APPEARANCES

BOARD MEMBERS:
Ms. Mary Nichols, Chair
Ms. Sandra Berg, Vice Chair
Dr. John Balmes
Mr. Hector De La Torre
Supervisor John Gioia
Mr. John Eisenhut
Ms. Judy Mitchell
Mrs. Barbara Riordan
Supervisor Phil Serna
Supervisor Ron Roberts
Professor Daniel Sperling

STAFF:
Mr. Richard Corey, Executive Officer
Dr. Alberto Ayala, Deputy Executive Officer
Ms. Edie Chang, Deputy Executive Officer
Mr. Kurt Karperos, Deputy Executive Officer
Ms. Ellen Peter, Chief Counsel
Ms. La Ronda Bowen, Ombudsman
Ms. Emily Wimberger, Chief Economist
Ms. Heather Arias, Chief, Freight Transport Branch, TTD
APPEARANCES CONTINUED

STAFF:
Ms. Heather Brown, Manager, Statewide Truck and Bus Enforcement Section, Enforcement Division (ED)
Mr. Bart Croes, Chief, RD
Dr. Jorn Herner, Branch, Research Planning, Administration & Emission Mitigation Branch, RD
Mr. Douglas Ito, Assistant Chief, TTD
Ms. Alexandra Kamel, Attorney, Legal Office
Ms. Margret Kim, Senior Attorney Legal Office
Ms. Debbi Klossing, Manager, Rail and Marine Enforcement Section, ED
Ms. Kelly Lier, Staff, Sustainable Freight Section, Transportation and Toxics Division (TTD)
Ms. Karen Magliano, Chief, AQPSD
Ms. Cynthia Marvin, Chief, TTD
Mr. Kirk Oliver, Senior Attorney, Legal Office
Ms. Terry Roberts, Manager, Sustainable Communities Policy & Planning Section, AQPSD
Mr. Todd Sax, Chief, ED
Dr. Annalisa Schilla, Manager, Climate Action and Research Planning Section, RD
Dr. Linda Smith, Chief, Health and Exposure Assessment Branch, RD
Mr. Mark Stover, Chief, Field Operations Branch, ED
Mr. Webster Tasat, Manager, AQPSD
Mr. Jonathan Taylor, Assistant Chief, AQPSD
APPEARANCES CONTINUED

STAFF:
Ms. Sylvia Vanderspek, Branch Chief, AQPSD
Dr. Patricia Velasco, Staff Air Pollution Specialist, Air Quality Planning and Science Division (AQPSD)
Ms. Sydney Vergis, Manager, Good Movement Program Section, TTD
Mr. Daniel Whitney, Attorney, Legal Office
Ms. Maggie Witt, Climate Action and Research Planning Section, Research Division (RD)

ALSO PRESENT:
Ms. Adenike Adeyeye, Earthjustice
Mr. Paul Cort, Earthjustice
Mr. Joel Ervice, RAMP
Mr. Frank Gallo, Ditching Dirty Diesel Coalition
Mr. Ryan Kenny, Clean Energy
Ms. Virginia Madueno, American Lung Association
Mr. Bill Magavern, Coalition for Clean Air
Mr. Jesse Marquez, Coalition for a Safe Environment
Mr. Beto Lugo Martinez, Comite Civio Del Valle
Mr. Adrian Martinez, Earthjustice
Dr. Jimmy O'Dea, Union of Concerned Scientists
Ms. Tamara Rasberry, Sempra Utilities
Mr. Tim Schott, California Association of Port Authorities
Ms. Shelly Sullivan, Climate Change Policy Coalition
APPEARENCES CONTINUED

ALSO PRESENT:

Ms. Taylor Thomas, East Yard Communities for Environmental Justice

Ms. Katie Valenzuela Garcia, AB 32 Environmental Justice Advisory Committee

Ms. Diane Vasquez, Sierra Club California

Ms. Morgan Wyenn, Natural Resources Defense Council
<table>
<thead>
<tr>
<th>INDEX</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pledge of Allegiance</td>
<td>1</td>
</tr>
<tr>
<td>Roll Call</td>
<td>1</td>
</tr>
<tr>
<td>Opening remarks by Vice Chair Berg</td>
<td>2</td>
</tr>
<tr>
<td>Item 16-1-1</td>
<td></td>
</tr>
<tr>
<td>Vice Chair Berg</td>
<td>3</td>
</tr>
<tr>
<td>Motion</td>
<td>3</td>
</tr>
<tr>
<td>Vote</td>
<td>3</td>
</tr>
<tr>
<td>Item 16-1-2</td>
<td></td>
</tr>
<tr>
<td>Vice Chair Berg</td>
<td>4</td>
</tr>
<tr>
<td>Executive Officer Corey</td>
<td>4</td>
</tr>
<tr>
<td>Ms. Valenzuela Garcia</td>
<td>27</td>
</tr>
<tr>
<td>Ms. Rasberry</td>
<td>31</td>
</tr>
<tr>
<td>Ms. Sullivan</td>
<td>32</td>
</tr>
<tr>
<td>Board Discussion and Q&amp;A</td>
<td>35</td>
</tr>
<tr>
<td>Item 16-1-6</td>
<td></td>
</tr>
<tr>
<td>Vice Chair Berg</td>
<td>39</td>
</tr>
<tr>
<td>Executive Officer Corey</td>
<td>41</td>
</tr>
<tr>
<td>Staff Presentation</td>
<td>43</td>
</tr>
<tr>
<td>Board Discussion and Q&amp;A</td>
<td>60</td>
</tr>
<tr>
<td>Ms. Adeyeye</td>
<td>63</td>
</tr>
<tr>
<td>Mr. Martinez</td>
<td>65</td>
</tr>
<tr>
<td>Mr. Cort</td>
<td>68</td>
</tr>
<tr>
<td>Mr. Lugo Martinez</td>
<td>70</td>
</tr>
<tr>
<td>Ms. Wyenn</td>
<td>72</td>
</tr>
<tr>
<td>Mr. Ervice</td>
<td>73</td>
</tr>
<tr>
<td>Ms. Vasquez</td>
<td>75</td>
</tr>
<tr>
<td>Dr. O'Dea</td>
<td>77</td>
</tr>
<tr>
<td>Ms. Madueno</td>
<td>78</td>
</tr>
<tr>
<td>Mr. Magavern</td>
<td>81</td>
</tr>
<tr>
<td>Ms. Thomas</td>
<td>83</td>
</tr>
<tr>
<td>Mr. Kenny</td>
<td>84</td>
</tr>
<tr>
<td>Mr. Marquez</td>
<td>86</td>
</tr>
<tr>
<td>Mr. Gallo</td>
<td>88</td>
</tr>
<tr>
<td>Mr. Schott</td>
<td>90</td>
</tr>
<tr>
<td>Board Discussion and Q&amp;A</td>
<td>94</td>
</tr>
<tr>
<td>Afternoon Session</td>
<td>125</td>
</tr>
<tr>
<td>Item 16-1-7</td>
<td>Chair Nichols</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>Executive Officer Corey</td>
</tr>
<tr>
<td></td>
<td>Staff Presentation</td>
</tr>
<tr>
<td></td>
<td>Board Discussion and Q&amp;A</td>
</tr>
<tr>
<td>Item 16-1-3</td>
<td>Chair Nichols</td>
</tr>
<tr>
<td></td>
<td>Executive Officer Corey</td>
</tr>
<tr>
<td></td>
<td>Staff Presentation</td>
</tr>
<tr>
<td></td>
<td>Board Discussion and Q&amp;A</td>
</tr>
<tr>
<td>Item 16-1-5</td>
<td>Chair Nichols</td>
</tr>
<tr>
<td></td>
<td>Executive Officer Corey</td>
</tr>
<tr>
<td></td>
<td>Staff Presentation</td>
</tr>
<tr>
<td></td>
<td>Board Discussion and Q&amp;A</td>
</tr>
<tr>
<td>Public Comment</td>
<td></td>
</tr>
<tr>
<td>Adjournment</td>
<td></td>
</tr>
<tr>
<td>Reporter's Certificate</td>
<td></td>
</tr>
</tbody>
</table>
VICE CHAIR BERG: Good morning. Well, maybe if my fellow Board members here in the back that we're starting, we'll get everybody up front and get seated. I want to wish everybody a happy new year, and thank you very much for joining us today.

We will call the January 21st, 2016 public meeting of the Air Resources Board will come to order. Will you please stand with me for the Pledge of Allegiance.

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

VICE CHAIR BERG: Madam Clerk, will you call the roll, please.

BOARD CLERK JENSEN: Dr. Balmes?
BOARD MEMBER BALMES: 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?
Supervisor Serna?
Dr. Sherriffs?
PROFESSOR SPERLING?
BOARD MEMBER SPERLING: Here.
BOARD CLERK JENSEN: Vice Chair Berg?
VICE CHAIR BERG: Here.
BOARD CLERK JENSEN: Chair Nichols?
Madam Chair, we have a quorum.
VICE CHAIR BERG: Thank you. Before we get
started, I have a few announcements. First of all,
anybody wishing to testify should fill out a
request-to-speak card available in the front lobby outside
of our board room here. Please turn it in to our clerk
and -- or our Board Assistant. And we need you to do that
prior to the commencement of the item.

Also, speakers, please be aware that the Board
will impose a three minute time limit. Please state your
first name and last name when you come up to the podium
and put your testimony into your own words rather than
reading off of a letter. It's easier for the Board to
follow when you go straight to your main points. Your
written testimony will be submitted and it will be entered
into the record.

For safety reasons, please note the emergency
exits are to the rear of the room. In the event of a fire alarm, we are required to evacuate immediately and to go downstairs and outside the building. When the all-clear signal is given, we will return to the hearing room and resume our hearing.

So with that, we have a full agenda today, and a lot of updates to the Board setting our agenda for 2016, and we have a lot facing us this year. So it's going to be an exciting year, but we're going to start out, first, with Item 16-1-1, and it is a consent item.

Madam Clerk, do we have anybody signed up for this item?

BOARD CLERK JENSEN: No.

CHAIR NICHOLS: And this item is a research proposal titled, "Heavy Duty On-Road Vehicle Inspection and Maintenance Program". Are there any Board members that would like to bring this off the consent item?

Thank you.

BOARD MEMBER ROBERTS: Move approval.

VICE CHAIR BERG: Thank you. I have a motion to approve. Can I have a second?

BOARD MEMBER RIORDAN: Second.

VICE CHAIR BERG: All in favor?

(Unanimous aye vote.)

(Dr. Balmes and Professor Sperling recused
themselves from the vote.)
(Supervisor Serna and Chair Nichols not present.)
VICE CHAIR BERG: Any opposed?
Passed.
BOARD MEMBER SPERLING: Madam Chair, I'd like to recuse myself from this vote, because it's a University of California item.
VICE CHAIR BERG: Thank you.
BOARD MEMBER BALMES: I should do the same.
VICE CHAIR BERG: Thank you. So can the vote reflect that we have two people recusing themselves.
Thank you.
Moving right on to 16-1-2. So to kick-off our first board meeting this year, we'll hear from our Executive Officer, Richard Corey, on the Air Resources Board's programs and priorities for 2016. The Board made significant progress in 2015, and once again will be advancing a wide range of initiatives in 2016. Mr. Corey will provide an overview of the major efforts that will occur, as well as actions that will come before the Board.
Mr. Corey, will you please bring -- begin your presentation?
(Thereupon an overhead presentation was presented as follows.)
EXECUTIVE OFFICER COREY: Yes. Good morning,
Vice Chair and members of the board. I'm really pleased for the opportunity to describe the work we'll be doing over this coming year and highlight some of the significant actions you'll be considering over the course of the year.

--o0o--

EXECUTIVE OFFICER COREY: To being, I want to start with the many major air quality and climate accomplishments in 2015, and the work that staff has done to position the agency for the challenges ahead. There's a lot to be proud of, but it's also clear we have a great deal more to do. It will be evident as I work through the presentation.

It's also clear that this represents a tremendous opportunity to define our path to achieve our air quality and climate goals for years to come. I'll also highlight how the transformation is already underway due to the leadership of this board.

--o0o--

EXECUTIVE OFFICER COREY: First, let me start with some of ARB's accomplishments over this past year.

--o0o--

EXECUTIVE OFFICER COREY: We continue to see air quality progress throughout the State. During 2015, ongoing implementation of our control programs resulted in
a further reduction of 100 tons per day of smog forming NOx emissions, 100 tons a day.

Six areas of the State that exceeded the 75 parts per billion ozone standard now meet that standard, with two areas, Mariposa County and San Luis Obispo County reaching that benchmark this year. Health risks from air toxics also continue to decline. An ARB study published during 2015 found that cancer risk from exposure to the State's most significant air toxics declined 76 percent over a 23-year period. There's still more to do, and we'll be talking about that later as well.

But changing weather patterns impacted by climate change and catastrophic wildfires are increasing the challenge. And new health science is showing there are greater health impacts at lower levels. Thus, we'll need to expand our efforts to bring helpful air to all Californian residents.

--o0o--

EXECUTIVE OFFICER COREY: On climate, our actions are putting us on track to meet the 2020 greenhouse gas reduction target mandated by AB 32. In 2015, nearly 100 percent of covered entities complied with the cap-and-trade regulation's November compliance event and transportation fuels and natural gas were brought under the cap, effectively doubling the size of the carbon
To date, more than 2.8 billion has been appropriated for climate investments and over 800 million has been dedicated to providing benefits to California's disadvantaged communities. Yet, it's critical that we continue efforts to reduce carbon and stay on a trajectory to stabilize global temperatures by defining further actions to meet 2030 and 2050 goals.

EXECUTIVE OFFICER COREY: Underlying these air quality and climate accomplishments is continued growth in clean technologies. Over 180,000 zero emission vehicles are now on the road in California, supported by over 8,000 public and workplace charging stations. Fuel cell technology entering the market with the launch of the Toyota Mirai last year, and 13 fueling stations are now in operation.

The development of zero emission heavy-duty technology is also underway, and combustion technologies are becoming increasingly cleaner with certification of the first heavy-duty engine meeting an ultra-low NOx standard.

EXECUTIVE OFFICER COREY: To support effective implementation, we've increased our compliance outreach
and enforcement efforts, including focusing on large freight hubs and disadvantaged communities. You'll hear a focused briefing on this work later today. We've enhanced assistance to fleet owners and operators to understand rule requirements and provided financial assistance for compliance. As part of that effort, in 2015, ARB staff provided personal assistance to over 60,000 diesel hot line callers.

--o0o--

EXECUTIVE OFFICER COREY: We've also expanded our analytical capabilities continuing ARB's long-standing technical and scientific leadership. These efforts include development of the greenhouse gas facility mapping tool, EPA approval of ARB's mobile source emissions model, release of the Vision 2.0 scenario modeling system, and improved tools for air toxics risk assessment.

In addition, technology assessments for heavy-duty trucks and off-road equipment were completed in 2015. These assessments form the foundation of planning and policy development, and several more technology assessments will be completed this year.

Finally, ARB further integrated economic analysis into our policies and programs and appointed a new economics advisor.

--o0o--
EXECUTIVE OFFICER COREY: Improved monitoring and measurement tools are enhancing our ability to understand pollution sources and respond more rapidly to emergency situations. We've expanded the greenhouse gas monitoring capabilities and increased our mobile monitoring capabilities as well to better track pollution within communities.

We've also been partnering with other agencies, such as JPL and NASA to take advantage of aircraft and satellite measurements to complement or ground-based network of monitors.

Finally, we've enhanced our emergency response capabilities. I'll talk more about this and our response to Aliso Canyon natural gas leak later in the presentation.

--o0o--

EXECUTIVE OFFICER COREY: As I highlighted last year, we've implemented a number of organizational and leadership changes to align ARB's priorities and ensure that we're prepared. This past year we've added three new members to the leadership team, Todd Sax, Chief of the Enforcement Division; Emily Wimberger, Economics Advisor, who is leading our efforts to integrate more comprehensive consideration of economics throughout the agency; and I'm pleased to announce the appointment of Jack Kitowski as
Chief of the Mobile Source Control Division.

So it's a very attractive group. You can see that.

(Laughter.)

EXECUTIVE OFFICER COREY: All right. We've also continued to strengthen our partnerships with the public and private sector, both nationally and internationally. At the regional level, AB staff has developed close relationships with the State's metropolitan planning organizations.

Staff continues to work closely with local air districts and CAPCOA, and we've increased coordination amongst State agencies through our climate planning efforts, the Sustainable Freight Action Plan, the ZEV Action Plan, and the Clean Power Plan.

National and international outreach is also critical. During the Paris climate talks last month, California was joined by 13 North American and European governments in the international ZEV alliance. Ten other states are also following California's leadership in this area.

EXECUTIVE OFFICER COREY: These accomplishments are providing the foundation for future efforts. However,
this will be a critical year in defining the work that's still ahead. This will offer both challenges, but also tremendous opportunities to shape California's future. Before I walk through the specific items coming to the Board this year, I'd like to briefly describe the 2016 priorities and objectives.

EXECUTIVE OFFICER COREY: Over the next 15 years, we have a number of critical air quality and climate goals. These mandates include attaining health based air quality standards for ozone by 2023 and 2031, and PM2.5 standards over the next decade; minimizing health risk from exposure to air toxics; and by 2030 reducing greenhouse gas emissions 40 percent below 1990 levels, reducing petroleum use by 50 percent, increasing energy efficiency, and deriving 50 percent of our electricity from renewable sources.

EXECUTIVE OFFICER COREY: The interconnected nature of these public health and climate goals means we must align the strategies that will be needed to meet both goals. We'll need effective implementation of our current programs, but also a comprehensive transformation of the transportation and energy sectors, how we build our communities, and manage our natural resources.
Doing this will require creativity, innovation, and new partnerships at a scale far beyond what we’ve ever done. But it will also deliver broad environmental and public health benefits and promote clean economic growth. And to ensure these broad environmental priorities are equally shared, a continued strengthening of our environmental justice efforts will also be a central focus.

I'll talk more about these actions later.

EXECUTIVE OFFICER COREY: Meeting these goals will require sustained action. We'll need to undertake comprehensive new efforts to reach these goals including: Significantly greater penetration of ZEVs to reach our target of 1.5 million vehicles by 2025, and continued growth through 2030 and beyond; and introduction of the next generation of cleaner technologies in sectors where combustion will continue to play a role and increased use of renewable fuels.

The major plans coming to the Board this year are the first step, first step by defining a roadmap for meeting the targets. Although each plan focuses on individual mandates, the integrated planning process ARB has embarked on provides a coordinated framework. Board guidance and actions on how to achieve the transformation
will set policy direction.

As part of that process, there will be many issues the Board will need to consider. Two of the most significant are how we bring advanced technologies into the market to affect fundamental system-wide changes, and development of new approaches to funding this scale of transformation.

---o0o---

EXECUTIVE OFFICER COREY: To bring advanced technologies into the market, both regulatory and incentive based levers will be necessary. For example, the draft mobile source strategy proposes a passenger vehicle transformation that relies on increased penetration of plug-in hybrid electric vehicles and ZEVs by over 50 percent compared to current programs. As a result, the number of ZEVs on the road would need to increase from over 180,000 today to about four million by 2030.

Direct technology forcing regulations that have been so successful in the past will not be sufficient to achieve this scale of penetration. Instead, we'll need regulatory mechanisms to drive technology forward, and innovative incentives and national and international partnerships to support the demand the markets need for the transformation to occur.
EXECUTIVE OFFICER COREY: Incentive programs have been an important part of our portfolio to accelerate the penetration of cleaner technologies. They'll be key going forward to achieving the technology transformation needed. The first step will be to identify the scale of investment needed. While the planning processes this year will help define the needed investment, we do -- we know already that traditional public and private funding streams are simply not large enough. The GGRF, the climate proceeds, is an important part of our efforts to cut greenhouse gas emissions and meet our goals.

Likewise, long-standing air quality programs will remain important part of our efforts. But the challenge is much bigger than the GFRF or the Carl Moyer program. ARB will continue to leverage public-private partnerships to support investments on consumer outreach, awareness, and demand. But we need to figure out how to scale up the investments in cleaner and low-carbon technologies and foster much greater investments from the private sector. This means that we'll need to look beyond traditional State grants and subsidies and look to financing California's low-carbon low-NOx future in new ways that look at the synergies between public and private funding partnerships.
In short, 2016 SIPs and the scoping plan need to be the catalyst for discussions about how to increase the return on private investments in cleaner technologies, fuels, and sustainable development.

--o0o--

EXECUTIVE OFFICER COREY: Early in my presentation, I mentioned two successes in 2015: 100 new tons of NOx reduced and nearly 100 percent cap-and-trade compliance. Both of these are the result of ongoing implementation efforts of ARB's existing programs. Even as you'll be considering new plans for 2030 goals, most of ARB's work is focused on implementation.

The Truck and Bus regulation, Low Carbon Fuel Standard, Cap-and-Trade and Advanced Clean Cars are four programs that we often mention, but those are only the tip of the iceberg. There is air quality monitoring, research, enforcement, incentives, certification, and many, many more.

--o0o--

EXECUTIVE OFFICER COREY: We need to continue to strengthen environmental justice considerations across all levels of the organization. ARB has historically worked to incorporate environmental justice at the individual program level, but strengthening will need to include broader coordination amongst programs and with
environmental justice communities.

Board members will play a key role in providing direction on environmental justice policies and actions. Within the organization, we're increasing our outreach to and monitoring and enforcement efforts within the environmental justice communities. Investments in disadvantaged communities also remain a focus of our actions, but we know this is an area where we need to do more.

--o0o--

EXECUTIVE OFFICER COREY: Now, I'd like to preview some of the major items that will be coming to the Board this year.

--o0o--

EXECUTIVE OFFICER COREY: During 2016, you'll have numerous opportunities to discuss and guide the activities of this agency. These include consideration of an unprecedented number of plans coming to the Board this year, updates on our latest understanding of scientific issues, and status of current technologies, regulatory measures, and investments plans.

As Board members, you'll also help guide our continued engagement with local, national, and international partners.

--o0o--
EXECUTIVE OFFICER COREY: Beginning with the major planning efforts, the Board will consider 15 regional SIPs, 15, to meet federal ozone and PM2.5 air quality standards. You'll hear a preview of these SIPs later today. The Board will also consider the next update to the climate change scoping plan to attain more aggressive climate goals for 2030. The scoping plan update will be released in 2016.

Building on ARB's previous work on the 2015 sustainable freight strategy, the Board will consider the Sustainable Freight Action Plan in mid-2016, and you'll hear an update from staff about that today as well. As required by SB 605, ARB is developing a plan to reduce emissions of short-lived climate pollutants. ARB released a draft plan in September 2015, and the Board will consider the final plan in mid-2016.

Under the federal clean power plan, states must develop compliance plans to meet reductions of carbon dioxide. ARB staff has already held several workshops and hearings on the plan and anticipates presenting a draft to the Board in mid-2016. Staff will also be presenting proposed updates to the per capita greenhouse gas reduction targets established under SB 375 at the end of the year.

--o0o--
EXECUTIVE OFFICER COREY: ARB staff is developing a series of technology and fuels assessment reports for heavy-duty applications to understand technology options. These assessments identify technology performance, market readiness, costs, and current deployment challenges. Assessments will be released in 2016 for fuels and major off-road sectors, such as locomotives and ocean going vessels and aviation.

ARB is partnering with EPA and NHTSA on the mid-term review. We'll be reviewing the market status of zero emission vehicles and we'll bring the findings to the Board in 2016. The findings will help inform future light-duty vehicle standards beyond 2025, and any subsequent rule-making to modify the standards, if necessary.

--o0o--

EXECUTIVE OFFICER COREY: Many of this year's regulatory efforts will build on technology advancements by requiring the next step in cleaner technology. These include amendments to regulations that require electrification of auxiliary engines on ocean going vessels while at berth, and California's heavy-duty greenhouse gas phase 2 standards. ARB will consider the potential for setting more stringent standards than those proposed by EPA as well.
Staff will also begin work on regulations coming
to the Board over the next five years, adoption of a new
heavy-duty low-NOx standard will be a critical element of
meeting our air quality standards. Other work will
include regulations and policies in the light-duty sector
that extend the current Advanced Clean Cars program past
2025. Lastly, ARB plans to petition EPA on setting more
stringent standards for locomotives.

--o0o--

EXECUTIVE OFFICER COREY: Other regulations will
target the introduction of zero emission technologies in
the heavy-duty sector. These regulations will serve as
the foundation for technology transfer to additional
sectors. Measures in this category include the Advanced
Clean Transit regulation to phase in requirements for zero
emission bus purchase with a goal of full zero emission
transit fleets in 2040. ARB will also consider a new
regulation in early 2016 to facilitate zero emission
heavy-duty technology by providing flexibility for
certification of meeting medium and heavy-duty engines.

Finally, ARB will initiate work on the last-mile
delivery regulation to phase in requirements for zero
emission technologies.

--o0o--

EXECUTIVE OFFICER COREY: On fuels related
measures, the Board will consider a regulation for oil and
gas production, processing, and storage to minimize
fugitive methane emissions from oil and gas operations.
This regulation will also cover well stimulation,
including fracking.

Looking ahead, development of a new low emission,
low carbon intensity renewable diesel fuel will begin
providing both NOx and greenhouse gas benefits.

--o0o--

EXECUTIVE OFFICER COREY: The Board will consider
an update to the SB 375 greenhouse gas emission reduction
targets first established in 2010. ARB is currently
collaborating with MPOs and stakeholders to develop a
proposal for updated targets. Later, during today's
meeting, you'll hear about the activities underway to
develop California's Sustainable Freight Action Plan.

--o0o--

EXECUTIVE OFFICER COREY: The greenhouse gas
Cap-and-Trade Program continues to be a world example of
climate change regulation. ARB has been in contact with
dozens of jurisdictions around the world about our
program, especially with respect to our successful linkage
with Quebec's cap-and-trade system.

At the United Nations climate change conference
in Paris this fall, California representatives were in
high demand to discuss its programs. The Board will also consider amendments to the Cap-and-Trade Program that will include continuing the program beyond 2020, expiration of post-2020 caps, and linkages with other jurisdictions. The amendments will also include modifications, so that the program can be used to comply with the Clean Power Plan.

As part of the Cap-and-Trade Regulation, staff will also continue implementation of the adaptive management program to monitor for potential adverse air quality impacts.

--o0o--

EXECUTIVE OFFICER COREY: In 2016, you'll consider approval of funding allocations for several current programs, including the Low Carbon Transportation and Carl Moyer programs. Combined, these programs will provide over 550 million to accelerate the deployment of cleaner technologies. Funding programs will also continue to focus emission benefits to disadvantaged communities throughout the State. And as I mentioned earlier, implementing the transformation of the transportation and energy sectors will require continued long-term funding both for existing programs and innovative new mechanisms that take advantage of public-private sector partnerships.

--o0o--
EXECUTIVE OFFICER COREY: Before I wrap-up, I need to touch on two issues that ARB is deeply involved with that compound the challenge of achieving emission reductions needed to meet our air quality and climate goals. The first is a natural gas leak from the Southern California natural gas storage facility in Aliso Canyon.

Late in 2015, methane began leaking from the largest natural gas reservoir in the state. As soon as we were informed of the leak, ARB staff began to coordinate efforts to measure the emissions from the leak as part of a multi-agency response. Measurements of the total leak rate from the facility are being made with the same monitoring system and technology we’ve been using to measure methane emissions as part of our greenhouse gas emissions research.

ARB is posting weekly results from air flights with methane monitors through the plume of leaking gas. And to date, we estimate the total emissions to be approximately two million metrics tons of CO2e. This preliminary estimate will be refined over time with additional data and analysis by JPL, NASA, UCs, and the Japanese Space Agency.

The Governor has directed ARB to develop a plan for the gas company to fully mitigate the greenhouse gas emissions from the leak. The measurements we are making
will form the basis of that plan. Working in concert with
the South Coast Air Quality Management District, we're
developing monitors -- or rather deploying monitors into
the surrounding community to provide real-time information
to the residents about their exposure to leaking gas. We
currently have six methane monitors in place, one benzene
monitor, and are working to deploy more. The real-time
data is available on ARB's website.

Finally, we're providing recommendations on
in-home air filters that residents can use to reduce the
noxious odors from the gas that can cause nausea, nose
bleeds, and headaches.

--o0o--
EXECUTIVE OFFICER COREY: In early 2012, ARB
began working with the International Council for Clean
Transportation and West Virginia University on a study of
emissions from light-duty diesel vehicles. By 2014,
results of that study indicated emissions from VW vehicles
over the road were too high, and ARB staff began an
investigation to determine why.

Months of testing using portable emission
measurement systems and laboratory dynamometer testing
ultimately led to VW's admission last year. This would
not have been discovered but for the expertise,
persistence, commitment, and professionalism of the El
Monte Laboratory staff.

Moving forward, ARB will hold VW accountable for pursuing three goals. First, to the extent possible, the vehicles must be fixed. Second, VW must mitigate all past and any future harm. Third, VW must pay penalties for their illegal actions. And as you know, we're operating in a complex legal environment that understandably limits my ability to publicly discuss the situation in further detail.

Moving forward, it's clear our certification and compliance programs must evolve. New vehicles must achieve low emissions, not just over certification cycles, but over the full range of driving conditions. In addressing these needs, our testing and research efforts are becoming even more important than they were previously. This is why having a new state-of-the-art laboratory is so critical.

--o0o--

EXECUTIVE OFFICER COREY: As you may recall, we briefed the Board last month on the status of our activities to secure a site for the new ARB Southern California facility modernization project. We now plan to brief interested stakeholders and our staff prior to the release of a report in mid-February, a Board hearing is scheduled for March 17th in El Monte to discuss next steps
on this project.

EXECUTIVE OFFICER COREY: There's a lot to be excited about in 2016. It's going to be a very significant year for us, and the transformation and integration of technology, systems, and fuels infrastructure has already started. My last few slides highlight just a few of these innovations.

--o0o--

EXECUTIVE OFFICER COREY: New vehicle technologies are being rolled out to the public at an increasing pace. Retail sales of fuel cell vehicles were launched in California during 2015. In fact, Chair Nichols just took possession of a Toyota Mirai. Longer range battery electric vehicles are coming to the market that are cost competitive with gasoline fueled vehicles. Autonomous and connected vehicle technology is becoming standard on new car models. This technology has the potential to delivery enormous gains in safety, while also reducing traffic congestion, and improving fuel efficiency.

--o0o--

EXECUTIVE OFFICER COREY: The first retail sale of hydrogen happened in California. We were the first in the world to certify a station to cell hydrogen fuel to the
public. DC fast-charging stations are dramatically expanding in California, and we're seeing increasing volumes of renewable fuels.

--o0o--

EXECUTIVE OFFICER COREY: Smart logistics are transforming goods movement in California. Examples include automated shipping terminals, such as middle harbor at the Port of Long Beach. In the light-duty sector, more transportation sources are available than ever before. The option to share a car, use on-demand mobility services, take transit, ride a bike or walk is resulting in new choices in personal mobility. The expanded travel choices are being incorporated into Sustainable Communities Strategies.

--o0o--

EXECUTIVE OFFICER COREY: We're entering a newer era of technology, fuels, and systems that are evolving more quickly and ever before. And as noted, we're already beginning to see that transformation occur. Continued implementation of our core programs will be essential. Providing a foundation for deploying cleaner technologies, but also serving as a blueprint for successful approaches, but we'll also need to take a look at creative new solutions.

Therefore, this will be a pivotal year for
mapping out a vision for putting us on a track to meet our air quality and climate goals and developing an integrated framework for our planning process. This will provide tremendous opportunities to continue to lead the nation and the world on how to achieve clean air, slow global warming, and thrive economically. We're looking very forward to working with you to get there.

That concludes my remarks.

VICE CHAIR BERG: Thank you very much, Mr. Corey. Once again, a very thorough and impressive review for the year. And quite frankly, I don't know about my fellow Board members, but it always gives me pause to take a deep breath to say, okay, stay calm --

(Laughter.)

VICE CHAIR BERG: -- we're going to be able to tackle all of this, as we have more and more complicated things to look at, more integrated, the need to work closer with our sister organizations, develop these relationships. These are complicated times, and we certainly want to commend you and our staff. We have a great deal of confidence and a great team up here. We do have three people that would like to make comments. So before I go to the Board, I'm going to take those three speakers. And you'll see your name up here, and we'll start off with Katie.
MS. GARCIA: Good morning. My name is Katie Valenzuela Garcia. I'm here today on behalf of your Environmental Justice Advisory Committee. And first, I just want to say that I do respect your commitment and the commitment of Executive Officer Corey and staff the pursuit of environmental justice. And it's out of that respect and by request of my fellow EJAC members that I'm here today.

I've submitted a letter for your review. This letter was submitted to staff yesterday regarding the timeline for 2030 target scoping plan development. This letter was drafted by me in response to concerns the EJAC expressed to staff at our first meeting on December 7th, 2015. And it was approved by the entire EJAC at our January 6th meeting, and has since been joined by many of our environmental justice partners including Breathe California, the California Environmental Justice Alliance, the Central California Environmental Justice Network, the Coalition for Clean Air, Public Advocates, and the South Oak Park Community Association here in Sacramento.

In short, we are requesting a longer timeline to allow for sufficient public outreach, and specifically to allow for the EIR to start after the plan has received at least two rounds of public comment. We think that this is a very reasonable request, and that it's actually
essential to our ability to fulfill the duty that we've been charged by you and by AB 32.

I've really appreciated the opportunity to discuss this proposal with staff and with Executive Officer Corey. And I do believe we can find a solution, but time is of the essence. Our next meeting is February 5th, and we would appreciate the ability to plan our activities accordingly. And so we would like a rapid resolution to this request.

And with that, I am available for your questions or discussion, and I appreciate your time.

Thank you.

VICE CHAIR BERG: Thank you very much. Before you leave, I think I'll have Mr. Corey. I know that the two of you had an opportunity to meet. And if you could just brief the Board a little bit about our approach, and certainly thank you very much for your service and the importance of your committee. So we really appreciate you getting in touch with Mr. Corey as well.

MS. GARCIA: Thank you.

EXECUTIVE OFFICER COREY: Yes. Thank you, Vice Chair, and thank you, Katie. We actually had a very good conversation. It was an opportunity to walk through, one, the key role, a really very important role, that EJAC is playing in this process, and will play throughout with the
concern expressed in terms of the timetable for the scoping plan, which is tight. You know, it laid out at a time frame that had a draft coming out in the -- prior to the May time frame.

What we're doing, and the commitment that I made, was recognizing process is going to be key on this thing. There's just no doubt about that, in terms of EJAC's input and the range of other stakeholders that are going to have something to say on this plan. It's going to be a plan that is comprehensive and tells a clear story to how we're going to get to a 2030 target.

My commitment was to go back to staff, sit down with Katie and her folks, and look at some adjustments to the schedule, and go into that conversation recognizing that adding some additional steps, both the process, probably another workshop, and some additional time is something we are committed to do. So bottom line is we just need to sit down and work through the adjustments to the schedule.

VICE CHAIR BERG: Understanding that in the process and adding time, along with the EIR, there is, from beginning to end the more time we add in the middle, we're going to delay our ability to get this approved, is that correct?

EXECUTIVE OFFICER COREY: That is correct. In
fact, the concern of -- thanks for the follow-up question. The concern, and I was straight up with the group that was asking for an additional year, I said I think that's too long, because I actually think it puts off future actions, but I also believe that there's a compromise that we can work on that meets the objective of moving forward on a plan, so we can execute on the measures, making sure that we have a fair, open, and really a robust public process, and strike that balance.

So that's -- that is where the follow-up conversation is going to go, where can we make some adjustment to the schedule, keeping in mind the need to get the -- a scoping plan in front of the Board.

VICE CHAIR BERG: Well, I'm really really encouraged and really appreciate, Katie, your group, and the importance it is to this Board. And I really want to encourage our staff and whatever we can do as several Board members up here are very in tuned with the goal here. It's going to be meaning -- doing a little bit more work, and maybe extending the time, but getting the job done right.

And so we want to make sure to stay in touch with you. And so however we can do that, please use us. And I'll leave it to staff that you've got a lot of things on your plate, but this is an important issue, just as you
outlined, Mr. Corey, and we'll get this done.

MS. GARCIA: Thank you.

VICE CHAIR BERG: Thank you, Ms. Garcia.

MS. RASBERRY: Good morning, Board. My name is Tamara Rasberry. I'm from the Sempra Energy utilities, SoCalGas and the Southern California Gas Company. I just wanted to make some brief comments on the Aliso Canyon natural gas leak. I thank Mr. Corey for his brief update. A lot of people here have had updates recently.

And just for the Board's knowledge and for the public, that SoCalGas announced that our relief well project to stop the Aliso Canyon gas leak is proceeding ahead of schedule. We are looking towards late February to be able to cap the leak.

Recently, ARB monitoring data showed the estimated emissions had decreased by more than 60 percent since the previous estimates by ARB on November 28th. And SoCalGas is working within the community with all State, local, and federal agencies to make sure that the community is safe and protected, and the gas leak is stopped and contained as soon as possible.

And I'm available for any questions. Thank you.

VICE CHAIR BERG: Thank you for coming.

And Shelly Sullivan.

MS. SULLIVAN: Good morning, Board. Thank you
for having me make a few comments today. I was really encouraged by Mr. Corey's presentation, and the fact that cap-and-trade was going to -- is focusing on that, and that we're moving forward. The Climate Change Policy Coalition is always very encouraged when we can have a very broad market.

As you know, Washington has recently released its proposed draft regulation that creates a Cap-and-Trade Program. However, Washington doesn't have the legal authority to conduct auctions, and provide allowances in their draft regulation, so Washington is now telling their regulated communities that they would be allowed to buy allowances, California offsets and allowances, and RGGI allowances.

And so by purchasing those, we're wondering what kind of effect that will have on the California market, and are we going to have workshops to figure out the economics and what's going to be going on, and how that does affect the market?

VICE CHAIR BERG: Okay. Great. I will refer that to staff. But are you done with the rest of your testimony?

MS. SULLIVAN: Yeah, I was just wondering about are we going to have public workshops, and, you know, what is, you know, ARB staff thinking on their conversations
with Washington and allowing Washington to, I guess, have
a one-way linkage, if you will.

VICE CHAIR BERG: Thank you very much, Ms. Sullivan.

Staff. Good morning.

DEPUTY EXECUTIVE OFFICER CHANG: So we have seen
the Washington proposal. It's actually sort of for a
facility level cap. And as Ms. Sullivan said, there are
no allowances in the Washington program, but they do look
at some mechanisms to allow reductions to come in from
programs like California and RGGI. We've been in contact
the Washington staff as they've been developing their
program, and we are talking with them about what sorts of
assumptions we could use to estimate what the potential
impacts would be on our program.

And I think that as part of the regulatory
development that's something that would come through, as
we look at potential economic impacts on our program as
well.

VICE CHAIR BERG: What type of time frame is --
are we looking at on this?

DEPUTY EXECUTIVE OFFICER CHANG: Washington, I
think is looking. I'm trying to remember exactly when
they're look to finalize, but it's relatively quickly. I
think it's probably in the next several months.
VICE CHAIR BERG: And how are we going to communicate what we have found out from staff and the impacts of this?

DEPUTY EXECUTIVE OFFICER CHANG: We're in a regulatory process right now for the Cap-and-Trade Program. And I think as part of some of those public processes and workshops, we can have those conversations with stakeholders.

VICE CHAIR BERG: Great.

MR. SULLIVAN: So we'll have an economic analysis and the results of that?

DEPUTY EXECUTIVE OFFICER CHANG: We'll look at what the impact is on our program.

MS. SULLIVAN: Great. Thanks, Edie. Thank you.

VICE CHAIR BERG: Thank you very much.

With that, is there anybody Board comment on this item?

Professor Sperling.

BOARD MEMBER SPERLING: I have one big thought and one little thought.

The big thought is I want to add that this is extraordinarily impressive. What we're doing and what -- you know, everything -- everyone is watching what we do in terms of climate change, as well as air pollution. And the list of programs and activities and incentives and
regulations it really is a model and shows leadership, but it's also -- the partnership part of it is so critical as we just heard with Washington that we are forging these partnerships with our different programs, as we move forward.

So it really is scary and exciting. What we're doing here, and it's very impressive how staff has done such a good job of being careful. You know, we're analyzing the economic impacts every step of the way, the other kinds of -- the EJ impacts and other social impacts. That's the big idea.

The little idea is I want to add to the praise of Chair Nichols as a leader in her actions in getting a hydrogen car, and note that this afternoon if we end this Board meeting early enough, I will be getting my hydrogen car following in her footsteps. And I would note the Board here, you know, we -- the majority of the Board has electric vehicles, and I've had electric and hybrid vehicles since 2000. And so we are walking the talk up here.

VICE CHAIR BERG: Thank you.

Supervisor Gioia.

BOARD MEMBER GIOIA: I just want to sort of add to your comments that this is all very impressive, but I wanted to also add the note that it is important to
continue, I'll call it, an aggressive time frame to continue moving forward with this momentum, because as we continue to face those who will try to derail this effort, the quicker we continue this work, and embed this work, and drive technology change, the harder it is to turn back the clock.

So I know those who have said can we slow down the process a bit? And I appreciate Mr. Corey said we'll work with the stakeholders with the comment that was made from one of the EJ members. And at the same time, we're continuing this work aggressively, because there are continual efforts to try to slow it down, and derail it.

And we've recognized that the quicker this gets enacted and implemented, the harder it is to turn it back. So I just wanted to add that. And, yes, I drove up here in my fully electric Nissan Leaf.

(Laughter.)

VICE CHAIR BERG: Thank you very much.

Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Thank you. I want to echo those comments. I've twice now gone out and spoken to the public about our agenda for this year. And, A, when I got that agenda, I was surprised, you know, startled. There is so much that we're going to be doing this year.
And the reaction that I get -- that I got both times in presenting this to those audiences was absolutely supportive to John's point that we're doing all of this, that they want us to do these things. And, of course, we're going to follow all of the steps we need to. And, you know, the wonderful thing about this Board is when we see something not quite right, we're always willing to adjust along the way, always willing to do that.

But this agenda for this year, in my time on this Board, is absolutely the most aggressive that I've seen, and it's going to be a tough year, but I'm very, very optimistic we're going to power through most of it, and we're going to do what needs to be done on GHG, on criteria pollutants for the people of California. So I'm very excited, but I'll tell you the first time I saw it, I was a little bit in shock, but it's worn off now --

(Laughter.)

VICE CHAIR BERG: We're raring to go.

BOARD MEMBER DE LA TORRE: -- and ready to work.

Thank you.

VICE CHAIR BERG: Thank you. I'd like to bring this item to a close by thanking our Executive Director, Mr. Corey. Your leadership is outstanding. I think I can speak on behalf of my fellow Board members that we are not only grateful, but very, very thankful that we have you as
our Executive Director. Your team is outstanding. You're building terrific leadership within our group. And so this is a great time to say thank you very much for all you did in 2015. And we look forward to working with you and supporting all of our efforts in 2016. And so --

BOARD MEMBER BALMES: I'll second that.

VICE CHAIR BERG: Oh, thank you.

Okay. With that, we'll move on to our next item. Give staff a chance to populate their chairs. And with that, I'll go ahead an introduce the next item.

Item number 16-1-6 is an informational update on ARB and the State's sustainable freight effort. Governor Brown's recent Executive Order directing the State to develop a multi-agency California Sustainable Freight Action Plan recognizes the essential leadership for the role of the State. It communicates California's strong unified commitment to improving our freight transport system and motivates a broad participation of public and private entities in the Sustainable Freight Action Plan development and implementation.

I'm firmly convinced that the long-term strategy and the success of that strategy and the effort should be judged not only on meeting our public health and climate goals, but also by advancing our mobility, safety, economic objectives. These goals and the objectives are
interdependent and the success of one truly depends on the
success of all.

Efficiency strategies are one of the keys that
can advance all of those goals and objectives. They
provide positive air quality impacts a business benefit to
industry, and improvement for the operation of our
transportation infrastructure.

Many of these opportunities fall outside the
purview of government. So we will continue to look to the
freight industry's effort for truly their leadership on
system-wide efficiency improvements.

Thanks to Dr. Sperling and his freight efficiency
think tank, we are making progress with the group of
industry and academic advisors to identify potential
system-wide strategies.

I'm excited about the progress that our State
partners' work on truly an integrated effort. And as we
all know, when we cross these -- into these partnerships,
this takes a lot of effort.

The integrative approach is new and is
challenging, but I'm truly confident that it will be
effective. Working together to find common solutions to
California complex freight transport challenges will
result in crucial improvements that truly address multiple
objectives.
Today, our discussion will focus on the progress ARB has made this year, meaning in 2015, on reducing emissions from the freight transport system and alleviating air quality impacts, consistent with the actions items that ARB's sustainable freight pathways document stated.

Staff will also provide an update on the State agency's joint effort to meet the Governor Brown's Executive Order. And I'm sure when we hear the State of the State address that is happening this morning, that there will be even more passion behind this effort.

In the companion items to follow, staff will focus on ARB's near-term actions taken last year, 2015, to strengthen our enforcement and compliance effort in the communities most affected by freight pollution. This will really be a two-part update. First, we'll hear an update under the actual plan, and then we'll hear an update on the enforcement.

Mr. Corey, would you please introduce this item.

EXECUTIVE OFFICER COREY: Yes. Thanks, Vice Chair.

With the help of our private and public partners, we're seeing real world benefits of our efforts. A 75 percent drop in statewide diesel particulate matter emissions from the freight sector since 2005 and
measurably cleaner air in port and railyard communities.

Yet, with that, the cancer risks remain unacceptably high, especially in disadvantaged communities near major freight facilities. Attainment of federal ozone and particulate matter standards compels significant additional emission reductions in the South Coast, San Joaquin valley and Sacramento. And meeting our 2030 climate target also requires further action from this growing sector.

At the same time, California's ability to maintain the economic engine of freight transport is challenged by competition from other regions in North America. Whether moving consumer goods through the E-commerce supply chain or bringing California's agricultural products to market, our transportation infrastructure needs improvement too.

The sustainable freight pathways to zero and near emission reductions document was presented to the Board and released this past April. Since then, staff has made progress on initiating and implementing the immediate and near-term actions in that discussion document. In addition to the enforcement actions that you'll hear about during the following item, incentive programs have provided immediate air quality and public health benefits this year.
The Proposition 1B Carl Moyer and truck voucher incentive programs collectively funded over 1,470 pieces of cleaner freight equipment in 2015 resulting in significant emission reductions.

New opportunities were also on the horizon for sustainable freight. Staff has initiated work on potential actions across freight sectors that will provide for equipment with cleaner combustion and zero emission capabilities, several of which are expected to be brought before the Board in 2016.

I'd now like to ask Kelly Lier to present the staff's update on our sustainable freight activities.

Kelly.

(Thereupon an overhead presentation was presented as follows.)

MS. LIER: Thank you, Mr. Corey.

Good morning Vice Chair Berg and members of the Board.

--o0o--

MS. LIER: Today, I will provide an update on the progress made to implement the April 2015 sustainable freight pathways to zero and near zero emissions discussion document, and provide an update on the collaborative efforts between ARB, partner agencies, and stakeholders to develop a California Sustainable Freight
Action Plan.

--o0o--

MS. LIER: First, I will provide some context for the State freight system. You may recall from the April update that the freight dependent industries contribute to about one-third of the California economy and California jobs. In addition to providing economic benefits to the State, freight activities in California are expected to increase over the coming decade. By 2025, freight movement is projected to increase in volume by approximately 25 percent and increase in commodity value by 60 percent from 2012.

--o0o--

MS. LIER: In the last Board discussion, there were questions about where the cargo comes from. To learn more about this, we have analyzed data provided by the U.S. Department of Transportation and the freight analysis framework. This commodity flow database contains freight movement information by mode, commodity, and origin destination zones that is characterized as moving from, to, within, and through California.

From this, we have learned that while freight movement at our ports of entry is important, the majority of freight movement is happening within California. Understanding how freight moves now and in the future is...
key in meeting our air quality objective.

--o0o--

MS. LIER: The freight industry has made substantial investments to transition its equipment to cleaner models. And California is seeing the real-world measurable benefits of those investments. However, the scope of emission reductions required to meet California's mandates is vast. The freight transport system accounts for about half of toxic diesel particulate matter, 45 percent of the emissions of NOx, and six percent of the greenhouse gas emissions in the State.

Looking ahead, emissions from the freight transport sectors will continue to decline over the next decade as adopted controls are fully implemented, and then begin to increase as growth and activity overcomes the benefits of the existing controls.

This confirms the importance of improving the system to achieve our public health, air quality, and climate change goals. We must move towards a sustainable freight transport system that relies on equipment with zero tailpipe emissions everywhere possible and near zero technologies powered by clean, low carbon renewable fuels everywhere else.

--o0o--

MS. LIER: To make this change, we need well
coordinated actions to transition to a less polluting, more efficient, and modern freight transport system. In April of last year, we released the Sustainable Freight Pathways document to describe ARB's vision and potential levers to achieve a more efficient, cleaner freight system. The pathways document identifies immediate actions, near-term measures, a long-term vision for each equipment category, and broad based measures under consideration. Over the next few slides, I will provide an update on the activities undertaken thus far.

--o0o--

MS. LIER: I will begin with the immediate actions. Last year, staff initiated actions to enhance enforcement and deploy incentives to deliver new emission reductions, and further reduce health risks in impacted communities. Enforcement staff will provide an update on the expanded enforcement efforts during the next item, so I will focus on incentives.

The State funded incentive programs administered by ARB and the local air districts introduced over 1,400 new trucks and locomotives in 2015. These include zero emission and hybrid trucks, as well as diesel and natural gas trucks meeting the latest standards, and locomotives that are replacing older, higher-emitting models. These projects cumulatively reduce approximately 10 tons of
particulate matter and 980 tons of NOx annually.

--o0o--

MS. LIER: Next, I will talk about the near-term actions. They focus on both cleaner combustion technologies and introduction of zero emission equipment.

--o0o--

MS. LIER: As Mr. Corey mentioned during his presentation, there are several regulatory actions underway. In addition, what we have in the pipeline now will ensure durability, in-use performance, and certification flexibility. They are expected to go to the Board for consideration this year and next.

Staff is also in the process of assessing the State's authority regarding warrantee repair facilities. There have been a number of exciting developments this year in relation to trucks. First, ARB has certified a low NOx natural gas engine that uses a catalyst to meet 0.02 grams per brake horsepower hour emission level.

Second, fleets have shown interest in replacing their engines with cleaner technology. During the district's Proposition 1B solicitation last year, fully half of the applications received were for low NOx and zero emission trucks.

--o0o--

MS. LIER: In addition, Staff has also been
pursuing actions for cleaner truck emission standards, as discussed by Mr. Corey. To support these efforts, ARB has contracted with Southwest Research, who is working with the Manufacturers of Emission Controls Association and its members to demonstrate both natural gas and diesel-fueled engines that achieve low NOx emissions. We expect results at the end of this year.

--o0o--

MS. LIER: Next, is our work regarding ocean going vessels. Staff has approved two alternative technologies to capture and control vessel emissions at berth. Not only do these new technologies help offer flexibility to vessel fleets to meet the requirements of ARB's at-berth regulation, these also support potential expansion of the regulation to include more vessel fleets and types.

Staff is meeting with stakeholders and is in the process of developing amendments to the regulation to address implementation issues, and expand the scope to capture additional emissions from marine vessels. This is especially critical in cutting NOx emissions in the South Coast Air Basin.

In addition, we are adding advocacy with other states and countries to garner support for marine controls, new international maritime organization tier 4
standards, and efficiency targets for existing vessels and 
ship energy efficiency management plans. Staff will also 
be working to define the criteria for a super low emission 
efficient ship and enhance seaport incentive programs to 
help increase the number of cleaner ships visiting 
California ports.

--o0o--

MS. LIER: For locomotives, staff will be 
preparing a petition to U.S. EPA this year asking for the 
next phase of cleaner national emission standards. After 
further analysis since the April pathways document, we 
will also petition EPA to tighten the requirements for 
remanufactured engines, so that they are upgraded to the 
current tier 4 emission levels.

New developments, such as the compact selective 
catalytic reduction system for existing locomotives shows 
potential to reduce emissions and supports a remanufacture 
requirement to tier 4.

In addition to actions that promote cleaner 
combustion, staff has also been developing actions to 
accelerate the use of zero emission technologies in 
freight sectors.

--o0o--

MS. LIER: We have heard proposals in particular 
from our ports, to be early adopters and test out zero
emission technology. Staff has been working to provide resources for stakeholders to implement these technologies. One mechanism we are using is advocating for zero emission vehicles at new and expanded freight hubs during the planning and project development stages. We are also looking for opportunities to maximize zero emission technology and potential pilot projects under the California Sustainable Freight Action Plan, which will be discussed later in the presentation.

In addition to our incentives progress that you heard about earlier, staff is pursuing demonstration projects as an avenue to promote zero emission technology in freight applications. In June 2014, the Board approved nearly $50 million for zero emission freight demonstration projects. The Low Carbon Transportation Program opened solicitations for a zero emission drayage truck demonstration project, and a multi-source facility demonstration project. The objective of these projects is to demonstrate full zero emission and zero emission capable drayage trucks, as well as zero and near zero emission equipment and vehicles at a seaport. Both of these projects will benefit disadvantaged communities.

--o0o--

MS. LIER: Staff has also been pursuing zero emission technology through development of the zero
emission actions in the pathways document.

These include a proposal to accelerate market penetration of zero emission trucks in last mile freight delivery, which will be workshopped this year. Staff expects to present it to the Board for consideration in 2018.

Large spark-ignition equipment used for freight includes forklifts. There has been a lot of progress in the forklift sector with over half of forklifts in California operating with zero emissions. To move the rest of the large spark-ignition industry to zero emissions, we are developing a regulation to require zero emission large spark-ignition equipment in two phases. First is reporting and labeling requirements, and second is a transition to zero emission equipment.

In addition, staff has been developing a regulatory concept to phase out the use of fossil fueled transport refrigeration units for cold storage. Workshops to discuss the proposal are planned for this spring. Work on market development of zero emission technologies for heavy-duty applications that could be transferred to freight are also underway in the airport shuttle and transit bus sectors.

--o0o--

MS. LIER: The draft mobile source SIP recognized
a need to reduce emissions beyond the near-term measures. As the Board is aware, our risk assessments have shown that freight hubs are a source of localized health risk. Most of our regulations focus on a specific type of equipment like trucks or cargo handling equipment, regardless of where it operates. The risk assessments show we need to address the total emissions at hubs.

As staff continues to pursue near-term measures that promote cleaner combustion and zero emission technologies, we are also working to gather data necessary to inform new strategies. These may include incentives, enforceable agreements, stronger fleet rules, efficiency improvements, and a facility emissions cap-based approach.

Staff has identified data gaps for freight facilities, such as border crossings, seaports, airports, warehouse and distribution centers, railyards and truck stops. You will draft a survey and discuss it with stakeholders prior to release this spring.

--o0o--

MS. LIER: An integrated State planning effort is integral to achieving California's public health, air quality, and climate change goals.

--o0o--

MS. LIER: Executive Order B-32-15, which was signed by Governor Brown, provides direction on how
California will ensure progress towards a sustainable freight transport system. The Executive Order calls for the development of an integrated action plan by July. This plan must establish targets, include State policies, programs, and investments to meet the targets, and include potential corridor level freight pilot projects that will demonstrate progress towards a sustainable freight system.

The Secretaries for Transportation, Environmental Protection, and Natural Resources are leading ARB, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development in the development of the California Sustainable Freight Action Plan.

--o0o--

MS. LIER: Existing documents will serve as the foundation for the development of the action plan, including the sustainable freight: Pathways document, ARB's technology and fuels assessments, Natural Resources Agency's Safeguarding California; Caltrans' California Freight Mobility Plan, and the California Energy Commission's Integrated Energy Policy Report.

Broad stakeholder input is also a foundation for the action plan development. Since the commencement of the action plan effort in July of last year, we have held approximately 80 meetings with stakeholders, and
participated in the California Freight Advisory Committee, industry work groups, and held a public webinar in October to introduce the effort to the public.

--o0o--

MS. LIER: In addition, there are several planning efforts underway or recently completed that closely relate to the action plan effort. This includes ARB's mobile source strategy for the State Implementation Plan, the 2030 Target Scoping Plan Update, and the Short-Lived Climate Pollutant Reduction Strategy, as well as Caltrans California Transportation Plan 2040.

The transportation plan provides a long range policy framework to meet future mobility needs and reduce greenhouse gas emissions. The action plan will include recommendations that complement and support the goals and strategies in these State planning efforts.

--o0o--

MS. LIER: So what exactly will be in the action plan?

Currently, staff is working to include five main elements: A long-term vision, guiding principles, 2030 targets, potential agency actions, and potential corridor level pilot projects. Over the next few slides, I will provide a quick update on the multi-agency team's current thinking for these elements.
MS. LIER: The multi-agency group has worked together to develop the statewide vision for the sustainable freight transportation system on this slide. In addition, the guiding principles will help prioritize State resources to support actions to achieve the 2050 vision.

MS. LIER: The Executive Order also calls for clear targets on freight efficiency, zero emission technologies, and competitiveness. Through the multi-agency work and outreach conducted so far, we have developed draft targets that address each of these objectives. The efficiency target builds upon a previous Caltrans target. Caltrans is also currently developing a metric that can be used to measure progress toward the target.

The technology target reflects ARB's objectives in the pathways document for zero and near zero emission technologies. The 100,000 figure anticipates that multiple types of vehicles and equipment capable of operating with zero emissions will be in California's fleet by 2030.

The Governor's Office of Business and Economic development, or Go Biz, is part of the multi-agency team.
The team wrestled with an economic indicator to respond to
the executive order calling for a competitiveness target.
Go Biz concluded that the State cannot influence
competitiveness because that depends on many factors
unique to each individual business. Instead, the priority
should be to clearly identify each proposed State action
and the potential costs and benefits on industry sectors.

Go Biz has encouraged freight logistics companies
to carefully review the State's economic analysis, and to
do their own cost estimates for comparison. In addition
to the potential cost, there will be economic benefits
from the State's investment and opportunities to support
local economic development, for example, through the pilot
projects.

--o0o--

MS. LIER: Potential actions that will help
advance progress towards the 2030 freight goals will
include State policies, programs, and investments. Many
of the actions will be carried over from existing plans.
Others will be new concepts based on review of gaps in the
State's existing strategies and from outreach conducted so
far.

These include: Advanced technologies such as
zero and near zero emission engines and vehicles,
information technology systems, and vehicle to grid
integration; freight and fuel infrastructure to support the future freight transport system like standardization of heavy-duty truck charging protocols; alternative and renewable fuels, like the development of a natural gas vehicle research roadmap to identify opportunities to integrate renewable natural gas into freight applications; system efficiency opportunities, like those that will result from the San Pedro Bay ports supply chain optimization effort; and broad based strategies for freight facilities and hubs, such as a freight handbook with recommendations for the siting, design, and operation of freight facilities.

Specifically, ARB staff is proposing the inclusion of the near-term actions from the sustainable freight pathways document. Additional freight items in the mobile source strategy, including the longer term strategies to achieve further emission reductions, a freight handbook, and assessment of biofuels for aviation, marine, and locomotives.

--o0o--

MS. LIER: Professor Sperling has also chaired a freight efficiency think tank convened by Caltrans. The group of freight experts from academia, industry, and government are examining broad-based approaches to increase the efficiency of the freight transport system...
while reducing its emissions.

This work group is helping to identify a set of efficiency strategies to incorporate into the plan along with the necessary incremental steps to develop those strategies. We would like to thank Professor Sperling for his time and leadership.

--o0o--

MS. LIER: The Executive Order also directs the State agencies to initiate work on freight pilot projects within the State's primary trade corridors that integrate advanced technologies, alternative fuels, freight and fuel infrastructure, and local economic development.

To start, the State agencies sought stakeholder input and received over 50 ideas for transformative and innovative projects.

--o0o--

MS. LIER: The submissions inspired a preliminary list of pilot project concepts that the multi-agency team will further evaluate as the plan develops. The initial list includes a food consolidation and distribution hub in Northern California served by clean trucks and rail, a set of strategies for addressing urban freight delivery and workforce development in the Bay Area, dairy biogas production and fueling infrastructure for trucks in the San Joaquin Valley, a truck-only lane from the San Pedro...
Bay ports to facilitate use of advanced technologies, and a clean truck fast lane at the U.S.-Mexico border to reduce the miles-long queue of trucks that idle while waiting to cross the border.

Staff expect to include one to three pilot projects in the final plan along with the actions each agency can take to support the pilot projects.

Those actions may include things like helping to build partnerships and support technical analysis and funding. In regards to funding, and we get a lot of questions about this, to date, no funding has been dedicated for these pilot projects. However, Caltrans, ARB, and the California Energy Commission have funding that may be able to support the pilot projects consistent with the requirements for each fund source.

--o0o--

MS. LIER: Moving forward, the State partners will hold workshops on January 26th, January 28th, and February 2nd at several locations throughout California, followed by a webinar on February 5th. During the workshops and webinar, the team will provide an overview of the process for preparing the California Sustainable Freight Action Plan and seek input on its envisioned content.

In particular, we will discuss the current draft
of the vision, targets, metrics to measure the targets, 
potential actions, and pilot project concepts. Staff 
anticipates releasing a public comment draft in the 
spring. And we will return in May to provide you with an 
informational update.

The final plan will be transmitted by the Agency 
Secretaries to the Governor's office in July of 2016.

--o0o--

MS. LIER: Thank you for your time.

VICE CHAIR BERG: Thank you very much.

First, do Board members have any questions?

We're going to hear our list of witnesses after any 
clarifying questions, and then we'll come back for Board 
discussion.

Ms. Mitchell.

BOARD MEMBER MITCHELL: Thank you. Thank you for 
a very thorough report. One thing I'm very concerned 
about in the port operations is the efficiency issue. And 
I'm very proud that next to me is Professor Sperling who's 
working on that issue. I'm wondering what ARB will do?

What will our staff be doing to address efficiency 
problems at ports?

FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: Good 
morning, this is Heather Arias. And I will try to help 
answer that question a little bit.
As we've talked about, Dr. Sperling has convened this group of academia and stakeholders. And the objective of the group is to analyze and be able to identify various system efficiency opportunities in the State. They are then going to help us to be able to identify actions that we can help to implement and achieve those efficiencies.

Those actions could be actions that we as State agencies can take, it could be actions that they take, partnerships that are built, a whole gamut of things that we're discussing with them. So we do hope to be able to identify some partnership opportunities that ARB can also help in. Parts of those can be our work with advancing the engines and equipment technologies and supporting things like ITS.

We'll definitely have a much better layout for you in the April document, once we've been able to complete the work with that efficiency group.

BOARD MEMBER MITCHELL: Thank you. So I recently attended the Transportation Research Board's conference in Washington, of which Professor Sperling was the president last year. And the South Coast District had a panel there that included people from the ports. And I've had discussion with many of those from the ports as well. So here's one of the problems, and this we have to work this
out with the port authorities, because we can't do this
alone.

There are a lot of inefficiencies in the Port of
Long Beach and Los Angeles. And a lot of those deal with
the relationship between the truck driver, getting the
chassis for that truck, then finding the container for
that truck, and working it out with the beneficial cargo
owners. There is a program called Cargomatic, which is
like Uber for containers. But the beneficial cargo owners
don't trust just anybody to pick up their container, and
so they want to work with drivers that they know, so that
there is this relationship of trust that has to occur.

So just to give you an idea of the logistics
problems that we face in the ports, and it really is a
difficult issue to even work with, because you have these
interpersonal relationships going on too among the port
operators.

So I'm imagine that Dr. Sperling has looked at
some of these issues, but it's not going to be easy to do
this.

FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: Yeah.
We completely agree with you. And the ports are key to
all of this process, and have been very involved with us
along with the air districts. And in order to be able to
achieve the efficiency gains in this action and moving
forward with all of our actions, building the partnerships, and being able to have that partnership with the public-private, as well as the other agencies, is going to be absolutely critical, especially when we're talking about things like ITS systems and big data gaps and being able to figure out how we can all work together.

So they are huge challenges, which is exactly why we asked Professor Sperling to help us convene this group and bring the best of the best in and help us from all of the different expertise, and the academia to be able to help us plow through and figure out how can we do this together.

So we are very optimistic that we are going to be able to come out the other end of this with the necessary partnerships and the necessary plan to move us all forward and achieve those goals.

BOARD MEMBER MITCHELL: Thank you. I wish us all good luck. Thank you.

VICE CHAIR BERG: Thank you. Any other clarifying questions?

Well, let's go to our witness list. So if our witnesses will pay attention to our list here on the back wall, be ready next person up so we can be very efficient in going through our list. It looks like we have about 13 people. And good morning.
MS. ADEYEEVE: Good morning. My name is Adenike Adeyeye. I'm a research and policy analyst at Earthjustice. I'm also member of the California Cleaner Freight Coalition and the Central Valley Air Quality Coalition. So thank you very much for all the work that ARB has done, and also for the opportunity to testify to speak today.

We view action on freight as obviously essential to meet our clean air standards. And as you all know, there are major issues that the San Joaquin Valley - since I work with the Central Valley Air Quality Coalition in particular - has to meet to attain the clean air standards. So that is the major focus of the work that I do.

And just given the scale of the emission reductions that we need, it's essential that technology forcing regulations be the cornerstone of this effort. We see that heavy-duty trucks are half of the NOx inventory or the largest source of the NOx in the San Joaquin Valley. And it's essential that we have regulations that push us toward the technology that we need for those trucks and for that part of the freight system.

It was really great to see in the ARB presentation that there is this thought about freight hubs, and in particular thinking about truck stops,
warehouses, distribution centers, all issues that are very important in the San Joaquin Valley. And we would urge you all to consider, you know, stronger fleet rules, and also thinking about the direct source review rules in the districts, and thinking about, in particular, putting those into the SIPs, so that they are enforceable, that they do result in real kind of enforceable tracked emission reductions in the valley and in other parts of California.

And so just — in closing, I would just say, you know, please consider, please remember the communities that are on these freight corridors that are on 99 and on 5 and that live near these truck stops, and are seriously impacted by the horrible emissions honestly from all of these heavy-duty trucks, and live with the health impacts of those — of that part of the system. You know, I think we owe it to them, we owe it to the valley and all the parts of California that suffer from this pollution to think creatively, and to push stronger regulations, particularly for fleet rules, for heavy-duty trucks as much as we can.

So thank you very much.

VICE CHAIR BERG: Thank you.

MR. MARTINEZ: Good morning, Vic Chair Berg and members of the Board. My name is Adrian Martinez, and I'm
here on behalf of Earthjustice. Don't worry, there are only three of us testifying today, but I think that's really just a testament to how important the freight issues are to our organization. As you know, we're a public interest law firm. We work with groups throughout the state trying to tackle freight pollution, so that's why we have so many people testifying.

At the outset, I'm going to -- a lot of my colleagues are going to address a lot of the issues we raised in the letter, we submitted, in addition to a report that our coalition filed.

But I want to just address one issue, and that's related to efficiency. Efficiency gains are -- it's a very laudable goal. But as we're moving forward, I don't think we should conflate efficiency with air quality improvements. To the extent that you can get air quality improvements from efficiency, we should be seeking those, but that's not always the case in places like the South Coast Air Basin where the projections on freight are just so high that presumably getting more freight through the system means that there will be more containers.

That's what we're from the project developers as they're building projects that are very large in scope. There's a continuous flow of freight through the State, and particularly in Southern California. So as we move
forward, I think efficiency is important, but I think the agency needs to make sure it's really spending the majority of its time on what it does best. And I think what it really does best is trying to spur technology and get the clean technology innovation through regulations, and then matching it with smart incentive programs to kind of push the industry along.

Another issue just to raise is a lot of the infrastructure is getting built now, even though, you know, the economics of freight are moving forward. There are billions of dollars being spent on expansion projects. We're seeing a lot of them in the Inland Empire area through the world logistics center, the largest master planned warehouse in the world, the 710 project, one of the largest road freight projects in the nation.

So these projects are moving forward. I just want to reiterate the importance of this agency weighing in. The agency weighed in on the World Logistics Center. That was an excellent letter that was filed raising very important points. The problem is if we spend money incorrectly now, we could put ourselves in a position that it's impossible to meet our air quality objectives.

And then finally, just -- you're going to hear it a lot, but reiterate the role that regulations play. This is going to be critical. It's not just our coalition
saying this. Experts note the need for regulatory
frameworks. That's how you send the market signals to get
more technology developers to push this technology
forward.

Thank you.

VICE CHAIR BERG: Thank you.

MR. CORT: Good morning. My name is Paul Cort.
I'm also with Earthjustice and the California Cleaner
Freight Coalition. And to reiterate, we want to just
express our deep support for the actions that ARB has
taken here, for their leadership in the interagency work
that's going on, but we are still concerned that we have
not yet outlined a path that will achieve the
transformation that everyone in this room is saying is
necessary.

In order to meet the national ambient air quality
standards, our greenhouse gas targets, and not to mention
to address the air toxics issues related to diesel
emissions, we need to move our freight industry everywhere
possible to zero emission technology. And I would just
ask the Board to really look at the plans that are before
you and be skeptical and ask, you know, is this really
going to get us where we need to go?

Right now, the mobile source strategy that the
staff has prepared, most of those emission reductions come
from voluntary or undefined further deployment of these technologies. And what we have heard as Adrian said just now, from the Port of L.A., from the South Coast Air District, from think tanks like CalStart, is that in order for that technology to be developed, we need clear market signals that come from regulatory requirements. We are not going to get there through voluntary programs that wait for these technologies to develop on their own to the point of cost parity.

As Mr. Corey said earlier this morning, regulatory technology-forcing standards are not enough. And there's no dispute, but we haven't even outlined a plan that includes those technology forcing regulatory measures for the freight sector. There are pieces, there are elements, but we need to do more.

The ARB will need to adopt a State Implementation Plan this summer outlining how the State will meet the ozone national standards. We hope that the Board will take that as an opportunity to fill in the details and the commitments that are going to be necessary to achieve this transformation.

Those rules don't need to be implemented or even adopted this year. But having enforceable commitments, and a clear path that signals to the industry we are moving these technologies to zero emission technologies.
That's -- that will be the key, as well as these public
partner -- public-private partnerships and other
innovative strategies that staff are considering.

But without that clear signal, and without rapid
movement, we are not going to be in a position come 2030
to achieve the transformation that everyone says is
necessary.

MR. BETO LUGO MARTINEZ: Good morning, members of
the Board. My name is Beto Lugo. I'm with Comite Civio
Del Valle in Imperial County. I'm also the coordinator
for the -- I've been identifying violations in
neighborhoods in environmental justice reporting networks
statewide.

And I'm here today, you know, with a coalition --
as part of the coalition to speak on the impacts of the
freight. Imperial County is located at the U.S.-Mexico
border. And the impacts of the area, you know, not only
there, but throughout the communities and throughout
California is still -- the emissions from freight are
causing problems to the environment, the quality of life
for many communities, which are environmental justice
front-line communities to freight corridors, ports,
freight facilities.

And, you know, emerging trends now in a lot of
communities are the community air monitoring projects.
And they're showing impacts of freight. And I know earlier you mentioned how maybe the data, the ARB, can use more data in the border. Our organizations are working on a 40-year monitoring project in Imperial County. And it is in the interests of some members of the agency, you know, that they wanted to look at this data maybe to help enforce laws, and for making new rules and regulations.

Anyhow, I'll move on. Many of these freight corridors, I see them all across the state. I'm in Imperial County so we travel up to Sacramento. I didn't drive up here, but, you know, we travel all along the I-10, and we see all these expansions everywhere. In Moreno Valley, the -- Adrian mentioned, you know, the largest facility for -- new facility.

And I also wanted to say that, you know, a lot of these counties where these facilities are expanding, and the freight is expanding, they already don't meet the air quality -- the clean air standards. And the coalition developed this vision for sustainable freight for the same reason for the regulatory loopholes that still exist.

ARB needs to be present and participate in all freight -- major freight projects throughout the State, and needs to insert zero emission technologies and supporting infrastructure into these facilities, so we can meet our greenhouse reduction air and climate goals.
Thank you.

VICE CHAIR BERG: Thank you.

MR. WYENN: Good morning. My name is Morgan Wyenn. I'm a staff attorney with the Natural Resources Defense Council, the NRDC. And we are also a member of the CCFC coalition that you're hearing from a lot this morning.

For the past six years, I have worked really closely with the ports of L.A. and Long Beach to clean up the harmful pollution from port operations. I also have the honor of getting to work with and represent in court the communities living close to the ports bearing the brunt of this horrible port pollution problem.

I am hopeful about the great potential for the ARB and its leadership with the other State agencies to finally create the zero emissions freight system we all need to achieve federal air standards and make the port a safe neighbor to live next to.

I cannot emphasize enough how badly we need strong ARB leadership on advancing zero and near zero emission drayage trucks. We are in the middle of a chicken and egg problem. And really the only way out that I see is a clear regulation setting a date certain for when the trucks serving the ports must be near zero and zero emissions.
Only then would the -- will the OEMs have the certainty they need to push out the life-saving technology for trucks on the economy of scale that is necessary. Drayage trucks chug along the streets and highways throughout communities all across the state. And those communities have been suffering the resulting health impacts for far too long. Even if the regulatory requirement date is set several years into the future, and even if it begins -- it begins only at the shorter routes like between the ports and the near-dock railyards, the ports, and the peel off yards, which are increasing, we need that certainty and we need it urgently.

Incentives will, of course, be important to support early compliance and to ease the financial burdens. But incentives alone will not be enough. Only a date certain set by regulation will create the certainty needed for OEMs to reach the economy of scale needed to achieve the widespread turnover to protect the communities near the harbor and to meet our very important clean air standards.

Thank you.

VICE CHAIR BERG: Thank you.

MR. ERVICE: Good morning, Vice Chair Berg, and members of the Board. My name is Joel Ervice. I'm with RAMP, Regional Asthma Management and Prevention, also a
member the California Cleaner Freight Coalition. And RAMP promotes strategies to reduce the burden of asthma. We see reducing pollution from freight transportation as a key step to ensuring healthy communities across the State.

Approximately, five million Californians have been diagnosed with asthma at some point in their lives. And almost three million currently have asthma. Unfortunately, asthma is not an equal opportunity disease. Generally speaking, asthma is more common in low income communities of color, and as, you know, freight transportation is also more common in low income communities and communities of color. That's why your continued leadership is so important. By reducing pollution from freight, we can help people breathe easier.

I'm encouraged by what I just heard about the ARB's work on sustainable freight, and have several points I wanted to emphasize. First, as several of my colleagues have mentioned, voluntary incentive programs are important to creating change, but our communities also need a strong and smart regulatory approach to ensure health protections are in place as soon as possible.

It's good to hear that you're starting with the vehicles and fleets where technology is more developed, such as airport shuttles, and last mile delivery vehicles. I also encourage you to include certain heavy-duty
vehicles like drayage trucks and yard hustlers. These regulatory mandates will send a clear market signal and help provide our communities with needed relief as quickly as possible.

Second, we need more of ARB's guidance for major freight projects. Throughout the State, there are substantial proposals to bid and expand freight infrastructure. We need ARB's involvement and leadership to ensure we're investing in the cleanest projects that don't work against our air quality goals. I know staff capacity to engage in this work is limited, but with the Board's leadership, I think we can have more of their time.

And then finally, keep talking to the communities that are most impacted by freight. As an agency, the ARB has a long and generally positive history of not only being open to community needs, but to actively soliciting community input. And while there's always more that can be done, your track record sets a strong example. So kudos to the Board and to staff as well.

So thank you for your time and leadership.

MS. VASQUEZ: Good morning, Board members. I'm Diane Vasquez, policy advocate for Sierra Club California, and also part of the California Cleaner Freight Coalition. I just want to say I fully support what my colleagues have
indicated in the coalition, that we definitely need stronger rule-making. And specifically, it's going to be a clear indicator to the manufacturers who are actually settling here in California, and ready to actually deploy this technology.

But they're also afraid that if they create the technology, it's not going to be actually utilized by the industry. So we really need the Board and also the other agencies who have been working on this plan to really assess the strong plan in the next couple years, given that this is a critical need for communities.

Our members throughout the State are feeling the impacts. We're constantly hearing that -- you know, we are hearing that deployment is going to happen, but they haven't seen the effects. And really looking at a five to 10 year timeline, it's not really feasible right now, because this is something that we can actually do. We can actually see the technology being deployed, and specifically on the bus transit sector, and really seeing how we can actually utilize that and how do we expand it throughout the communities, and really the communities that really need this at this moment, specifically in the South Coast and San Joaquin Valley.

So I really thank you for your time and really look forward to really working with the Board and the
other agencies to really see how we can actually effectively implement this. Okay. Thank you.

DR. O'DEA: Good morning, Board. My name is Dr. Jimmy O'Dea. I'm an analyst with the Union of Concerned Scientists. On behalf of our 69,000 supporters in California, I thank you for advancing policies and technologies for a cleaner freight system. And as you continue to formulate policies for sustainable freight, the Union of Concerned Scientists ask that you prioritize three areas.

First, zero emission technologies. You know, as well as I do, that the volume of California's freight system is increasing too much, and the reductions in emissions are needed too soon to meet health and climate goals without policies that prioritize zero emission technologies.

In particular, we believe that strategic adoption of policies for a subset of freight can provide infrastructure and a market signal for adoption of zero emission vehicles across the entire freight system. And specifically centrally located fleets operating over short distances, including cargo handling at ports, fleets operating over short distances, including, you know, drayage trucks, last mile delivery trucks represent technically feasible sectors to immediately begin pursuing
electrification strategies.

Second, we ask the Board to follow-up on the State's significant investment in demonstration projects with regulations to provide the market signal needed for vehicle manufacturers and fleet operators to invest in these technologies.

And third, we ask the Board to prioritize policies that benefit those most affected by emissions from freight. Communities near ports and major delivery routes suffer greater health effects of movement of goods as you know.

Along these lines, we ask that ARB also consider and address any disproportionate economic impact that a transition to cleaner freight technologies could have on owner/operators.

Thank you for your leadership on this issue moving -- working with other California agencies to move this issue forward. And we look forward to working with you as a plan is developed.

VICE CHAIR BERG: Thank you very much.

MS. MADUENO: Good morning. My name is Virginia Madueno, and I am here representing the American Lung Association. It is truly a pleasure to be here with you today. I am here not only on behalf of the American Lung Association, but with my friends that have already spoken,
who I personally have not met yet, but with the California Cleaner Freight Coalition. And again, we appreciate this opportunity.

As noted in the original draft freight strategy, the pollution caused by this freight sector is casting a terrible burden on Californians. And I don't need to belabor this issue. It's already been addressed earlier today with regard to the health and the impact that it's having on many Californians, especially those living near these corridors.

I can tell you that this also begs the question, and as consultant having worked in the last -- I want to say last couple years with the work that you've been doing on SB 377 -- on SB 375, it really begs the question what are we doing to better implement strategies that help better land-use and transportation planning here in California, and specifically in my neck of the woods.

As a life-long resident of the San Joaquin Valley, I know that my region is home to the most difficult air pollution challenges in the nation. And I can tell you I don't consider myself an environmentalist, but when I speak to business groups who consider environmentalists the evil, if you will, I tell them we have to be very pragmatic.

This quality of air that we're talking also has a
significant impact on our economy. And they both go in
tandem, so we can't ever dismiss that.

The Lung Association's 2015 State of the Air
Report found that Fresno, Bakersfield, Visalia, and my
home town of Modesto are among the top five most polluted
cities in the State of California. We need true
transformation in our transportation system, and in
particular in our freight.

We need to go from zero emissions as soon as
possible. And we ask this for the hundreds of thousands
of people that are being impacted on a daily basis. We
appreciate this Board moving forward with the discussions
in tandem with other State agencies, and we urge you to
review our coalition's vision statement and the letter
that was submitted today.

The American Lung Association also urges this
Board and the Brown administration to move forward with
climate investment funding as soon as possible. Further,
the American Lung Association urges this Board to note the
American Lung Association recommendation for regulatory
requirements, for zero emission technologies, in addition
to the incentive funding.

And again, on behalf of the American Lung
Association, thank you for your time and your dedicated
work to your Board and your staff.
Thank you.

VICE CHAIR BERG: Thank you. And good morning, Mr. Magavern. Before you start this morning, can I just ask if anybody else would like to sign up on this item, could you please see the clerk right away. Otherwise, we're going to cutoff our speakers list.

And with that, welcome.

MR. MAGAVERN: Thank you. Good morning. Bill Magavern with the Coalition for Clean Air, and the California Cleaner Freight Coalition.

And our overriding message on this issue over the years has been to protect the health of the people who are downwind of our goods movement industry. And we know that the impacts of this important industry in California are not distributed evenly. They're disproportionate impacts on low income communities of color. That's who we almost always find living downwind of the ports, the railyards, living near the freeways and the large distribution centers.

And I really appreciate the fact that this Board has made cleaning up the freight system a high priority. Board members have been very clear about that over the years, and you've dedicated a lot of staff who are working very hard and very well on this issue.

So we certainly appreciate the work of Cynthia
and Heather and the entire team on this issue. And I want to highlight what I thought were some of the most important priorities in the staff presentation, the commitment to zero emissions equipment everywhere feasible, and where it's not feasible, going to near zero with low carbon renewable fuels. Very important that we pursue that aggressively; the highlight on enforcement and cleaner combustion now, this year, getting to cleaner combustion for those vehicles that are currently operating on our roads.

And also, I think it's very important that you continue to have in your plans the facility emissions cap, which, you know, up till now, you're in the data gathering phase. I think it's important that we move to making that a reality.

It's crucial that we have incentive funding available for these technologies. And we have advocated in the Governor's office and the legislature for that incentive funding, but we've seen that the money is not always there in the quantities that we need it to be.

For example, this year, when the Governor and both Houses of the Legislature called for 200 and -- excuse me, called for $350 million in low carbon transportation funding, about half of that to go to heavy-duty, and yet very little of that money has actually
been appropriated.

So in our planning, we cannot rely on incentive funding that may not be there. And we can't have a black box. We need to make sure that we have real commitments in the SIP that are going to bring us into attainment with air quality and allow us to meet our goals for climate and for petroleum reduction.

And finally, as you all are very well aware, ARB can't do this all alone. You're in a multi-agency effort. And it's interesting this morning, where's Caltrans, where is the State Transportation Agency? We'll be meeting with them this afternoon, so we'll have the opportunity to talk to them, but it's disappointing that they've missed this opportunity, and this important public forum to talk about what they're doing.

Thank you.

MS. THOMAS: Good morning, Board and staff. My name is Taylor Thomas. I'm with East Yard Communities for Environmental Justice. We're based in Long Beach, Commerce, and East L.A., and we're also part of the California Cleaner Freight Coalition.

And I think the first time that I came to speak before you all was in April of last year. And I've been here two or three times since then. And I'm back again today, because the conditions in my community are dire.
We live next to railyards and ports that operate 24/7, and we live next to freeways that carry diesel trucks through our communities and neighborhoods. We need regulatory action and mandates to spur investment in zero emission technologies. We are already paying the costs with our health.

There are no incentive programs for us to turn to for help when our children are born underweight and early; when another person in our family, in our community, or at our job gets diagnosed with cancer; or when the cost of our doctor's visits, hospitalizations, and medications puts us in debt.

Voluntary programs and incentives are not enough. We need mandates and regulations. We can start with the vehicles and fleets that -- where the technology is more developed, such as drayage trucks and on-ground support equipment.

We need to continue on the path towards zero emissions, because our bodies can't continue to be used as filters.

Thank you.

MR. KENNY: Good morning, Madam Vice Chair, members of the Board. My name is Ryan Kenny with the Clean Energy. We are the nation's largest provider of natural gas transportation fuel. And I'd like to make
three brief points.

The first of which is we agree on the problem and the scope, I think, and that heavy-duty trucks are one of the most significant contributors to pollution emissions, and therefore, we do believe that incentive funding should be pursued to help meet the State's goals of 40 percent greenhouse gas reductions, 50 percent reduction in petroleum, and, of course, the reduction of methane and black carbon short-term -- or short-lived climate pollutants.

And to do that would be through $100 million per year over five years in cap-and-trade auction funds for technologies that meet the 0.02 NOx engine standard. And that's one thing that our industry will be pursuing this year.

The second point is we do encourage a discussion about the use of both renewable natural gas and also fossil based natural gas. Fossil based, of course, is cleaner than both gas and diesel. We do believe that that should be included for consideration in the discussion.

And the third point is that we believe the Board should set clear reduction targets for the industry to consider the full lifecycle emissions, and not just tailpipe emissions.

Thank you.
VICE CHAIR BERG: Thank you.

MR. MARQUEZ: Good morning. My name is Jesse Marquez. I'm the Executive Director of the Coalition for a Safe Environment. We're also a member of the California Cleaner Freight Coalition. But more importantly, we're also a member of the California Communities Against Toxics. It's a 25-year old organization in California made up of over 60 environmental justice organizations in Northern, Central, and South America.

We have been the largest voice in advocating for numerous different policies. We do support the direction that California is going in returns of freight. However, I want to point out that in the Governor's Executive Order, there is a new mandate for California for ARB. And that is, we will transition into zero emission freight technologies.

I don't see that quite happening. It does not state anywhere in there near zero. Near zero means natural gas, CNG gas, or even biogas. It says zero emission technologies. So we will not support anything other than a zero emission truck. There are five manufacturers right now, two of them already have a commercial class A drayage truck. By the end of this year, the other three will have been already completed all their testing.
There was one other, Vision Motor Corp, who was certified by ARB for sale as a zero emission truck in California. They now went bankrupt, because Port of L.A., Port of Long Beach, and government agencies did not enforce them to use that zero emission truck technologies.

In the next 30 days or so, you're going to be hearing from our CEQA court class action lawsuit against the Port of L.A. over the BNSF skid project for their failure to include it when there was a zero emission's truck certified. Those same five truck manufacturers also make a yard hustler truck that is zero emissions. And they are all available for sale right now.

Included in the zero emissions is zero emission capture technologies in the pilot projects. There was one for locomotive trains. There is no other than that one that exists for technology. Yet, it's not being listed here.

There's no listing for zero emission trains. There were two projects submitted for maglev train demonstration projects. There are three companies in the United States right now that have maglev train demonstration tracks. It is a feasible technology and they do work.

So I want to emphasize -- I think they need more oversight over what's being proposed for the pilot
projects, because I already can tell you right now, we will not be supporting them or vague information like alternate technologies. Our mandate is zero emission technologies.

I also did distribute a little sheet right here, which talks about container yards, container transportation and things of that nature. Because when we're talking about freight issues, this tells you what my community in Wilmington faces. We have 59 container storage yards in Wilmington. And I just counted three more just in the last five days.

So I thank you very much for this time.

VICE CHAIR BERG: Thank you.

MR. GALLO: Good morning, everyone. My name is Frank Gallo. I'm with the Ditching Dirty Diesel Coalition. And we're also a member of the California Cleaner Freight Coalition.

I'd like to commend the Board for the work that they've done so far in developing this sustainable freight plan. And at the last meeting, Dr. Sperling, I was very happy to hear him making the suggestion that there is a real need for multi-jurisdictional cooperation.

So CCFC responded to that, and we wrote our official letter encouraging that this Executive Order be passed.
I'd like to underscore this need, because currently among other agencies and municipalities are ignoring CARB guidelines, specifically the air quality and land-use guidelines established in 2005 for near roadway exposure.

That guideline recommends that there be a 500 foot separation between freeway and sensitive receptors. So we've had -- one of the projects that was done in our area was the HOV installation from San Leandro -- from Oakland through San Leandro, and for creating that, the roadway was brought within 20 feet of some residences right there. And there were no mitigations other than an extension of a sound wall provided.

So we believe in addition to the zero emission technologies that you're considering, that more work could be done with the enforcement and guidelines, specifically when it goes down to the municipal level.

Besides the work around the ports, which is extremely important for that, we're also concerned about Priority Development Areas in support of the smart growth program in our areas, both in Alameda and Contra Costa counties. Some of these priority developments are along major freight corridors, and we don't see minimal design standards being established for these high density units that would help protect the health of the residents -- the
future residents there.

I'm talking about things like buffer zones and air filtration systems, or exactly where the air intakes are going to be sited like that. And we believe that CARB could be helpful in establishing these guidelines, and making sure that there is serious consideration at the local level.

I also serve on Metropolitan Transportation Commission, a committee, that's a technical advisory committee, where we're looking -- they're evaluating zero emission and near zero emission pilot projects to apply, and which ones they're going to consider applying for. And as part of that, one of them, the hydrogen heavy-duty trucks, was examined.

And I just have this other quick question. Earlier in the presentation, you talked about the expansion of hydrogen fuel stations. And my question is will that be available for heavy-duty trucks?

And I think that needs to be established.

MR. SCHOTT: Madam Vice Chair and Board, Tim Schott on behalf of the California Association of Port Authorities. We have -- our association and the ports have enjoyed a very long and close working relationship with your staff in efforts to try to reduce emissions from the freight sector, and we're very proud of those
Over the last decade, our large ports report reductions on the order of more than 80 percent in particulate matter, 90 percent in SOx, 50 percent in NOx, and significant GHG reduction as well.

While we're proud of those achievements, they have come at significant cost. I think by ARB's own estimates about $5 billion in California-only costs. And so we are facing unprecedented competition currently with significant investments in Canada, and in Mexico, very real competition from around the nation, and impending widening of the opening of the widened Panama Canal that will allow larger vessels to bypass the west coast entirely.

We want to make sure two things don't happen. First, is that we don't negatively impact the very significant economic and job contributions of the freight sector. And two, that we don't divert cargo away that would not only damage our economy, but might also lead to the leakage of greenhouse gas emissions. There is no cleaner way to bring cargo into the United States than through California ports, and we would remind you to keep that in mind as we look forward.

We were very happy that the Governor's Executive Order not only included transitioning to the zero emission
technologies, which our members support, we just want to
make sure we do it in a logical way, with enough lead time
to make sure that folks have the opportunity to remain
competitive.

We were very happy that he also talked about
increasing competitiveness in California. We think that's
an important thing for the State to focus on.

I'm here available to answer any questions. We
would ask for your particular insight and attention to
assuring that we don't strand assets, investments that
have been made to meet the current regulatory regimen, and
to meet our current goals as we go forward and increase
those goals, and to make sure that technologies that are
required are not only technologically feasible, but
economically feasible, and commercially available as well.
Thank you very much.

VICE CHAIR BERG: Thank you. I do have one
question for you before you sit down. Thank you so much.
You talk about stranded assets. But understanding that
we're putting these plans together, how do you see the
businesses looking forward before we do have regulatory --
regulations in place that will drive the markets?

MR. SCHOTT: We are very hopeful that the ARB,
the other agencies, and the State on the broader level
will look at this as a partnership opportunity.
What we are suggesting is that we can get there, but we're going to need significant help. We're going to need significant State resources to move the timeline up to make sure that we can implement the new technologies that may become available.

But if you're asking an individual trucker who just spent $200,000 to buy a truck to meet the current standards to give that truck up when it hasn't used a portion of its useful life or hasn't been able to have a return on that investment, and frankly to give it up in a way that he can't really sell it, we don't want him to sell it into a marketplace where we're looking for the advanced technologies, and you're asking him to buy a new truck in a short period of time, it really begs the question economic feasibility.

And I think that's one of the places where we're hoping the State can be of great assistance is in those transitional -- two things, one in helping to develop and actually run the pilot programs that will develop these technologies, but two, in helping to fund the transition in the marketplace to adopting the technologies.

VICE CHAIR BERG: I totally understand that second point that you made. I think I was referring more to the proactive assets that are being bought today. Are you seeing in the ports that people are looking in the
future and making decisions on assets today on future --
very near zero or zero emission technologies.

MR. SCHOTT: Yeah, I think everybody in the
sector is desirous of that and aware of that, trying to
reach to that. We're at a kind of a transitional period
where those technologies are not fully developed, where if
they are feasible, they haven't been ground-tested in real
conditions. And if they are feasible, that doesn't mean
they are economically feasible or commercially available.
And there's some transition that needs to occur that we
believe the State can play a significant role in helping
to -- in helping to achieve.

VICE CHAIR BERG: Thank you. Well, that does
bring our witness list to a close. And so I'd like to
turn to my fellow board members for comments and input.

Thank you. Ms. Mitchell, will you start us off?

BOARD MEMBER MITCHELL: I will.

Thank you, Cynthia Marvin, for all the work you
have done on the Freight Sustainability Plan, and Doug Ito
and all of you who have worked on that. This is a really
important project that we've embarked on. One thing that
I would like to suggest is that we move a little bit
faster toward getting a regulation in place. And that
doesn't mean that we require turnover of the trucks
immediately, but that we send a signal into the market
that this is the direction that we need to go.

There are already available technologies that are zero and near zero. But what I think we're seeing from those manufacturers is they need for that market to be created. They're not willing to stick their necks out and take a risk of manufacturing these kinds of vehicles, unless a market is created.

We can create that market through beginning a process of regulation, and through looking for incentives to get to that market. The regulation I think that we should be looking at is for low NOx trucks. And I know that we're already working along those lines. I think we can look for a measured implementation of any such regulation. And as we see turnover in existing fleets, they can turnover to this new market. We have already certified the 0.028 liter engine. I know we're very close to getting a certification for the 0.02, 11 liter engine. So I urge us to keep working along those lines.

I would also say that regulation should target fleets, and I would say drayage fleets. They're short-haul fleets, where I think we can get some momentum going, and also, with yard hustlers as well. But I think by sending a signal to the market, that there -- to the OEMs that there will be a market for these, and the target date for implementation can be somewhere in the future.
It won't be tomorrow. As we've already seen, we have our truck and bus rule and we've had a massive turnover in the existing truck fleets, so we don't want them to have stranded assets.

But as fleet turnover occurs, we want them to move to the newest technology and we want to give our OEMs are market for that new technology. So that would be the goal that I would urge us to be looking for.

I also have a concern in our area -- and thank you, ARB for writing the letter -- on the World Logistics Center. But, I mean, we do increase emissions when we build warehouses that are way out in the Inland Empire, and then trucks go all the way to this distant location, and they turn around and come back to final distribution of the goods.

And this becomes more problematic as we're seeing these huge mega ships with 18,000 containers coming into our ports. We have already seen those in the L.A. Port legion. One of them has arrived a couple of weeks ago, and we're seeing more of them now.

So this is another area that I think we need to address, and so would urge us to look into that as well. I don't know how we address it. I'll leave that to the experts and to Dr. Sperling, but -- and we talked about some time ago do we have something like SB 375 for
freight. I think that's difficult, but -- and it is a local land-use issue as well. And I know we can't get into that sphere, but it is a problem. And I think whatever help we can develop here would be good.

So those are my primary priorities for this program right now. Thank you.

VICE CHAIR BERG: Thank you. I'm going to turn to Supervisor Roberts.

BOARD MEMBER ROBERTS: Yeah. Thank you, Madam Chairwoman. I, earlier this week, had a chance to talk to staff on potential freight pilot projects as well as this whole issue. And I want to make some comments, but I don't want you to misconstrue in any way, shape, or form that we're not interested in zero or near zero vehicles, but I think sometimes we think that's the whole solution. And when it comes to borders, there's a lot going on, and I think things staff wasn't familiar with.

First of all, Mexico is our largest trading partner to California, $34 billion a year, something like that. We know it in San Diego because we see it, we live it. It's kind of like the Port of L.A., but it's a land port, which was a new concept here just a few years ago.

When we discussed this earlier this week, there was something listed zero emission technology fast lane. And it's been modified now to say advanced technology fast
lane on the border. I was calling to staff's attention, and I think what they'll hear as they go out and have workshops, there are things that are going on. And one thing in particular that the Governor's office has been championing, and the Governor himself has attended meetings in Mexico City, and we're developing a new concept for a border crossing.

Right now our trucks average -- can average three to four hours in waits to get across the border. And we're looking at a system that would reduce that to about 20 minutes. We're looking at a change that would reduce CO2 emissions by almost 50 percent the first year. A dramatic change in the way the border is looked at, and it doesn't have to wait until the technologies and the acquisition of all these, you know, super efficient trucks.

And I support all that. In fact, I think as some of our companies are successful in developing the dynamic recharge of charging of the trucks and buses and other things, that we're going to see an incredible improvement in the ability and the desire for companies to switch over. But we have something that can go -- you know, I would hope we see in place in 2017. I'd like our staff when they have their workshop to pay attention to what we are doing in San Diego. And one of their criteria says
opportunity for integrated State agency support.

I think if they were -- and check with the Governor's office, they'll find they are strongly supportive of this because it not only has emission benefits that are enormous, it has economic benefits that are enormous. And I -- you know, I don't want to say anything, but that's the kind of thing that belongs on this list.

If you can show me something that has enormous economic -- not projected or hoped for or, you know, based on some technology that's not here yet, but today's technology getting those benefits. And in delivering those, if you look, as I mentioned in front of you before the community of San Ysidro should be on that list of impacted and disadvantaged communities, but because of the number of reasons, partial which is lacking the data, that it wasn't.

So I want to raise this. I'm going to continue to raise it, if we have a list of pilot projects that could be helped, that we could get started, and we could see such enormous benefits from immediately.

VICE CHAIR BERG: Thank you.

Ms. Riordan.

BOARD MEMBER RIORDAN: Yes. I wanted to talk about the workshops and ask a question. I think the
workshops provide us an opportunity to get this kind of a
discussion out across the State of California. And I have
seen your list of locations and it's a good list, but I am
wondering how we are going to go about alerting people,
other than the press, to the workshops and the intent of
the workshops, somewhat of a framework.

FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: Sure,
I will answer that. We have done the traditional meeting
notice that we've put out with the workshops, not only
through ARB's listservs, and we're also using and reaching
out to our partners at the Caltrans and Energy Commission.
They are distributing the meeting notice.

A lot of our stakeholder partners are also very
aware. CCFC who spoke with us today, they're very aware
and working to make sure that their membership and
community members will also be participating.

We also specifically added the webcast or the
webinar, excuse me, at the end, so that folks that aren't
able to attend the various locations throughout the State
can attend in that manner.

But then, of course, we also want to make sure
that we continue to encourage folks that aren't able to
attend those particular meetings to reach out to us, call
us any time, email us. We are launching a website that
will be for the multi-agency effort as more of a single
portal for all of these kind of comments. So we are reaching out in all ways that we can think of to be able to make sure folks are aware of them.

BOARD MEMBER RIORDAN: And you're going to reach towards organizations that represent groups, correct? I mean, in other words, if one of the issues that you have mentioned, which affects the area where I am, and that's the Inland Empire, you talked -- there was a discussion today a bit about the warehousing facilities. And I am going to assume that in their groupings, they must have some organization. And I think it would be wise for us to include them, obviously, the California Trucking Association, and those, as well as the community groups.

The community groups actually I think do more outreach than anyone, but some of these other more specific professional groups. I'd like you to try to get some input from them so that they kind of understand what we're doing in our efforts with this plan.

Thank you.

FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: Yeah. And what I failed to also include is Caltrans convenes the California Freight Advisory Committee, which also includes members of the warehouse and distribution center. We agree very important. So we are reaching out to all the different groups, the airport, seaports, warehouse
distribution centers, trucking, rail, all modes, all
locations as well as the communities groups that we hope
can participate.

BOARD MEMBER RIORDAN: Thank you.
CHAIR NICHOLS: Don't forget labor --
FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: (Nods
head.)
CHAIR NICHOLS: -- while you're listing groups.
BOARD MEMBER RIORDAN: That's important. Maybe
more towards the ports, but it is important in our area.
I don't know to what degree, the building trades
certainly.
CHAIR NICHOLS: Infrastructure.
BOARD MEMBER RIORDAN: Yeah, building trades.
VICE CHAIR BERG: Also warehouse.
Thank you very much.
Professor Sperling.
BOARD MEMBER SPERLING: I want to emphasize that
this is probably the toughest challenge ARB has faced at
least in modern history. And it's tough, because we're
dealing with a very complicated sector. There's a lot of
companies, different industries, and different in a sense
systems. And really almost no one really understands the
whole system, neither industry nor government nor
academia.
That, by itself, should be a note -- give us all a note of caution in how we move forward, because unlike almost everything else we do, there could be large unintended economic consequences. And so we -- I mean, it's very admirable and very impressive what -- you know, what we've done, we the whole community, not just ARB, Caltrans, the Governor's office, in trying to make progress and moving forward. And, you know, the efforts with the efficiency task force group that I'm helping with -- actually, it's Caltrans that's leading that effort with -- in partnership with us. So we're doing that.

But we -- here, what we have, more than anything, is regulatory authority. And so, you know, we hear over and over again, you know, that we should be exercising that regulatory authority to come up to achieve these zero emission technologies. And there are complaints that we're not moving fast enough. We're not adopting those rules. We don't have a path.

I think we've made a lot of progress. I think the staff has done a great job with a very difficult challenge, and I want to -- I think we need a little more sophisticated and nuanced approach as we go forward. There's a lot of talk about drayage trucks. Well, as someone pointed out, we've already gone through a very expensive and time-consuming and, I'll even note, painful
experience in that, but an effective one at the same time, and to go back and tell them they've got to convert now all these trucks to zero emission.

First of all, there's some questions about how realistic or -- that is in any level you're talking about. But it's also a question, because -- take the drayage truck as a good example, is, okay, there are companies that are making a few of these trucks, but they're not -- they don't have a lot of experience, the costs are very high, and if we were to regulate it, we are basically saying we want to spend a huge amount of our incentive money, our political capital, on something that has important benefits, but maybe that money and that effort could be invested better otherwise.

And so what we've learned, I think, at ARB over the years -- what I've learned is that the best regulations and the best policies are ones that are -- tend to be a little broader, have a little more flexibility, are performance based, market based. And it makes me very nervous to think say that we're going to do regulations on each of these little niche technologies. I just think that's a bad idea, and -- because we don't really understand, you know, what the consequences of that are. The costs are huge.

So we need to come up with a more nuanced
approach there. And the focus on zero emission technology is a good one. But even there, this is one time I think we need to separate between criteria pollutants and greenhouse gases, because there are a lot of local health impacts. And maybe we've got to think about this better, in terms of where do we emphasize low criteria pollutant, low emission technologies that don't cost very much, and therefore we can get a huge improvement, you know, using -- frankly using diesel technology that's clean -- I hate to use the word -- expression "clean diesel" these days after the VW experience, but there is clean diesel technology.

And maybe we'll get a lot more bang for our buck in a health sense for some of these local communities that do have true health impacts, than this kind of brute force, you know, zero emission focus or technology. And I think we need to separate that out, because these criteria we're talking about some very local impacts for health impacts, and we're talking about worldwide impacts with climate. So I think we need to think that through a little bit more, especially as we think about these zero emission technologies.

So -- and then I'll, I guess, close with a thought that the letter from the public -- the American Lung Association has advocated a zero emission technology
mandate for freight, and a lot of other people have talked about it. And I used to be very -- thought that was a really bad idea, but I'm thinking if we -- if we can come up with some creative ways of thinking about it, where it is -- there is a lot of flexibility and trading provisions built into it in a way that we can use it to target -- to bring the emission -- zero emission technology in in certain applications, without us prescribing exactly where, and how, maybe there's something there.

And I confess I haven't thought it through, because it's far more complicated than what we're doing light-duty vehicles, and far more expensive as well. And it's a much more diffuse industry, and it's a more diffuse application, so -- and that's why we've gone very slow. And I admire and praise the staff for being cautious moving forward for this.

But, you know, maybe there's something there, and I'll volunteer to help think about that if --

(Laughter.)

BOARD MEMBER SPERLING: I don't have the answer though.

MR. MARQUEZ: Volunteer to do a cost-benefit analysis.

BOARD MEMBER SPERLING: And that comment actually was a very good one. The whole idea there would be to do
it in a cost effective, cost beneficial way and figure that out. And that can be both in terms of on the technology side as well as on the health impact side.

VICE CHAIR BERG: Well, thank you very much. That's a lot for us to also consider.

Supervisor Gioia.

BOARD MEMBER GIOIA: Thanks. There's been a lot of good comments. And I agree with the first comment of Director Mitchell about trying to move along regulation as quickly as possible.

I wanted to focus on one of the comments in one of the letters, and by several speakers, which is the need to participate in planning for major freight projects, because even if we move quick on regulations, there are projects already in the planning stage. And we know that if we don't influence and have impact on those projects, there will be an investment in capital with technology that may not be as advanced as we would like to see.

And so I'd like to hear a little bit about how we can be -- what we're doing and how we can be even more proactive on new infrastructure that's being developed currently, that's in the planning stage, so that we can ensure that on the front end, we're getting the best and cleanest technology, again because -- otherwise we face a situation where things have been planned, our regulation
comes out and doesn't affect those very large and important projects that are already in the pipeline.

GOODS MOVEMENT PROGRAM SECTION MANAGER VERGIS:

Thank you for the comments. First, I'd like to take an opportunity to talk a little bit about what we've done over this last year with respect to commenting on projects. So using existing resources, we've been able to comment on selected large projects and have invited the environmental communities to also flag projects that are important to them and their communities.

I'd like to highlight that when we comment on projects, when ARB comments on projects, we're not necessarily opposing or supporting the project. Instead, we're trying to flag opportunities to use zero and near zero emission equipment in that proposed project, as well as highlight those advanced technologies that we believe will become commercially available once the project is built out. Many of the projects that we're commenting on do have long build-out periods. And so you heard about the World Logistics Center project that we did provide a comment letter on.

Another example is a 96-acre redevelopment of a terminal project in San Diego. There, we felt that the project would lead to an increase in the use of diesel equipment and an increase in particulate matter that would
affect surrounding communities. So in this letter, staff proposed various zero and near zero emission equipment that could be used in the context of the project.

So that included hybrid electric medium trucks and zero emission forklifts. Another opportunity that we're excited about is the freight handbook, which you probably saw in the pathways document that was distributed in April, and we expect we'll also be including in the California Freight Action Plan.

So that will help us identify best practices for siting, design, and operation of new freight facilities as well as propose potentially air quality mitigation measures for new proposed projects.

BOARD MEMBER GIOIA: So you're sense is that we are being pretty proactive on making these comments. The issue is if it's not with the force of a regulation, then therefore -- so how do we follow-up to sort of have the maximum impact on these projects between the time that a regulation is in effect, and the time that we're commenting to follow through?

GOODS MOVEMENT PROGRAM SECTION MANAGER VERGIS:

So most of what I'm speaking to is part of the process when a local project is being proposed for the development. What we're doing is providing a comment letter that is then part of the legal record that's
associated with a proposed project.

BOARD MEMBER GIOIA: Right. So it becomes part of the record and potentially creates -- for those who may want to see the cleaner technology, it gives them some leverage in litigating or looking at the project, right, which gets back, I think, to your comment about how we move forward on appropriate regulation to move things along.

EXECUTIVE OFFICER COREY: Yes. And Supervisor Gioia, I just wanted to add a little bit to the comment. In addition to strategically identifying those projects that we're going to comment on, and the Worldwide Logistics Center was, I think, a very important example, that had an impact, because it identified very clear opportunities for much lower emissions for a project that's going to be in place for decades. Finding those projects, getting that comment out in a very public way has an impact.

The other is, and the conversation that we've been having with the air districts through CAPCOA, is a supplement to the land-use guidelines, because as Sydney indicated, you know, decisions are at the local level. And from the air quality standpoint, the air districts are weighing in, and they're working closely with us in terms of can a supplement strengthen those guidelines, because
they're weighing in and commenting on the projects as well, and partnering with us, and identifying where there may be opportunities we can have more influence.

So, one, identifying strategically those where -- that we can comment on, and send a very clear signal to through the partnership with the districts to comment as well. And both of those are playing themselves out that serve, I think, as the bridge that you're describing.

VICE CHAIR BERG: And also when we're looking at -- can -- is there a way for us to be able to be more assertive in these comments to let people know that ARB is very committed to the sustainable freight and regulation will be coming down the pike.

They have a choice now to be able to be ahead of the regulation. But quite frankly, if they chose not to, I don't know how my other Board members would feel, but I wouldn't feel as compelled that they chose to strand their assets, because they chose not to be proactive.

I'm much more sympathetic to people that have stepped up to be in compliance with current regulation, and to give them their useful life of that asset. But people that truly have the choice in these very, very large projects, they do have choice. And so to stand up in a couple of years from now and cry the stranded asset cry, I'd be much less compelled on that, given that we
were notifying them, giving them ideas, really, strongly suggesting be proactive.

TRANSPORTATION AND TOXICS DIVISION CHIEF MARVIN:
You raise an excellent point, Vice Chair Berg. I just wanted to note that one of the disconnects here is that our regulations, as you're well aware, are typically about the owners of the equipment. And the difficulty is that many of these are facilities that are being built. Of course, many of the facilities do not own the equipment. And so that's why we are trying to take a broader approach both in the comments, and it's also why we're looking at potentially a facility-cap type approach, which would require both the facility owner, operator, and the equipment owner, you know, to all be part of that solution.

VICE CHAIR BERG: And I know that's not popular from their perspective. So this is a real opportunity for them to creatively get together and show us what they can do, because there are solutions that they could come up with. They obviously lease the property. There's all sorts of things that if they chose to -- it's complicated, and I understand that, but to be proactive would be refreshing, so I'd like to encourage that wherever we could.

And with that, I want to keep moving down the
line. Dr. Balmes.

BOARD MEMBER BALMES: Thank you, Vice Chair Berg.

I would like to take this opportunity to thank staff for all their hard work and excellent update. I also want to thank all the witnesses from the California Clean Freight Coalition for both their support of what staff has done and they're pushing us to do more.

I guess my comments -- I'm going to try to take a page from Dr. Sperling's book and try to have a big picture view. As staff pointed out, we have a big job in front of us. I mean, we're predicting 25 percent increase in freight over the next few years, and that's a lot of emissions that we have to control, on top of what we currently have.

And as was pointed out by Mr. Corey in the first -- or, I guess, second item, in terms of Board priorities, we've got, you know, an ambitious program ahead of us. That said, I don't see how we're going to get there at this point. Not that I have the magic answer, but I just want to emphasize to, I think, staff and fellow Board members, and probably most of the witnesses share my concern about getting there.

But we're going to need a lot of resources, in addition to a lot of creative thinking, to meet our goals of a sustainable freight system here in California that's
also as clean as we need it to be. So I guess I'm concerned about where all these resources are going to come from.

Like fleet turnover, we've been talking about how, you know, owner/operators have already invested heavily, and, you know, what to do if we're going to mandate zero emission vehicles. You know, but it's the infrastructure for zero emission vehicles as well. And again, I'm not telling anything to the group that the group doesn't know, but I feel it important to step us back. You know, I really don't think that as good as they are, the pilot projects and the various ideas that we've come up with are enough. I mean, they're a start. I'm supportive of what staff has outlined, but I think we need much more and that's where I'm concerned.

I wanted to thank my colleague, Professor Sperling, for his work on the efficiency think thank. I can't think of a better name for what Dr. Sperling might lead than a think thank.

(Laughter.)

BOARD MEMBER BALMES: I appreciate his thoughts both large and small. And also, I think it's very interesting to learn that he has given qualified support, at least to thinking about, a freight zero emission vehicle regulation. Because I think that's where -- in my
mind, in my naive mind, that's where we need to go.

But I also agree with him that we can't be so prescriptive, you know, at the nitty-gritty level. It really has to be more of a performance type of standard with flexibility.

When I was up for confirmation as a Board member, I stressed that I was both -- my phone is going off, great -- I stressed that I was both going to try to be a champion for environmental justice and to be always mindful of keeping the California economy strong, so we can afford to be mindful about environmental justice.

So I appreciate the testimony we've heard today about wanting us to do more, and especially to try to protect the health of impacted communities. I'm supportive of trying to do that. That's why we need to move forward at as fast of a pace as possible. But I challenge us in California to come up with the resources to properly do the job.

VICE CHAIR BERG: Thank you.

And Supervisor Serna.

BOARD MEMBER SERNA: Thank you, Vice Chair Berg.

First of all, I apologize for not being here to hear the full presentation by staff. I've yet to perfect the art of being in two hearings at the same time, and certainly was looking forward to hearing from members of the public.
and various advocacy organizations on this important topic.

Obviously, there's kind of little choice but to be aggressive on the timeline to get us to a final plan here in five short months. But I do want to state that I -- you know, I did have an opportunity to meet with the Coalition for Clean Air and -- recently, and, you know, they had, I thought, some very valid points about the substance of the plan being aggressive, not just the schedule that we have based on an Executive Order, but, you know -- and I think, for the most part, staff is doing that, and I agree with that.

So, first of all, I want to thank everyone involved with getting us to this point for keeping a sharp eye on the ambition of being very aggressive on this subject. I note that one of the slides in the presentation outlines the schedule. It suggests there were, I guess in the midst of, some nine public workshops. So my question is -- and again forgive me if this was asked and answered earlier, how, if at all, are we going to engage early information sharing and feedback from our Environmental Justice Advisory Committee in conjunction with the nine public workshops. I'm not sure which staff person is best equipped to answer that question.

FREIGHT TRANSPORTATION BRANCH CHIEF ARIAS: Yeah,
I will take that one. We did briefly talk about the upcoming workshops, which are starting Tuesday, and throughout the State followed by a webinar. We have been very fortunate to be able to have lots of opportunities with all the various stakeholders, including the environmental group. CCFC has spent a lot of time with us, in particular offered their time to come and meet with us and go through their ideas and actions.

We have tentatively scheduled a meeting with them after the workshops to sit down with all the multi-agencies and then to hear their response to what they see at the workshop, because obviously what we put out at the workshop is going to be more extensive, more details than what we had time to go through today.

So we absolutely look forward to hearing from them and their thoughts on that. I also just wanted to touch briefly on a few of the comments that have been put forth in regards to concerns as to whether or not the plan itself is going to show us how we get to the end game.

And ultimately, we are laying out the statewide vision for 2050, that includes the zero and near zero. We are going to set the targets as the Executive Order calls for. The actions and the pilots that are going to be in the draft document that we hope to get out for your review soon in the next few months are intended to be able to
show how we're going to begin that process.

We do not intend to be able to lay out the full plan, because we are talking about a multi-decade effort. However, the agencies have unitedly come together and committed to make this an iterative process. We do expect to continue to work together as we move forward. Caltrans has the statutory authority to update their freight mobility plan every five years. And they fully intend to be able to take the work that we've put here, continue the multi-agency effort, track our progress on all the various friends on meeting the targets, and making progress towards the 2050 vision.

We will have an opportunity to continue to work with them and adjust accordingly. As we've talked about earlier today, the Board, as well as the other agencies, always take the opportunity to learn from what we've done moving forward, and push new opportunities. And we are looking forward to starting that, but making sure that we also understand that we're not done with this plan, and we have a lot of work ahead of us.

DEPUTY EXECUTIVE OFFICER CHANG: I just also wanted to address your specific question about the involvement of the Environmental Justice Advisory Committee. So the Environmental Justice Advisory Committee has not been specifically involved in this
effort, as Heather mentioned. There's been a significant
group of environmental and environmental justice groups
that are working through the CCFC, and that's been sort of
the main contact on the sustainable freight strategy.

The strategies that are in the sustainable
freight strategy are going to be incorporated into the
State Implementation Plan, and they're going to form the
foundation of the transportation strategy in the scoping
plan. To the extent that the Environmental Justice
Advisory Committee wants to be involved in that process,
that's another venue. Although, there is some cross-over
in terms of the members of the EJAC and the members of the
CCFC.

BOARD MEMBER SERNA: One suggestion I would have
if this hasn't already been set in motion is to, since we
have an EJAC that is comprised of members from across the
State, and I assume the nine workshops are across the
State, in different places in the State, if you haven't
already kind of cross-referenced the general regions or
areas where various EJAC committee members are from,
extend a very deliberate invitation to those EJAC members
in their respective regions to those workshops, so that
they have an opportunity to participate outside of the
context of just a committee meeting.

DEPUTY EXECUTIVE OFFICER CHANG: Great. Thank
BOARD MEMBER SERNA: Thank you.

VICE CHAIR BERG: Thank you.

And with that, I'd like to welcome our Chair.

CHAIR NICHOLS: Thank you.

VICE CHAIR BERG: You were at the State of the State this morning?

CHAIR NICHOLS: I was. I was.

VICE CHAIR BERG: Welcome.

CHAIR NICHOLS: Thank you. I had an opportunity, of course, to go over the report with the staff. And I've seen some of the comments the ones that were submitted in advance of the meeting, so I have a pretty good sense, especially now that I've listened to my fellow board members thoughts to see how this is shaping up. But I would like to add just a couple of things, because it's irresistible to me to try to stitch together seemingly disparate comments and points of view, especially where there may seem to be conflicts.

So I want to start off by quoting from the State of the State Address, since it was just given this morning while you all were working, and comes from the man who appointed all of us to this Board. So let me read to you.

Quote, "Here at the State Capitol, we often think we have more control over things than we actually do. But
the truth is that global events, markets, and policies set the pace and shape the world we live in. The challenge is to solve today's problems without making those of tomorrow even worse. We face a future that is partly determined and yet, in many ways, unknown. Our job is to clearly face the facts we do know and prepare for the many unknowns as best we can".

Now, that obviously was intended to apply to a variety of different circumstance. I don't think he was looking at me when he said those paragraphs.

(Laughter.)

CHAIR NICHOLS: But I felt -- I feel those words are quite applicable actually to the kind of discussion that we've just had here, because, you know, freight or goods movement is not a sector. It's not even sort of a clearly definable piece of the economy that can be separated from other things. It is very complex. And so it would be I think foolish to think that we, at ARB, especially all by ourselves were going to transform it, in some way. Not going to happen.

On the other hand, we do have some areas in which we are the experts, in which we do have our hands on the levers and where we have responsibilities that we have to carry out. So it's kind of, you know, figuring out how to balance those two things. It seems to me that the great
thing that we have, and I'm sure this was touched on
before I got here with this initiative, is the
participation of the other key agencies that also bring
money and, frankly, power to the table, as well as
influence and relationships with stakeholders that go well
beyond anything that the ARB has ever really attempted
acting all by itself.

And I guess as I visualize this thing, the
sustainable freight strategy -- it is an ongoing strategy.
But I remember the last time that something was attempted
that was somewhat similar to this, which was in a previous
administration, where the result of it was a multi-billion
dollar bond act that was passed by a vote of the people
that brought more money into transformative type
activities and technologies than anything ever before that
had done?

Now, we have a lot of other tools that we're at
least thinking about that go well beyond just, you know,
direct funding through grants. But clearly, the financing
piece of this has got to be at the center of it all, or we
don't get to move the technologies forward that we all
know about.

So I'm pretty excited about the potential here.
And I think that the staff is working in a very creative
way to try to bring to bear all of these -- all of these
different tools and resources, while being appropriately
humble about what we get to do all by ourselves.

But I think the fact is that, you know, our job
is to do the regulatory piece of it, and to do the plans
that have to be done to meet the air quality standards.
So we can't let ourselves escape that.

I would just say one other thing, because I can't
resist it. I hate signing letters or receiving letters
that list a whole bunch of things that you ought to think
about when there's no muscle to back it up. You get
letters from bureaucrats, those of you in local agencies
get letters from State agencies, that sort of have this
kind of vaguely threatening tone to them, but you don't
really know what's going to happen, other than maybe
somebody will file a lawsuit or use it in CEQA litigation.

And you -- you know, it doesn't make you feel
good about adopting those strategies, let's put it that
way. I mean, I think if we were to rely primarily on our
comments on projects as a tool for getting people to do
what we think they should do, we really would not be
getting -- we wouldn't be getting very far.

So not to say that you don't have to comment on
projects from time to time, but I really do hope that we
adopt a strategy more along the lines of what Ms. Berg was
talking about when it comes to looking at these big
projects that are going to live for decades, and that are
going to suck up a lot of funds to intervene earlier, and
be more in the community through our partners at the air
districts, through our own staff efforts, things like the
handbook, so that we're really being part of the solution
and not just part of the problem.

But I think we could -- I think we could manage
to do that. So anyway, those are my last thoughts on this
matter, and I'll ask you to take us to the break then.

VICE CHAIR BERG: Great. Well, this is an
information update, so no Board action is required.

And so we'll bring this agenda item to a close.
We're going to break for lunch now. We will come back at
1 o'clock, and we have three more items this afternoon,
and look forward to seeing everybody at 1 o'clock.

Thank you

(Off record: 11:55 AM)

(Thereupon a lunch break was taken.)
AFTERNOON SESSION
(On record: 1:04 PM)
CHAIR NICHOLS: Welcome back, everybody. Those who are not actually sitting in their seats are in the back where they can hear, so I think we should get going. And I want to welcome everybody back. This item is actually a very good follow-on to the one that we were talking about just before we broke for lunch, because the Heavy-Duty Diesel Truck and Freight Enforcement Program is probably one of the few things that everybody agrees is an essential element of our strategy for sustainable freight.
And that is companies that are subject to our rules are anxious to see the rules enforced, because they know that people who aren't following the rules and getting away with it are getting away with something which is anti-competitive and is a problem. And a good enforcement program is absolutely key to convincing, not only the regulated community, but the people who look to us for protection of their health that we're actually doing the things that we say we're doing.
So with that, I'm going to turn this over to Mr. Corey to introduce.
EXECUTIVE OFFICER COREY: Thanks, Chair Nichols. And as you said, the immediate actions included in the sustainable freight strategy discussion document
were initiated to deliver additional emission reductions and further reduce health risks in disadvantaged communities, and staff has acted and delivered on that goal. We'll talk about it. Our move made significant progress.

Today's presentation provides an overview of the Enforcement Division and its approach to compliance with diesel regulations in its response to commitments in the sustainable freight strategy April discussion document. And with that, I'll introduce Heather Brown who will give the staff presentation.

Heather.

(Thereupon an overhead presentation was presented as follows.)

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Thank you, Mr. Corey. Good afternoon, Chair Nichols and members of the Board. Today's presentation will provide an overview of the enforcement division and the ways in which diesel program enforcement is being enhanced to meet current enforcement challenges.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: In addition to providing an overview of the Enforcement Division as a whole, I will specifically discuss enforcement of ARB's diesel programs, wherein many
cases we have achieved full compliance, and in some cases we are addressing challenges.

I will discuss what we have done to enhance enforcement in response to the commitments made and the sustainable freight strategy discussion document released in April 2015, and also what we have done to improve the efficiency of diesel program enforcement overall.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: The Enforcement Division consists of 136 staff scientists, engineers, and administrators, and 41 intermittent technicians who work closely with ARB's Legal Office to enforce more than 70 ARB programs.

Enforcement Division staff also worked diligently and in partnership with regulatory staff to provide training and compliance assistance to the regulated industry and support to local air district enforcement programs.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: The goal of enforcement is compliance.

To achieve compliance, ARB trains the regulated industry on ARB regulatory requirements and conducts compliance assistance and outreach among the regulated community using a variety of innovative mechanisms.
The Enforcement Division also conducts field inspections of individual emission sources, which result in citations issued and penalties assessed for noncompliance, and requires compliance before a citation will be cleared.

We also investigate entire companies, which result in penalties for noncompliance and requires compliance, and in some instances reporting before the violations can be cleared.

We develop partnerships with other agencies to expand our enforcement presence and address community concerns.

We use the media to disseminate information about our programs and settlements.

And the Enforcement Division also supports and develops regulatory amendments to improve implementation and enforceability.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Once violations of ARB regulation requirements are discovered, the responsible party is notified, given an opportunity to discuss the violations, and asked to provide additional information necessary to consider. Violations are then resolved with compliance, and penalties are assessed in consideration of all of the
relevant circumstances listed on this slide, as required by law. This process ensures the fair and consistent enforcement of all ARB programs.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: As part of ARB's overall enforcement program, we enforce all of the diesel regulations adopted by the Board. These regulations apply to a wide array of vehicles and equipment that operate at ports, railyards, distribution centers, and disadvantaged communities, and on the State highway system.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Many of the programs we enforce have high compliance rates. These programs tend to have relatively fewer regulated entities or relatively fewer locations where vehicles and equipment operate. Enforcement staff can focus effectively on these regulated sources, providing hands-on compliance assistance and enforcing when companies do not comply. Other programs have lower compliance rates and present enforcement challenges.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Many diesel regulations focus on the vehicle or equipment operator. There may be tens of
thousands of regulated entities, many of which are not based in California. Many are small businesses and many are not familiar with new technology. Some speak English as a second language.

At the same time, regulatory requirements are complex and may require significant investment. To meet the enforcement challenge, our strategies must evolve.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Compliance assistance and outreach efforts are a key strategy in trying to achieve meaningful compliance among sources affected by diesel programs. ARB assists businesses in understanding rule requirements in a timely, accurate, and plain language format by use of multiple, innovative, outreach mechanisms.

Every year, we reach tens of thousands of regulated entities directly over-the-phone, in-training classes, and in special events across the State, and indirectly through our website, direct mail, and media campaigns. Outreach efforts help generate goodwill among the regulated community.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: In April 2015, ARB released its sustainable freight strategy discussion document, which
called for enhanced enforcement in four areas: Expanded
presence, focus on freight hubs, increase in efficiency,
and leveraging technology.

The Enforcement Division has responded to each
consistent with the needed evolution in enforcement
processes.

We have developed partnerships and held media
events. We increased inspections in disadvantaged
communities. We are becoming more efficient, and we are
supporting the development of improved monitoring
technology.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION
MANAGER BROWN: To expand our enforcement presence, we
have extended agreements with various local air districts,
ports, and federal agencies to enforce our diesel related
regulations. Through these partnerships, air districts
and ports can write citations for non-compliant vehicles
and equipment.

We have also recently developed a partnership
with U.S. EPA Region 9, which has initiated truck and bus
rule fleet investigations under the federal authority of
the Clean Air Act. In September 2015, Region 9 settled
their first case with an out-of-state trucking fleet for
violations of the truck bus rule.
Additionally, staff held three enforcement related media events this year in the Los Angeles area and the San Joaquin Valley. These events resulted in the dissemination of information about diesel truck programs and enforcement through 13 different media outlets.

Lastly, we have expanded outreach to disadvantaged communities and environmental justice task forces by assembling a team that is working to develop new relationships with various community-based grassroots organizations.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: The Enforcement Division's environmental justice team consists of five members that are assigned to geographical locations across the State, including the Bay Area, the Central Valley, the greater Sacramento area, the South Coast region, and the border region.

The team attends community meetings, such as the IVAN networks, in their assigned area to listen to community issues. The team then works to address those issues through education, training, and enforcement actions. Our goal is to communicate regularly and effectively with community representatives to understand and act on community concerns, to use information from the community to initiate enforcement investigations, and to
report back the results of these investigations once completed.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Field enforcement is an important aspect of our overall enforcement program. This map shows where ARB field inspections have occurred from July 2014 through June 2015. Field inspections include inspections of a wide array of vehicles and equipment that operate throughout the State, in and around disadvantaged communities, at ports, railyards, distribution centers, major freight corridors, and random road-side locations.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: This chart shows the number of truck inspections and number of citations issued at the roadside from January to September 2013, 2014, and 2015. The height of each bar shows the total number of inspections. The dark blue portion of each bar shows the number of inspections in disadvantaged communities.

As you can see, the number of inspections in disadvantaged communities increased substantially in 2014, and again in 2015. The blue line shows the number of citations issued in each year. The number of citations also has increased substantially each year, growing from
3,000 citations in 2014 to nearly 4,000 citations in 2015. Not shown on the chart is the fact that penalties from citations have also increased from 2013 to 2015. The total penalties collected from non-compliant truck citations issued in the field were approximately 1.3 million in 2013, 1.7 million in 2014, and 2.9 million in 2015.

This increase in citations issued and penalties is possibly due to lower compliance rates in disadvantaged communities and also possibly due to the growing number of fleets having compliance requirements under the truck and bus rule each year, thereby increasing the overall number of non-compliant fleets operating in California.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Staff conducted 3,799 equipment inspections at ports and railyards in 2015, all of which were in disadvantaged communities. As a result of the relatively fewer number of regulated entities and the relatively fewer locations where vehicles and equipment operate, we find that the ports have a very high overall compliance rate.

We find higher noncompliance with drayage trucks at railyards and with the fewer number of ships using low sulfur fuel oil to meet fuel requirements. Moving
forward, we will be shifting our focus to these more non-compliant programs, in addition to providing more focus on shore-power requirements and opacity standards for cargo handling equipment.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: In addition to field enforcement efforts, ARB staff also performed diesel fleet investigations to ensure full fleet compliance with all applicable diesel regulations. It currently takes an average of 12 months to complete a diesel fleet investigation. Between January 1, 2015 and September 30, 2015, we closed 253 heavy-duty diesel fleet investigations, collecting approximately 2.9 million in penalties and bringing 2,784 trucks into compliance.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: With the increasing number of entities subject to the truck and bus rule, the Enforcement Division began looking at strategies to increase the efficiency of truck and bus rule enforcement with the goal of increasing the number of non-compliant fleets audited each year, thereby bringing more fleets into compliance.

Some of the strategies being implemented as we work toward this goal include: More streamlined citations
processing, implementing a new smart audit approach, increasing our focus on hiring entities such as brokers, and more streamlined processing for qualifying medium and small fleets.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: In processing citations, the focus had been on bringing the cited truck owner's entire fleet into compliance with the truck and bus rule. This was an effective way of ensuring full fleet compliance, but it led to extended processing time and a backlog of unprocessed citations.

In order to speed up the citation processing time, but still ensure compliance, the current approach will be altered to focus on bringing the cited truck into compliance and then integrating citations into a smart audit approach designed to target the most non-compliant fleets.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: The smart audit approach involves the merging of multiple data sources into one database. These sources include California and 49 state DMV registration data, ARB compliance databases, citations and complaints, safety inspection databases, motor carrier permits, and
any available data on high emitters.

Vehicles are grouped by fleet, and each fleet is evaluated using multiple audit indicators. The fleets are ranked by size and level of noncompliance and are prioritized for enforcement. This system is currently being automated for efficiency and will be completed this summer.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: The merging of various data sources and the evaluation of fleets through the smart audit approach will allow us to better assess overall truck and bus compliance rates and help inform decisions on where to focus resources so that we are targeting the most non-compliant fleets.

This process will also reduce fleet investigation time by identifying fleet vehicles at the start of an audit, rather than taking additional time to gather fleet information during an audit.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Another strategy being implemented to increase the efficiency of truck and bus rule enforcement is to focus enforcement on brokers and motor carriers that are hiring fleets. The truck and bus rule requires these
brokers and motor carriers to verify and maintain records of vehicle compliance prior to hiring the vehicle. Focusing enforcement on these entities will ensure that they are, in fact, verifying and only hiring compliant fleets, and will therefore significantly increase the number of fleets we are able to reach. Investigations of these entities are currently underway.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: More streamlined approaches for qualifying small and medium fleets are also being implemented as a strategy for bringing more fleets into compliance while recognizing the unique economic hardship situations that exist. Most settlements for truck and bus rule violations involve a finding of economic hardship.

Streamlined procedures will reduce processing time and while still balancing time to comply and penalties with economic hardship. Fleets will be provided a final opportunity to comply and will be required to complete small business training. Further enforcement action will be taken on any fleet not meeting compliance requirements.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Lastly, the Enforcement Division is
working with ARB research staff to develop advanced
detection systems that will better identify trucks and
ships with high emissions and target them for enforcement
and compliance assistance. Staff has implemented remote
sensing pilot projects for ships and for trucks.

For example, we are currently working with U.S.
EPA, Coast Guard, and South Coast Air Quality Management
District staff to determine if such testing could be used
to enforce the federal emissions control area for ships
within 200 nautical miles of shore. Here in California on
the roadside, emissions measurements could be used in the
future to rapidly diagnose trucks operating with damaged
diesel particulate filters.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Moving forward, the Enforcement Division
will continue working to assess compliance rates for each
enforced program to better inform decisions on where to
focus resources and to target less compliant programs.

We will continue the development of innovative
solutions to increase our effectiveness, including:
Partnering with other agencies to expand our enforcement
presence, further developing media strategies to increase
visibility and deter noncompliance, supporting the design
of regulations to ensure maximum enforceability, and
leveraging technology to better identify noncompliance.

Additionally, the Enforcement Division is working to update ARB's policy for supplemental environmental projects to provide additional benefit to disadvantaged communities. This work will be completed by the end of this year.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: Enforcement staff works hard to implement and enforce the full range of ARB programs. The effectiveness of the agency itself depends on effective enforcement. The diesel programs adopted over the past decade are far reaching, and impact tens of thousands of regulated entities.

To meet the enforcement challenge, our program is evolving. We are evaluating our procedures to become as efficient as possible. We are building partnerships so we are accountable to disadvantaged communities, while leveraging the assistance of other agencies. We are developing methods to assess compliance, so that we are accountable and limited resources are used most efficiently.

Finally, we are expanding our toolbox to support development of more enforceable regulations, to use the media more effectively, and to develop new approaches to
providing effective compliance assistance, and to create incentives for compliance.

--o0o--

STATEWIDE TRUCK AND BUS ENFORCEMENT SECTION

MANAGER BROWN: More needs to be done, and we are up to the task. This concludes my presentation.

Thank you.

CHAIR NICHOLS: Thank you. We did not have any witnesses to signed up to comment on this, so it's up to the Board members, if they have any questions or comments about enforcement. This is really an impressive job of sort of rethinking and restructuring that's going on here in this program. It's good to hear about it. I suppose we should be happy that nobody came to testify, because it means that they think we're dog a good job, right?

(Laughter.)

CHAIR NICHOLS: We'll take it that way anyhow.

VICE CHAIR BERG: I would like to thank the enforcement staff. That definitely falls under the category of no good deed goes unpunished most of the time. And being a regulated party, I have also worked with the enforcement staff, voluntarily as I did.

(Laughter.)

VICE CHAIR BERG: But I've --

CHAIR NICHOLS: Should we check your record?
(Laughter.)

VICE CHAIR BERG: Yeah.

Actually, under a regulated party, I work a lot with DTSC too as well. And what I really find is if most people really want to be in compliance, they either -- especially on small. I can only speak on behalf of small businesses really, and medium-sized businesses. And they often find themselves behind the eight ball as to finding out things, as quite frankly I did sitting on this Board.

And having a department where there is self-reporting, where there is a mechanism to come and to get into compliance, and to pay your penalty as appropriate, but allowing you to get back to business is so important. So I really applaud our Enforcement Division for your really hard work. And you're very small, but mighty.

I can also -- absolutely, I believe 100 percent without enforcement, the regulation would be toothless, because people are kind of like water. They go in the easiest path forward. And when they find out that there is going to be accountability, they step up.

So it's very important work. I often feel like you're the unsung heroes. We all have lots of examples where we can point to where there might have been an unfairness or heavy handedness. But by and large, you
guys are very vital, doing a great job, and I just personally want to thank you for that.

CHAIR NICHOLS: Thank you.

I think that may be it. Oh, sorry, excuse me. Hector.

BOARD MEMBER DE LA TORRE: I'll start by echoing the sentiment of how hard it is to do what you're doing. And clearly, we're getting results from it, but it's not enough.

And so when I'm driving on the 710 Freeway and you guys have heard this numerous times, and I'm telling my son to jot down the license plate number of a truck that's smoking and then subsequently, you know, going on-line and reporting it, it is an almost everyday occurrence. And these trucks are running all over the place obviously.

I think two things. One, building up more partnerships like you did in Commerce on the truck idling to have more eyes out there catching these folks doing these things, so it isn't just all you. Those kinds of partnerships I think we need to make more robust. I had a conversation with some staff in the City of Long Beach mentioning the Commerce work. And they assured me that -- well, they liked the idea, and then they assured me they were going to do it. I don't think they have. That's not
on you. That's on them.

But I think going along with 710 corridor to those cities and partnering with all of them to get them to help out in this, would be great -- would be very helpful, and finding other opportunities to do work like that.

And then secondly, I think -- I know during the briefing that you're thinking up new approaches to be more efficient, to get more folks monitored, that you're thinking of ideas. And so I think it's incumbent upon us to find the resources to fund that additional enforcement that is needed out there.

I'll close with this. I was in San Bernardino last week. And in talking about some of our accomplishments, I mentioned the ports, right? There's no truck that's older than 2007 coming in and out of the ports. Well, someone in the group shot back, "Yeah, they're all out here".

(Laughter.)

BOARD MEMBER DE LA TORRE: And that's not good. You know, obviously, we've benefited from that in our area, but we can't have these older, smokier trucks going to other parts of the state and hurting other people.

So I think this is our -- one of our big challenges as an entity, as an agency to go out and
enforce all of the regulations that we all keep voting on.

So thank you.

CHAIR NICHOLS: Good comments, both. Do you want
to say anything about the environmental justice aspects of
the enforcement program, of how you target enforcement?

ENFORCEMENT DIVISION CHIEF SAX: Yeah. I can
talk a little bit about that. So there's sort of two
aspects to environmental justice that we're working on.
One, is that we have -- we mentioned in the presentation,
we have created a team internally. And they are going to
task forces across the state. We want to get input from
the local communities that are having to deal with these
issues. We think they have good eyes on the ground. We
think they know what the major problems are, and we want
to be able to try to address those.

The second issue is trying to ramp up where we do
our enforcement. And you saw from our slide that we're
trying to do more work at roadside locations in
disadvantaged communities. And you've seen from that that
it appears to have borne fruit, at least in terms of more
citations. That's not necessarily a good thing. It's
indicative of what everyone has been saying, which is that
there's more noncompliance in disadvantaged communities.
And that is a challenge for us to deal with.

There are -- the compliance rates for the truck
and bus program are not where they need to be. We realize that. When Hector says he goes up and down the 710 and sees this, I believe him. I see it on Watt Avenue going up and down the street every day. And when I go to El Monte, you see it on I-5 all the time.

Our challenge, since we can't be everywhere at once, is to try to find ways to be more efficient. And so to the extent you have suggestions, to the extent that organizations in Long Beach want to partner with us, if you let us know who those are, we will follow through, and we will try to do the best that we can to get as much in force as we can in an effort to make our programs as effective as possible.

CHAIR NICHOLS: Great. Any other comments?
If not, thank you so much, and carry on. I look forward to a progress report on this one.

And speaking of progress reports, our next item is also an update, but this is on one of the big items that Mr. Corey presented earlier today, when he was talking about his program priorities. We're going to be looking at a lot of SIPs in the coming year. It's been quite a long time actually since there's been this much action on the SIP front. And some of the newer members may not even have lived through this experience. So no longer can this group labor away in obscurity.
(Laughter.)

CHAIR NICHOLS: You're going to get a lot more face time than you might have wished for. But this is actually -- it's a terrific group, and it is the core, in many ways, of our activities, because we are the State -- the agency of the State of California that has the principal responsibility for SIPs. And the SIP is the tool that's used to comply with clean air standards.

So with that, I will let Mr. Corey introduce the item.

EXECUTIVE OFFICER COREY: Thank you, Chair.

This year, the Board will consider, as you noted, a number of State Implementation Plans for attaining federal ozone and PM2.5 air quality standards. In October, staff described the South Coast Region's air quality needs in the context of the mobile source strategy. In today's presentation, staff will discuss the nature of air pollution to be addressed in other regions of the State and the important role that mobile source reductions, together the local -- with local controls, will play in meeting the standards.

Today's presentation will also include specific focus on the unique air quality in the San Joaquin Valley that along with South Coast presents the greatest challenge.
I'll now ask Dr. Patricia Velasco of the Air Quality, Planning, and Science Division to begin the staff presentation.

Patricia

(Thereupon an overhead presentation was presented as follows.)

STAFF AIR POLLUTION SPECIALIST VELASCO: Thank you, Mr. Corey. Good afternoon, Chair Nichols and members of the Board. Today's presentation will provide a preview of the many State Implementation Plans coming to the Board over the next year. I will discuss the diverse array of air quality challenges these SIPs will address, along with the approaches needed to meet the air quality standards.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: The Federal Clean Air Act sets out requirements for adoption of air quality standards. EPA is required to periodically review the latest health research to ensure that standards remain protective of public health. Based on research demonstrating adverse health effects at lower exposure levels, EPA has set a series of increasingly health protective air quality standards.

The SIP process established under the Clean Air Act has been effective, and an important driver for California's clean air -- air quality progress. Even as
standards become lower, our control programs ensure that air quality continues to improve and provides increasing public health protection. New SIPs will build on these successful efforts. But tighter standards also results in new challenges, as I will highlight for you today.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Today's vehicles and the fuels that power them, are significantly cleaner than they were 25 years ago, as a result of SIP control strategies. Cars are 99 percent cleaner and diesel PM from trucks are 98 percent lower. By 2023, nearly all trucks in California will meet 2010 model year engine standards. The number of zero emission vehicles is increasing, and as you heard earlier, over 180,000 are now on the road.

In addition, gasoline and diesel fuel are subject to stringent specifications, and in-use vehicle performance requirements ensure that the existing fleet remains clean. Finally, California has been a leader in reducing emissions through incentives along with many other programs.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: The success of these efforts is evident in the air quality progress seen across the state. Today, more than 20
million people live in communities with air quality that
meets current standards. This is providing significant
health and economic benefits, including fewer premature
deaths from -- for people with preexisting heart and lung
disease, reduced hospital emissions, and reduced emergency
room visits. This year's SIPs are a critical step to
bringing healthy air to all of California residents.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: This
year, the majority of SIPs address the recent more health
protective standards for ozone and PM2.5. These include
the 8-hour ozone standard of 75 parts per billion, and the
annual PM2.5 standard of 12 micrograms per cubic meter.

These SIPs will cover a variety of ozone and
PM2.5 challenges. The nature of contributing sources,
along with the severity and spatial extent of the
remaining problem defines the scope of the control
strategy needed. The strengths of our current programs
will bring many areas into attainment. Other areas will
meet targeted controls to address localized impacts.
Finally, areas such as South Coast and the San Joaquin
Valley will require comprehensive new actions to achieve
clean air mandates.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: ARB
placed multiple roles in SIP development and approval. Our research programs and technical work provide the scientific foundation for determining effective control approaches. Under State law, ARB is responsible for developing the control strategy for mobile sources, along with fuels and consumer products. Because of the critical role of mobile source controls for attainment, staff works closely with air districts in development of the overall SIP strategy.

As part of this effort, air districts develop a corresponding strategy for industrial and residential sources. Finally, as the lead air quality agency for the State, ARB must evaluate SIPs to ensure they meet the State law in Clean Air Act requirements. And SIPs are considered and approved by the Board before submittal to EPA.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: The maps on this slide illustrate areas that have been designated nonattainment for the current ozone and PM2.5 standards shown in orange. Sixteen areas were originally designated nonattainment for the 8-hour ozone standard. They include California's large urban regions, as well as a number of rural downwind areas. Some of these areas have already come into attainment since the original designation, as I
will highlight later.

Four regions are designated nonattainment for the PM2.5 annual standard, including the San Joaquin Valley, the South Coast Air Quality -- the South Coast Air Basin, as well as portions of Plumas and Imperial counties.

---o0o---

STAFF AIR POLLUTION SPECIALIST VELASCO:

Developing effective strategies requires understanding a number of key science issues. Each area has unique sources, topography, and weather patterns that together influence pollutant concentrations. Weather conditions associated with the drought make attainment more difficult, and increases emission reductions are needed.

Increasing wildfires and changing weather patterns from the impacts of climate change also pose new challenges. And, with more stringent air quality standards, the impacts of pollution transported from outside the State, as well as natural background levels need to be considered. Current ozone levels are predominantly caused by local emissions. But as air quality standards become lower, ongoing research by ARB and the academic community is underway to understand the contribution that background and transported pollution may play in the future.
STAFF AIR POLLUTION SPECIALIST VELASCO: As Mr. Corey noted in his presentation earlier, these SIPs also provide new opportunities for developing plans. The interconnected nature of strategies needed to meet both air quality and climate goals over the next 15 years has fostered an integrated approach to develop -- to development of the mobile source strategy. Meeting these goals will require a comprehensive transformation for cleaner vehicle technologies, fuels, and energy sources.

Last fall, staff released a draft mobile source strategy outlining the actions necessary to achieve this transformation. The strategy provides a framework to support multiple planning efforts, including this year's SIPs. Clean Air Act deadlines will be a driver for the pace of emission reductions needed, especially in the South Coast.

With that as background, I will now walk through the three regions of the state, and highlight key aspects of upcoming SIPs starting with Northern California.

STAFF AIR POLLUTION SPECIALIST VELASCO: Today, as shown in green on the map, most areas that were originally designated nonattainment, now meet the 75 parts per billion ozone standard. These include San Francisco
Bay Area and Butte County, and the small dot in the upper Sacramento Valley representing the Tuscan-Buttes. The remaining focus for ozone SIP development is in the Sacramento and western Nevada County. Portola, in Plumas County, is the only area requiring a PM2.5 SIP.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Ozone levels in the Sacramento region have improved significantly, and the region met the 80 parts per billion ozone standard last year, two years prior to its attainment deadline. The far western and eastern portions of the Sacramento region, including much of the urban core, also meet the more stringent 75 parts per billion standard.

Winds carry urban emissions, which then react to form ozone as the air mass moves downwind. As a result, the highest concentrations occur in the area extending from Folsom into the foothills. Emissions in the Sacramento region are dominated by mobile sources, accounting for approximately 90 percent of all NOx.

A focus on continued reductions from the current mobile source control program is expected to provide for attainment by the region's 2026 attainment deadline. Ongoing reductions in the Sacramento region will also provide for attainment in western Nevada County, which
must meet the standard in 2017.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: The remaining nonattainment area in Northern California is Portola, located in the isolated valley in Plumas County. Residents in Portola rely heavily on wood stoves for home heating, and many of these stoves are older without any type of emission controls. The resulting wood smoke becomes trapped in the valley contributing over 80 percent of PM2.5 in the region.

Thus, meeting the standard will require replacing these older wood stoves with cleaner more efficient models. Because many residents are low income, incentive funding is critical. EPA has recently proposed --- provided close to $3 million to fund a wood stove replacement program that will be implemented by the local air district. In addition, the Governor's budget proposal includes $40 million to reduce residential wood smoke in rural areas like Portola.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Moving on to the central portion of California, we also see continued progress, with Calaveras, Mariposa, and eastern San Luis Obispo Counties originally designated as nonattainment now meeting the ozone standard. The focus
is therefore on addressing both ozone and PM2.5 in the San Joaquin Valley. These efforts will provide the reductions necessary for the remaining ozone nonattainment area in eastern Kern County to meet the standard.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Looking first at ozone, the valley tracks progress in reducing local emissions. This confirms what we have seen in field studies and air quality modeling, that a majority of ozone in the valley is generated from emissions within the valley. The graph at right illustrates this trend over the last 25 years. While there was relatively modest progress in the early years, over the last decade, ozone levels have shown significant improvement in response to accelerated NOx reductions. Current control programs will continue this current pace, with a further 50 percent reduction in NOx expected to bring the valley into attainment by 2031.

Additional reductions from implementation of new measures included in the mobile source strategy will further accelerate improvement.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Meeting PM2.5 standards in the next decade in the valley represents a tougher air quality challenge than meeting
the ozone attainment deadline. In the next few slides, I will explore why and discuss some of the unique aspects of the Clean Air Act process for PM2.5.

Mountain ranges surrounding the valley, along with weather patterns that cause extended periods of stagnation, are conducive to the formation and accumulation of PM2.5, especially during the winter months. While annual PM2.5 levels in the valley have decreased since 2000, year-to-year variability in the persistence and severity of these weather conditions can have a significant impact on concentrations.

The recent drought has further intensified this challenge. Extended periods without storm systems prevent the dispersion and removal of PM2.5 that would typically occur with more frequent rainfall. The stagnant conditions associated with persistent dry periods also allow for PM2.5 buildup over multiple weeks. For example, nearly two months without rain in the winter of 2013 caused an extended period of elevated PM2.5, which in turn increased annual concentrations.

This impact is illustrated in the figure on the right comparing annual average PM2.5 design values in 2012 and 2013. The severity of weather conditions associated with the drought increased annual average PM2.5 concentrations between one and two micrograms per cubic
meter, making PM2.5 attainment more difficult.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Both the nature of PM2.5 in the valley and PM2.5 Clean Air Act requirements provide an additional level of complexity in the developing valley SIPs. Unlike ozone, the PM2.5 SIP planning requirements apply in a step-wise fashion. The process begins with evaluation of the visibility of meeting the standard by the moderate area deadline of 2021. This is the SIP due this year.

If attainment in 2020 -- by 2021 is not feasible, EPA will reclassify the region to serious and establish requirements for a second SIP submittal that must demonstrate attainment by 2025. That submittal date is not yet known. Nevertheless, it is important to begin to define the strategies that will be needed for attainment now.

As part of this process, we will need to consider the potential for future droughts and plan for the additional reductions that will be necessary. These control programs will require focus on key contributors to PM2.5 in the valley, including NOx from mobile sources, as well as directly emitted PM2.5 from wood burning and commercial cooking. In addition, although dust is typically a small contributor to PM2.5, it's contribution
has been increasing in the valley.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Air quality modeling work is currently underway to evaluate the magnitude of reductions needed for attainment. Given the earlier attainment dates for PM2.5 compared to ozone, accelerating the pace of NOx reductions staff outlined in the draft mobile source strategy last October will be necessary. Ongoing mobile source NOx reductions will provide for significant regional improvement, but strategic use of incentive funding will be essential to achieve earlier penetration of clean air technologies.

Additional local -- additional local district controls will also be critical especially in the southern valley where concentrations are the highest. District controls will need to target further reductions from wood burning and commercial cooking. In addition, given the increasing contribution from dust, the district will also need to evaluate opportunities to strengthen fugitive dust rules originally adopted for PM10 SIPs.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Finally, let's look at the southern portion of California. Given the severity of the challenge, the primary focus is on meeting ozone and PM2.5 standards in the South Coast. San
Diego County has made substantial progress and is nearing the ozone standard. Emission reductions in the South Coast will also provide for attainment in the remaining four downwind areas, including Mojave Desert and Antelope Valley, Coachella Valley, and Ventura County. The last area, Imperial County, has a number of air quality issues, including cross-border transport from Mexicali and the Salton Sea that I will discuss further.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: As we briefed you last October, the South Coast region experiences the highest ozone levels in the nation. State and local control programs have resulted in significant progress. Twenty-five years ago, the entire South Coast region violated the 75 part per billion standard. Today, 40 percent of the population lives in communities in the coastal region of the basin that now meet the standard.

However, modeling conducted by ARB and district staff indicates that NOx emissions will need to be reduced further -- a further eight percent from today's levels to bring the remaining portions of the region into attainment by 2031. While VOC reductions may provide near-term benefits in some portions of the basin, the standard can only be met through significant NOx reductions.

The proposed mobile source strategy is designed
to provide all of the reductions needed from the mobile sector, and will require comprehensive actions to deploy the cleanest technologies. Given the severity of the problem, a similar scale of reductions will be needed from refineries, power plants, and other local, large industrial sources. South Coast staff is working on defining the needed strategies for these sources.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Meeting ozone standards will drive overall emission reduction needs in the South Coast as PM2.5 air quality has been showing steady improvement. Annual average concentrations have been cut in half since 2001, and the region met the 15 micrograms per cubic meter annual standard in 2013. California's drought has had a smaller impact on air quality in Southern California than in the San Joaquin Valley, but has slowed progress more recently. Nevertheless, meeting the PM2.5 standard in the South Coast will rely on the mobile source strategy to reduce regional concentrations, coupled with targeted district controls focused on bringing the remaining areas in Riverside into attainment.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: Ozone concentrations in San Diego County have declined over 20
percent since 2000, and the coastal region now meets the ozone standard. Similar to the Sacramento region, the highest concentrations occur in the county -- in the county's rural eastern portion due to emissions transported from upwind urban areas.

Today, the only monitor still violating the ozone standard is in the community of Alpine. With mobile sources accounting for over 90 percent of the NOx reductions in the county, ongoing implementation of the mobile source program will provide for attainment, with an attainment deadline in 2017.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: I will close on Imperial County in the eastern -- in the southeastern corner of the State. This region faces multiple air quality issues affecting ozone, PM2.5 and PM10. Elevated ozone levels in the country are the result of transport from several upwind areas, including the South Coast and San Diego, as well as Mexicali, Mexico.

Ongoing mobile source reductions, both within the county and in South Coast and San Diego will be key to attainment. PM2.5 levels are also due to pollution transported from Mexicali, and therefore the nonattainment area represents only a small region next to the border.
Because of the overwhelming impact of emissions in Mexico, the PM2.5 SIP will utilize the cross-border transport provisions on the -- in the Clean Air Act. At the same time, ARB and the district continue to work on outreach programs with the Mexican government to improve public health on both sides of the border.

Lastly, the region also experiences periodic high PM10 levels due to wind-blown dust events and is working to prevent potential impacts from the Salton Sea.

--o0o--

STAFF AIR POLLUTION SPECIALIST VELASCO: The Salton Sea straddles Imperial County and the Coachella Valley. The lake level has been dropping since 1995, and beginning in 2018, a water transfer agreement will drawdown lake levels exposing increasing areas of lakebed playa.

To prevent the potential for wind-blown dust impacts, the Salton Sea Task Force was established in 2015 to develop mitigation and restoration plans. As part of the task force, ARB is focused on near-term actions to mitigate air quality impacts. Current efforts include providing guidance on air quality modeling and technical expertise on effective dust mitigation methods. The goal is to get dust control in place as the playa is exposed to prevent dust emissions from the outset, and the potential
for exceeding the federal standard.

---

STAFF AIR POLLUTION SPECIALIST VELASCO: This will be a busy year for SIP development as we continue to work with local air districts on bringing 15 plans to the Board. These SIPs will reflect a variety of control approaches, with ongoing mobile source reductions key to the air quality progress throughout the state. As part of this effort, the Board will be finalizing SIP commitments for new mobile source measures as part of the comprehensive mobile source strategy.

Looking beyond these SIPs, last October, EPA further strengthened the ozone standard to 70 parts per billion. In the fall, we will brief you on proposed nonattainment area designations. SIPs for this revised standard will be due in 2021. The actions you will be considering over the coming years to improve the new mobile source strategy -- sorry, to implement the new mobile source strategy will also provide the foundation for meeting this more health protective ozone standard.

This concludes my presentation and we would be happy to answer any questions you may have.

CHAIR NICHOLS: Thanks, Dr. Velasco. I don't believe we have anybody signed up to speak on this item. And I know Board members have had an opportunity to look
at the report and to ask questions about the process in
general. I think perhaps the only thing that may be
missing from the overall presentation is a little bit of a
picture of how the Air Board works with the local agencies
to integrate the vehicle and stationary source aspects of
the SIPs. This is -- it's a complicated and lengthy
process and it builds on all kinds of exchanges of data
and so forth. But maybe you could just talk a little bit
about how this works.

Mr. Karperos.

DEPUTY EXECUTIVE OFFICER KARPEROS: Yes, let me
answer that question. As we said in the staff
presentation, the mobile source strategy is the foundation
of attainment throughout the State. In Sacramento, in San
Diego where 90 percent of the emissions NOx emissions are
coming from mobile sources is actually the key part of the
strategy. It's also obviously very much the case in South
Coast, in the San Joaquin Valley, the big lift is from NOx
reductions.

Because of that, we work very, very closely with
the local air districts, first, to establish the
scientific foundation for SIPs. And that's the inventory
and the air quality modeling. How much -- what are the
emissions going into the region, and how far do we need to
lower those in order to meet the standards. And that is a
back and forth between ourselves and the air districts.

We do most of the modeling for the San Joaquin Valley. We have the capacity and the resources to apply there. It's much more a partnership in South Coast to have a substantial effort in the modeling arena there.

And we try to make sure that we're actually leveraging our resources and using those most efficiently, and arriving at the same answer as to what the carrying capacity is of the regions.

Once we've established that, then it's a matter of identifying what are the most effective approaches for reducing NOx emissions. Both the local agencies and ourselves have a great amount of expertise and a growing amount of expertise with the local air districts in terms of what are effective strategies for the unique sort of business models and sources that are in the regions. So we, as staff, sit down and -- with the local staff and talk about what our mutual -- our ideas about what controls should be, taking into consideration the technical expertise and input from the local districts, and their insight in terms of the timing of the controls, and how they can be applied to, as I said a moment ago, to the particular business models that exist within their regions.

We also -- and this is -- I'll end here. Because
the strategy, as we briefed you in October, is very, aggressive, the support of the air districts in developing it, and helping us move that forward to a vote in front of you is absolutely critical. We would not be able to develop it nor implement it without their support.

CHAIR NICHOLS: Thank you.

BOARD MEMBER BALMES: Chair Nichols, could I just make one comment.

CHAIR NICHOLS: Please.

BOARD MEMBER BALMES: As Kurt knows, but I don't know about my fellow Board members, there's already a stricter ozone standard on the books for 70 parts per billion, as opposed to the 75 that we're -- the SIP will be about. And so getting started to meet the 75 part per billion standard is important in terms of our positioning to meet even a stricter standard down the road.

DEPUTY EXECUTIVE OFFICER KARPEROS: You're absolutely right, Dr. Balmes. As we develop the plans now for the 75 parts per billion standard, we use our models to look forward to what might we need to do, how far will we need to go in terms of reducing emissions next. The South Coast AQMD actually includes an element of their plan explicitly looking forward to the next SIP. And we, in our staff reports, will do the similar thing for other areas of the state.
CHAIR NICHOLS: Any other comments?

All right. Well, thank you. We're now better prepared for what's ahead. Much appreciated. Thank you. This is -- January is a good time to get ready.

And that will move us to our last update item, which is also not an action item, but again an update for the Board. This one relates to an issue which has sort of evolved in recent years as one of increasing focus, which is the exposures of people who live near roadways to pollution and what strategies can be used. When we're talking about SIPs, we're usually talking -- we are talking about regional standards, measurements that are done at a regional -- across a region level, and obviously strategies that are intended to be broadly applicable.

Here, we're talking about things that are, in many cases, very local. And development, design of land developments can be critical ingredients here. And we face, I think, still questions about whether the strategies that make sense to integrate land use and transportation, and overall reduce fuel use which involve integrating different types of land uses, more compact development, things that I think are now accepted as the goals for most urban planning can also result in increased exposures for people who live or go to school and spend any time outdoors in areas near roadways.
So trying to optimize both of these strategies has proven to be somewhat controversial and an interesting challenge. And staff is going to give us an update on some of the exposure reduction strategies that have come -- have been identified through ARB-sponsored research, as well as other research that they've reviewed from the literature and talk a little bit about how we're proceeding to integrate this information into our ongoing activities.

Mr. Corey.

EXECUTIVE OFFICER COREY: Yes. Thanks, Chair Nichols. You all know that research unequivocally shows that the exposure to traffic emissions is associated with serious health impacts. And as a result, California has a long and successful history of reducing air pollution to protect public health. California now boasts, as mentioned many times through the course of the day, 180,000 electric vehicles on its roads. And today's new cars pollute 99 percent less than their predecessors did 30 years ago.

Emissions from trucks and buses also declining and ambient diesel PM concentrations California has dropped significantly.

But many parts of California are experiencing a trend towards infill and compact development. While this
can be good for reducing vehicle traffic and promoting active modes of transportation, it means that Californians are increasingly likely to spend time near roadway environments, where their potential for exposure to traffic emissions is greatest.

In 2005, ARB released the air quality land-use handbook to provide guidance on how to minimize the health effects of exposure through land-use decision making. Since 2005, new research has identified a variety of effective strategies that local planners can consider to reduce air pollution exposure when infill developments exist or are planned near roadways.

I'd now like to introduce Maggie Witt from the Research Division. She'll provide a description of the strategies and how they were developed.

Maggie.

(Thereupon an overhead presentation was presented as follows.)

MS. WITT: Thank you, Mr. Corey and good afternoon, members of the Board. This update will focus on the many strategies in an upcoming technical advisory that can be implemented to reduce near roadway pollution exposure, particularly in communities with existing or planned compact, infill development.

First, I will provide some background on the
challenges of near roadway exposure, and statewide efforts
to address it through air quality policies, regulations,
and land-use guidance.

Then I will present the results of research and
literature reviews showing that there are many strategies
that can implemented to protect public health when
developments exist or are planned near busy roads.

--o0o--

MS. WITT: Compact and infill development exists
in many parts of California and will become more prevalent
in the future as a result of local, regional, and
statewide efforts to reduce auto dependence and to achieve
other important environmental and public health goals.

This pattern of development has many benefits.
It promotes physical activity by facilitating active
transportation and by shortening the distances that people
must travel for their daily activities. It cuts
greenhouse gas emissions by reducing vehicle trips.
Importantly, it also can improve people's quality of life
by facilitating community connectivity.

There are challenges that sometimes emerge with
compact and infill development. In some cases, this kind
of development may mean that people spend more time in
near roadway environments.

Exposure to traffic emissions is strongly
associated with public health concerns, including worsening of asthma and other respiratory health impacts, particularly in children, and serious cardiovascular health effects in adults. This is a challenge that ARB is addressing through important research into practices that can be implemented to reduce near roadway pollution exposure.

--o0o--

MS. WITT: ARB's air quality and land-use handbook published in 2005 is built on research that remains true today, that pollutant concentrations decline significantly as you move farther away from pollution sources. This finding motivated ARB's recommendation in the handbook that new sensitive uses, such as residences, playgrounds, or medical facilities should be sited at least 500 feet from freeways, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.

Recent studies continue to support this 500-foot separation as protective of public health. And as such, it remains an important starting point for reducing traffic emissions exposure.

--o0o--

MS. WITT: Changes in the vehicle fleet will reduce tailpipe emissions and near roadway exposure.
Cleaner engines, particulate filters, and zero emission vehicles are our most important tool in reducing exposure. However, it will take time for these changes to occur, and still some traffic emissions will remain, even when the full benefits of various programs, policies, and regulations are realized.

For example, non-tailpipe emissions, such as brake- and tire-wear will continue to pose challenges for near roadway exposure after fleet changes have occurred.

---o0o--

MS. WITT: The information in the forthcoming technical advisory augments the land-use handbook and is based on research conducted since the handbook was published. The strategies contained in the technical advisory are especially important in cases where the 500-foot separation between busy roads and developments does not exist or is not implemented. They can also be applied more broadly whenever traffic pollution has prompted community concerns.

---o0o--

MS. WITT: ARB's Research Division has long been involved in studying these strategies through many Board-approved research contracts and comprehensive literature reviews. Recently, the division set out to compile effective and scientifically supported strategies
into a technical advisory that planners and other stakeholders can use as a reference.

This technical advisory, which is still in development not only lists these strategies, but also describes the scientific basis, tradeoffs, appropriate context, and other considerations. Our hope is that the intended audience can use this resource to make a well-informed decision about a strategy that makes sense for the local context and site-specific conditions.

In addition to appearing in ARB's forthcoming technical advisory document, these strategies are also included in the Office of Planning and Research's 2016 update to the general plan guidelines. These guidelines are being updated for the first time since 2003. This update creates a timely opportunity for ARB to incorporate its research findings into a document that is used by all local government planning agencies.

--o0o--

MS. WITT: Through a comprehensive process of examining ARB research findings and published scientific literature, ARB staff arrived at eight recommended strategies covering these four categories. It is important to note that all of these strategies are based on peer-reviewed research findings. In order to be included in ARB's recommended list, and ultimately in our
technical advisory, the research for each strategy had to
demonstrate three things, considerable emission reductions
or air quality improvements, consistency between multiple
studies, and the use of multiple research methods.

In the slides that follow, I will explain these
eight strategies.

--o0o--

MS. WITT: The first category is urban design. Here, ARB recommends designing street corridors to promote
ventilation, which increases pollutant dispersion and
therefore improves air quality. Examples of our urban
design that fit this recommendation include buildings with
varying shapes and heights, and incorporation of spaces
that encourage airflow, like parks and wide sidewalks and
bike lanes.

--o0o--

MS. WITT: Second in this category ARB suggests
setting offices, parking lots, and daytime uses closer to
roads for two reasons. First, research shows that
pollutant concentrations decline with distance most
sharply during the day. Therefore, pollution
concentrations are likely to be lower at times when people
will be exposed.

Also, daytime uses like offices often have better
ventilation systems to remove particles, and they
typically have sealed windows that cannot be opened.

--o0o--

MS. WITT: Roadside features is the next category. It includes the use of solid barriers and sound walls adjacent to freeways to reduce near roadway exposure. Research shows that these barriers can increase the vertical dispersion of pollutants. This reduces pollutant concentrations experienced by people just beyond the barriers.

Additionally, barriers dissipate noise, and therefore benefit public health by mitigating noise related health effects.

--o0o--

MS. WITT: Vegetation, if correctly installed, can also help improve air quality by altering pollutant transport and facilitating dispersion. Additionally, vegetation may promote particle removal, but this is still under study in California locations and conditions.

--o0o--

MS. WITT: The next category involves street design and traffic management, and the final strategy we call speed -- and the first strategy we call speed reduction mechanisms.

Much of the research examined here relates to the use of roundabouts, typically in place of stop-controlled
intersections, which can be hot-spots for traffic emissions because of idling and stop-and-go driving. When a roundabout is implemented under the right conditions, which are discussed in detail in the technical advisory, it can reduce emissions by up to 85 percent.

--o0o--

MS. WITT: Similar to the previous strategy, traffic signal management, such as signal coordination, can also reduce emissions and pollution concentrations by cutting back on stop-and-go driving and idling. Studies show that when implemented correctly, signal coordination can reduce emissions up to 50 percent.

--o0o--

MS. WITT: The next street design and traffic management strategy addresses traffic speeds and emission rates. The literature shows that per mile emissions and fuel consumption are minimized in an average speed range of 35 to 55 miles per hour. For this reason, ARB recommends that on high-speed arterials, speed limits within this optimal range be considered.

Of course, this strategy may not work in all jurisdictions, but it may be something that a community can consider where near roadway pollution exposure is influenced by nearby high traffic speeds.

--o0o--
MS. WITT: The last category, pollutant removal, focuses on indoor high-efficiency filtration to remove particles from the air inside buildings. Research shows that installing high-efficiency filtration or using high-efficiency portable filters can be extremely effective. These systems can remove between 50 and 99 percent of the airborne particles.

--o0o--

MS. WITT: ARB staff recommends that these strategies be considered for near roadway developments wherever the 500-foot separation isn't feasible, either because the development is existing or because the project cannot achieve this separation. Additionally, these strategies may be considered when other factors, besides proximity, raise community concerns about traffic emissions.

In these instances, we envision that planners or others involved in land-use planning processes will look to ARB's technical advisory for options of strategies. There are several important factors that we suggest technical advisory users keep in mind when consulting this document.

First, local context and project-specific considerations are important, and not all strategies are appropriate for all situations. Local expertise is
essential for selecting a strategy that makes sense and results in the desired exposure reduction outcome.

Second, combinations of strategies often optimize their effectiveness. And finally, we recommend that local planners and other users consult relevant, local, and regional partners, like air districts and metropolitan planning organizations, before implementing a strategy. Many other agencies have region-specific programs and helpful expertise.

--o0o--

MS. WITT: To emphasize the comprehensiveness of the input we have received, this table shows the many expert reviewers and stakeholders that were consulted over the last several months, as we developed our recommended strategies and the supporting technical advisory. We would like to take this opportunity to express our thanks to the numerous individuals, organizations, and agencies that provided valuable input.

--o0o--

MS. WITT: The Office of Planning and Research's draft general plan guidelines also provided a valuable avenue for collecting input on ARB's recommended strategies. The draft guidelines document was widely distributed for public comment in the fall of 2015. The recommended strategies were included in the document's
near roadway siting section, and therefore received a broad audience through this public review process. The general plan guidelines are expected to be finalized later this year.

--o0o--

MS. WITT: Our next steps on this effort begin with the finalization of our technical advisory, following our latest stakeholder review. We expect that the document will be made publicly available in the next few months. Upon completion, our priority will be to make sure that the document is widely available as possible, and to help users understand that this is a resource meant to complement the existing land-use handbook. We plan to share the document on ARB's website and email it to relevant listservs. The OPR general plan guidelines will list the strategies and provide a link to ARB's website and the technical advisory documents.

As emphasized, we have been closely coordinating with other agencies, stakeholders, and partners throughout this process. We will continue to work with them to ensure that this document is as useful as possible.

--o0o--

MS. WITT: On the research side, we will continue to study exposure hot-spots and additional mitigation opportunities that span a broader set of locations and
situations than those considered in our technical advisory. We also hope to analyze the effectiveness of combinations of strategies on real-world air quality and public health improvements.

As previously mentioned, combining strategies can optimize their effectiveness. The technical advisory highlights an example of this, which was observed during the 1996 Olympics in Atlanta. As a result of simultaneously implementing multiple strategies, the region observed significant reductions in ozone pollution and childhood asthma events.

We will also continue coordinating with key research partners. For example, the U.S. Environmental Protection Agency has conducted much research on this topic, and their findings help to inform the strategies in our technical advisory. We will continue to align with them and others on research that complements and furthers our common health protection goals.

Overall, we remain committed to this important area of research and look forward to making future strides. Thank you so much for your time, and I would be happy to answer any questions.

CHAIR NICHOLS: Thanks. This is also quite a bit to absorb, and obviously an overview of a complicated topic, but it's one that really cries out for more
technical information that can be directly used by people
who are planning projects and developments.

Supervisor Serna.

BOARD MEMBER Serna: Thank you, Chair Nichols,
and thank you, Maggie, for that very thorough
presentations.

As I mentioned during our briefing, I have some
outstanding concern that the assessment of risk to health
based on traffic volumes, number one, and certainly kind
of the topology of the roadway being mostly about
freeways, has me concerned, because it sounds like we're
not taking into account the pollution profile of
start-and-stop traffic that may occur on arterials and
collector streets with traffic volumes below 100,000.

And so I was wondering if you can respond to
what, if anything, this agency is doing to promote a
similar assessment of health risks associated with that
particular element of urban design, or Annalisa.

(Laughter.)

CLIMATE ACTION AND RESEARCH PLANNING SECTION
MANAGER SCHILLA: Thank you for the comment and for
bringing this up. So we are continuing to look at what
appropriate thresholds in terms of vehicle volume are out
there. As you've noted, there are some -- there is some
evidence of health effects at vehicle volumes lower than
this threshold.

But for this purpose in this document, we have selected this 50,000 for rural roadway volume and 100,000 vehicle volume for urban roadways as the threshold, since it's consistent with State law relating to school siting, and also is consistent more in the handbooks. So we're trying to provide complementary recommendations to that.

BOARD MEMBER SERNA: The concern stems from the fact that as a local decision maker for an agency that does have land-use authority, thankfully we see more and more interest in the promotion of infill development and looking at our urban cores and our corridors to try and promote alternatives to traditional suburban sprawl. But if we're not being as honest with ourselves in terms of the -- all the environmental health risk assessment that goes on with that topology of urban design and development as we are with suburban growth and development, I think we're really missing the mark, because, as you well know, there is a lot of justifiable rhetoric out there about the health benefits of living in a more densely populated urban area where you might have closer proximity to schools, commercial areas, parks, which is great. That's fine. That's something that I think we can all agree we support, but you also may be a lot closer to that start-and-stop traffic.
And as I mentioned during our briefing, I used the example of 16th Street here right in mid-town Sacramento, Highway 160, where you do have a lot of recent development along that particular arterial. And, you know, I can't tell you what the health risk assessment or conditions are like for the folks that are living in newly constructed lofts along that arterial, as much as I can tell you about development proposals out in the north part of the county I represent, based on the fact that we routinely look at the health risk assessment, when we're talking about development near freeways.

And so it's a little frustrating. I think that it's somewhat disingenuous that we don't kind of hold it to the same standard that growing interest in urban infill and understanding the health risks that come with that again as we do for standard suburban development and growth.

CHAIR NICHOLS: It's an interesting point. It seems as though what you're asking for is a sort of a baseline that then other things could be compared to, is that --

BOARD MEMBER SERNA: Well, Chair Nichols, the concern really stems from the fact that while I certainly understand the rationale of using traffic volumes to determine a cutoff of what you're going to analyze, I
would argue that in addition to that, looking at start-and-stop traffic conditions in addition to that is worth exploring, because of the unique pollution profile that comes with acceleration from dead stops. All the air scientists in the room can attest to it much better than I can that that is certainly something we need to be concerned about as an air resource agency.

But we're not looking at that start-and-stop condition in areas where there continues to be more and more promotion of urban design and growth, which is our urban centers.

CHAIR NICHOLS: Yes, I think you've explained that clearly. I guess what I'm thinking though is that everybody lives somewhere.

(Laughter.)

CHAIR NICHOLS: So it seems like it would be good if we had some sort of a background that was agreed on, and then new projects could be assessed relative to that.

Dr. Balmes, help me out here.

BOARD MEMBER BALMES: Well, just to point out, traffic density is only a surrogate for the pollution exposure. And so actually knowing what the pollution exposure is on the kind of arterials that you're talking about is really the issue in terms of health. And so there could be more exposure than the traffic density
And remember, traffic density again is just a surrogate for the exposure. It's used in a lot of studies, because it's easier measuring everywhere.

So this is a thorny issue. You know, you hit the sort of nail right on the head with regard to urban infill, which we're trying to encourage for multiple reasons, but do we -- are we exposing people to greater amounts of pollution.

And, you know, in San Francisco, there's been efforts with health impact assessments to actually put in or mandate as part of the health assessment HEPA filters in vertical infill that are right along major roadways.

As somebody who's contributed to the research in terms of distance of roadway and health effects, you know, there's one steady that I was the first author on, that we found effects with secondary roads, you know, within 30 meters of a secondary road, which a lot of people do actually.

I wanted to say that I think staff is trying to, you know, approach a way to handle this thorny issue right now. One of the things I get most asked about, and I said this during my briefing, is about this issue. You know, how close should one -- can one live to a roadway. And, you know, the 500 feet -- is it 500 feet? I'm mixed up.
The 500 feet rule we currently have precludes, you know, a lot of people from thinking about urban infill in a health positive way.

So I think staff is making an effort to do the appropriate research to help us. And this new technical advisory, in the meantime, before we get some of this research -- these research results back, is better than what we currently have. But, you know, it's not perfect. And I think your points are well taken.

CHAIR NICHOLS: Ms. Riordan.

BOARD MEMBER RIORDAN: Just a comment. We might want to direct our thoughts to mitigation. And I think there's opportunity for mitigation when you have to make that decision between, you know, something further out or some infill. For instance, traffic management signalization is, you know, an opportunity. So maybe a project could contribute to some signalization on the corridor where they want to develop.

And also, just -- even though it's not my favorite thing, but these roundabouts, if they're constructed appropriately, can be very helpful. But the little key is when you do it in an older area and it wasn't designed for a roundabout in the beginning, then I think you some other difficulties that -- you know, but I think it's a great opportunity and we might make these
suggestions for infill, because we do want to support infill. I think that's a good thing for our areas, but we have to mitigate that somewhere.

BOARD MEMBER GIOIA: Madam Chair?
CHAIR NICHOLS: I wonder though in terms of comparative exposures, given what I think is still true about the relative importance of the start-up, the cold start, first start of a vehicle versus its ongoing emissions, whether it even makes a lot of sense to be focusing so much on the traffic flow versus where the cars are when they actually get started.

Dr. Ayala.

DEPUTY EXECUTIVE OFFICER AYALA: Thank you for the chance. I was waiting for my opportunity to jump in, because --

CHAIR NICHOLS: I knew I was going to tee this up.

DEPUTY EXECUTIVE OFFICER AYALA: Well, I do want to say something about technology, right? And that is this is one of many factors that we have to consider. And as you all pointed out, this is a complex issue, but let's think about the fact that technology -- car technology specifically is getting better. So, you know, the high emitters of yesterday are much higher emitting than the high emitters of today. That's one thing.
The other thing is our certification and compliance program also plays a role. These starts and stops that you talk about is something that we care about and we check for. So it's not completely, you know, a free-for-all kind of situation.

And then, of course, as we move into the future, advanced technologies like hybrids and EVs are going to help us, right, because you don't have an engine to worry about. So these are some of the factors I think that we're going to have to consider. And, I agree, I think the urban design in the context of what we do with 375 has to consider how these factors play a role.

But, you know, to the extent that we can do better when we look at certifying cars, when we look at testing cars, let's not forget that the State, and specifically our friends at the Bureau of Automotive Repair, we work very hard to make sure that we are retiring the vehicles that could potentially be disproportionately contributing to these high exposure events.

So it's a combination of factors, I think, that we need to keep in mind. And understanding the overall exposure, I think it is in the context of what else can we do to just essentially get people to not take the car and take alternative transportation.
BOARD MEMBER SERNA: Yeah. Your point is obviously very well taken about the technology of cleaner engines or zero emission vehicles becoming a broader part of the overall market. That will be true for whether you're talking about 100,000 benchmark for suburban growth versus urban. So that market is going to be present -- my point is it will be -- the changes in that market will be present everywhere.

BOARD MEMBER GIOIA: Madam Chair?

CHAIR NICHOLS: Supervisor Gioia.

BOARD MEMBER GIOIA: I've been waiting to comment on this, because the Bay Area has done more on this rule -- on this issue than any other part of the state. So let me offer some thoughts on some of the challenges and obstacles we faced, because it's the subject of a recent California Supreme Court case.

So about five, six years ago, we adopted CEQA standards to require health analysis of stationary sources and roadway sources when you locate new residential development. Under the concept that exactly as we're saying, we want to figure out what the risks are when new housing is placed next to sources of pollution that have higher rates of cancer.

And we got sued by home builders. They didn't disagree that this should be looked at. They disagreed
that we put it in a CEQA guideline. And the California Supreme Court just ruled a few weeks ago, partial win, partial loss. It's going to go back to the trial court on some issues, because the challenge -- I think the League of Cities sued saying it was a reverse CEQA issue that you're looking at the effect of the environment on the project.

Our goal here was saying, look, planners at cities and counties need to consider the health risks when you locate housing next to sources of pollution. And the start and stops, our experience is not really a big issue. The bigger issue is traffic volume and the technology. I mean, if it was a diesel roadway with lots of trucks, there were higher cancer rights. If there were less trucks, there were low -- the cancer rates weren't as high.

For example, some of you may be familiar with Highway 24 through central Contra Costa County, where there's Orinda and Lafayette BART stations, we want to see housing at those BART stations. But they were smack in the middle of the freeway, so there were some health risks to place the housing in the middle of Highway 24. But what we also found is in 10 years from now, the cancer rate is going to be less because emission standards are better, diesel truck rule, car standards. So what's
actually driving this is the change in the technology, and, yes the volume.

     And then ABAG, the Association of Bay Area Governments, wasn't happy with the air district's rule, because as some of you have said, they say, gee, we want to see more development in infill next to rail stations in old industrial sites. It's better than suburban sprawl. So this tension that we've had in the Bay Area between two regional agencies is we want to see more infill development, but many of the good infill sites are near highly polluting sources.

     So this is going to continue to be, I think, statewide a big issue. We've been dealing with it for six years, and it's been controversial. And I -- but I -- so what we're going to -- what we're seeing now is the city planners and county planners are now adopting, even though the CEQA guidelines have been put on hold because of the lawsuit, it's the standard that they have to use when they look at a development.

     And it's -- so I think it -- what it does is it suggests, in addition to how we do our design, is we need to continue to drive lower emissions, because some of the sites where we want to build, which are great sites, just are near polluting sources, and some of them are roadways.

     So it's sort of -- anyway, that's -- and I assume
you've been working with the Bay Area district, because we have -- we have, in a system itemized -- sort of inventoried every source of emission in the Bay Area. We've -- stationary sources, and what's the cancer risk from those? And then roadway improvement, looking at traffic volumes, looking at the kind of traffic. And that's going to get updated over time.

And BART wasn't happy that they're saying, gee, we're going to build less units if we get to build housing at this BART station. And we're saying, well, maybe in five years you can do more, because risks are down. But I -- so this is really at the forefront, and it's not an easy, issue, right?

It's an issue that is -- puts two very good goals potentially in conflict, infill development and not putting new residents next to sources of pollution that impair their health.

BOARD MEMBER BALMES: I just have to add one point.

CHAIR NICHOLS: Yes.

BOARD MEMBER BALMES: It's not just cancer. I understood why you used cancer --

BOARD MEMBER GIOIA: Yes, that was what we used as the -- as sort of the proxy.

BOARD MEMBER BALMES: Yeah, because kids with
asthma and adults with asthma, for example, also --

BOARD MEMBER GIOIA: Right, right.

BOARD MEMBER BALMES: -- are impacted by being in those areas.

BOARD MEMBER GIOIA: And those filters you mentioned, that's -- the mitigation that some of you talked about, that's what you're required to do under these rules we adopted. So if you -- if you wanted -- if that high rise next to the Bay Bridge in San Francisco, they were required to put in -- they have closed windows, a better filter system, because they're living next to the bridge and the freeway, and they don't get circulation of air into the house.

Likewise, it's required developers to setback their -- some of their developments away from the freeway, so that they don't have as high of a risk, because diesel, right, doesn't extend out that far. And so -- but it's an issue admittedly for developers who want to do some more infill affordable housing.

In fact, the folks who really were at the forefront were the nonprofit housing developers who said, look, the sites we want to build at are the sites your identifying have higher health risks.

CHAIR NICHOLS: So isn't this -- what started all of this was a report on research. And it just seems to me
that there could be -- that this is a topic. Given how
important it is and given the competing policy objectives,
that there should be a way to design some better research
on this topic, yes?

BOARD MEMBER SERNA: I agree.

CHAIR NICHOLS: So what are we doing about that?

Dr. Balmes.

BOARD MEMBER BALMES: Well, you know, I think one
issue, which I alluded to, and unfortunately it tends to
be expensive, but I think we need better exposure data.
You know, traditionally, for enforcement purposes as
everyone here knows, we sited monitors away from polluting
sources.

Now, there are rules that EPA put in place -- I'm
actually partially responsible for those -- with regard to
the NOx standard, and it's been extended to PM2.5 to do
near roadway monitoring. But, you know, we only have a
few sites at this point.

You know, just taking from what Supervisor Serna,
you know, mentioned, I think we could do more to
understand exposures in urban areas where there's less
than 100,000 vehicle, you know, in terms of traffic
volume, but there is still a potential for stopping and
starting. And so I -- you know --

BOARD MEMBER SERNA: Very close proximity.
BOARD MEMBER BALMES: Yeah, very close proximity. And I'm glad that Chair Nichols gave me the opportunity to give the, you know, famous line that all researchers say, yes, we need more research.

(Laughter.)

CHAIR NICHOLS: Well, but, you know, sometimes it's really true.

Mr. De La Torre.

BOARD MEMBER DE LA TORRE: Not related to all of these, you know, very important decisions for the Board to make with regard to research and what needs to be looked at, it's more of an anecdote. When I was in local government and an environmental government board, we were looking at the 710 expansion early on. This was late 1990s.

And we had a public hearing, and it was packed. And I was the one who raised the 500-foot rule, because they were all complaining about, you know, all -- you're going to expand the freeway, et cetera, et cetera, and all of the problems that the freeway is causing us and our health, et cetera.

And so, you know, a modest proposal I said, well, you know, that harm is greatest within that first 500 feet. So the real answer to the health problem that you're raising is that we do a buffer of 500-feet, buy out
all the houses 500 feet out from the freeway on either side, and knock them down and create a green belt or something. The people went nuts.

(Laughter.)

BOARD MEMBER DE LA TORRE: So notwithstanding the health issues that they had just expressed, they did not want to lose their house. So that was, I think, just a cautionary tale about where all the research leads.

CHAIR NICHOLS: Well, because public health isn't the only thing people care about.

(Laughter.)

CHAIR NICHOLS: Right?

BOARD MEMBER RIORDAN: They want their houses.

CHAIR NICHOLS: Okay. Well, this has not led us to anything ready definitive.

(Laughter.)

CHAIR NICHOLS: But I would encourage actually the Research Division staff to be working with our screening committee and others and with users of this data to see what kinds of additional information they really need?

Yes.

BOARD MEMBER GIOIA: I just wanted to add an addition caution. One of the things we heard from residents in communities that had higher cancer rates, as
a result of this analysis, was the concern, and it was a legitimate one, that they were being sort of green-lined. That they're saying -- they said we want to see more development in our neighborhood, and by publicizing these risks, and putting up these barriers, you're potentially making it harder to put new development into our neighborhood, which will improve our neighborhood, and we're stuck here.

And so you -- and then the response was, which was the right response, they said you need to do something about lowering the health risk. They said, if you're going to put this out and make it harder for new development by saying there's a higher health risk, then you better do something for the people who already live here and lower the health risks, right?

So it's a tough issue. It's a really tough issue, and it's not as simple as it seems. I mean, having the good data is important, but it doesn't -- and we need to look at it for siting new development and how we design our communities, but we need to be conscious of the people who already live in some of these communities, who will feel that they're now being impacted negatively by being branded with this higher risk of preventing development, so -- and they always come back to the notion make our existing community healthier.
CHAIR NICHOLS: Supervisor Roberts.

BOARD MEMBER ROBERTS: Yeah, thank you. You know, included within this report were mitigating ideas that I think really deserve as much study as the problems itself, the solutions. I don't want to invest heavily in 500-foot green belts or at least the time of that, because I don't think it's likely to be productive.

But if I remember correctly, there was indications that landscape, and sound walls, and other things actually mitigate. And I suspect that when we talk about 500 feet, if we actually start measuring, we'll find there's a difference -- there might be a significant difference depending on the side of the freeway you actually live on.

And so, yeah, the -- at the end of the day, this may be we get to a situation within an Environmental Impact Report, and we say, okay, there are these impacts, but there are significant overriding reasons why we want to do it anyway. And I know that some of these communities -- disadvantaged communities where we are trying to rebuild the community, we're going to be in violation of some of these rules.

So I think if there's a warning in here, it's that there's no absolutes here. And to the extent that we can identify things that can be done to mitigate the
impacts -- and you have some of those. And I was really encouraged when I saw those, and you keep this in perspective, I think we're not going to lose site of what we're trying to achieve, but we do know that the transportation on those high arterial roads and freeways, at least per car, the impact is going to go down. The volumes aren't increasing significantly. The situation may be getting better. And along with the mitigations that you talk about, the whole issue may be lessened to the point where it's not quite the health risk or a significant health risk in the future.

CHAIR NICHOLS: Okay. Well, there we are.

(Laughter.)

CHAIR NICHOLS: Yes. What can I say? More to come. That's a good one. Okay. More to come. Thank you. Thanks for the presentation. It was very helpful and interesting and provocative. And this is a topic that will keep coming back.

Did we have anybody signed up for public comment today, general public comment?

BOARD CLERK JENSEN: (Shakes head.)

CHAIR NICHOLS: We did not. All right. Then I think we are able to be adjourned.

Thanks, everybody.

See you next month, if not before.
(Thereupon the Air Resources Board meeting adjourned at 2:46 PM)
CERTIFICATE OF REPORTER

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Air Resources Board meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed, under my direction, by computer-assisted transcription;

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 4th day of February, 2016.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
License No. 10063