER: That's correct.

CHAIRPERSON NICHOLS: Okay. And for PM these are all tailpipe emissions; right. Okay. So I want to come back to that in a moment.

So light duty, it says here 99 percent reduction in the emissions rate over 20 years. Does that mean that in the last 20 years new vehicles are 99 percent better over the last 20 years for NOx, hydrocarbons, and PM? I guess let's just say hydrocarbons and NOx, is that what
RESEARCH PLANNING CHIEF HERNER: The number is based on research from -- that showed NOx and hydrocarbon, yes.

BOARD MEMBER SPERLING: This is real world emissions or --

RESEARCH PLANNING CHIEF HERNER: This is based on remote sensing done in Los Angeles and elsewhere in the state.

BOARD MEMBER SPERLING: I'm not looking for real precision here. I'm looking to get our basic understanding here. So I mean, it's -- we can say there's 99 percent reduction in light-duty emissions for new vehicles over the last 20 years; right?

RESEARCH PLANNING CHIEF HERNER: Right.

BOARD MEMBER SPERLING: Even for me, I want simple numbers I can use.

BOARD MEMBER GIOIA: This is going to be in your next class lecture.

BOARD MEMBER SPERLING: Just one more on the light duty.

On light duty, it says emissions of air toxics and ultra fine PM have been reduced by 95 percent over the last 25 years. I remember hearing that as the diesel PM emissions were being improved dramatically that the light
duty because they were not being emphasized or focused on even though they were small per vehicle that in the aggregate they were actually starting to become a big share of the total. Is that true? Is this something we should be thinking about as light duty PM emissions?

RESEARCH PLANNING CHIEF HERNER: Well, we were actually just looking at that number. And I think if you compared a light duty vehicle to a heavy-duty vehicle 25 or 30 years ago, the diesel vehicle would emit 100 times more PM. If you compare a modern diesel engine to a modern light duty vehicle, the PM emissions is almost comparable. So that would make the statement you made correct.

BOARD MEMBER SPERLING: That was an important little data you just gave us. I mean, really important. I mean, is this -- so when we focus on South Coast or just California PM emissions from vehicles, half of it is coming from light-duty vehicles and half from heavy-duty? Is that what you just said?

RESEARCH PLANNING CHIEF HERNER: We're not quite there yet. That's the entire fleet has been modernized.

BOARD MEMBER SPERLING: Are we headed in that direction as given the emission standard for trucks and cars?

RESEARCH PLANNING CHIEF HERNER: Yes.
BOARD MEMBER SPERLING:  Go ahead.

BOARD MEMBER BALMES:  I see this has been an important education for Professor Sperling.

BOARD MEMBER SPERLING:  And hopefully others, too.

So then we look at -- so then going to trucks, it says for trucks here the only graph -- the only number you gave us on truck PM emissions was actually black carbon. I assume that's pretty closely correlated with PM2.5. And it said here -- so these were in-use emissions in South Coast on a freeway and that there was a 70 percent reduction in total emissions over two years. And what that suggests is given our program here with the retrofits and given that there is more and more modern diesel engines coming in with very low emissions, the rate of improvement -- I mean, 70 percent in how many years -- in two years, that's 35 percent a year. One would imagine it's going to be at least that much going into the next ten years or so; is that correct? Just with rules and regulations in place already.

RESEARCH PLANNING CHIEF HERNER:  This graph shows very well the implementation of the drayage rule at the truck -- at the ports of Los Angeles and Long Beach. The 710 freeway and Los Angeles is where a lot of these drayage trucks come. And I think there was a major
compliance date in early 2010 where all the vehicles had to be converted for non-DPF equipped trucks to DPF equipped trucks. So the average emission rates of the trucks traveling on the 710, which is dominated by drayage trucks, was reduced by 70 percent.

BOARD MEMBER SPERLING: This was only the 710 freeway?

RESEARCH PLANNING CHIEF HERNER: Correct. We mentioned that in our text as well. Now there is almost two types of truck fleets out there. That's drayage and then there is the one that is subject to the drayage rule. And then the rest of the universe, which is subject to the truck and bus. So we're starting to see the same type of reduction on other freeways in California as the entire fleet becomes subject to the same type of retrofit and modernization through the trucks and bus.

BOARD MEMBER SPERLING: So a short way of saying that is we are seeing major reductions in PM this is not just trucks. This is right. This is all -- this represents all vehicles on the freeways, is that right? Or do they separate out the trucks?

RESEARCH PLANNING CHIEF HERNER: We separate the light duty and the heavy duty. That's just the heavy duty.

BOARD MEMBER SPERLING: So heavy duty trucks
are -- emissions from them real world, in-use, are going down at quite very rapid rate.

RESEARCH PLANNING CHIEF HERNER: Uh-huh. Yes. At this very impressive. We're starting to make similar graphs to what you see there for the California 60 highway in the Los Angeles basin where we're doing the same type of work, now that the truck and bus is being implemented.

BOARD MEMBER SPERLING: I feel like a cross-examining lawyer. But this is actually very informative. I hope others appreciate it.

CHAIRPERSON NICHOLS: It is important. Absolutely.

BOARD MEMBER SPERLING: Then we get to the NOx emissions and still on PM. You had another slide. I think it's 16 or so. I can't see the numbers. It said diesel PM from modern trucks is reduced by 99 percent I guess versus pre-controlled. Right. So I think that's -- and that the soot PM and ultra fine I guess we're still more or less talking about 2.5. It's all I think fairly related reduced by total -- it says emissions of toxic compounds and ultra fine PM reduced by 95 to 99 percent over the last 20 years. Is that total? That must be new vehicles; is that right? What does that refer to? Per brake horsepower hour total?

RESEARCH PLANNING CHIEF HERNER: The study we did
that allowed us to make that statement measured on a per
mile basis.

BOARD MEMBER SPERLING: Per mile.

RESEARCH PLANNING CHIEF HERNER: You would see
the same in per brake horse power hour. Fuel economy
hasn't changed that much.

BOARD MEMBER SPERLING: That's all PM sources,
that's referring to. Is that just truck?

RESEARCH PLANNING CHIEF HERNER: It's a DPF
equipped truck versus a non-DPF?

CHAIRPERSON NICHOLS: These are basically new
trucks. So it's the same idea.

RESEARCH PLANNING CHIEF HERNER: Yes.

BOARD MEMBER SPERLING: 99 percent reduction in
20 years. All right. And then there was a NOx slide. So
you didn't really present any data on NOx reductions, did
you? I don't think I see it here.

RESEARCH PLANNING CHIEF HERNER: No. We have a
slide similar to the one on black carbon for NOx reduction
near the ports of Los Angeles and Long Beach. As part of
complying with the retrofit for PM, a lot of operators
chose to modernize their fleet rather than retrofit old
fleet. That had an effect on NOx because the newer
technology emits less. Over the same time period, we saw
a 440 percent reduction in NOx.
BOARD MEMBER SPERLING: In total NOx, 40 percent per what?

RESEARCH PLANNING CHIEF HERNER: Forty percent in the emission factor. The amount of NOx emitted by kilogram of fuel combusted to be exact.

BOARD MEMBER SPERLING: All right. That's over what time period?

RESEARCH PLANNING CHIEF HERNER: Also over the time period 2009 to 2011.

BOARD MEMBER SPERLING: Forty percent reduction in real world NOx emissions from trucks.

RESEARCH PLANNING CHIEF HERNER: Correct.

BOARD MEMBER SPERLING: Again, we probably -- we would expect to see that kind of reduction continuing into the future for quite a while, given the turnover of trucks and the tighter emission standards on new trucks; would that be correct?

RESEARCH PLANNING CHIEF HERNER: Yes.

BOARD MEMBER SPERLING: I'm sounding too much like a lawyer here.

RESEARCH PLANNING CHIEF HERNER: I actually think the results of 40 percent refers to the trucks that were subject to the drayage rule. A lot of folks met the requirements of the drayage rule by switching into trucks that were certified to the standards of 2007-08 and '09.
The broader California-wide fleet now needs to comply with the truck and bus rule. They're also a lot of modernization going on. They will buy even newer trucks, those that were subject to the 2010 standard, which was quite a bit lower than the standard for model year '07 and '08 and '09. I think you will see greater than 40 percent NOx reduction on road elsewhere in California. We don't have the numbers to show that yet, but we will soon.

BOARD MEMBER SPERLING: Okay. That was fascinating and very useful I think as we go forward to better understand what we're dealing with. Thanks.

CHAIRPERSON NICHOLS: I think that amplification was also helpful. I appreciate the questions. If there are none further, however, I think we should probably thank Jorn and the rest of the team for that and move on to the largest item on our agenda today, which is the sustainable freight program.

We'll probably I'm just guessing end up hearing the presentation and having some discussion and deferring the public comment until after our lunch break. But we'll see how it goes because I know there are people who would prefer that we just go right through. So we'll see how the timing goes here.

This is really watershed moment here in our work on freight. I'm really excited about the progress that's
being made in aligning State agencies to work together on an integrated sustainable freight strategy and am pleased some of them have been able to join us here today.

I'm convinced that our long-term success will depend not only on achieving the air quality and energy goals that are assigned to us, but also to integrate those with mobility, safety, and economic objectives as well. And so this effort really looks to the cargo owners and the logistics providers to add their knowledge and their leadership on the issues of system-wide efficiency improvements that can help us to advance all of these objectives.

As we embark on this effort, however, it's really important for the Air Resources Board to put its cards on the table in terms of what we, as an agency, need to achieve by way of our public health and climate objectives. So this presentation today -- I think it's important it's going to come up again, I'm sure -- does not represent our view of where we're going to end up. It certainly isn't complete as far as all the work that will be done and is ongoing. But it does represent the Air Resources Board's piece of this particular puzzle, what we bring to the table in terms of our demands and our expertise as well.

So hopefully the discussion today can focus on
this aspect of it. But bearing in mind these are only part of many ideas that are alluded to in the document itself and also that will be included as we move on towards a broader effort to reaching our goals.

With that, I'd like to open this up with Mr. Corey's introduction.

EXECUTIVE OFFICER COREY: Thank you, Chairman.

The need to accelerate air quality progress for public health is substantial and the scope of emission reductions to meet all of our mandates is vast. The sustainable freight pathways to zero and near zero emissions discussion document describes the actions that seek to move to system towards transformation while also providing public health benefits as soon as this year.

The document identifies potential new near-term measures to be developed in a public process over the next few years. And it discusses approaches that staff is evaluating to determine if they represent the best path to help meet our air quality and climate goals.

The document builds on stakeholder engagement and the conclusions of the technology assessment overview also released earlier in April.

Now I'd like to have Sydney Vergis present the staff presentation. Sydney.

(Thereupon an overhead presentation was
presented as follows.)

MS. VERGIS: Thank you, Mr. Corey. Good morning, Chairman Nichols and members of the Board.

We are pleased to be here today to provide an update on the work with our State partners to develop a sustainable freight strategy. Today's update describes that work to date. You have before you a discussion draft document that represents ARB's initial air quality marker for a sustainable freight system, in response to prior Board direction.

In 2014, the Board directed staff to work with stakeholders to identify and implement near-term actions to reduce localized risk in communities near freight facilities, identify and prioritize actions to move California towards a sustainable freight transport system, evaluate and implement opportunities to prioritize transformative zero and near-zero emission technologies, and coordinate with other state agencies regarding freight planning activities.

Our work is not done. Moving forward, ARB staff will continue working with the State's transportation and energy agencies, as well as the Governor's Office of Business and Economic Development, local partners, and stakeholders to develop a proposed comprehensive integrated sustainable freight strategy.
MS. VERGIS: Today, I will cover an overview of California's freight transport system, including air quality needs, discuss the ongoing collaborative efforts between ARB and partner agencies and stakeholders to develop an integrated California sustainable freight strategy document, and provide an overview of the pathways to zero and near-zero emissions discuss draft.

MS. VERGIS: California's freight system is part of the vast inter-connected national and global system. The smooth functioning of California's freight transport system depends on the interactions between equipment and infrastructure and facilities. The vessels and equipment that move freight range from aircraft to oceangoing vessels to locomotives, trucks, delivery vans, and harbor craft. A wide variety of equipment, such as cargo handling, industrial, and ground service equipment is used at freight hubs and facilities like sea ports, airports, rail yards, distribution centers, and warehouses.

MS. VERGIS: The freight transport system is complex and consists of import, export, and domestic supply chains. This slide depicts one example of an import supply chain. It is a simplistic representation of
the transport modes, equipment, and facilities often used to move imports from the manufacturer to the destination market and consumers, whether in California or elsewhere in the US.

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MS. VERGIS: To give you a quick look at major freight hubs or cargo operations, our communication staff prepared a video with clips shared by several facility operators. The video will run for four minutes.

(Whereupon a video was played.)

MS. VERGIS: In 2013, California's entire gross domestic product was $2.2 trillion. Freight dependent industries accounted for over $700 billion, or 32 percent of that California economy and over five million or 33 percent of California jobs. Freight-dependent industries rely heavily on the transport of raw materials, intermediate goods, and finished products. They also typically include transportation, warehousing and utilities, wholesale and retail trade, manufacturers, agriculture, and mining.

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MS. VERGIS: In addition to providing economic benefits to the State, freight activities also result in emissions that impact air quality and climate change. Industry investments in response to actions by ARB and
federal and local government partners have made progress
in reducing statewide freight emissions.

For example, these combined actions have cut
emissions of toxic diesel particulate matter at the
state's largest sea ports by 80 percent over the last
decade.

In the long term, freight emissions from nitrogen
oxide, sulfur oxides, and particulate matter are projected
to continue decreasing. But greenhouse gas emissions are
expected to increase with trade growth, as existing
control strategies in this sector have primarily focused
on reducing toxic and criteria air pollutants.

Despite the progress made to date, California's
freight transport system still accounts for about half of
the toxic diesel particulate matter statewide, 45 percent
of the NOx emissions, and 6 percent of the greenhouse gas
emissions.

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MS. VERGIS: The need to accelerate progress in
reducing emissions from freight is based on several
factors. A new risk assessment methodology from the
Office of Environmental Health Hazard Assessment tells us
that infants and children are more sensitive to the
harmful effect of exposure to airs toxic, like those
emitted from freight equipment than previously understood.
Further, meeting federal ozone and PM2.5 standards in the South Coast and San Joaquin Valley will require significant near reductions over the next 15 years. Meeting the state's greenhouse gas targets will also require new strategies to improve freight efficiency and reverse the trend of increasing greenhouse gas emissions.

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MS. VERGIS: To achieve our public health air quality and climate change goals, a system transformation is necessary. This means a move towards a sustainable freight transport system that relies on equipment with zero tailpipe emissions everywhere possible and near zero technologies with renewable fuels everywhere else.

Additionally, there are efficiency improvements in the structure and operations of a company, a facility, and the system to simultaneously achieve climate and air quality gains, cost savings, and the ability to increase the capacity of the transportation system without increasing its footprint.

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MS. VERGIS: To support this transition, the sustainable freight strategy will identify the specific actions and milestones that agencies, the logistics industry, and others need to take over the next decades to
address multiple objectives.

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MS. VERGIS: ARB's discussion draft and the technology assessments along with the California Freight Mobility Plan and the Integrated Energy Policy Report provide a foundation to begin the integrated statewide planning effort. The State's environmental, energy, and transportation agencies together with the Governor's Office of Business and Economic Development will be working with local partners and stakeholders to develop a comprehensive draft strategy that is responsible to California's needs.

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MS. VERGIS: The environmental objectives of the strategy include: Reduce freight-related emissions to help meet federal ambient ozone and particulate matter air quality standards; minimize near source exposure and the associated health risks to diesel particulate matter; and lower the carbon intensity of the freight sector with improved efficiency and the use of zero and near zero emissions vehicles and equipment using renewable fuels.

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MS. VERGIS: The transportation objectives include increase the efficiency of freight movement on California's highway, rail, air, and marine networks to
support the state's trade economy, identify dedicated
funding for freight infrastructure improvements, and
prioritize fix-it-first investments, including advanced
technology.

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MS. VERGIS: The economic objectives include
enhance the economic competitiveness of California's
logistics system, continue to advance California's
position as a leader of green markets in domestic commerce
and international trade, establish a policy framework to
attract industry and create clean energy investments which
generate green and high value jobs and reduce
congestion-related costs by increasing freight corridor
capacity and the productivity of under-used transportation
infrastructure.

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MS. VERGIS: The ongoing technology assessments
and the additional work to propose near-term freight
measures will feed into the sustainable freight strategy.
The strategy development will also inform other air
quality and climate change planning processes to prepare
the State Implementation Plan, short-lived climate
pollutant plan, and updates to the AB 32 scoping plan.

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MS. VERGIS: This document is intended to provide
an advanced look at the ideas we are evaluating and invite stakeholder feedback that will inform both our development of specific measures and the sustainable freight strategy. Public comments on the discussion draft document provided for this meeting will inform the Board's direction to staff today.

A number of stakeholders have expressed interest in providing additional comments. Staff welcomes that input over the next several months to help shape the technical and economic assessments for the near-term measures and full strategy.

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MS. VERGIS: Last year, the Board directed us to identify and implement actions to quickly reduce the health risk from diesel particulate matter in the most impacted communities around freight hubs. We are initiating multiple activities to deliver benefits this year.

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MS. VERGIS: Staff is expanding enforcement of existing regulations at or near freight hubs through several mechanisms. First, ARB is re-assigning existing personnel to assist with these focused enforcement efforts and continuing to seek additional air district and port partners that can enforce ARB regulations in their
jurisdictions.

Second, staff will maximize enforcement efforts to freight hubs by conducting over 50 percent of heavy-duty diesel trucks inspections at sea ports, intermodal rail yards, and distribution centers in or near disadvantaged communities.

Third, to increase the efficiency of our enforcement of the statewide truck and bus rule, we are focusing on larger truck fleets and brokers first.

And fourth, staff is developing a pilot program to assess the ability of remote imaging and sensing to identify non-compliant trucks so we can target them for compliance assistance.

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MS. VERGIS: Through the state funded incentive programs administered by ARB and the local air districts, we expect that 1500-1700 new trucks and other freight equipment will be put into service in 2015. These include zero emission and hybrid trucks, as well as diesel and natural gas trucks meeting the latest standards, locomotives and marine vessels that are replacing older, higher emitting models. These projects cumulatively result in a reduction of approximately 60 tons of particulate matter and 8,000 tons of NOx over the project life.
MS. VERGIS: We have identified a range of concepts that we intend to begin developing in the 2015-2016 time frame as near-term measures for Board consideration or executive office implementation as appropriate. These concepts focus on both cleaner combustion technologies for PM and NOx reductions and introduction of zero emission equipment.

The comments we are receiving on the discussion draft will help inform our assessment of feasible and cost effective technology to achieve the objectives of each measure.

All regulatory items will be developed through our customary public process and brought to the Board for consideration.

MS. VERGIS: Potential near term measures related to cleaner combustion including regulations, advocacy efforts, incentive programs, and data collection efforts. Our objectives on trucks are to ensure durability and in-use performance, facilitate innovative engine and system design and certification, as well as decrease greenhouse gas and NOx emissions in heavy-duty applications.
For ocean-going vessels, we'll advocate with our international partners for more stringent vessel emission and efficiency standards, encourage the cleanest ships to come to California, and achieve additional emissions reductions at berth.

For locomotives, we identify petitioning US EPA to develop the next phase of lower locomotive emission standards and petitioning US EPA to amend its regulatory definition of a new locomotive engine to narrow the scope of federal preemption.

If that happens, ARB staff would develop and propose a regulation applicable to all non-new locomotives to maximize the use of lower emission engine and fuel technologies.

Staff will also be collecting data from freight facilities to better identify needs and opportunities for further reductions.

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MS. VERGIS: Potential zero emission measures are intended to accelerate the use of zero emission technologies and include developing proposals in last mile freight delivery applications and large spark ignition equipment such as forklifts. This category includes a proposal to gradually transition to plugging into electric power when refrigerated containers are parked at hubs,
rather than continuing to run their diesel transport refrigeration units.

Other zero emission measures are intended to provide crossover benefits to freight applications and include developing proposals to accelerate use of zero emission transit buses and airport shuttles.

Staff is also proposing developing modifications to existing incentive programs to increase the emphasis on and support for zero and near-zero emission equipment used in freight operations.

We are creating a new approach to design these regulations and complimentary incentives to support each other from day one.

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MS. VERGIS: The draft document describes staff's current vision for each equipment category, specifically how each category can move towards using zero or near zero emission technology. Development of this vision relied heavily on what ARB staff has learned from the technology assessment process. The key element of these vision tables is the list of potential levers available to ARB. This list provides us the starting point for our evaluations and discussions with stakeholders as we work on the sustainable straight strategy.

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MS. VERGIS: In addition to identifying potential sector-specific control measures, the document also describes broad based approaches that could provide opportunities for additional system transformation. Many are best accomplished by other agencies or industry leadership.

Concepts include: Optimizing land use and freight infrastructure planning similar to the SB 375 approach for passenger transportation, developing a freight land use handbook that identifies best practices for the siting, design, and operation of freight facilities to minimize exposure to air toxics and maximize the capacity of the transportation infrastructure; implementing logistics and information technology changes for greater operational and system-wide efficiencies; and explore a facility-based emissions cap approach to reduce risk and provide flexibility to equipment operators to choose which elements of their operations are best suited to zero emission technologies.

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MS. VERGIS: With the Board's direction today, staff will make any identified revisions to the discussion draft and begin to work on the immediate and near-term measures. We will continue working with our partner agencies on the broader California sustainable freight
strategy to craft a work plan that describes key milestones and the public process. Because of the level of interest in the subject, we plan to return to the Board this fall with the next update on our progress and in mid-2016 with the proposed sustainable straight strategy.

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MS. VERGIS: A sustainable freight transport system is a high priority for ARB and a critical part of meeting the state's air quality and climate change goals. This is an informational item. However, wastewater asking the Board to consider Resolution 15-22 which directs staff to develop the concepts into specific proposals for the near term actions and to evaluate the policies contained in the discussion draft for potential inclusion in future ARB documents.

The resolution further directs staff to continue coordination with its sister agencies to develop a proposed California sustainable freight strategy.

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Thank you for your time. Representatives from our partner State agencies are here to speak on this item and the ongoing California sustainable straight strategy effort.

BOARD MEMBER RIORDAN: Thank you, Sydney. It's my pleasure to introduce those guest
speakers and start with our partners in transportation and
move on to our Governor's Office of Business and Economic
Development.

First, Kate White, if you would come forward to
the microphone. Kate is the Deputy Secretary for the
Environment and Housing for the California State
Transportation agency.

MS. WHITE: Thank you so much. And good morning,
Board members.

On behalf of Brian Kelly, Secretary Brian Kelly,
I'm very pleased to be here this morning. And the State
Transportation Agency, for those of you who maybe aren't
paying attention to all the reorganization that's
happening at the state level, came into being in July
2013. And it was part of the Governor's reorganization to
consolidate eight transportation functions under one
umbrella, including High speed Rail Authority, CalTrans,
CHP, and others. The new agency really brings a laser
focus on the transportation sector. And with many
multiple initiatives that many of us are working on to
bring the sector in line with the state's Overall goals,
including environmental and air quality goals.

So within the transportation sector, we
acknowledge and are pleased to partner on the need for a
unified vision across the state with where we want to go
with the freight sector. And today represents an important step in that direction.

We see the three legs of the clean freight stool being economic efficiencies, energy, and air quality. As your staff presented, there is a number of documents and plans that will be feeding into the sustainable straight strategy, including our California Freight Mobility Plan published by Caltrans, and you have a little brochure hopefully in front of you that was passed around that is a little summary of the Freight Mobility Plan which was published in December and provided a marker for our leg of the stool. It really identifies various tiers of priority routes and facilities that are critical for California's economic growth. The California Environment Energy Commission, as you know, publishes the integrated energy policy report, and of course, today represents ARB's marker pathways to zero and near zero emissions.

So the Air Resources Board's contribution to developing state freight policy with the release of this draft report is very significant. The challenge before us now is to work together across agencies and departments, including Caltrans, regions and stakeholders to identify those areas ripe for investment to develop a clean, safe, reliable and high functioning freight system capable of delivering on our economic and environmental objectives.
Thank you.

BOARD MEMBER RIORDAN: Thank you very much.

Next let me introduce Lucetta Dunn, Chair of the California transportation commission. Welcome.

MS. DUNN: Thank you very much. It's my honor to be here. Lucy Dunn, Chair of the California Transportation Commission.

I can't thank you enough on behalf of all of the Commissioners that were invited to speak today. Let me say at the outset that my remarks about continuing collaboration between your Board and the CTC is vital to addressing the state's both transportation and environmental needs. We think it's very critical. And although CTC received an initial briefing on some of the concepts being discussed by ARB, that are now included in the draft sustainable freight plan, we have not yet actually taken up as a Commission the new draft that is presented to you for your consideration today. It actually was a timing thing where our Board hearing comes up in May. So my comments today reflect some of the thoughts of the commissioners but will take a more formal review in our main meeting.

As you know, the Commission programs and allocates billions of dollars directed to investments in California's transportation infrastructure. Of great
concern to the Commission is the lack of sufficient
funding available to address the state's growing
transportation needs for a growing population and a
recovering economy. It is imperative that today's
constrained funding for 21st century infrastructure is
dedicated to the most critical needs providing the
greatest overall benefit to California's safety, economy,
and quality of life.

Traffic congestion and cranky residents of
California will not help us achieve the goals that the
State has set for our environmental benefits, nor low
emissions. We commend your staff for outlining the
strategies under consideration for achieving healthy air
quality, climate, and those environmental goals.

We are pleased that your staff is taking the time
to listen to business and industry stakeholders to ensure
that their concerns are addressed before the strategy is
finalized. It is with this perspective that I offer
comments for your consideration.

First, I'm pleased that ARB is working with
Caltrans and others to develop one comprehensive
integrated state plan utilizing the California Freight
Advisory Committee and discussions with all interested
stakeholders. Please be assured that we stand ready to
work in partnership with the Board and others on this
effort.

Integrated statewide transportation model plans with agreed upon statewide priorities are of highest importance to the Commission since we invest in projects that are included in regional and state transportation plans. Multiple statewide freight plans increases the risk that transportation funding is not leveraged and strategically invested in the highest priority projects. One state, one freight plan, please.

There are other important planning efforts underway as well as. Since freight is a critical component to the transportation network, we encourage ARB to assist CalTrans in transparently integrating the Board's straight strategies in the draft California transportation plan. This will allow all stakeholders to understand and have an opportunity to weigh in on the statewide transportation network, including freight technology, and other factors envisioned through 2040.

We believe it is important to ensure that the economic implications of any state strategy are fully understood. As California moves forward in meeting its environmental goals, it is critical to ensure that the state's economy is not adversely affected.

We encourage an independent economic analysis so that the impacts of the measures, projections, and
assumptions are peer reviewed and supported. And we commend your staff for working with other State agencies, such as the Energy Commission, the Transportation Agency, and GoBiz to develop your draft plan.

Given the importance of the measures outlined in this draft California businesses and the overall economy, we encourage you to ensure that affected stakeholders, including public and private sector partners, are fully engaged in the process moving forward before Board actions are taken. And as your staff has heard many times, freight goods movement and logistics are highly complex competitive global systems within systems. Rules set here will effect where global competitors decide or not to do business.

I appreciate your efforts to listen and include the business communities and others in the process to develop this strategy. I want to give particular commendation to Richard Corey. He has been so patient and thoughtful and engaging and is a great asset to the Air Resources Board. We thank you.

And on behalf of the Commission, we look forward to hearing more at our Commission meeting in May and plan to continue to work very closely with you. Thank you.

BOARD MEMBER RIORDAN: Thank you very much. Your Commission is an important partner to us. And we
appreciate your recommendations.

Thank you for the commendation for Mr. Corey. We know he's a patient man. Very patient. Yes.

BOARD MEMBER SPERLING: I'd like to -- so the thrust of your presentation is you have this coordination. Can you just give us a few little quick insights from a CTC perspective how that might work, how this coordination and collaboration would actually work in practice?

MS. DUNN: Well, Dr. Sperling, I think it's already started with staff reaching out to these other partner agencies.

And again, I would be speaking only in my personal thoughts when the Commission hasn't actually taken a formal review on it. But I think ultimately the one overarching theme was one state, one plan. So people know the rules of the game going in and they can appropriately plan.

When such a complex global system knows at the outset what the rules are, it's more likely compliance and success occurs. I think that's overarching.

And then the number two overarching from the Commission is the funding of the California transportation system as a whole. As you may have recalled, we completed a report a couple years ago on the infrastructure needs of the state. We are about $300 billion short for what we
need right now today for the next ten years. That is daunting. And yet in the mean time, we're trying to change our system, right. Trying to recreate the train, if you will, with really aggressive and formidable state environmental goals, while making sure that we can still keep our economy going and provide for growing population.

So I would share with you there is much work to be done. And all of the voices are going to be particularly important to hear.

BOARD MEMBER SPERLING: Thank you. I just want to return the favor to thank -- I spent two weeks ago spent a week and a half with your Director. And he was trying to explain to me that intricacies of how the financing worked -- transportation financing works in California. And I thought I knew something about it and came to appreciate how complex that little piece of -- not little piece, that piece is. So I appreciate the willingness certainly of Will Kempton and his staff to help out. So thank you. I think we're going to be needing to do a lot more of that as we go forward.

CHAIRPERSON NICHOLS: Thank you again. Moving on, Steve Cliff, Assistant Director, sustainability for Caltrans. This is a familiar face.

MR. CLIFF: Good morning, Board members. I'm Steve Cliff, Assistant Director for Sustainability at
And it's truly an honor to be back before you today for the first time in my new role. As you know, one of the reasons my position was created was to coordinate Caltrans sustainability efforts and ensure that our goals as a department are consistent with those of the state.

Since leaving ARB, I've had numerous opportunities to work with your staff in a number of areas of common interest. And these range from efforts to green our fleet to developing a planning framework to support the state's near, mid, and long-term climate goals.

I'm happy to report these efforts have led to extremely close coordination between ARB and Caltrans. And indeed, among other departments and agencies, including the State Transportation Agency and GoBiz that stand before you today.

I've asked the clerk to hand out our newly released strategic plan you have before you. It's available on the web for those who are watching the webcast or here in the audience. In this document, you'll see that Caltrans has adopted a number of goals that we share with ARB, including aggressive targets that are in line with achieving California's sustainability goals.

Our new mission, provide a safe, sustainable integrated, and efficient transportation system to enhance
California's economy and liveability sets the stage for our continued collaboration.

Over the past several months, Caltrans has been putting together this strategic plan to detail how we'll measure progress toward achieving our five new goals. Two in particular that are most interest to ARB's mission are safety and health, which we define as provide a safe transportation system for workers and users and promote health through active transportation and reduced pollution in communities. And our goal, sustainability, liveability, and economy, which we define as make long-lasting smart mobility decisions that improve the environment, support a vibrant economy and builds communities.

Goals that we share with ARB include, reducing diesel PM consistent with the diesel risk reduction program, reducing NOx consistent with the South Coast SIP, and reducing greenhouse gas emissions 80 percent below 1990 levels by 2015.

Most recently, we've been working with your staff on the sustainable freight effort. We all know that freight is critical to California's economy and transitioning this economic engine towards zero and near zero emissions will simultaneously promote a clean environment, a vibrant economy, and improve liveability
for Californians. This includes ongoing dialogue about what the vision should be, what the type of metrics we should put in place to know whether we're making progress and on track for success.

And as Deputy Secretary White mentioned, the California State Transportation Agency and CalTrans completed the California Freight Mobility Plan, or CFMP at the end of last year. And working together with the California Freight Advisory Committee, a panel of more than 60 freight stakeholders as you just heard, we believe the CFMP provides a foundation upon which the sustainability freight strategy can build. CalSTA and Caltrans envision that the Freight Advisory Committee will continue to inform the discussion as the sustainable freight plan continues to evolve.

Finally, to support the sustainable freight effort, Caltrans adopted in the strategic plan a goal of increasing freight efficiency by ten percent by 2020. Working together with our sister agencies and other sustainable freight partners, we'll develop strategies to achieve this goal and precisely define how we measure progress.

In short, we're excited to be a part of this important work and stand ready to facilitate California's leadership on sustainable freight. Thank you for your
hard work on this important issue.

CHAIRPERSON NICHOLS: Thank you very much, Mr. Cliff.

This is not the Caltrans that I started my legal career suing to stop building freeways through low-income communities in Los Angeles. It's great. Thank you very much.

BOARD MEMBER SPERLING: Can't blame Steve for that.

CHAIRPERSON NICHOLS: No, I don't at all. I give him credit for being part of the transformation.

I think our next speaker is Kish Rajan, Director of the Governor's Office of Business and Economic Development, otherwise known as GO-Biz.

MR. RAJAN: Board members, it's nice to see you. Thank you for having me. I appreciate it. It's really good to be here. I've enjoyed the process today. And it's a pleasure to be able to talk about that for a moment and talk about GO-Biz and the ways we've been participating thus far and the way we look forward to continuing our collaboration with you and our partners at CalSTA, CalTrans, Energy Commission, and others on this most important topic.

I'm Director of the Governor's Office of Business and Economic Development, or Go-Biz. We are, as you may
know, the State's office department that's focused on California's economy, our business climate our business prospects, all things that are intended to help improve those so that we're growing business, growing jobs, enhancing California's economic competitiveness and vibrancy.

And the good news is that we're doing well of late. I loved the video. I might note since it was made, California has ticked up to the seventh largest economy in the world. And France and the UK are in our sites, and we are continuing to move. That GDP is up to $2.2 trillion, and we've got great momentum. And the momentum underneath that aggregated number shows we have a real growth across all types of sectors. Very diversified economy abroad and deep economy that's revealing it's very positive. Our unemployment rate at one point not too long ago was nearing 13 percent. It is now down to six and a half percent. I can give you lots of other statistics that show that there are very positive things that are happening with California's economy today, which is very encouraging, of course.

I will also say at the exact same time all these things are true, we see lots of struggle and challenges across California's economy as well. I personally see it as I travel around all the state to all of our distinct
regions, seeing in many case very disparate economic conditions. And the places in our state that aren't benefiting from this global transition into a knowledge-based information technology-based economy but those places that are still organized around traditional industrial sectors of our economy, we still see stubborn unemployment rates in the double digits. We see economic inertia into many communities across California. So we have to be mindful of the fact while we have much going for us, we have much work to do. We have to architect an economy and an infrastructure and policies of all kinds that allow us to build upon our strengths but ensure that we are creating the conditions going forward where prosperity and opportunities can be real for all Californians, not just some. It's an enormous challenge that we must rise to. Of course, all of that's happening in the context of the Governor's vision for California to be not just a national but a global leader in the fight against climate change, something this agency has been so determined and so effective to help him do.

So as the Governor acknowledged in his State of the State address, we have to find ways to reconcile these objectives. As he said, "We must demonstrate reducing carbon is compatible with an abundant economy and human well being." Of course, he acknowledged those are big
challenges to rise to. But exactly the kinds of
challenges that he and all of us as Californians have been
and will continue to rise to. And it's something that
we'll have to work hard on and buy into collectively.

That's why it's been a pleasure to work on this
process. I want to commend Richard and the whole team and
my colleagues and the other agencies that we've been
working with. It has, indeed, been a collaborative
effort. I think we acknowledge we're going to have to
hard word, be creative, be innovative, and be strategic in
ways that we can look at our climate goals, look at our
economic goals, look at our quality of life goals in
general in California and find new and innovative ways to
integrate those and to achieve those objectives.

Certainly, as it relates to freight and goods
movement and logistics in our state, the economic
implications are huge, as was highlighted in the
presentation by staff and that I will underscore. You're
talking about a third of the California's economy right
now. Economic output and jobs. It's enormous. And it's
significant. And the competitiveness in this area is only
getting more intense as well with the rise of other west
coast port operations, with the widening of the Panama
Canal, which is scheduled to be completed and open very
soon. Witness the job poaching mission by Governor Rick
Scott from Florida just last week when he was here really
focused on freight, wanting to get as much cargo to bypass
California all together. As we all know, he's not the
only Governor across the state and not the only leader
around the world that would love to get some of the
massive market share that California has enjoyed in this
area.

So we're going to have to be mindful of those
economic pressures, those competitiveness pressures. We
need to modernize this freight system in California purely
on economic and competitiveness grounds. We have to make
the system more efficient. We have to make it more
competitive. We have to make it more effective. We have
to make the business case strong for why the global supply
chain wants to be in California, because it's good for
their business. We must modernize the system.

But therein lies the opportunity. In
modernization, we can make it cleaner and more efficient
and make it achieve our environmental and quality of life
goals as well. That's why this partnership is so
important. Clearly, we're going to undertake policies and
investments. We're going to spend billions of dollars of
private and public sector moneys over the next decades to
modernize the system so this process of doing it in a way
that's coordinated and integrated, achieving our overall
goals is so smart and so important and why we're placed to be a participant in.

So I will simply say the GO-Biz looks forward to continuing this collaboration, continuing the partnership to develop a sustainable freight plan going forward that works towards all of our objectives, to live out the principle that I think we started on and we must carry through, which is that sustainable means good for the economy and good for the environment.

So with that, thank you very much for the chance to be here.

CHAIRPERSON NICHOLS: Thank you. I believe that completes the list of other agency witnesses. I really want to appreciate your taking the time to come and join us.

One more. I'm sorry. Energy Commission, hanging out in the back.

MR. MC KINNY: Sorry. Good morning, Madam Chairman and members of the Board. I'm pleased to be here. I'm Jim McKinny, Program Manager for the Alternative and Renewable Fuel and Vehicle Technology Program at the California Energy Commission.

I'm here today to express the Energy Commission's support for the recommendations contained in the sustainable freight discussion draft document. We think
ARB staff has done an excellent job of providing the background information and rational for the process needed to reduce the carbon and pollutant emissions from California's immense freight transport sector.

The Energy Commission is examining the state of the technologies that will be needed to reach a zero or near zero freight transport sector. We did this most recently in our 2014 integrated energy policy report under the policy guidance of Commissioner Janea Scott. We agree that a mix of incentives for ZEV and near ZEV technologies combined with enhanced inspection of regulatory standards will be key to fostering the scale of change needed to meet the state's air quality and carbon reduction goals.

We also appreciate the efforts to streamline the current certification process for new engines that is highlighted in truck action number two. Through our AB 8 funding program, the Energy Commission is helping to helping to finance the foundational technology to bring electric drive, fuel cell electric drive, and low NOx natural gas trucks to commercial maturity. To date, we have invested $190 million in advanced technology truck and bus demonstrations, manufacturing, and deployment. And this is nearly one third of the $580 million we've invested through our fund thus far.

There is tremendous work to be done by California
government and our innovative private sector technology
developers to meet the carbon and air quality goals before
us. We look forward to collaborating with the Air Board
staff and other State agencies during the next steps of
development for the California sustainable freight
strategy. Thank you.

CHAIRPERSON NICHOLS: Thank you. Thanks to the
Energy Commission for your ongoing partnership on all of
these programs.

Okay. We have a moment or two for questions
before we call on the witnesses. We do have I believe 27
people who have signed up to speak on this item, and we
should talk about how we're going to handle the timing.

BOARD MEMBER GIOIA: I just had a question. Do
you want to hold most of the comments until afterwards or
do you want to do questions now?

CHAIRPERSON NICHOLS: I'm sorry. I had
discussed at the beginning the idea we would take a break
after the presentations, have lunch, and come back.
However, we have a lot of people here who are waiting to
speak. I think we might as well just go through the list.
I think that seems like a more efficient --

BOARD MEMBER GIOIA: I'll hold my questions after
the comments. That's fine.

CHAIRPERSON NICHOLS: Okay. Either way. I
think people are ready to go. We'll start with the
witnesses then, beginning with Henry Hogo from the South
Coast Air Quality Management District, always in the
number one position. I don't know how he does it, but he
gets here early.

MR. HOGO: Thank you, Madam Chair, members of the
Board. Henry Hogo, Assistant Deputy Executive Officer at
the South Coast Air Quality Management District.

First of all, I want to express the AQMD staff's
appreciation for our involvement with your staff on the
discussions of the development of the draft document. And
also your staff has done a good job in preparing this
document for public comment.

This sustainable freight strategy is the most
critical component in the development of the next round of
mobile source strategies to meet federal air quality
standards for the South Coast air basin. As such, it is
vitaly important that the sustainable freight strategy be
as aggressive as possible, given that close to 40 percent
of the South Coast region's air quality problem is due to
NOx emissions from the freight movement sector. And the
region still needs to demonstrate attainment of the ozone
air quality standard in 2022 and 2023. So we do have this
near-term need to meet air quality standards.

While we appreciate the identified actions in
immediate and near-term time frame, especially for
oceangoing vessels and locomotives, we believe that the
set of proposed actions will not be sufficient to meet the
emission reductions commitment in the current ozone State

Let me emphasize this point. The current proposed
actions will not be sufficient to obtain clean air
standards by the federally mandated time lines.

The good news is that some of the identified
actions can be more aggressive in terms of schedule and
level of emission reductions. For example, the draft
document calls for new on-road heavy-duty engine NOx
emissions standard to be adopted by US EPA. If US EPA
does not proceed with promulgating new emissions
standards, ARB will adopt the California standard in 2018.
We believe that this time frame is too lengthy given that
the request to US EPA will begin this year, waiting almost
two and a half years to see whether US EPA will adopt the
standard is simply too long. We believe this time frame
must be shortened to no more than one year with ARB
actions beginning immediately in parallel to the request
to EPA.

We strongly believe that zero and near zero
emission on-road heavy-duty trucks will be commercialized
in the next few years. As such, having a new lower NOx
emission engine standard in place will help commercialize such engines in the near term.

While we strongly support the proposed actions for locomotives, which are critically needed to further reduce locomotive emissions, we believe that ARB's commitment in the current ozone SIP to have a substantial number of Tier 4 locomotives operating in California should be addressed in the sustainable freight strategy.

In closing, we do look forward to working with staff on the sustainable freight strategy. But we're also working with staff on the 2016 AQMP. As such, we believe that any actions identified in the 2016 AQMP process should be reflected in the sustainable freight strategy. We would ask that in the adopting resolution before you that you direct staff to have that. Thank you.

CHAIRPERSON NICHOLS: Thank you.

Thanks to the miracle of modern technology and the fact the building has upgraded its audio visual system in this room, we knew have projected behind us in very large type the witness list. So everybody can see where they are on the list and hopefully just move up to your position in time so we don't have to spend a lot of time calling your name. Thank you.

MR. CLAY: I guess it's good morning. Good morning, Madam Chair, Board members. Jon Clay on behalf
of the port of San Diego.

    First off, like to thank the CARB staff for
working with the port of San Diego and listening to their
concerns and issues. The port supports the CARB strategy
of coordinating to a modern freight system looking at both
a near zero and zero emission strategy.

    Since the port submitted written comments, I'll
hit the highlights, giving the timing. One of the key
issues for us is trying to consider regional differences
in air quality and the types of ports you're going to be
looking at. From the port of San Diego perspective, we're
a smaller port. We deal with niche type products in
determines of bulk and freight bulk. We are very
different in terms of when you look at the big
containerized ports in California.

    Building on this, we also like to see some type
of regional distribution of funding to help ensure that
all sectors of the goods movement have opportunities to
receive funding. We also believe that funding as it goes
with this strategy should also go through some of the
existing programs, such as the Carl Moyer and AQIP.

    On the area of electrification, some things to
consider from the port is noticed in this as we look at
this in the long-term strategy is there is a need for some
sort of standardization on electrification strategies,
both in terms of the State and feds. We think that having someone trying to coordinate that would be helpful.

We also feel that there is some need on rate structures. As you move to electrification areas, such as the port of San Diego have had challenges with the rate structures or cost of electricity. We think that's another area where CARB may be helpful, maybe not. But it's something that we struggle with as a port.

Finally, just going back to stressing the differences of hope there is -- when you look at ports, you don't look at this as ports across the board as one-size-fits-all. Because San Diego is a much smaller, much more of a niche type port, we hope when we develop the strategy you're looking at those types of differences.

And finally, also looking at developing some performance metrics to help measure what the existing current status is of emissions and then use that to kind of make adjusted goals for those types of ports going into the future.

With that, I'll end my remarks. Thank you.

CHAIRPERSON NICHOLS: Thank you. Good morning, Chair Nichols and members of the Board.

MR. MARTINEZ: Good morning, Chairman Nichols and members of the Board.

My name is Adrian Martinez, and I'm an attorney
with Earth Justice. Earth Justice is one of the members of the California Cleaner Freight Coalition. In addition, with do a lot of work on air quality issues in the San Joaquin Valley and Southern California.

Overall, I think the evidence is clear. The draft report presents a lot of information on health, air quality, and greenhouse gas. I'm going to let my colleagues talk a lot about the health impacts, including the cancer risks and other impacts like that.

I want to focus my comments on the air quality part of this discussion. Dr. Sperling highlighted a lot of the progress that's been made to date, and a lot of that progress is due to regulations and other activities done by this Air Board, some of the most landmark regulations to date addressing freight have come from this agency. And I want to applaud that. I think what this report highlights is more needs to be done.

I'm glad we moved from the question of if we need to transform this industry to zero tailpipe technologies everywhere we can to how and when. I think that's a significant change in the discussion that's happened over the last year and a half. And I applaud the staff of the Air Board in addition to the Board for pushing that discussion.

There was some discussion about rules and not
changing the rules of the game. There's some rules that have been on the books since the 70s. There are ozone standards that we failed to meet in the South Coast and in the San Joaquin Valley. We need to shift the way we think about this transportation investment, which I'll remind you that even though there's billions that are going to be spent into the future, there are billions being spent now on the freight system. Very large projects that are either in construction or in the environmental permitting process. Prime example, the 710 project in southern California, the World Logistic Center in the Inland Empire, the largest master planned warehouse in the world.

These ozone standards are important to meet. We need deep reductions in NOx emissions to meet them. And I know we're focused on the deadlines that are out in 2030. There are some more urgent deadlines in 2013 where we need to figure out how to get 150 tons per day of NOx to meet the one-hour ozone standard. That's not too long from now.

We found out that freight is responsible for a lot of the NOx. I think it's we have to focus. We support the near-term regulatory measures. We think regulation are an important part of it. Incentives can only get us so far. You need the regulations combined with crafted incentives to help facilitate early
compliance and technology development. We look forward to working with staff further on this issue. And thank you for your time.

CHAIRPERSON NICHOLS: Thank you.

MS. WYENN: Good morning. My name is Morgan Wyenn. I'm an attorney with the Natural Resources Defense Council, the NRDC. I'm also a part of the California Cleaner Freight Coalition, the CCFC, and the letter that the coalition submitted yesterday.

I want to touch on three things in my three minutes: Drayage trucks, enforcement, and CARB involvement in freight projects. We strongly encourage the Board to direct staff to add a near-term measure for regulating drayage trucks. I work with the ports all the time and talk to them about zero emission trucks all the time. And I cannot emphasize enough how incredibly important it is that CARB set a regulatory deadline for the turnover to zero emission trucks for drayage. A firm deadline that that will generate the focus effort we need to make zero emission trucks a reality.

Second, we are so happy to see the increased enforcement at ports and other facilities. The ports have been looking to CARB for leadership on this, and so we're just so thrilled that CARB included this as a priority.

Third, we desperately need CARB to get more
involved in this CEQA process, like my colleague Adrian just mentioned, for large freight projects. Several huge projects are moving forward that lock us into more diesel and air pollution and are frankly missed opportunities to clean out the freight industry. Communities around the state really need CARB to weigh in. For projects in the South Coast where I do most of my work, AQMD often does a great job weighing in, but we still need CARB to portray the state perspective. From the port of L.A. plans to build a new rail yard right adjacent to schools, which flies in the face of all of CARB's work studying and doing guidance about the harms of rail yards on schools, to the expansion of 710. These are just examples. CARB has such a significant expertise that we need applied to these projects. Otherwise, they will continue to undermine and undercut all the work that CARB wants to do as laid out in this great freight strategy document.

Lastly, I just want to thank the staff and the Board for all of your hard work and continued effort on this. We are so excited that it is finally moving forward. And I look forward to continuing to work with you closely to make this happen and protect communities from the toxic pollution from freight industry. Thank you.

CHAIRPERSON NICHOLS: Thank you.
MR. BARBOSE: Good afternoon, Chairman Nichols and Board members. My name is Jason Barbose with the Union of Concerned Scientists.

We've been working on clean vehicle technologies here for many years and also members of the California Cleaner Freight Coalition. And on behalf of our 73,000 supporters across the state, I want to thank ARB for this draft document and for staff's hard work on it.

As my colleague Adrian noted moments ago, it is noteworthy that we all essentially agree that in order to meet health-based air quality standards and to prevent the worst consequence of climate change, California must begin planning a modernization program now that truly transforms California's freight system over the next 15 to 20 years. And UCS believes this draft document is a solid first step. In particular, I want to highlight we wholeheartedly support the commitment ARB is making to pair ongoing support for technology deployment through incentives with near-term regulatory measures to require deployment of zero emission technologies.

We're very pleased with ARB's commitment to immediately increase enforcement near freight hubs. We are very happy with the commitment to collaboration with the other State agencies and appreciate the testimony from the other agencies today. And we look forward to seeing
tangible progress on the effort in the months ahead.

And then I also note we're supportive of have ARB's interest in pursuing a facility based cap on emissions because equipment specific measures alone may be insufficient to interpret healthy air around communities adjacent to freight facilities.

So a couple of suggestions to offer today. One, I will piggy-back on my college Morgan who just spoke to say in terms of near-term measures, we suggest that ARB include measures to acquire zero emission technology for ground support equipment at airports, cargo handling equipment, and drayage trucks. And for drayage trucks in particular, we believe it's important for ARB to signal that there will be regulatory activity as a follow-on of the significant investment the state is already making in demonstrating zero emission drayage truck technologies. This will help provide the investment certainty, both for technology providers as well as drayage truck operators and certainly critical for the communities that surround freight hubs.

Lastly, very briefly, we strongly support ARB's intention to gather data on freight activity. And while imperfect data is certainly no reason to delay action, it's undeniable that better information will allow us to sort of better hone our actions and to better evaluate our
progress. But the draft is not explicit about how ARB plans to collect freight data, and we suggest the plan B explicit it will be a requirement that ARB makes of freight facilities.

So with that, we're grateful for the progress today in delivering this draft and look forward to continued collaboration. Thank you.

MS. HOLMES-GEN: Good afternoon. Bonnie Holmes-Gen with the American Lung Association of California.

I'm pleased to be here on behalf of the Lung Association and also as a part of the Cleaner Freight Coalition. And this is great timing to discuss the sustainable freight strategies since the Lung Association will be releasing our 16th State of the Air report next week. And we'll certainly be emphasizing the importance of this effort as we talk about clean air challenges and solutions, the transformation of the freight sector is always at the top of the list. And we're glad to be able to talk about this effort and moving forward.

We're deeply concerned about the freight sector because of the public health impacts, the rate the reductions in emissions are critical, not only to achieve our public health and air -- reductions in freight emissions are critical not only to achieve our regional
air quality goals and our state goals, but to deal with the daily public health emergencies that people are suffering. And I know that you are familiar with the tremendous local public health impacts. Freight system emissions in California result in over 2,000 incidents of premature mortality, costing over 20 billion per year. The soot emissions from freight contribute to asthma attacks and lung illnesses, heart attacks, strokes and lung cancer. Of course, lung cancer is a big focus of the Lung Association, especially over the last few years.

We believe that the ARB has done a lot with previous rolls and incentive funding we appreciate all those efforts, but clearly bold leadership is needed now. I think the sustainable freight strategy represents the kind of bold leadership that we need to go forward.

We believe it's absolutely critical to move to zero emissions as quickly as possible, and we greatly appreciate your commitment to that goal for all categories of freight. And we support the near-term measures that you have in the plan as well as the longer-term measures. We do think there's going to be some need to strengthen and expand the proposals in the plan. We're glad you're focusing on strengthening enforcement. And again, a long list of near-term measures. But we do see a need for additional measures, such as the zero emission regulatory
program for heavy duty vehicles. We think it can make faster progress in that area.

We have to have a strong combination of the incentive programs and rules and regulations. We look forward to making sure that there is a strong framework that includes both strong components of both.

Leadership on this freight issue is extremely difficult, as you know, requires leadership and coordination across many agencies. We're so pleased to see the work that you've done in bringing agencies to the table and look forward to continuing to work with you as you work with these agencies. And this plan can have dramatic impacts on lung health. So thank you. Let's keep moving forward. We're strongly committed to this.

CHAIRPERSON NICHOLS: Thanks.

MR. ERVICE: Good morning, Chairman Nichols and members of the Board. My name is Joel Ervice. I'm the Associate Director at Regional Asthma Management and Prevention, also a member of the California Cleaner Freight Coalition.

The mission of the coalition is to create transformational changes to the freight system to protect the public's health, clean the environment, and promote social justice and equity. Our 28 groups and public health, environmental, and environmental justice
organizations from northern, southern, and central California.

As the draft noted, the health impacts from freight of real and significant. Health effects from PM2.5 emissions include over 2,000 deaths, 300 hospitalizations, nearly 1,000 emergency room visits related to respiratory problems like asthma. That's just from particulate matter. When ozone effects are calculated later, the number will be higher.

The residents around freight hubs suffer disproportionately from breathing this toxic air. These are the same communities that have elevated rates of asthma hospitalizations and ER visits. These communities are also more likely to below income communities of color.

With these communities in mind, I want to start by applauding staff for producing a draft with much greater detail than previous materials. It's great to see the inclusion of incentives, near-term regulatory measures, and enhanced enforcement of existing regulations. I'm also supportive of the potential of facilities based emissions cap to meet pollution reduction goals. I look forward to working with staff on the details.

In terms of making the document and the overall strategy stronger, I have a couple of different
suggestions. First, revenues. While the draft mentions current funding streams that can help transform the freight system, it should also explore new funding revenues to accelerate that transformation. There are many options available, including tolls, container fees, and other strategies.

Second, near term regulations for rail yards. While I strongly support the CARB petition to EPA to move forward on Tier five rulemaking for locomotives, more can and should be done. The draft unfortunately does not deliver the type of relief needed for rail yard communities. It would be helpful for CARB to identify rail yards sources the agency can regulate and rail yards.

Third, collaboration. The draft closes by noting California has agencies that are involved in nearly every aspect of the freight system and that collaboration between all of those agencies will be essential.

I agree and urge the Board to do what it can and Governor Brown and other agencies to ensure everyone is fully engaged first and foremost to a zero emission freight system. It was great to hear the testimony from other agencies out here today. All of these agencies should go bold and be aggressive with its vision for cleaning up freight. The health and well being of our communities depends on it. Thank you for your time.
MR. MAGAVERN: Good afternoon. Bill Magavern with the Coalition for Clean Air and also the California Cleaner Freight Coalition.

And I want to thank both the staff and the Board for the time that you've spent with us on this important issue and also the time that you are going to be spending with us on it in the future, because clearly though today we've reached a real milestone in terms of taking action to clean up the freight system. There is a lot more that we need to do. And as you have recognized, the broader freight strategy that we all know is needed is still in the future. And so it's disappointing to us that that is once again being delayed, but we agree with both ARB and the other agency speakers that that requires a coordinated effort of all the agencies within the administration. So we understand the necessity of the delay, despite being disappointed by it.

We won't really be successful until we have aligned transportation planning and funding in this state with the imperatives of reducing emissions that are damaging our health and our climate. And we won't be successful until we see local projects that a number of my colleagues have talked about actually being brought into line with those imperatives. So hasn't happened yet. I think it's important to recognize that the transformation
in our transportation agencies that is beginning to be exemplified by the leadership of Kate White and Steve Cliff is just started and has not really taken hold throughout the large octopus that is Caltrans, has not made it down to the district level.

And it's really an environmental justice imperative that that happened because, as we saw in the video, the benefits of goods movement really accrue to everyone in this state and throughout most of the country, but the burdens are not proportionately spread out. They actually fall disproportionately on low income communities of color.

But on to what we love about this draft in front of you today, the actions on enforcement are very well thought out. The attention to making sure that we're getting the performance from diesel particulate filters that we want to get, making sure we're getting those PM reductions. We also agree that although buses and shuttles carry people and not goods, that they can be an important way to advance technologies that can spread throughout the heavy-duty sector.

And we support the carrots as well as the sticks. And my organization is one of many that are supporting significant increase in funding from the AB 32 revenues for cleaner vehicles, both heavy and light duty.
So in conclusion, we support the resolution and look forward to working with you both on these immediate and near term actions and also on the longer term effort. Thank you.

CHAIRPERSON NICHOLS: Thank you. I believe you were the cleanup speaker for that group. Okay. Thanks.

MS. MENDOZA: Good morning. Jerilynn Lopez Mendoza on behalf the Southern California Gas Company.

Wanted to say thank you all for the opportunity to speak and also want to say thank you for the team at ARB that has been working on this very rigorous document. It's much different from the draft that we saw last September. And SoCal Gas recognizes a lot of work has gone into it. I want to thank the team at ARB. I know there are several of you working on that. I want to say thank you for your hard work.

I also had an opportunity before today to sit down with the some members of the team from the natural gas industry to talk about some of our immediate responses to the document.

So we have already begun that process of stakeholder engagement. I wanted to say thank you to them for involving us in the earlier meeting.

A few things we're excited about, in the near term options as it relates to oceangoing vessels and...
locomotives. Liquefied natural gas is mentioned as a technology and a fuel source that can dramatically reduce emissions, particularly particulate and NOx and SOx in the short term.

We're very excited to see that as an off-the-shelf technology that can be utilized immediately in the near term to get all of us to closer places in terms of cleaner air.

Secondly, just wanted to recognize -- I did have a couple of questions. And one was at the top of page 27 in the document -- that is something I already raised with Heather -- just above letter D there is a full paragraph that redefines what a near zero emission truck is, which is that providing up to 90 percent reductions in in-use NOx emission from today's trucks operating in California.

And the reason I wanted to underscore that today is because that's different from the low NOx definition that ARB has been using in the option of low NOx standard.

And just for clarity's purposes, I raised this with Heather when we met, this is a different definition. I'm not sure how ARB is going to define in-use NOx emissions from today's trucks so that we can measure a 90 percent reduction.

So that's something I wanted to bring to the Board's attention that muddies the waters a little bit in
terms of how we're going to define a low NOx engine.

And then secondly, elsewhere in the document -- I

don't know that page number -- there is a reference to

facilitating the certification process to make it easier

and faster for lower polluting engines to get to market.

And I just want to say that I hope that that

would apply to natural gas engines that are trying to

reach the low NOx standard, both optional and if the board

goes to a mandatory one. I hope that certification

facilitation would also apply to those trucks. So thank

you very much. I appreciate the opportunity to speak.

MR. SERFASS: Chairman Nichols, Board members, I

appreciate the chance to speak.

I'm Jeff Serfass, Managing Director of the

California Hydrogen Business Counsel. We represent the

array of markets and applications that fuel cells, zero

emission technology can present in a variety of

applications and market sectors.

With the auto OEM, industry gas companies,
eletrolizer companies, fuel cell companies, they're all
engaged with us. We want to be a part of working with

you.

We applaud ARB's plans, goals of work on the

sustainable freight strategy. We think that our industry

plays a very important role in delivering the results
desired and the fact we can deliver many of the zero emission vehicles results desired. That's the good news.

In fact, in the goods movement area, forklift trucks are a great example of a short-term success and an element of the short-term strategy for ARB.

The kind of the bad news is on the heavy duty trucks, the equipment is not developed today using fuel cells with hydrogen as a fuel. There is work that needs to be done. There's work that needs to be done by the industry and investments that need to be made by the state and, indeed, the federal government.

We think this element of the strategy builds nicely on the investment the State is making already in doing emission light-duty vehicles and the building of stations and the mandates required. We think that in the sustainable freight area, there is a similar combination of strategy elements that need to take place, funding, investments, incentives, and indeed regulations are part of that.

We look forward to being an industry-wide coalition that works with ARB. We think with hydrogen energy there is an opportunity to bridge some of the silos that we often encounter in energy sectors. The silos that can be bridged include energy storage, grid management, fueling infrastructure, and we think one ought to look for
that, of course, in bridging between light duty and heavy
duty strategies.

So we are undertaking some of initiatives this
year to address here the sustainable freight interest. We
are forming a goods movement, what we call a sector action
group within our organization. We are having on July 29th
a renewable energy pathways to hydrogen workshop. And on
July 30, a power to gas and hydrogen energy storage
workshop. And we are also planning to have workshops to
address the opportunity to build the business in concert
with GO-Biz objectives to build the jobs and the
appointment base for both manufacturing and the service
components of this industry. So I thank you for the
opportunity to speak with you.

CHAIRPERSON NICHOLS: We'll hear one more
speaker, and then we're going to take a ten-minute break
just for stretching and other necessary activity and then
come back and resume.

MR. TUNNELL: I made it just under the gun.

Thank you, Madam Chairman, members of the Board.

I would first start like to start out thanking
staff for being available to meet with -- I'm Mike Tunnell
with the American Trucking Association. Staff has met
with us and many of our members so speak for that.

We submitted joint comments with the California
Trucking Association which includes a number of specific suggestions on the draft document. And I would just suggest -- I really don't want to go into them in too much detail at this point, but I would suggest hopefully you have a chance to review them and consider them.

Basically, I have two requests for Board direction today. The first involves resources. As you know, it's a very extensive far reaching plan. There is roughly 20 measures which impact the trucking industry in this plan. And so as you can imagine, this will be a significant resource commitment on both the part of private industry and your agency as well.

So our concern really involves with a number of existing measures in place and time line of moving forward. There is a resource commitment to those measures now that need to be addressed as well ongoing resource commitment for these future measures. So what we would like to see is a resource allocation plan associated with this draft so that we have a better sense that -- a good example would be like PM filters, the truck and bus regulation, so you know, is passed and now we're gaining to zero emission trucks and a more -- some may feel that's a more fancier approach. So I just don't want to see the existing rules left in the dust on this. I think a resource allocation plan would be very helpful to evaluate
The second request involves technology. Numerous questions resolving around the status and potential of the technology, and the tech assessments are going to provide more insight into this. There was a discussion yesterday -- I had a meeting a symposium put on by your agency that looked at this tech assessment. And it basically looked at a literature review of the cost of technology and the pay back was divided by the cost of fuel. Fairly simple. What that assessment doesn't include are taxes. We all pay taxes on equipment we purchase. It doesn't include any assumptions on repair costs, maintenance costs, or down time associated with it.

So as these are going to be very important marker going forward in the technology assessment, we'd like to ensure that they represent real situations which are all these factors. So I would just ask the Board to ensure that the credible tech assessments are included as part of this. And from what I heard yesterday, in wrapping up, it doesn't sound like all the factors are being included that need to be included in these assessments. So thank you very much.

CHAIRPERSON NICHOLS: Thank you. I'm sure we have a lot of time to continue to discuss these issues. We'll take a break and come back at 20 of 1:00.
(Whereupon a recess was taken.)

MR. SHIMODA: Thank you, Chairman Nichols and members of the Board. Chris Shimoda, California Trucking Association.

And having actually read all 85 pages of staff's document, I'd like to first thank the staff for their hard work in getting this prepared and also for the recognition of the monumental challenge of the task at hand. That really came through with the document. Thank you to staff.

To paraphrase the discussion document, success will require facing economic reality at the same time we pursue our economic goals. I think Kish from Go-Biz stated that as well. Put simply, at this moment in time, zero emissions truck technologies cost more and do less. And it's this fact that's at the core of the challenge that lies ahead.

On the proposed zero emission refrigeration trailer rule and the last delivery rule proposed in the discussion draft, we do have some concerns which we expect to discuss with both the staff and the Board in the coming months.

We'd like to support your call for national NOx and greenhouse gas standards which the cost effective, technically feasible, and consider engine reliable
durability.

With the exception of what we think is a misplaced focus singling out larger fleets, we're also supportive of your staff's call for increased enforcement of existing rules. As you know, CTA has been up before the Board on many occasions talking about the need for a level playing field. And we just like to temp our expectations a little bit about the impact the proposed changes in the discussion draft to enforcement will have. We really do believe with the limited resources that your agency has, further strategies are going to need to be pursued to really get these rules in force in a fair and respective way to the folks who have invested in the rule. We will continue those discussions with your staff.

And speaking from the very difficult experience that I think both your agency and our industry has experienced with the truck rules, it's from this that we strongly discourage the Board from moving forward on the proposed facility emission cap concept. Creating what can be thousands of individual cap facilities each with different requirements would be a huge step in the wrong direction in our opinion and a doubling down on some of the missteps of the past.

So lastly, we would just like to remind the Board, the trucking strategic has put a lot of skin in the
game to get the emission reductions from the previous presentation today to the tune of about a billion dollars annually. And we have more than a fair share of experience working through the regulations with your agency. And so we hope to be in communication with each of you on the Board in the coming weeks and months to further discuss this document, work through our concerns, and would like to thank you for your time today.

MR. EDGAR: Chair Nichols and Board members, good afternoon. I'm Sean Edgar. I'm the director of CleanFleets.net. I have a few focused comments for you.

First, pertaining to 24 years of my history of working on CalEPA regulated facilities, whether they be the federal labs administered by my alma mater, University of California or solid waste facilities or gasoline dispensing facilities, I've had the privilege of working on those facilities in an environmental capacity over the last 24 years. And I'll echo some of the comments that CTA mentioned relative to moving cautiously.

I'll just question on the metrics and the value of going down the path where we tried to develop facility individual emissions caps. That are a few items in there relating to the who, how, when, and what we would be measuring if we were to look at facility emissions caps. Most facilities in California I believe have gone through
CEQA and have already had impacts mitigated and whatnot. It's laudable that you talk about near-term enforcement. And the staff is to be credited for that proposal to increase in the near term enforcement around key facilities. I would question the metrics and especially with the statewide truck and bus regulation which I had the privilege of working with the Board for the last eight years in the development and implementation.

Now that that is deploying the cleanest vehicles throughout California, I'm not sure what we're going to measure and how we're going to measure it. So similar to the comments of ATA just advising spending staff time wisely. And I'm not sure what the facility emission cap development will give us but I'll look forward to your staff's next iteration to discuss more about the metrics.

Moving on to the fleet side of the equation, I had the opportunity over the last 15 years to work on every internal combustion engine regulation this Board has done. The theme, going back to my first testimony from 2000, industry really needs technology that works and a way to pay for it. So if we have technology that works and a way to pay for it, clean flights advises up to 300 fleets and publicly traded fortune 500 companies and those companies all rely on needing to serve their customer. So if the technology works and we have a mechanism to pay for
it much more costly technology, absolutely there is a way to do that. So we share your Executive Officer's vision of trying to choose the best path and the levers to use, in your terminology. The document notes near zero technologies, and I think SoCal Gas has struggled, as we have, over the issue of what is near zero.

We have a couple things that I'll punctuate, positives in the document. Integrated approach to renewable natural gas, fantastic. This is my third appearance to five months talking to you about renewable natural gas. I'm encouraged staff is looking for an integrated approach.

I would wrap up by saying local projects and keeping true to the statutory requirements to use existing technologies on heavy-duty trucks is going to be very important as we move forward. Thank you.

MR. ALLEN: Good afternoon, Madam Chair and members of the Board. I'm Matthew Allen, Director of Governmental Affairs for Western Growers Association.

We do appreciate the opportunity to provide comments on this discussion draft as we do have some initial concerns with the draft as currently proposed, specifically regarding -- the concerns we have regarding the overall functioning and cost effectiveness of California's freight systems. Our members and workers
provide half the nation's fresh fruits, vegetables and tree nuts and half of the nation's organic produce. This fruit is transported a number of times before it is able to be consumed by the customers. And it's really important to note that our growers are not the price makers. Their price is really dictated to them. It's not easy to shift cost along to increase food prices. That's really kind of the nuts and bolts of much of our concern.

Our continuing a review of the discussion draft, but I would just like to briefly list a few items that we would like to discuss further with the Board and staff. They include the facility's emission cap, transportation refrigeration units, use of large spark Ignition equipment, the opacity limits, and the renewable natural gas standard. We will remain engaged in the process and look forward to discussing this initiative with the staff and Board members into the future. Thank you.

MS. LINDER: Good afternoon. My name is Alison Linder. I'm with the Southern California Association of Governments. I've already given you a letter this morning that represents the SCAG region, including our six transportation commissions and our three major ports, Los Angeles, Long Beach, and Port of Hueneme.

And I want to thank you for the opportunity to comment and share our region's perspective on the recent
released drafts. Our letter goes into a lot more detail, but I just want to emphasize three major points today.

First, I want to emphasize that SCAG strongly supports the sentiment and the importance of the sustainable freight system and clean air. It's consistent with our adopted 2012 TPSES. We have a strong commitment to reduce emissions from transportation sources. And we believe that the broad deployment of zero and near zero emission technologies is an important part of the solution.

Similarly, clean transportation strategies are critical to achieve air quality attainment, meet greenhouse gas reduction targets, and improve the health of local communities.

New technologies also have the opportunity to create simultaneous economic benefits, for example, a reduced fuel and maintenance costs. And it is critical that as we implement these new technologies they remain feasible and cost effective.

Second, I want to emphasize the importance of continued collaboration with industry. We really appreciate CARB's outreach to date, and we want to encourage further collaboration and inclusion of the industry perspectives.

As you mentioned in your document, the freight
system is very complex with a lot of moving pieces and players and markets. And we don't want anything that comes forward to interfere with productivity or have negative economic consequences. A lot of people in our region depend on this industry for their livelihoods. We want to prioritize strategies that have both economic and environmental benefits.

And finally, I want to emphasize the importance of continued engagement with federal, local, and regional jurisdictions. California can't stand alone in solving these problems and we need to really solicit greater federal participation as you noted as far as regulation as well as funding.

Finally, I would say in southern California, we have done a lot of date and we have stronger relationships with industry already. And we want to continue building on these partnerships and create solutions that are both economically and environmentally viable.

BOARD MEMBER SPERLING: Could I ask a question? We really do read your testimony. And so there is a statement in it where you said it would not seem appropriate to include freight-related greenhouse gas reduction as a responsibility of NPOs through the SCS process. Could you elaborate on exactly what you meant by that?
MS. LINDER: Sure. It's my understanding that SCS addresses land use. While SCAG does have some authority to recommend land use strategies, we can't necessarily control the locations of freight facilities.

Also, I would point out that industry does make kind of calculated decisions of where they want to locate based on market demand, proximity, cost of transportation, cost of land. So we have to work with them to assume they're also currently evaluating the land use decisions and that it's not necessarily the rule of the NPO to require specific.

BOARD MEMBER SPERLING: You could say exactly the same thing on passenger transportation, and yet, that is the responsibility. And SCAG has embraced it fairly enthusiastically.

MS. LINDER: As far as transit oriented development?

BOARD MEMBER SPERLING: Dealing with emissions from passenger transportation, which is intimately tied to land use. Clearly, SCAG doesn't regulate the land use. But SCAG place the role of coordinating and working with the cities and counties to do that. So why would that be different here?

MS. LINDER: I think it's a point that requires further clarification. And in reading the document, we do
mention tying freight into the SCS. But it was something
that we want to work further with you on exactly how that
was intended to come across. And we wanted to just point
out that we have limited jurisdictions and carrying across
that need.

We do currently evaluate the VMT of different
transportation sources. It's already measured in our
plan. Even so, there's challenges of getting the data,
validating the data. Oftentimes, the data is actually
proprietary.

MR. SCHOTT: Madam Chair, Board members, Tim
Schott on behalf of the California Association of Port
Authorities, which is comprised of state's eleven
commercial publicly-owned ports.

I want to point out that our ports are very
diverse. And we have three large container ports that
move upwards of 90 percent of the cargo in and out of
California the state manages. Some of our smaller ports
are very small and moves significantly less than one
percent of the cargo that is managed in the state. So we
want to make sure that folks understand the strategy that
might apply in with one place may not apply in other
places.

In general, the ports are extremely proud of the
accomplishments we've made over the last decade in terms
of emission reductions. I think it's reported more than
80 percent in particulate matter reductions, nearly 90
percent of our SOX emissions, 50 percent of NOx and
significant greenhouse gas reductions I think approaching
25 percent. Those accomplishments have been managed in
partnership with the Air Resources Board, with our local
Air Quality Management Districts, and with our industry
partners. And we thank all of them for that.

Like to thank ARB staff in particular for the
outreach that they conducted as they released this
discussion draft and it was very much appreciated be able
to have some conversation with them and have some
understanding of what the conversation might be going
forward.

So the accomplishments that we achieved over the
last decade have come at very significant costs. I think
ARB's own estimates are about five billion dollars for the
regulations that have been implemented so far relating to
freight. We are in a highly competitive environment, the
most competitive environment the ports have seen in my 20
year tenure, probably a lot longer than that.

So we appreciate the emphasis that ARB and the
other state agencies are putting on making sure we are
looking at the economy, the infrastructure, and the
environment as we go forward with the appropriate
sustainable freight strategy.

We did submit comments and hope to take a look at those. We would suggest a couple things for an early look anyway. That would be to perhaps emphasize system efficiencies in the early stages of our examination of strategies that might be most effective. It's one of the areas where we can realize true emission reductions and at the same time increase our economic benefits as we go forward with this by reducing congestion and delays and hopefully improving the appropriate infrastructure.

We would suggest to expand its own role in helping financially to achieve those three goals of infrastructure improvement, environment stewardship, and economic development. And we think there are appropriate places to look for those revenues coming from the State to help leverage federal, local, and private dollars and also to help offset some of the costs that will be necessary for the environmental compliance. Thank you very much.

MR. KENNY: Good morning, Madam Chair, members of the Board. My name is Ryan Kenny. I represent Clean Energy. We are the nation's largest provider of natural gas transportation fuel. We have 150 fueling stations here in California, 65 of which are public. All of those offer renewable natural gas.

We do support in concept the sustainable freight
initiative, including the discussion draft in the Resolution 1522. The discussion draft is robust and it is a good starting spot but just a starting point. We do believe as the process moves forward, the industry does need market signals that all cost-effective solutions will be considered and that regulatory certainty is vital to our industry.

We believe the sustainable freight initiative has a potential to achieve the goals of reductions in NOx, greenhouse gas emissions, and diesel particulate matter, especially in disadvantaged communities in California's most impacted regions of South Coast and the San Joaquin air basins. We do believe alternate fuels will have a great role to play, including natural gas and renewable natural gas, which is the cleanest transportation fuel available.

We do fully support the resolution's objectives to incorporate a robust stakeholder process, and we do fully intend to participate.

As we move forward, we do view the discussion draft as I mentioned as a starting point. And we do have several outstanding questions, which I included in our comment letter, two of which -- one includes the discussion about renewable natural gas. That will come into play, but in addition to the role of natural gas
moving forward.

Also ARB does view the optional low NOx emission standard as the default standard. However, final verification of the specific value, whether it's .1, .05, or .02 is needed in order for engine manufacturers to meet ARB's desired standard. So we do offer initial support for the sustainable freight initiative moving forward. We look forward to participating in the process. Thank you.

BOARD MEMBER MITCHELL: I have a question of Mr. Kenny. I heard recently there was a recent development in an ongoing container ship that was fueled by natural gas. Do you know anything about that?

MR. KENNY: An ongoing --

BOARD MEMBER MITCHELL: Container ship that was fueled by natural gas. Oceangoing ship. Do you know about that?

MR. KENNY: I'm not familiar with that. We do offer services to locomotive and marine business. A lot of our business is focused on natural gas vehicles, including heavy duty vehicles. I'm not familiar, but I can look into that.

BOARD MEMBER MITCHELL: I was wondering whether it's a new development.

CHAIRPERSON NICHOLS: We'll have a chance to ask later of from that industry. Thank you.
MR. KENNY: Thank you.

MS. THOMAS: My name is Taylor Thomas with East Yards Communities for Environmental Justice and the California Cleaner Freight Coalition and a resident of Long Beach. And we submitted formal comment letters on the sustainable freight strategy. I'm not here to go over them line by line with you, as my colleagues have outlined our concerns.

I want to underscore the importance of the need for this Board to take immediate action to reduce pollution from rail yards.

The last time I spoke here a few months ago, I talked of my experience growing up near major pollution sources and the impacts it had on my health.

Today, I'm here on behalf of the people that could not be here to give testimony. I'm here for the families that have to keep their windows closed because the trucks and trains are idling a few yard from their homes. I'm here for the teachers and playground aids that have to carry inhalers just in case the children have asthma attacks. And I'm here for the nurses and doctors that see their patients come in with chronic respiratory illnesses, not knowing how to treat them or what to prescribe to them and what could they possibly give them, knowing they'll return to the air that makes them sick.
They want to tell them to move, but this isn't an option for most people.

Research supports that the communities that bear a disproportionate burden are low income and communities of color. Even if people can afford to move, the question is why should they. We have a right to clean air. We're calling on you to take immediate action. We want to see the measures outlined in our formal comment letter, such as in-yard rail equipment, like yard trucks and cranes, changed to electric. And there is already zero emission and CNG tech available for these. Enhanced truck and locomotive inspections and the installation of the advanced locomotive emission control system at maintenance facilities where locomotives idle.

Our communities have waited long enough. So we need you to stand up for us. The Board has said that rail yards would be addressed in the sustainable freight strategy, but that didn't happen. This fight for clean air is not about me. It's not about you. It's about the families and communities that are suffering the consequences of the Board not taking action. Thank you.

MR. GARRETT: Good afternoon, Chairman Nichols and Board members. I'm T.L. Garrett. I'm here representing the Pacific Merchant Shipping Association. We're a trade association that represents the terminal
operators and ocean carriers, the ships that come to ports in California and throughout the west coast of the United States.

I'm here to say we really support the integrated approach that you've taken in developing the sustainable freight plan, bringing in the other state agencies. We are particularly glad to see GO-Biz have a prominent role. We think they have a lot to contribute in terms of looking at holistic economic impacts. And we would suggest because time is of the essence here that maybe there is some way that you can fast track GO-Biz getting started with the work they need to do to feed into the sustainability plans. We have submitted comments, but I'll leave it to you to judge the merits of those concerns and recommendations.

We support your sustainable freight strategies. We want to be your partners in the transformation of California's freight systems. We are ready to accelerate that transformation if we can get the support to do so. Our is a constantly evolving industry. And efficiency is our prime directive. That's how we got our position in the global marketplace and that's how we will maintain and expand upon it going into the future.

The industry brings a good resume to the table to be your partner. The 80 percent reduction in particulate,
50 percent in NOx, 90 percent in SOX and substantial greenhouse gas benefits as well, not a bad start, but it is just that, a start. There is a lot more to be done.

One of the things that we got through the last go-around of regulatory requirements is a whole lot of experience on how to make these things work. And I understand the desire to accelerate technology. I would caution though that those technologies need to be fully vetted before they can actually be in commercial application. Too often we have them what we consider a little prematurely.

We do approach sustainability differently. We approach it from an efficiency standard. We're hoping we can reconcile these two perspectives. We think that that will bring the strength and resiliency to this process going forward.

We do see some initial missteps in the document. One of the biggest ones is the growth forecast. It's not staff's fault. They're using the best information they have available. Everybody has always used the best information, and it's always been wrong. There is an assumption -- if you look at the greenhouse gas document -- there is an assumption that cargo growth directly -- is directly correlated to the equipment and the emissions. What we have seen over the last -- I'm out
of time. May I?

CHAIRPERSON NICHOLS: Finish your sentence.

MR. GARRETT: So we need to look at the cargo forecasting methodology, and we have some issues with the at-berth regulation, which I was silly not to give myself time for.

MS. O'BRIEN: Good afternoon, Madam Chairman, Board members and staff. My name is Rachael O'Brien. I'm here today on behalf of the Agricultural Council of California. Agricultural Council represents approximately 15,000 farmers across the state of California ranging from small farmer-owned business to some of the world's best known brands.

Thank you for the opportunity to speak. And thank you to staff for their hard work in bringing this proposal forward today.

A joint comment letter has been filed with other agricultural representatives with more details on the concerns identified within the sustainable freight discussion draft. So today I'll highlight just a few of those.

The first is the proposed concept of a facility emissions cap. It will be important to analyze how an agricultural facility that only operates seasonally will be able to comply in a cost-effective manner with the
initial data collection and a potential emissions cap. Also important to explore is how facility operator will oversee vehicles that visit their operations. This issue raises significant questions regarding responsibilities, costs, and effectiveness of this proposal.

The second area of concern is the move to zero emission technology for transportation refrigeration units. Before moving forward, an economic analysis should be conducted to consider the following cost competitiveness of various technologies on a fuel life cycle basis relative to the next best alternative. Electricity rates and the potential rise in costs and cost recovery issues from substantial investments made to comply with existing regulation. I will note the report does a great job of laying out the economic and technical challenges in this area.

The third point today that I will make is a concern on the large spark ignition equipment near term measure. A future analysis we believe should consider and reflect on the special needs of fork lifts that are used in field that differ from warehouse and distribution centers. The seasonality, small size operations, and remote location characterize much of the agricultural LSI equipment used and of course cost recovery issues from compliance with existing LSI regulation.
In closing, we thank you for the opportunity to provide comments. Our industry has a committed interest in the smooth functioning of California’s freight system. We are engaged and welcome future opportunities to discuss the sustainable freight strategy with both staff and Board members.

MR. MURPHY: Thank you, Madam Chair, members of the Board.

My name is Colin Murphy. I’m with NexGen Climate America. Also a member of the California Cleaner Freight Coalition.

I want to echo the comments of my colleagues, both in terms of the efforts and responsiveness of staff and the Board members and meeting and discussing this issue, as well as the support from the near-term measures that were suggested in the discussion draft, including enhanced enforcement and data collection.

I definitely want to make sure that data collection doesn’t go overlooked. It seems obvious. It seems relatively easy. But as Professor Sperling can attest, finding good data from models, particularly in the freight sector is difficult. Models are often limited by the data that goes into them.

I mainly want to talk about a vision for the long-term future though. We think that California is
going to find it very difficult to meet its long-term goals, both in terms of public health and air pollution, as well as climate change without significantly addressing the freight sector. And we think the freight sector is not going to meet those goals without a move towards zero emission or near zero emission technologies.

We like the fact that the discussion draft raised this issue and the started the ball rolling. We think there needs to be a strong commitment and a clearly defined vision of what that zero emission freight sector of the future will look like. We recognize that's going to take time for the freight sector to move this way and aren't intending they should have to turn over their entire fleets in the next few years. But we do think that having that vision out there, putting some of the ARB's authority and resources behind that can encourage local planning, CEQA planning, grant making to make sure that we are on the path to achieving that long-term vision. In order to get there, it requires a strong statement immediately.

MR. JACK: Madam Chair, members, my name is James Jack on behalf of the Coalition of Responsible Transportation, specifically here to speak on behalf of our beneficial cargo owners who are the largest customers at California ports and also the major users of the
freight network.

A few points we wanted to convey today. First and foremost, I wanted to emphasize to the Board what a superb job staff has done with regard to the level of outreach that has been performed to industry. They really set a new benchmark we believe and really ought to be commended for that. The dialogue has been very productive and has benefited the process as a whole. We're grateful for it.

We're also very supportive of the multi-agency approach that's being taken with regard to the sustainable freight strategy. And as we move forward, we're especially interested in synthesizing the technology assessment that ARB has undertaken with the economic analysis that will give us a better idea of the cost to implement the menu of strategies that has been identified in the discussion document. We know that investment of private capital will be critical to the success of this effort, but the difficult conversations are still ahead of us. We don't know what the overall cost of the strategies will be of the individual strategies. We don't know what the overall cost to industry will be. We don't yet know what state resources or other public resources are available to help fund this investment in new technology.

And so we believe that we are uniquely situated
to help provide as much guidance and feedback as possible to the Board with regard to the decision points that shippers -- that beneficial cargo owners make with regard to the incremental cost of doing business through California ports for them versus the decision point of leaving and finding others. We feel that's especially important point of information that we can provide as this process continues through the year. And we're excited to do so because we share the goals that have been articulated by ARB since this process began last January.

And in my final few moments if I could answer Ms. Mitchell's question earlier. One of our Board members is an oceangoing steam ship line called Tote. Last Saturday, in San Diego, was the launch of the world's first LNG fuel container ship into the San Diego Bay. That's going to be serving what's called the Jones Act route between Jacksonville, Florida and Puerto Rico. It was quite an event and happy to send you any other information.

BOARD MEMBER MITCHELL: Thank you. That's very interesting.

MR. LAMBROS: Good afternoon, Chairman Nichols, members of the Board.

My name is Rich Lambros. I'm the Managing Director at the Southern California Leadership Council.
For those of you not familiar with the Council, we're very pleased to have three former Governors on our Board, Davis, Wilson, and Deukmejian. And over two dozen presidents and CEOs of major southern California companies and agencies. Obviously -- I should mention our mission is economic development, job creation, and the quality of life in southern California.

Now, with that as your mission, of course, you pay close attention to a sustainable freight strategy. And we have had the pleasure of working closely with your ARB staff since really 2013 with the Haagen-Smit symposium Long Beach and especially over this last year as we helped host a series of business leader discussions on the sustainable freight strategy.

Throughout that process, we've been continually impressed with your staff's desire to get this right. I want to acknowledge Richard Corey, Cynthia Marvin, the whole staff who worked with us, was truly appreciated that they acknowledged the important role that the goods movement sector plays in California. I don't need to go back over all of that because you acknowledge it in the discussion draft and we talked about it today.

I do want to pivot on one thing, which is the role it plays in southern California, which is even more important than the rest of the state where it's already a
third of jobs and a third GDP in California and southern California the numbers are closer to 40 percent. And the sector is particularly important as a source of good-paying middle class jobs, especially for those who are in need of a job that does not require a college education. And that's unfortunately very important in southern California where 71 percent of our population does not have a four-year college degree. The sector is critically important when we look at the long term for Southern California. Obviously, we need to move the needle on education. This is a sector that we need in the short term and we need it to remain robust and strong.

With all that said, what came out of our discussion last year was support for this idea of an integrated approach to developing the sustainable freight strategy. We're pleased to see your action back on December of last year as well as see that prominently featured in the discussion draft.

As we sit here today though, it's sort of a midway point in the process. Appreciate Chairman Nichols alleges comments at the beginning that CARB needed to put its cards on the table. And I think you've done that effectively in the discussion draft and also your comment, Madam Chairman that this does not necessarily represent our views of where we will end up.
So with that in mind, just three quick suggestions or recommendations regarding the discussion draft.

First of all, we asked that staff revisit the section in the draft on next steps, only because the next steps on the draft within the document speak to how this document might immediately start to inform other processes. Now, normally that makes sense with the discussion draft that you would share the components of this, for example, SIP and other efforts that are underway now. But we would ask that you -- may you finish the thought? We ask that you revisit that section. And we ask that you perhaps provide staff or ask staff to provide a little more opportunity for input from affected stakeholders on the immediate and near term actions.

That's are our two asks of the day. Thank you.

MS. TUTT: Chairman Nichols, members of the Board, good afternoon. My name is Eileen Tutt. I'm with the California Electric Transportation Coalition. Our members include the five largest utilities in the state, as well as a number of smaller utilities. And I'm here before you -- you have our comment letter. I'm here before you today to add a couple of things. And that is the utilities really stand ready to help implement the sustainable freight strategies. And there are -- we have
a study underway and we worked very closely with your staff. Your staff has been amazing with a former speaker said they're very accessible. They have met with us often.

We have a transportation electrification study underway, the phase three of that study specifically looking at freight. And the benefits to utility rate payers and the environment of electrification of the freight sector. So we want to make you aware that's coming. And as soon as it's here, we will share it with your staff, actually before we release publicly and certainly any of you that are interested.

And then finally, I know it's in my letter. I do want to give a shout out to the staff, particularly for including the transit bus sector. That's really important for the reasons outlined by the staff and the reason outlined in our letter. Thank you again.

MS. ROBINSON: Katrina Robinson on behalf of CalSTART. I want to thank staff also --

CHAIRPERSON NICHOLS: I think Mr. Hargrove was next. Excuse me. You want to trade.

MS. ROBINSON: Thank you to staff for the huge amount of effort spent on this plan. CalSTART plans to remain engaged in both the sustainable freight strategy and also on the technology assessment side.
First, we believe that the State must continue to support a diverse portfolio of technologies. Zero emission electric drive technologies are important but they are only part of the solution. A sustainable freight system will also need advanced vehicles running on clean liquid and gaseous fuels.

Second, it's important to develop a realistic and actionable plan for clean technology deployment and commercialization. We will continue to engage in discussions around these technology development pathways, and we believe it is important to involve major manufacturers and suppliers in these discussions. We thank staff for reaching out to manufacturers.

Third, we agree with staff that transforming the sector will require truly comprehensive approach regulations and standards for vehicle and fueling technologies are important but not sufficient. We will also need significant ongoing public investments in vehicles, fuels, and infrastructures for a sustained period of time. Perhaps greenhouse gas funds can help move things a lot more quickly.

Finally, we applaud staff for recognizing that a comprehensive sustainable freight technology strategy has to go beyond just freight applications. Previous speaker mentioned the inclusion of measures aimed at transit and
shuttle buses is important. And these technology applications can help prove out zero emission and heavy-duty technologies in the short term while also having the spill over effects for the freight industry.

Similarly, we encourage ARB to look beyond freight applications when funding off-road vehicle or equipment technologies. Zero and near zero emission agriculture and construction equipment can also have spill over benefits for the freight industry.

CalSTART's work shows there is huge potential for emission reductions in this sector. And we thank staff and look forward to working with you in the future.

MR. HARGROVE: Madam Chair, members, I'm Matthew Hargrove with the California Business Properties Association. I'm here today representing the Commercial Real Estate Development Association, as well as International Council of Shopping Centers. We are commercial property owners.

We look forward to working with the Board and the staff as this plan moves forward. Thus far though, I'm here -- many of my members don't feel that there has been as many opportunities for us to provide the input to this plan as it's before you, but we know there is going to be more opportunity in the future. We think maybe because we're not -- we are an industry of property owners so
we're here today to just ask that your staff reaches out a
little bit beyond some of the directly impacted industries
that are obvious in the plan. And we have some issues
that we would like to discuss with staff, including land
use issues that will be discussed as the plan moves
forward.

CHAIRPERSON NICHOLS: Staff is nodding. They've
heard you. You're on the list.

MR. HARGROVE: That's great. So thank you very
much. And again, we look forward to working with you. We
had lots of good participation with your Board in the past
and we look forward to having more in the future. Thank
you.

CHAIRPERSON NICHOLS: Thank you for being here.

MR. TOY: I'm Bob Toy with Union Pacific
Railroad. Thank you for letting us speak today.

As we previously indicated in written and in
verbal testimony, it's important for the ARB staff to
complete the draft technology assessments and release them
as soon as possible.

We agree with the ARB staff, and staff has
already indicated in January 2014 the assessments will
help inform the policy decisions going forward.

We also will look forward to seeing these
assessments and having the opportunity to weigh in.
It was wonderful to see the other State agencies talk this morning. Very helpful. And also we appreciate the opportunity -- the commitment for further discussion.

Railroads are here anticipating in the process and will continue to do so. We've engaged with ARB over the last two decades to achieve substantial reductions, and we look forward to continuing the conversation.

CHAIRPERSON NICHOLS: Okay. Thank you.

MR. CARMICHAEL: Good afternoon, members of the Board. Tim Carmichael with the California Natural Gas Vehicle Coalition.

I want to echo the thanks to the staff. I had the opportunity to participate in one of those early meetings on this draft and appreciated the exchange and learned a lot. So thank you.

I want to save time, I'll agree and support the comments made by Jerilyn Mendoza and Ryan Kenny and just add a couple of additional points I don't think have been made yet.

I think the big picture point that I want to make today is while California aggressively pursues zero emission technologies, let's not miss opportunities to get really significant emission reductions in the near and midterm. I think your tech assessments are a great program and they're going to show that for some
applications we're looking at 2030 and beyond before the
technology that we know about today are ready and viable.

And that's 15 years of potential emission
reductions that we could get from not necessarily, you
know, a 2035 generation technology, but a 2018 or 2020
generation technology. And I believe that we never have
enough money in the incentives programs, but we have
enough to invest a lot in research and development and
provide incentives for these near-term and midterm
technologies. Natural gas would be one of those, but not
the only one.

And I just want to encourage that to be part of
the thinking as this project moves forward because there
is a lot of potential emission reductions, a lot of
potential to do better than we're doing today in just the
next few years.

Next point I want to make is I really like some
of the tables in this report, and in particular, the
challenge column. And what I like about that is when you
identify the challenges, it's easier to find the fix or
the solution. And you'll note that that is part of the
report for the long term goals, but it's not part of the
report for the near term goals. And we already shared
this with staff, so I'm sharing it with you in addition to
that. But I think that would be a valuable addition to
the near term goals and tables.

I'll just give you one example. There is a lot of good language in this report about renewable natural gas. But one of the realities is if we want to realize the potential renewable natural gas, whether for this program for the low carbon fuel standard, we need more trucks on the road that can use that fuel than we have today. And the Air Resources Board has a role to play in achieving that and accomplishing that. That's one example and it's obviously one fuel specific. But I think we would benefit if there was a challenge column added to the near term.

One last closing comment. There is a lot of interest in renewable natural gas and with appreciate that. And we believe in that fuel. One of the things that we're trying to get from multiple programs at the Air Resource Board is what is a good target for the reduction potential renewable natural gas. One of the benefits of this fuel is it can be blended with fossil fuel natural gas.

CHAIRPERSON NICHOLS: Tim, you're taking advantage of your time here.

MR. CARMICHAEL: So we are looking for direction from the Air Board on where should we be going with the potential renewable natural gas, assuming we can't do
enough with 100 percent of the renewable natural gas where is a good blend. Carbon reduction potential from that.
Thank you very much.

CHAIRPERSON NICHOLS: Thank you. It's a good point. Our last witness however has been waiting patiently

MR. LITES: Last and hopefully not least. Jim Lites with the California Airports Council. We are the 33 commercial airports in the state. Airports have been doing quite a bit in general on environmental stewardship. For example, you may have seen air conditioning units that have been installed by most of our major airports on the underside of jet ways the keep the aircraft cool during loading and deplaning so that the aircraft engines do not have to run to run the aircraft's air conditioning system.

Most of our larger airports have already changed out their shuttle fleets to alternative fuels. And I wanted to direct the Board and the staff to an initial resource. In February, we released a report on best practices for environmental stewardship for commercial airports, which is on our website at Calairportscouncil.org.

I did want to note though that we while we welcome the opportunity to engage with the Board on this proposal, we want to make sure there is a balance. Our
regional air system is currently under a lot of pressure. Chico and Modesto lost air service completely in 2014. Crescent City, Arcada, Monterey, Redding, Visalia have all lost their level of air service. So options are fewer. So our smaller regional airports are just trying to make it and continue to serve their local communities. So we want to make sure that environmental regulations recognize the scope of operations at different size airports and provide some appropriate level of response on the part of airports.

Lastly, as local public agencies go, airports are probably among the most heavily regulated by the federal government. As our letter to you points out, the FAA prohibits State and local governments from directly regulating aircraft emissions. And so I know that the staff is reaching out to the air carrier community, and we would very much encourage that engagement to ensure that any regulations coming out of this process are consistent and not in conflict with federal regulations. And again, thank you very much for the opportunity.

CHAIRPERSON NICHOLS: Thank you.

Clearly, we attracted a broad, diverse group of people who are interested in this initiative, which is not too surprising considering the importance of it. And I'm pleased that in general while they have issues in many
cases with specific elements of the plan, that overall seem to be willing to engage in the process. And I know there are a couple of members who have very specific additions they would like to make or comments, but I think mostly what we should do is get the Resolution in front of us, since that is what we're going to be asked to focus on is a Resolution to send this document forth into the world officially.

BOARD MEMBER GIOIA: I move the Resolution.

BOARD MEMBER MITCHELL: I second.

CHAIRPERSON NICHOLS: Seconded by Ms. Mitchell. I know you're one of the people who had a proposal you wanted to make.

BOARD MEMBER MITCHELL: I have a proposed amendment to the Resolution. It would be under the "therefore, be it resolved," to add a number three which would state the following: "Work closely with local air districts in the preparation of the 2016 SIP and give strong consideration to actions identified in the sustainable freight strategy in the development of that SIP."

CHAIRPERSON NICHOLS: So this is basically the comment that Mr. Hogo made at the beginning about wanting to see that if ideas come out of the SIP planning process they would get incorporated into the freight planning
process. At least there would be a process in which they would be given strong consideration. I see staff nodding. I don't think there is any objection to that. Why don't we go ahead and add that. Are there other --

BOARD MEMBER GIOIA: A comment that could lead to it.

There's some reference to the issue of the data collection from freight hubs. And in order to really move forward in a meaningful way, we want to have good data and understand emission levels now and what kind of progress we're making within different parts of the freight system.

I know it's been hard collecting data throughout the freight system. And I'm wondering -- and I guess it's page 31 it says there will be data collection from freight hubs. Can you talk more about what that means? And because it's not just the freight hubs, although that's important. It's data from the freight system throughout the state. And talk a little bit more about what you anticipate. I'd like to see us be more specific on the need to get good data from throughout the system.

I realize many of the entities don't release this data. How we can get it. Is there a way for us to require it so we can get better measurements?

TTD CHIEF MARVIN: I would be happy to answer that. I would first say that from the perspective of
trying to look at freight as a system, what it means is we have to understand all the components of that system, that we have in-depth of some. We have much less knowledge of other elements of that system.

What we're saying with this proposal for data collection is saying that we need to have really a comprehensive sense of how the cargo is moving, what sort of operations are occurring at different facilities, how many pieces of equipment, how many trucks, you know, how is that process happening. Because if we understand activity, if we understand the equipment, we can understand emissions and help guide and suggest the Board's priorities in terms of responding to that.

It's also very clear that with all the regulatory work that the Board has done as well as some of the voluntary agreement that we've got a lot of data coming into ARB. We have a lot of data that is reported either electronically or otherwise. Our first step internally would be to sit down and say what are the key pieces of information we need. The next obvious question is what do we already have spread across the length and breadth of ARB, because we wouldn't want to be asking people to repeat information clearly we already possess. And be able to focus on what are the additional pieces of information that are the highest priority.
And then I would say question number four is what is the level of activity at a facility that would suggest that they should be included in the data collection effort. We are not suggesting that every single warehouse that might have one truck come once a week and a warehouse that might have 200 trucks a day are the same and we're going to have to draw a line.

BOARD MEMBER GIOIA: When you say data collection of a freight hub, you're saying -- let's say whether a rail yard or port, you're collecting emissions data from all the activities occurring within that hub that's multi-modal, whether it's rail or trucks. You're collecting all that emissions data. I just want to understand what's meant. Because there is not a lot of discussion about what it means when you say freight hub.

TTD CHIEF MARVIN: What we think we mean at least initially is sea ports, airports, rail yard, warehouse distribution.

In terms of data, in most cases, we wouldn't expect facilities to be reporting emissions data because most of the facilities don't know the emissions. What they know are what sorts of equipment and vehicles operate there and how many. So we would be gearing it so that it's data that they already possess and could more readily report. ARB can translate that to emissions.
BOARD MEMBER GIOIA: So we would THEN calculate emissions data based on the information they give us about the equipment and the activities occurring within that hub?

TTD CHIEF MARVIN: Correct.

BOARD MEMBER GIOIA: So if its X number of trucks and truck trips, rail, number of rail trips for the port, ships, so are you able to take the data of those activities and translate it to emissions?

TTD CHIEF MARVIN: Correct. At least as a starting point to get a sense of the greatest emissions, also facility location. It's particularly for warehouse and distribution that there is not a good statewide inventory of those locations. South Coast and SCAG have done quite a bit of work in that area. They have an excellent start. But it's an area that we realize there is no place where we can go for the data that we need. Also to understand the proximity to neighbors.

BOARD MEMBER GIOIA: What about -- trucks travel between hubs and outside the hub. So how are we collecting that? I'll just take a one simple example here. So to the extent that there is improvements in trucks, how do we capture that decrease in emissions for trucks traveling outside the hub and quantify that?

TTD CHIEF MARVIN: So that information I think is
captured best by the travel activity that we put into our MFAC model. We have data from the MPOs. We have the regional travel information from Caltrans as well as the emission data. So we attempt to represent truck travel through that model. What we don't have in that model though is facilities specific information. So we're trying to supplement the regional travel information we have with facility specific.

BOARD MEMBER GIOIA: I'm just wondering if having a little more explanation of that here in the document would make some sense so it's helpful to provide a little more information.

The second point, there's the new OEHHA standard for health risk assessments. And so there is some discussion of that on page 20. When will ARB start to calculate the new health risk assessments?

TTD CHIEF MARVIN: One of the comments we heard on this report is we're relying on the health risk assessment we did roughly ten years ago, which is certainly true. We have tried to present the best information we have about the change in emissions to indicate that we think there has been very significant reductions in risk.

What we'll be assessing as we go forward here is when where do we need to do new health risk assessments.
Where do we need to go back and update the older ones using the old OEHHA methodology. And I think it just as importantly, the new activity data, the new emissions data reflecting the turn over of the fleets to cleaner equipment.

BOARD MEMBER GIOIA: So here's the question that comes up. If you've done analysis ten years ago that showed a lower health risk than would occurred today if you did the same analysis using the new OEHHA sort of criteria, and then going forward, when there are improvements in the system, we will have lower health risks as we get improvements in the system.

Don't you have to do at some point a base line to compare future action to today, rather than to analysis done ten years ago which has different assumptions? Otherwise, you get a false sort of comparison of the health risks.

TTD CHIEF MARVIN: I think the key thing is understanding what's the residual risk today after implementation of all of the ARB's programs, particularly in the 2020-2023 time frame when the truck and bus rule is fully implemented.

So our best way of doing that is to use a combination of the work we've already done with minor updates and also capturing facilities that we haven't done
health risk assessments on. So we haven't looked at warehouses distribution. We haven't looked at the border crossings, some of those other sorts of activities or airports.

CHAIRPERSON NICHOLS: I think there is an underlining assumption that we wouldn't put in the information about the improvements that have come as a result of the regulations that have already been implemented and the turnover that's already occurred in the fleet, even though it's slow.

BOARD MEMBER GIOIA: Here's the issue I'm getting at. I would take a very simplistic approach.

Let's say you have data from five years ago about a particular port. Very simple. Very complicated. And there is a cancer risk of -- I'll just pick a number of ten in a million. And if you were to do a new analysis using the new OEHHA standards and the cancer risk -- let's say would be 25 in a million instead of ten in a million because of the new standards, right. And then you do -- and then there is improvements in the system and in the future the cancer risk is 15 in a million. If you hadn't done the base line, the 15 would be more than what you did last time, but it's truly less than the new base line. You see the point I'm getting at? How do we address that. Because if you say we --
CHAIRPERSON NICHOLS: I think you made your point actually quite well. I think the question is what exactly the staff is proposing to do about it.

TTD CHIEF MARVIN: So we had not defined what the scope would be of the health risk assessment going forward. We know our first priority is to do the initial health risk assessments for the facilities we've never done before so we have a starting point there. And then it becomes a matter of the priorities and the staff resources to go back and update the health risk assessments for the ports and rail yards that ARB staff studied so extensively.

CHAIRPERSON NICHOLS: There is a huge amount of interest in this information obviously. It's going to be reviewed very critically by many people and also a lot of data collection as well as updating of models and so forth that needs to be done. So I don't think we should minimize what's going to be required here. We can't just look at what was done ten years ago and then apply some new factor from OEHHA and say that's the answer. That would not be acceptable. But I don't think the staff is ready at this point to define exactly how they're going to go about doing the update. Is that a fair --

TTD CHIEF MARVIN: Very yes. Thank you very much.
BOARD MEMBER GIOIA: I was trying to make sure we figure out how we can collect where there is improvement over time so we can understand where to prioritize.

CHAIRPERSON NICHOLS: Absolutely. There is a lot of other people interested in making sure we do that, too. Yes, ma'am and then Mr. Roberts.

BOARD MEMBER RIORDAN: This is not necessarily something that should be included, per se. But one thing I heard which I think is important and that is very good technology assessment, which you obviously have been working on and will continue to work on. But I would like to express my personal feeling that that's really critical to making this very successful.

CHAIRPERSON NICHOLS: Supervisor Roberts and then Mr. Eisenhut wants to make a comment.

BOARD MEMBER ROBERTS: I'd like to make a couple comments. The first of which if it sounds like I'm bragging -- maybe I might be a little bit.

CHAIRPERSON NICHOLS: I think Mark Twain it's not bragging if you really did it.

BOARD MEMBER ROBERTS: Then it's not bragging. Commissioner Mitchell was asking about liquefied natural gas powered ships. So you all know, there was a ship launched on Saturday. It's about 765 feet long called Isla Bella. It's natural gas powered and will be
put in service shortly. Unfortunately, on the Caribbean and not the California coast, but it was built in San Diego, launched in San Diego but the General Dynamics NASSCO. I think that might -- if you saw something recently, I suspect that it. It may be the largest liquefied natural gas powered ship around. We've got another one coming also. So we're kind of proud of what they're doing.

Let me -- it's ironic I just spent several days in Mexico City talking about goods and freight movement. And I think most of you are aware we had probably the busiest border crossing in the world. I should have brought a picture to show you the trucks all lined up. And they go for miles trying to get across in both directions.

So we are working on yet another border crossing. And I think we reached recently an agreement with the various officials in Mexico City over the last few days how we're going to go about this. It's going to have managed lanes so we can reverse the flow and take advantage of the area. We already purchased over 100 acres to make this work. And it's a SANDAG-Caltrans project. So happy to see a representative from Caltrans here because they're very involved.

It's one of the things we're trying to do, not
only facilitate freight, but clear up the problems when you have enormous number of trucks that are all idling and trying to get -- sometimes waiting two to three hours to cross the border. It's an issue.

I think we're working on something. We're at that stage where depending on your perspective you either look at this and you see a lot of hope or you look at it and see a threat. The staff has a lot of work to do to flush this out. And hopefully we can bring the hope and the threat so we can end up with something people are pleased with but we make progress that we would like to see.

I was happy to hear the concerns and the willingness to work on some of the economic issues. As Professor Sperling said, the complexity and the economic side of the trucking and other things is not a simple issue.

Let me give an example of one of the things that has come to my attention is we have a major problem in the state because we want to be the most advanced, of course, in the country and set our own standards, not with the federal standard, but we will come up with a new standard. We have a standard for the weight of buses and trucks, 20,500 pounds. You can't build an electric bus and probably not going to be able to build an electric car or
fuel cell truck that will get within that. At the federal level, I think it's about 24,500. Quite a bit higher than we have. Even that may be problematic. We're wrestling with this and working with the Legislature to see if we can resolve our -- even our CNG buses don't -- because of the weight of the tanks and other things we can't get under that limit. There is not a chance an electric bus is going to get under that limit.

So we have a conflict sometimes in our own family of regulatory agencies to satisfy these things. And we'll work through that, I'm sure. But I think it's part of the example that sometimes it looks like an easy problem to solve has some complexity we're not aware of.

We look at the regulatory side on the air quality and we want all these things. But we have no idea that there are other limits out there that are imposed by Caltrans or somebody else that is diametrically opposed to what we're trying to do.

I have a lot of confidence staff will do a good job and work through some of the issues.

I would hope - there are two letters that have been submitted from the port, one from somebody testifying earlier and another from SANDAG that raises a series of questions and issues and recommendations. And I hope that staff will respond to those, not today, but can respond in
writing.

I think the hope -- the biggest hope is that the process is inclusionary and that it do a little bit more of a robust effort when it's done heretofore in reaching out to them incorporating private sector and experiences so that we arrive perhaps with less of having to cut the baby in half and keep the baby all together.

So if I could encourage one thing, it would be to try to do a little bit more outreach. As I went through and reviewed some things, I felt like we probably had not included enough of the people who's technologies would be dependent on and to have a realistic vision of what we can expect, how much those things might weight, and what the problems with integrating them are going to be.

But I'm confident that we'll get there.

BOARD MEMBER EISENHUT: Thank you, Chairman Nichols.

First on a lower key note, I noticed in this document a blessed absence of acronyms. I just want to encourage that kind of behavior to the maximum extent possible. It makes it far more user friendly. If we want an inclusionary audience, I think that's something we might want to attend to.

I support -- and I think this is redundant but it's not over until everyone has spoken -- the emphasis on
enforcement for multiple reasons that have been articulated here. The emphasis on incentive funding. I think particularly with regard to agriculture, the anxiety. There is a certain amount of anxiety out there. The facilities have been described as ports, but not one truck. And much of what we do in California is somewhere between a port size and a single truck size. And the sooner we have more specificity to this, particularly with regard to data collection and cap, I think the more integrated folks can and will be in this process.

And finally, since ag does not so much distribution centers but involvement in freight and we depend on the freight, and I'd like to have CDFA have a seat in that row of invited guests and agencies.

CHAIRPERSON NICHOLS: Dr. Sperling and Ms. Berg. Is he yielding to you? Apparently, he is. Oh, John, you're on the list, too.

BOARD MEMBER BERG: I'll go ahead and jump in then.

Thank you, staff. This has been a yeoman's job. I did pull records from our meetings, and I look at what we have been -- what you have been trying to put together with our input. It has been remarkable.

I would like to see an inclusion, however, of a commitment on the technology assessment completed. And
you are going to come back to us at the end of December according to this new Resolution. And I think that it's -- well, maybe I'd like to get your actually feedback as to whether the technology assessment could be completed by then.

MOBILE SOURCE CONTROL DIVISION CHIEF WHITE: The short answer is, yes, they will be. I think for many of the sectors that we are looking at, we're very close. I think in light of the comments and certainly recognize the important role they play in the development of this document and the upcoming SIP work, we will double our efforts to get those out and available for comment as quickly as possible.

BOARD MEMBER BERG: Will you be holding workshops following up on Supervisor Roberts' suggestion on trying to get as much public participation on that on the technology assessments as well.

MOBILE SOURCE CONTROL DIVISION CHIEF WHITE: We were not planning to have workshops. We will be putting them out as draft and receiving comments on them and working and meeting with key stakeholders that were involved in the development and using those to inform their comments and how they participate in this process. Those final documents will play into the recommendations that are brought back to the Board regarding the
sustainable freight strategy.

BOARD MEMBER BERG: My understanding is that a lot of the assessment has been completed and that staff did utilize a lot have this information. As we do get input back from the key stakeholders, if you find out anything new, then will that also edit your report?

TTD CHIEF MARVIN: I suggest, the proposals that are in here, the concepts on near term measures we suggest we start work on, in that process, we would very much be looking for the input on the draft technology assessments to be informing whether those measures and our initial thoughts are the best ways to proceed on those measures.

So I see the comments on the tech assessments having the greatest influence on both the development of near-term measures as well as the assessment that we'll be doing of all the other levers in those vision tables to determine which ones are most appropriate and most cost effective to put on the table for the next round.

BOARD MEMBER BERG: Thank you, Cynthia, for talking about technology as a cornerstone of the program and the incentives.

One of the reasons I'm so interested in this technology assessment is really moving on to our incentive programs and what do we need there to further the technology. I mean, it was quite an eye opener on the
report that we heard today from Ms. Dunn, 300 billion
short today for transportation. That's business as usual.

At what point are we going to -- would it be
appropriate to include a focus on incentives and raising
the funds that are going to be vital in order to see this
program succeed however we determine is the best way,
number one. And number two, shouldn't we have something
in here that really does focus on economic impact.

CHAIRPERSON NICHOLS: Can I jump in and answer
that question because I think it's important?

This is not ARB's sweet spot. This is an area
where we know some things and we have some expertise. But
this is why we have Go-Biz involved in this effort from
day one, because they're looking at -- I think
everybody -- let's acknowledge this. We're not just
talking about, like, an expensive program like the truck
rule. We're talking about potentially a ginormous
program. That's a numeral term here. To transform the
freight system as we might envision it needs to be
transformed. That is something that's going to have to
use a variety of different financing mechanisms, some of
which we know about at least and others of which we don't
and clearly a much larger private sector involvement. Not
just by regulated people, but by others who would be
investing in these kinds of changes. So this is not --
that cannot be all on ARB's plate to do.

BOARD MEMBER BERG: I'm really glad you brought
that up. Maybe you can help future the next question I
have in perspective for me. That really is this concept
of one state, one plan. How do you see ARB's plan coming
together with the other plans in order to lay out a grand
vision so I don't stay awake at night worrying about this
stuff.

CHAIRPERSON NICHOLS: Well, I probably should
differ this one to the staff. But I would say in
discussions that we've been having -- you know, this has
been -- we've been struggling with this for quite a long
time, as you all know. We delayed bringing the
sustainability freight strategy back to the Board because
it was really hard to figure out how you blend the clear
need for some shorter term actions with the also clear
need to have a much bigger vision of some things that have
to take longer.

And I think that bringing other agencies in,
we're in a position to align that plans they are working
on and to try to come up with a sustainable freight
strategy that will be a joint document of which ARB's
piece will just be a part.

And I know the Governor has been looking at this.
The Governor's office has been considering the possibility
of actually incorporating this into an Executive Order just to make it clear that's what's going to happen so people will know that's how things are going.

But even pending all of that, I think it's clear that everybody is depending on us to find a way to integrate these plans with each other. So we're a little bit behind the eight ball here. CalTrans submitted their freight plan to the federal government ahead, but they recognize that theirs was in some respects not as strategic as it should have been. And they're looking to be catching up with the next wave here. So I'm not going to go sit down there and --

BOARD MEMBER BERG: And to be able to think about the near term versus the vision for the long term, maybe bifurcating. I'm not suggesting anything be done with the document. But in my head, trying to understand what we're trying to accomplish near term, which does feel more SIP oriented with cobenefits of greenhouse gas long term both still. And so I'll just move onto the near term.

I'm fully in support of the enforcement. And thank you for including that.

I would appreciate a comment update on the rail yards. I know we moved away from the MOUs. And I appreciate the things that you're looking at from a rail perspective.
But I would like you to follow up on the comments or if you could give the Board just your thoughts on the comments that was made by East Yard Rail.

And then secondly -- or East Yard Community. I'm sorry.

And then finally, I really do appreciate the one-size-does-not-fit-all. Many comments were made about -- and even Ms. Marvin indicated on the facility cap, you know, there is a big difference between a warehouse that has a couple of trucks or a few trucks a week versus someone that has 200 a day. It's the same with the airports. It's the same with the ports.

And so if you could comment how you feel that our plan is going to recognize that, I'll be done. So rail yards, if you could just make a comment on what we heard in testimony today. And then finally, your thoughts on the fact that there are company differences and how you plan on attacking them.

TTD CHIEF MARVIN: On rail yards, I think it's both fair and accurate and important to note that our views have changed about the most productive and effective way to move forward to get further emission reductions and provide more health protection.

I think when we did the 2009 technical occupation document that the East Yard letter and comments referred
to, there were a lot more older locomotives operating in California, both within the state and crossing state lines. Those presented a really attractive opportunity at that time because it would be cost effective to replace them. ARB didn't have the authority to mandate that, but we were looking at tackling that from an incentive program perspective. So we offered incentives through Prop. 1B and Moyer. We accomplished some of that turnover.

One of the fundamental changes is that over time both the larger Class I rail roads and the smaller Class III short lines have removed many of those older locomotives for service that ARB clearly had the ability to regulate. So when we went back and looked at what was actually still appropriate or still captured essentially in the options that were described in that older document, the population in the scope was much, much smaller. We had the opportunity to share this information with the East Yard and some of the other community advocates who are interested in rail yard issues last year. We are still happy to engage on that.

Let me boil it down to basically say there is not as much there as we thought back in 2009. When we stepped back and said where are the emissions from rail yards that are having substantial impacts on public health, the answer used to be it was primarily the drayage trucks
serving those yards. We've seen a huge investment and huge progress in cleaning up those drayage trucks.

As you look forward to the future, the bulk of those emissions are coming from the interstate line haul locomotives. So those are the ones that are much more difficult for the Board to tackle. And because of that, that's why we took the approach that we're suggesting in here in terms of pushing for the next iteration of federal emission standards and specifically trying to seek the ability to have authority to regulate slightly older locomotives.

In other words, there is a proposal that we ask EPA to redefine the new locomotive so that the federally preempted period covers roughly the first seven years of the life of that locomotive, which would open up an opportunity for ARB and California when the locomotive was older than that. It's pretty wonkey in terms of the approach. But it would provide a really important opening for a regulatory or another perspective because we would have the ability potentially to define what California needs from that second generation of locomotives.

So this is a long response on locomotives, but it's always complicated there. So I just wanted to acknowledge that we believe that the proposal that you have in this document does represent the most powerful way
to go forward to deal with the largest source of the problem in the emission at rail yards.

CHAIRPERSON NICHOLS: Okay. Dan, it is your term.

BOARD MEMBER SPERLING: Thank you.

The first topic I want to address is the data one. And I want to raise it above what Supervisor Gioia was talking about. I think as Chairman Nichols said, this is -- she said it's not our sweet spot but it's actually much bigger than that. It's no one's sweet spot. And we are talking about something big and complicated. I think we need to focus on some kind of data and information repository. It probably should be a third party operation. It's really something Caltrans and CTC should be participating in. There has to be -- if we're going down this path, there has to be a major, major commitment to understand a little bit about the freight system, to having the data so there can be an analysis and models. And that it's transparent. This has to be publicly available and transparent. So that's number one thought.

And just kind of as a little piece of that is there is discussion that efficiency improvements is a part of it and how is anyone going to evaluate efficiency if e don't have some kind of data or understanding of the system and kind of just taking that one little step
further is that all of these first items we're talking about are really mostly little technical fixes in the sense of taking some truck or equipment and make it electric. In almost all cases, that's going to be more expensive and it's unclear what the system effect would be. So we need that broader understanding.

Number two, we need to be working towards some kind of action plan here, a broader action plan. Everything we've done -- we have all of our big programs. There's some kind of big strategy that goes along with it. Or some kind of robust policy instrument that goes along with it.

There's no robust policy instruments here that we talked about. So this idea of expanding SB 375 to include freight would at least start creating a framework. I'm not necessarily advocating that, but something like that where because this is all about partnerships. And that's one way of creating the partnerships would be doing that.

In terms of policy instruments, are we going to use -- I mean, we've come to -- I think we come to think good policy, good regulation is regulations that are performance based and market based as much as possible. At least performance based, because we don't know what the answers are. We know what the goals are. But we don't know exactly what to do to get there.
So this is all part of this creating a little more robust action plan about what's -- how are we really thinking about this. And I think that's a lot to ask of the staff because it has to be broader than that. There might be other mechanisms for how to get more engagement in that process. But I think that needs to be a goal and aspiration.

CHAIRPERSON NICHOLS: Sounds like a job for an academic partnership. I'm just thinking. Could there be some institution in the state of California that might be able to assist us in this effort, do you think?

BOARD MEMBER SPERLING: Next item, we haven't really talked about all of these near term items here. Ms. Vergis did a great job of giving the overview of it. In the report, there is a lot of bulleted items in there. Somehow, somewhere I think there needs to be more engagement on that -- on those items.

And you know, part of that is the idea of the technology assessment needs to -- there needs to be more input into the design and analysis and implementation of those items. We have no sense of cost effectiveness. We have no sense of cost benefit in this.

So what I propose is as a way of assuring more oversight on that is deleting two words on the Resolution. It's on the last page, Page 4 it says, "be its resolved
that the Board direct staff to pursue development of the potential near-term actions described in the discussion draft for Board consideration or Executive Officer implementation."

I have great faith in our Executive Officer. He's brilliant, has lots of integrity. He's engaging, but I really think this is something that needs to come back to the Board. I mean, if the Board is going to spend an hour and a half on a nozzle for a gas tank, for a fuel tank, then everyone of these is far more important than that one and has far greater implication.

CHAIRPERSON NICHOLS: Could I just weigh in on that for a second?

I don't disagree I wouldn't want to see any regulations on that list not come back to the Board. I don't think that was the intent. I think intent was it was not customary for the staff to come to the Board when they are initiating an enforcement action for a lot of reasons. I would not want them to be doing that. I think that's the distinction.

BOARD MEMBER SPERLING: We can delete the enforcement action.

CHAIRPERSON NICHOLS: I'm just saying that is how that language was -- I think that's what that was designed to convey.
Balmes, Miller, Gioia and me.

BOARD MEMBER BALMES: I would like to join with Mr. Eisenhut in saying I think the report was well written. I think Heather had a major role in crafting the report. I appreciate the clarity.

I actually read through every page, which is rare for me. It sustained my interest.

But I did notice that Table 1 seems to be missing, which was a list of health conditions that are supposed to be related to freight emissions. I think you need to add Table 1 in there.

As usual, following Ms. Berg, she's asked some of the questions on my list and elicited a good response from Chairman Nichols and from Ms. Marvin.

But I just want to reemphasize the ginormity of this effort. I'm glad Chairman Nichols mentioned the possibility of the Governor's Executive Order because I was going to ask about that.

But I think the amount of money that eventually has to be put into a state sustainable freight plan implementation of the items in that plan is such that we need the Governor to get behind us.

It's great that the agencies are already working together. But you know, if the boss says make things happen.
I think following up on the issue of ginormity, I think it's really great all the various zero emission options that are described in the plan. A lot of it has to do with scalability. I think we need to have more focus on demonstration projects that basically support that scalability. And you know, we may not be there yet with most of these technologies, but I think we should try as soon as possible to move from the small pilot demonstration to really scaleable demonstration projects. And you know, I think that drayage trucks is maybe one of the more feasible areas where we could move to scalability.

The other thing that -- and to get the money for large scale demonstration projects, one option to consider, everyone is going to this trough is the cap and trade revenues. I realize it's not our purview, but it's something we could be discussing with the Legislature, the Governor's office, because I think that it would be a very good use of some of the cap and trade revenues to support again these large scale demonstration projects in terms of zero emission approaches to freight.

The last thing I wanted to say was about CEQA. We heard from several -- mostly from the Cleaner Freight Coalition that large freight hub development -- at least the feeling is and concern is that large freight hub
development occurs without paying the proper attention to
CEQA issues. I don't know if that's true or not.

But when I want to say proper attention to the
types of issues we're concerned about here. So if there
is a way for our very knowledgeable staff with regard to
freight-related air quality issues can be more involved
with these large freight development projects and the
environmental impact assessment related to that, it's
something I would advocate. I think our expertise is
important and, you know, it's sort of siloed off after the
fact as opposed to, well, projects are being developed.
So I think the staff has done a great job. While we had
to wait a while, I think it was worth the wait.

BOARD MEMBER MITCHELL: I want to thank Cynthia
Marvin and Doug Eto. You've done a yeoman's job on this
project.

And also want to mention that both of them
traveled frequently to Southern California to look at our
ports and study what was actually happening there.

When we look at a project of this size and we all
do it on this Board, we're balancing the economy on one
side with the environmental impacts on the other. We will
be considering regulation as well as incentives, as well s
perhaps market mechanisms that will help us get there.

There has already been some substantial amount of
private investment in southern California in clean freight. And that's exemplified by what the ports have done in their cleaner action plans.

A couple of points I want to make are in our near term measure -- and I'm going to be specific here -- the near term measures on trucks, which is your actions four and five, are not near enough for Southern California. This is the measure where you're going to go and ask US EPA to put in stricter regulations for heavy-duty trucks on lost emissions. I think we're too far out on that. As you know, we have NOx emission reduction requirements in Southern California that will hit us in the 2023. And if we stretch that out until 2018 for US EPA to answer us, we will not have time to react.

I'm going to suggest that you take another look at that, move that up to 2016 to act add and also the same time in parallel let's get our machinery in motion to put our own regulations in for NOx emissions reductions. So that was your fall back in action five on that near term.

I would also very much support Tier 4 locomotives in our SIP activities in this freight sustainability plan so that we can also incorporate it into our SIP development.

I think also in the near term -- I'm going to go to what has been suggested by the east yard rail -- east
yard rail yard's Angelo Logan's group. There is already technology in place that provides for either a natural gas powered or electric battery powered yard equipment that moves cargo. And I think we could begin developing a regulation that requires a turnover of that new equipment or old equipment into new equipment to reach that standard -- a higher standard than maybe what they might otherwise do.

And that applies also not to just to rail yards, but to dock yards where they're moving equipment through yard hustlers and other equipment.

I also want to mention that there is some skepticism out there about technology and where it is. But our technology is very far advanced. And I think we will be getting where we need to be in the next few years.

I want to bring up a facility in Long Beach, the Long Beach Container Terminal, that is all electric. It is called the Middle Harbor. Like middle earth. And it is a pretty remarkable facility. All the cranes are electric. Very big cranes there. It's a brand-new terminal that's built to handle the larger container ships that are going to come in and the yard equipment that moves those big containers from one point to another are all battery operated. And they have in the facility charging stations to recharge the batteries in those --
that yard equipment to take out the old battery and insert
a new battery and recharge the used battery. So that's
the kind of technology I think we will see. We see it now
and it can certainly be a model for the future.

And your technology assessments I hope will be
reflective of some of these new things that are coming
out.

The facilities emissions cap that is proposed in
the document I think is a good approach. I think we
should be looking at it as one tool in our toolbox. It
may be useful in particular facilities. It may not work
for the other facilities. But I think it's something that
is a good approach and a tool that we should be
considering in our kinds of approaches we can use as we
move forward.

I also encourage you to continue the great
collaboration that you have established here with our
other state agencies, but also with the stakeholders, with
the business side and with the environmental side. I
think what we want to accomplish here is measures that
make business sense as well as protect the environment.
It has to make business sense or it won't be successful.

I applaud our staff for what they have done and
urge you to keep working and collaborating with all of the
folks that you have already touched. Thank you.
CHAIRPERSON NICHOLS: Okay. Mr. Gioia and then Mr. De La Torre.

BOARD MEMBER GIOIA: It was one other comment I forgot to make.

Given a number of folks talking about the ginormity and the cost of all of this and Dr. Balmes talked about -- which I think is appropriate -- the use of cap and trade revenue to funds this, it seemed if we had this great group working together, which is our public agencies and stakeholders, including business, having some discussion about revenue opportunities to fund these improvements, I mean, it's great having the plan. We want to have the plan. And rather than have the discussion out over somewhere else about where you get revenue, at least having some discussion with all the folks who are going to be part of this system. Of course, whether it's container fee bill, but having some meaningful discussion about that. So that's the point I wanted to make.

You see that as a possibility, as an opportunity as we go forward at least acknowledging that this comes at a high cost?

EXECUTIVE OFFICER COREY: Yes. It's really a good question, Supervisor, because we're thinking about first touch point is going to be when we return to the Board in June. We're returning with the Air Quality
Improvement Program proposed funding plan. And that will have in it -- we're working through the stakeholder process right now with representing pretty high need and opportunity on the heavy duty side. The point Dr. Balmes made in terms of demonstration projects on the heavy duty side.

The Board approved in 14-15 plan. It's about 80 million was directed to heavy duty sector. And the point that we made back then -- and I think the Board at the Board's direction was recognize it's a lot of money but just a start in terms of recognizing it's going to be heavy duty that's moving us forward in terms of NOx and with respect to diesel PM.

So the plan that we bring back to you will be looking at even additional support on the heavy duty side because we know it's going to play a key role here.

But to your point, Supervisor, the conversation with CalSDA, CalTrans, GO-Biz and a range of stakeholders is going to be part of where the remaining opportunity is for efficiency reductions and what is the instrument, where do regs have a role, where do incentives have a role, what roll does the incentives take.

BOARD MEMBER GIOIA: It's going to be a discussion of -- without agreeing on one or two sources, discussion of the possible types of revenue opportunities.
Of course, there is a school of thought that consumers should pay a dollar more for a TV that's imported into the country from Asia through a container fee. And so there's opportunities at least to list what the potential revenue sources could be.

CHAIRPERSON NICHOLS: I think that has to happen. Okay. Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Thank you.

So much has been said and I think I agree with most what was said. I won't point out the things I don't agree with it.

Just in general, I think this conversation has been very, very positive. I think I want to thank staff. Clearly, from December to now, we do have something substantive for getting the reaction we wanted to see from stakeholders so that we could move ahead. So I'm very grateful that we are where we are now, and I wanted to thank staff for doing all that.

The coordination with the other government entities, state government entities is absolutely vital. I think that's a huge step forward. When I've described this process to people, they are frankly amazed it hasn't happened before. But here we are. And moving forward, it's fantastic to have all of those resources growing in the same direction.
I'll start with the container fee comment. That legislation I think is being introduced next week, bipartisan. The administration is supportive of it. The author happens to be a very, very, very good friend of mine. And this is real.

To the extent that California is having this coordination, is having this planning ahead of the other 49 states, assuming something happens back in Washington -- and again, it's bipartisan, so this isn't one of those things that just doesn't happen back there. It has very, very good chances of succeeding with all the players that are involved. That we could be first in line for that. And that's another added benefit to this whole process.

In terms of the plan itself, I'll just say two things. One, the comments about the short-term benefits. Even as we're waiting for the bigger picture things, we have to -- have to push forward on the short-term gains that we can make as we move along.

And secondly, enforcement. Enforcement, enforcement, enforcement. It's become a little bit of a joke here and actually in my household with regard to reporting the smoking trucks on the 710 freeway. I just got a little jab from my high school student. My high school age son the other day about that. He's my
stenographer for when we see these smoking trucks. So you know when your teenage son is taking jabs at you over smoking trucks, it's gone a little too far.

CHAIRPERSON NICHOLS: Whatever it takes, I say. What's his phone number?

BOARD MEMBER DE LA TORRE: The enforcement, we really need to put the resources there and put all of our best minds together for coordination with CHP and others to make sure we are absolutely being tough on the enforcement end of the things that are already out there today. So with that, thank you.

BOARD MEMBER SERNA: I'll add my thanks to staff for an exceptional start to this effort.

One of things I didn't see in the draft and perhaps I glossed over it. Please correct me if I'm wrong here. But one of the things that I'm really interested in and this parallels the discussion about revenues sources for implementation eventually is where is the intersection if there is one? I personally feel there is a strong one between SB 535 implementation and accomplishing the objectives that are in the -- what will be in the final strategy. I think that's something that should not be too hard to conceive in terms of our anecdotal understanding of where freight infrastructure primarily lies in the state.
And I wondered if there's -- I don't know who the appropriate staff would be to answer the question. But is there an opportunity to go as deep as exploring what CalEnviroscreen tells us today about where the disadvantaged communities are that would be eligible for 535 funds and how that might actually achieve two objectives to help us implement the sustainable freight strategy and to accomplish the intent of the legislation in 535.

EXECUTIVE OFFICER COREY: I can take a stab at this, Supervisor.

And my reference to the Air Quality Improvement Plan was brought to the Board last year and the revised one 15-16 be brought in June.

I mentioned the fact that the share of the recommendations would be focused on the heavy duty sector. What I did say was that those dollars represented a proposal that represents GGRF, a large portion of those dollars and the heavy duty dollars that are directed at the heavy duty sector, demonstration projects, much cleaner technologies were targeted to community. In other words, we expected virtually all of those models to be to the benefit of disadvantaged communities. Because it really gets to the point we just made, which is disproportionately heavy duty sector we would be talking
about are ports, hubs, other distribution centers, they are disproportionately disadvantaged communities.

So that document, that plan that we are developing through stakeholder process now would be very clear in terms of not just with respect to the apportionment of recommended expenditures, but how they overlay with SB 535 and the opportunity in terms --

BOARD MEMBER SERNA: Am I hearing that there is an opportunity to exploit in a positive fashion and by reference in the final sustainable freight strategy more explicitly than there is today where that convergence is?

EXECUTIVE OFFICER COREY: Just the fact that you asked the question, we can be clear on the impact of the heavy-duty sector on the disadvantaged communities. When we moved forward and we talk about this in terms of the next steps, one of the next steps and the number of the comment letters we had actually really helped move us forward -- the next steps was move forward on developing these long term measures. Do the underlying analysis, and exploring what the opportunities are for reductions. Our analysis is where are those sources and where is the overlay on their location with respect to disadvantaged communities and what are the levers in terms of achieving reductions, including GGR. Thank you.

CHAIRPERSON NICHOLS: I'm not sure if I missed
it, but it's also an element in our responsibility for accounting for the greenhouse gas reduction fund account to demonstrate funds have been directed as required by legislation. So we're going to have to make the connection with whatever fund we are putting out through that fund.

BOARD MEMBER SERNA: I'm thinking two birds with one stone.

CHAIRPERSON NICHOLS: Exactly. That's great.

BOARD MEMBER SHERRIFFS: Thank you. I just wanted to make one small -- we are putting this emphasis near terms in term of enforcement. And I would like to reframe it in terms of compliance assistance. Because unless we are going to say Chris Shimada sent us, I think we want to be identified in a very helping role helping people -- most people want to do the right thing. And that's really how we want to approach this. So just a small thought. Thank you.

CHAIRPERSON NICHOLS: Okay. Anybody else? If not, I have a couple comments I would like to make before we finally get to a vote on this.

Just really quickly, I heard three things that I thought had not been totally addressed. Cost has been well covered by other people, so I am not going to say anything more about that.
Representative from SCAG mentioned the issue of leakage. Nobody else picked on this, so I will. It is totally not okay to shift emissions from the sector from one place to another. That's not what this is about. So I want to make sure it's clear. And I think we assume, but just to state it on the record. We don't approach our work under AB 32 with the motion that leakage is okay. We're trying to actually reduce emissions overall.

And that leads me to the other thing that I want to actually propose because I think it's a little bit dramatic that we move paragraph 3 under the be it further resolved up to the top group of two where the Board is directing and add this issue of looking at the system efficiency improvements, because I wanted to be clear from day one we're looking at how to make this system work better, not just cleaner. And since it was the gentleman -- I believe it was Mr. Schott who specifically mentioned there needed to be early emphasis on system efficiency, I'm hoping he has some ideas or that others do too about things that we could do be helping them to get implemented, identifying what the obstacles are that we could possibly help to break down. And I think it would dramatize the importance of the issues. So unless there is any objection on anybody's part, I'm going to propose that we move that item in the Resolution.
BOARD MEMBER SPERLING: Could you say that again?

CHAIRPERSON NICHOLS: Take paragraph three near the bottom of the page, the number three evaluate and consider potential ARB levers and broad based approaches for system efficiency improvements and move it up on the page so it's number three under the first set of proposals just to give it a little extra weight and the tie the two things together. That's my editorial improvement. I don't see anybody looking doubtful about that. Okay.

BOARD MEMBER GIOIA: If we're making some suggestions to the Resolution -- and I didn't write anything out -- whether including in the Resolution some reference that revenue opportunities will be explored and including some provision that reflects that.

CHAIRPERSON NICHOLS: I think that would be fine. I'm hoping people can find a place to insert that in the evaluation. I think it's probably intended, but it needs to be -- I could see it going in under two. We were going to specifically call out California Department of Food and Agriculture. We were going to add the paragraph that Judy Mitchell --

BOARD MEMBER MITCHELL: I added it as paragraph three so --

CHAIRPERSON NICHOLS: How about if mine is three and yours is four.
BOARD MEMBER MITCHELL: That's fine.
BOARD MEMBER GIOIA: The revenue can be wherever it fits.

CHAIRPERSON NICHOLS: With all of that said --
BOARD MEMBER SPERLING: And my little --
Chairman, was my little change included in that?

CHAIRPERSON NICHOLS: No. The reason why it wasn't is because I don't know how to re-write so it takes out enforcement without calling out enforcement, which I'm not sure we want to do. I mean, I don't want to have a fight over this one. I understand you want any proposed regulation to come back to the Board. I think the staff is in agreement with that anyhow.

BOARD MEMBER SPERLING: And any other actions that come out of this initiative.

CHAIRPERSON NICHOLS: Well, like what, for example? You want to be kept informed, right. We all want to be kept informed I think. I mean seriously, I don't --

BOARD MEMBER SPERLING: Are any of the incentive ones, would there be -- would that be relevant because there's quite a few items on incentives.

CHAIRPERSON NICHOLS: I think so. I think they would be included under regulatory approaches.

EXECUTIVE OFFICER COREY: That's correct. They
come back under plans. And the reason the language is as it is in addition to the Chair's reference to enforcement action, there were also some waiver petitions to EPA that would include the provision as it was called out. So clearly, the regulatory action absolutely has to come back, go through a public process, plans funding, plans come back to the Board as well.

CHAIRPERSON NICHOLS: Are you satisfied?

BOARD MEMBER SPERLING: I'll trust our Executive Officer with his great integrity.

CHAIRPERSON NICHOLS: All right. So with that said, I'm going to call the question here. We have a Resolution in front of us as amended per the discussion here.

All those in favor please say aye.

(Unanimous aye vote.)

CHAIRPERSON NICHOLS: All opposed. No, none.

And no abstentions.

So this has been a serious and very, very fruitful discussion. And we really -- I think I want to add my thanks as well to this staff. This has been a terrific conversation and way more work to be done. But looking forward to all of us staying involved and on top of it. Thank you. We have a picnic, what's now going to turn into afternoon tea. But no public comment. All
right. Then we stand adjourned. Thank you.

(Whereupon the Air Resources Board adjourned at 2:47 p.m.)
CERTIFICATE OF REPORTER

I, TIFFANY C. KRAFT, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Tiffany C. Kraft, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 4th day of March, 2015.

______________________________
TIFFANY C. KRAFT, CSR, RPR
Certified Shorthand Reporter
License No. 12277