

Memorandum

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: May 18-19, 2016

Reference No.: 4.21
Action Item

From: NORMA ORTEGA
Chief Financial Officer

Prepared by: Chris Schmidt, Project Manager
Division of Transportation
Planning

Subject: **CALIFORNIA SUSTAINABLE FREIGHT ACTION PLAN**

SUMMARY:

In July 2015, Governor Brown issued Executive Order B-32-15, which identifies accelerating the transition to a more efficient and less polluting freight transport system as an important policy objective for the State of California. The Executive Order directs the Agency Secretaries of Transportation, Environmental Protection, and Natural Resources to lead staff from the California Department of Transportation (Department), the California Air Resources Board (ARB), the California Energy Commission (Energy Commission), and the Governor's Office of Business and Economic Development (GO-Biz) in development of an integrated action plan, the California Sustainable Freight Action Plan (Action Plan), by July 2016. The draft California Sustainable Freight Action Plan has been release for public comment through July 1, 2016.

BACKGROUND:

While California's freight transport system has already undergone extensive changes over the last several years, the State must take further action in partnership with a broad spectrum of stakeholders from the freight, environmental justice, federal and local agency sectors to address a number of opportunities and challenges. California's freight system is under pressure to serve our growing population and satisfy consumer demand for an increasing variety of goods, with ever-faster delivery times. It must also supply the materials needed for manufacturing and move California agricultural, electronic, and other products to market. The State's logistics providers must reliably transport goods to, from, and within California, on a shared network with passenger transportation. This complex system of systems is not only a major economic engine for our State, but also a substantial contributor to the State's air quality and climate emissions. Freight-dependent industries account for over \$700 billion of California's economy in 2013, and over 5 million California jobs.

At the same time, government partners are working together to meet more protective air quality requirements and climate change goals. Meeting these goals will require system-wide changes in terms of broad deployment of new freight vehicles and equipment, use of low-carbon renewable fuels, supporting infrastructure, and incorporating information technologies. Coordinating these actions will optimize results for California.

The Action Plan provides recommendations for the Governor to consider that align the efforts of multiple agencies to realize a singular vision for freight policy in California that is in the State's transportation, environmental, and economic interests. In this draft Action Plan, the State agencies set forth an initial implementation framework to guide, track, and coordinate the State's actions related to the freight transport system. Recommendations include:

- A long-term 2050 Vision and Guiding Principles for California's future freight transport system.
- Targets for 2030 to guide the State toward meeting the 2050 Vision.
- Actions to initiate over the next five years to make progress towards the 2030 Targets and the 2050 Vision.
- Pilot projects to achieve on-the-ground actions that advance the freight transport system in the near-term.
- Transformational concepts the State agencies will explore.
- Approach to ongoing freight investments.

TO VIEW THE DRAFT CALIFORNIA SUSTAINABLE FREIGHT ACTION PLAN,
PLEASE GO TO: www.casustainablefreight.org

Memorandum

Tab 23

To: CHAIR AND COMMISSIONERS

CTC Meeting: May 18-19, 2016

Reference No.: 4.21
Action

From: SUSAN BRANSEN
Executive Director

Subject: **DRAFT CALIFORNIA SUSTAINABLE FREIGHT ACTION PLAN**

ISSUE:

Should the Commission provide comments in response to the draft California Sustainable Freight Action Plan (Action Plan)?

The California Department of Transportation (Caltrans), California Air Resources Board (CARB), California Energy Commission (CEC) and the Governor's Office of Business and Economic Development (GoBiz) released the draft Action Plan for comment on May 2, 2016. Representatives of these agencies will provide the Commission with an overview of the Action Plan at the Commission meeting. Comments to the Action Plan must be submitted by July 6, 2016.

RECOMMENDATION:

Staff recommends that the Commission direct staff to prepare a comment letter in response to the draft Action Plan for consideration at the June Commission meeting.

BACKGROUND:

In July 2015, the Governor issued Executive Order (EO) B-32-15 which directed the Secretaries of the California State Transportation Agency, the California Environmental Protection Agency, and the Natural Resources Agency to lead other relevant state departments including CARB, Caltrans, CEC, and GOBiz to develop an integrated Freight Action Plan by July 2016.

The EO requires the Action Plan to (1) establish clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system; (2) identify state policies, programs, and investments to achieve the targets; and (3) be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input. The EO also requires that, to ensure progress towards a sustainable freight system, the specified entities initiate work this year on corridor-level freight pilot projects within the State's primary trade corridors that integrate advanced technologies, alternative fuels, freight and fuel infrastructure, and local economic development opportunities.

The draft Action Plan includes recommendations on:

- A long-term 2050 Vision and Guiding Principles for California's future freight transport system.
- Targets for 2030 to guide the State toward meeting the Vision.
- Opportunities to leverage State freight transport system investments.
- Actions to initiate over the next five years to make progress towards the Targets and Vision.
- Pilot projects to achieve on-the-ground progress in the near-term.
- Additional concepts for further exploration and development, if viable.

The draft Action Plan proposes the following freight targets:

- System Efficiency – Improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030.
- Transition to Zero Emission Technology – Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- Economic Growth – Foster future economic growth within the freight and goods movement industry by promoting flexibility, efficiency, investment, and best business practices through State policies and programs that create a positive environment for growing freight volumes, while working with industry to lessen immediate potential negative economic impacts.

The draft Action Plan identifies the following three projects to demonstrate on-the-ground progress toward a sustainable freight transport system in the near future:

- Dairy Biogas for Freight Vehicles (San Joaquin Valley): Advance a commercial-scale, dairy biogas sourced, renewable compressed natural gas fueling facility.
- Advanced Technology for Truck Corridors (Southern California): Explore options for intelligent transportation systems, connected and semi-autonomous vehicle technologies, collaborative logistics, and potential incentives for zero and near-zero emission trucks. May focus on freight signal priority, traveler information systems, and communications systems infrastructure on arterial roads, as well as integrated corridor management on highways.
- Advanced Technology Corridors at Border Ports of Entry (California-Mexico Border): Implement information technology management systems, innovative operation techniques, and enhanced traffic management technology. Partner with federal and local stakeholders to incent zero and near-zero emission truck crossings at international ports of entry facilities. May focus on building capacity for technological means of traffic management, such as

Bluetooth sensors in the roadway, Global Positioning System readers, variable messaging, and a specialized border wait time application.

The draft Action Plan also highlights two large transformation infrastructure projects proposed that could be critical to the development of a sustainable freight transport system: the Interstate 710 Corridor and the State Route 11/Otay Mesa East Port of Entry Projects. The Action Plan states that these projects have the potential to provide lessons learned for future actions and a platform for innovative strategies. The State agencies intend to track project developments and seek opportunities for partnership where appropriate.

Upon direction, staff will prepare comments to the draft Action Plan for Commission consideration at the June 29-30, 2016 meeting.

Attachments:

1. California Sustainable Freight Action Plan Discussion Draft (See Appendices at <http://www.casustainablefreight.org/>)
2. Governor's Executive Order B-32-15

CALIFORNIA
**SUSTAINABLE
FREIGHT**
ACTION PLAN

DRAFT

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Discussion Document*

MAY 2016

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**California Sustainable Freight Action Plan
Discussion Draft**

DISCUSSION

The State agencies are releasing this discussion draft of the California Sustainable Freight Action Plan (Action Plan) for public comment through July 6, 2016, and will present it as an informational item for public testimony at public meetings of the California Freight Advisory Committee, California Transportation Commission, and Air Resources Board throughout May:

May 10, 2016

California Freight Advisory Committee Meeting
1001 "I" Street, Sacramento, California, 95814
Agenda will be available 10 days prior to the meeting at:
<http://dot.ca.gov/hq/tpp/offices/ogm/cfac1.html>

May 18, 2016

California Transportation Commission Meeting
San Joaquin County Council of Governments
555 E Weber Ave, Stockton, CA
Agenda will be available 10 days prior to the meeting at:
<http://www.catc.ca.gov/meetings/agenda/index2016.html>

May 19, 2016

California Air Resources Board Meeting
1001 "I" Street, Sacramento, California, 95814
Agenda will be available 10 days prior to the meeting at:
<http://www.arb.ca.gov/board/meetings.htm#future>

Comments can also be submitted electronically at: www.casustainablefreight.org

Please note that your written and oral comments, attachments, and associated contact information become part of the viewable public record. Additionally, this information may become available via Google, Yahoo, and any other search engines. Written comments received during the meetings listed above will be included as part of the viewable public record.

PROGRAM WEBPAGE

For more information on the Action Plan and upcoming meetings, please see the program website at:
www.casustainablefreight.org

DOCUMENT AVAILABILITY

Electronic copies of this document and related materials can be found at: www.casustainablefreight.org. Alternatively, paper copies are available from the following State offices:

Draft

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(916) 653-0808

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California Energy Commission
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For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette, or computer disk. Please contact the Air Resources Board's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact the Air Resources Board's Bilingual Manager at (916) 323-7053.

QUESTIONS

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California Air Resources Board
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DISCLAIMER

Staff from the California Department of Transportation, the Air Resources Board, the California Energy Commission, and the Governor's Office of Business and Economic Development have prepared this report. Publication does not: signify that the contents reflect the views and policies of any of the preparing or associated agencies, or of the Governor; constitute approval of the actions, pilot projects, or funding approaches by any of the State agencies; or commit the agencies to any particular course of action or decision. Mention of trade names or commercial products do not constitute endorsement or recommendations for use.

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Executive Summary

In July 2015, Governor Brown issued Executive Order B-32-15 (see Appendix A), which prioritizes California's transition to a more efficient and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic competitiveness in coming decades while reducing harmful pollution affecting many California communities.

Improving the efficiency of California's freight transport system is vital to our State economy. Traditional routes of moving freight face increasing competition from across the globe, and California's system must anticipate and stay ahead of these changes. Currently, California is the nation's largest gateway for international trade and domestic commerce, with an interconnected system of ports, railroads, highways, and roads that allow freight from around the world to move throughout the State and nation. This system is responsible for one-third of the State's economic product and jobs, with freight-dependent industries accounting for over \$740 billion in gross domestic product and over 5 million jobs in 2014. However, California's freight transport system is under pressure to serve our growing population and satisfy dynamic market demands, while other locations in the United States and across the world are fiercely competing for this economic activity.

At the same time, modernizing California's freight transport system in a manner that improves safety and reduces pollution is essential to improve public health and meet our environmental imperatives. Freight transportation in California generates a high portion of local pollution in parts of the State with poor air quality. Reducing these harmful pollutants is an important local, regional, and State priority, as well as a matter of compliance with the federal Clean Air Act. California has also recently set new, aggressive targets for reducing greenhouse gas emissions 40 percent below 1990 levels by 2030 in order to combat climate change. Reducing emissions in the freight sector is critical to meeting these 2030 targets.

The objectives laid out in the Governor's Executive Order to improve efficiency and reduce pollution of the freight transport system are not new. California's freight transport system has already successfully undergone major improvements toward shared efficiency and environmental objectives. Proposition 1B, passed by voters in 2006, provided almost \$20 billion in funding for California's transportation infrastructure, with over \$2 billion dedicated to the improvement of the State's freight network and \$1 billion in funding for cleaner freight vehicles and equipment. Local and regional groups such as port commissions and metropolitan planning organizations are also taking action to improve freight operations. Large ports have adopted Clean Air Action Plans and many regional planning organizations have adopted regional freight plans that prioritize infrastructure improvements and improve land use to better operationalize logistics activities in their region.

While California's freight transport system has already undergone extensive modernization over the last several years and will continue to leverage improvements already completed and those underway, State government must take further action in partnership with federal, regional, local, business, and environmental and community-based leaders to achieve the next step in the evolution of the freight sector. We are already beginning to see technology advances in autonomous and connected vehicles, three-dimensional printers, and drones that change the realm of possibility for this system. Recognizing that the freight transport system is dynamic and continuously adjusting to meet ever-changing system demands, California must take hold of opportunities within this active system to help achieve the objectives in the Governor's Executive Order.

This will involve strategic partnerships and well-planned investments around deployment of new technologies and major infrastructure upgrades. Near-term efforts must integrate new technologies that are commercially viable, help promising technologies become commercially viable through tools like purchase incentives and aggregated group purchasing, as well as provide supportive infrastructure upgrades. New federal funding for freight projects, the Governor's proposed budget for fiscal year 2016-2017, and other sources of revenue, present new opportunities for leveraging additional federal, State, local, and private investment for these freight transport system improvements.

As a key first step, the Governor's Executive Order directs the California State Transportation Agency, California Environmental Protection Agency, Natural Resources Agency, California Air Resources Board, California Department of Transportation, California Energy Commission, and Governor's Office of Business and Economic Development to develop a California Sustainable Freight Action Plan (Action Plan), by July 2016. This Action Plan is an unprecedented effort, intended to integrate investments, policies, and programs across several State agencies to help realize a singular vision for California's freight transport system. This Action Plan provides a recommendation on a high level vision and broad direction to the Governor to consider for State agencies to utilize when developing specific investments, policies, and programs related to the freight transport system that serves our State's transportation, environmental, and economic interests.

This integrated approach will serve to coordinate State agency priorities and timing on actions to influence freight transportation and energy infrastructure, vehicle and equipment technologies, and facility and operations efficiency, rather than the traditional and separate planning efforts for transportation, environment, and energy. The Action Plan includes recommendations on:

- A long-term 2050 Vision and Guiding Principles for California's future freight transport system.
- Targets for 2030 to guide the State toward meeting the Vision.
- Opportunities to leverage State freight transport system investments.

- Actions to initiate over the next five years to make progress towards the Targets and the Vision.
- Pilot projects to achieve on-the-ground progress in the near-term.
- Additional concepts for further exploration and development, if viable.

The Action Plan is the beginning of a process, and signals State government's interest in collaborating with stakeholders on defining the actions necessary to make the vision for a sustainable freight transport system a reality. State agencies are committed to assessing the impacts of the Action Plan's recommended actions. A broad assessment of the recommended actions will take place in the coming weeks as stakeholders review the Plan. Deeper analysis of certain actions can take place over time if and when the recommendations are being developed into specific proposals.

Moving forward, success will require government, industry, and environmental and community leaders to stand together on this vision, as well as on a process to refine, build on, and prioritize actions that will attract needed funding (federal, State, local, private), and facilitate necessary legislative action.

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I. California's Freight Transport System in 2030 and Beyond

Executive Order B-32-15 (see Appendix A) identifies the need for a broader and more unified approach between State agencies and with stakeholders to improve the efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight transport system. It also recognizes that a long-term outlook is necessary to plan for and develop a sustainable freight transport system. This section describes the current policy drivers, provides the State's Vision and Guiding Principles for a sustainable freight transport system, and Targets to track California's progress toward the Vision.

A. Current Policy Drivers

Challenges confronting policymakers in the freight transport sector are similar to those in the broader transportation sector generally, including how to modernize existing systems to support economic growth and ensure a healthy, livable environment. In response to this challenge, federal, State, regional, and local leaders need to more effectively partner with stakeholders including industry, environmental and community based organization on devising broad strategies to ensure regions and the State can meet economic, environmental, public health, livability, and mobility goals in the era of climate change, and then aligning investments toward these objectives.

Executive Order B-32-15 emphasizes the need to accelerate California's transition to a more efficient and less polluting freight transport system. The objectives laid out in the Governor's Executive Order represent a continuation of the State's priorities on an array of transportation, environmental, energy, and economic goals and objectives.

- Preserving and enhancing freight infrastructure: Sustaining the roadway and bridge system as it ages to ensure proper preservation, enhancement, and maintenance into the future is critical to the smooth operation and reliability of the freight transport system. It is a challenge that will require dedicated and permanent funding.
- Increasing system efficiency and capacity: Anticipated freight and population growth coupled with a reduction in available and compatible land near traffic-congested areas create the urgency to increase system capacity with limited room for infrastructure expansion.

- Improving safety and security: Reducing freight-related injuries and fatalities remains of utmost importance requiring continuous improvement to accommodate current and anticipated future vehicles and technology. It is necessary to increase awareness, prevention, and protection while allowing commerce to flow.
- Reducing exposure to air toxics: Despite substantial progress over the last decade, the diesel equipment operating in and around freight hubs continues to be a significant source of air toxics that can cause localized risks of cancer and other adverse health effects. New health science tells us that infants and children are 1.5 to 3 times more sensitive to the harmful effects of exposure to air toxics than we previously understood, which heightens the need for further risk reduction.
- More protective air quality standards: The federal Clean Air Act requires the State and local air districts to prepare State Implementation Plans demonstrating how the State will attain the national 8-hour ozone and fine particulate matter standards, with plans due in 2016. Attaining the current standards for the 2023 to 2032 timeframes will require broad deployment of zero and near-zero emission technologies in the South Coast and San Joaquin Valley air basins. Currently, freight equipment accounts for about half of the statewide diesel particulate matter emissions, and approximately 45 percent of the statewide nitrogen oxides emissions. Emission reductions from the freight transport system need to be part of the solution.
- Climate change goals: In April 2015, Governor Brown signed Executive Order B-30-15 establishing a 2030 greenhouse gas emissions reduction target of 40 percent below 1990 levels, addressing the need for climate adaptation, and directing State government to:
 - Incorporate climate change impacts into the State's Five-Year Infrastructure Plan.
 - Update the State's comprehensive strategy for safeguarding against climate impacts.
 - Factor climate change from a lifecycle perspective into State agency planning and investment decisions.
 - Implement measures under existing agency and departmental authority to reduce greenhouse gas emissions.

Governor Brown further identified five key climate change strategy pillars for California to help achieve the 2030 emissions reduction target:

- Reducing petroleum use by up to 50 percent.
- Increasing the amount of electricity derived from renewable sources to 50 percent.
- Doubling the efficiency savings achieved at existing buildings.
- Reducing emissions of short-lived climate pollutants.
- Managing natural and working lands so they can store carbon.

Meeting the targets and strategy pillars will require additional actions to decarbonize California's freight transport system. Currently, the system generates six percent of the State's greenhouse gas emissions, with total freight greenhouse gas emissions anticipated to increase without further action.

- Supporting economic competitiveness: The freight industry is a major economic engine for our State and supporting the competitiveness of the freight transport system will be key to the continuing prosperity of California.
- Workforce development: Freight-dependent industries are critical to supporting California's workforce, accounting for over 5 million jobs in 2014. A skilled and nimble workforce will be one key factor in competitiveness as firms continue to adjust to rapidly evolving markets.
- Completing economic analysis: Assessing the impacts of actions, including the distribution of potential costs and benefits on California businesses, consumers, and the economy with public input is a critical part of the regulatory development process. Full economic impact analyses are required for all regulatory actions adopted by the Office of Administrative law.

B. Vision and Guiding Principles

Affecting the future freight transport system in a way that supports meeting the State's multiple goals and objectives will take consistent, concentrated effort by both public and private interests over decades. To help frame this effort, the State agencies developed and recommend the following Vision statement and Guiding Principles for California's sustainable freight transport system.

Vision for a Sustainable Freight Transport System

Utilize a partnership of federal, State, regional, local, and industry stakeholders to move freight in California on a modern, safe, integrated, and resilient system that continues to support California's economy and livability. Transporting freight reliably and efficiently by zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean, low-carbon renewable fuels everywhere else.

Guiding Principles

In the coming years, the California freight system should achieve all of the following through public, industry, and stakeholder collaboration to make progress toward the long-term vision:

- Support local and regional efforts to improve trade facilities and corridors that achieve regional environmental, transportation, and economic objectives consistent with statewide policy goals.
- Grow the economic competitiveness of California's freight sector and increase freight-related employment.
- Reduce freight-related deaths and injuries, and security threats.
- Reduce or eliminate adverse community impacts, including air pollution emissions of particulate matter, nitrogen oxides, greenhouse gases, and other pollutants, especially for communities disproportionately affected by major freight corridors and facilities.
- Improve the state-of-good-repair of the multi-modal freight transportation system.
- Invest strategically to improve travel time reliability and to achieve sustainable congestion reduction on key bottlenecks on primary trade corridors.
- Apply innovative and green technology, along with accompanying infrastructure and applicable practices, to optimize the efficiency of the freight transportation system.
- Invest strategically to accelerate the transition to zero and near-zero emission equipment powered by renewable energy sources, including supportive infrastructure.
- Improve system resilience by addressing infrastructure vulnerabilities associated with expected climate change impacts and natural disasters, which may include exploring opportunities to utilize natural systems for protection and efficiency.
- Site freight projects to avoid greenfield development by enhancing existing freight infrastructure or targeting infill development near compatible land uses.

C. Freight Targets

Executive Order B-32-15 directed the State agencies to establish targets to improve freight efficiency, transition to zero emission technologies, and increase the competitiveness of California's freight transport system. Below are the proposed Targets to meet this direction and track California's progress toward meeting the Vision and Guiding Principles. Measurable targets will help the State agencies evaluate and adapt implementation of the Action Plan over time. The State agencies recommend measuring and reporting progress on the following three statewide targets.

System Efficiency Target

Improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030.

Transition to Zero Emission Technology Target

Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.

Economic Growth Target

Foster future economic growth within the freight and goods movement industry by promoting flexibility, efficiency, investment, and best business practices through State policies and programs that create a positive environment for growing freight volumes, while working with industry to lessen immediate potential negative economic impacts.

See Appendix B for further discussion of the Targets.

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II. Investing in California's Freight Transport System

Improving California's freight transport system is a smart investment, with benefits to the economy and environment, as demonstrated through the State's experience with the freight programs funded by Proposition 1B over the last decade. Through the \$3 billion Proposition 1B Trade Corridor Improvement Fund and Goods Movement Emission Reduction Program, the State was able to leverage over \$5.5 billion dollars from other sources to deliver over 90 transportation projects and more than 13,000 clean truck, locomotive, and marine vessel technology projects in California. The State's investment approach in these programs enabled it to simultaneously reduce harmful air pollution from freight-related activity and provide improvements to California's transportation infrastructure.

With the federal Fixing America's Surface Transportation Act providing a new source of freight funding for California's existing programs, and the Governor's current transportation funding proposal offering potential revenues for trade corridor investments, the State needs to build on the momentum of California's success in these earlier programs. By positioning itself to implement a similar magnitude of public and private partnering, significant benefits can be achieved for both public and private partners, as well as communities. Prudent public and private investments present the opportunity to move more freight faster and with less emissions, benefiting cargo owners, shippers, distributors, manufacturers, processors, and producers, while at the same time resulting in broader public benefits such as substantially reduced impacts on local communities, reduced greenhouse gas emissions, and a thriving freight based economy.

Prioritization of ongoing public funding will be a fundamental step. To advance progress towards meeting the draft Targets and Vision the State will need to continue positioning itself as an effective partner for new private sector and local agency investments. This can be accomplished by joining successful elements of past freight programs under Proposition 1B with new freight funding and continuing to provide public support of private investment through avenues such as matching grants, financing assistance, and bulk purchasing power.

A. Potential Freight Funding

This section discusses new and proposed public freight funding source options for new investments in California's freight transport system, both the infrastructure and the vehicles and equipment that move cargo. See Appendix G for additional details on the programs below and discussion of current freight funding programs.

1. Fixing America's Surface Transportation Act

On December 4, 2015, President Obama signed into law a new five year, \$305 billion surface transportation bill, the "Fixing America's Surface Transportation (FAST) Act," which authorizes funding for existing core highway and transit programs and created two new freight programs funded by the Highway Trust Fund. These include the National Highway Freight Program, from which California will receive an annual average of approximately \$117 million per year by formula, and the Nationally Significant Freight and Highway Projects Program that is funded at approximately \$900 million per year nationwide and subject to discretionary competitive awards. Prior to the Fixing America's Surface Transportation Act, the U.S. did not have a coordinated freight investment program. By establishing a dedicated, committed funding source, significant advances in public policy created an underlying message to all of the importance of freight movement and freight supporting infrastructure to the California and U.S. economies.¹

2. Governor Brown's Fiscal Year 2016-2017 Budget Proposal

On January 7, 2016, the Governor released his proposed 10-year funding plan that will provide a total of \$36 billion for transportation, with an emphasis on repairing and maintaining the existing transportation infrastructure. The Governor's proposal also includes a significant commitment to improving infrastructure on the State's trade corridors, with approximately \$2 billion slated for freight infrastructure investments. The package includes a combination of new revenues, additional investments of Cap-and-Trade auction proceeds, accelerated loan repayments, Caltrans efficiencies and streamlined project delivery, accountability measures, and constitutional protections for the new revenues.²

The Governor's Proposed Budget also includes a one-year appropriation of funding for cleaner vehicles, equipment, and fuels used to transport passengers and freight, as well as off-road equipment used in agriculture and other applications.

As discussed in ARB's *Mobile Source Strategy Discussion Draft*, additional funding and additional options for long-term transformative funding mechanisms will be critical to achieve our air quality and climate goals, including the specific zero emission technology targets in this Action Plan.³ ARB is also working with its local partners to identify funding needs and mechanisms to support the scale of zero and near-zero emission mobile sources that is essential for attainment of federal air quality standards. The freight industry will continue to need incentives for early

¹ See <https://www.fhwa.dot.gov/fastact/legislation.cfm>.

² See Governor's Budget Summary 2016-2017, <http://www.ebudget.ca.gov/FullBudgetSummary.pdf>.

³ See ARB Mobile Source Strategy Discussion Draft, October 2015, http://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc_dd.pdf.

adopters of new technologies and to help accelerate the widespread transition to those technologies.

B. Approach to Ongoing Freight Investments

Building on the partnerships established in the course of developing this document, the State agencies must work together to achieve complementary goals to improve the effectiveness of freight-related funding programs and projects. All of the agencies involved in funding freight transport system improvements should promote the Action Plan goals by investing to support the State's economy and freight related jobs, seeking opportunities to promote clean fuels and transition to zero emission technologies, and investing in the State's critical freight infrastructure needs. In addition to statutory requirements, the Guiding Principles discussed earlier characterize priorities for future investments of freight funding in California. Keeping in mind the desire to leverage the broadest array of public and private financing available, additional coordination is necessary to meet the goals of individual agencies while achieving the Action Plan's Targets and Vision.

The process of prioritizing funding will be central to the State's achievement of a sustainable freight transport system. Coordination between State agencies and local partners is paramount since there is a strong link between the issues of economy, infrastructure, energy, and air quality investments. The Administration's investments should invoke coordination between State agencies involved in development of the Action Plan, and the State should harness multi-agency collaboration where relevant.

In addition to statutory requirements, the Guiding Principles discussed earlier characterize priorities for future investments of freight funding in California.

One example of this coordination and possibility for expanding new freight funds is a second phase of the Trade Corridor Improvement Fund/Goods Movement Emission Reduction Program.

1. Trade Corridor Improvement Fund/Goods Movement Emission Reduction Program – Phase II

Building upon the successful model of Proposition 1B, Phase II of these programs could combine State and federal transportation funding to support the development of freight infrastructure and clean equipment projects that address the three goals of the Governor's Executive Order B-32-15. As occurred during the previous Proposition 1B process, the Trade Corridors Improvement Fund/Goods Movement Emission Reduction Program-Phase II will require ongoing collaboration between State, regional, and local governments, in addition to the private freight industry.

Through a public process the State would establish criteria to evaluate projects proposed by local agencies and the State. The selection process should involve both a regional selection process and a State selection process to result in interregional and regional priority investments. Potential criteria for consideration include:

- Using performance-based criteria: Using both new and existing data and tools, California monitors both the performance of the State freight transportation network and projected emissions. Multiple metrics measure the effectiveness of State investment programs related to energy, fuels, and freight equipment. These performance targets should serve as a guide when California freight partners collaborate on funding decisions to ensure that investments support mutually desired outcomes, and allow for continued economic competitiveness and growth.
- Targeting National and State priority corridors: Community and roadway system impacts are concentrated more heavily on the freight corridors with the highest volumes. While acknowledging regional equity and the unique freight issues that rural areas face, focusing investments on the State's primary trade corridors and the federal Primary Highway Freight System will achieve the greatest benefit.
- Increasing freight system efficiency: Consistent with the Executive Order, the State's investments should include technologies and systems to improve the efficiency of freight operations at specific facilities and along freight corridors such that more cargo can be moved with less emissions. Funding should support innovations such as new technology, operational efficiencies, and smart logistics projects that provide a business, transportation, and environmental benefit.
- Prioritization for zero and near-zero emissions: Zero and near-zero emissions vehicles have the potential to greatly reduce impacts from freight on nearby communities and regional air quality, as well as climate change. Collaborative funding efforts should focus on promoting the development and adoption of new, cleaner equipment and supporting infrastructure where technology is most viable.
- Improving energy in freight facilities: Reducing energy consumption at freight facilities makes strong business sense and can provide low cost options with short payback periods. Collaborative funding efforts should focus on incorporating energy resiliency through installation of renewable energy generation (e.g., photovoltaic systems) and micro grid deployments where technologies help improve the resiliency of freight facilities, are most viable, and include consideration of costs and benefits.

- Building new fuel and energy infrastructure: Providing low carbon, renewable fuels is critical to a sustainable freight transport system. Collaborative funding efforts should keep in mind the potential to add to the existing network of renewable fuels, electric charging capacity, and alternative energy production facilities. Funding efforts to support the production of alternative and renewable fuels should prioritize leveraging of existing infrastructure when possible. If no opportunities to improve existing infrastructure exist, then efforts should help develop needed additional energy capacity to support the expansion of alternative fuels.
- Utilization of existing transportation infrastructure: Collaborative funding efforts should seek to build upon critical investments already made by the State, regional and local governments, and private industry to better utilize system capacity and make freight transportation cleaner.
- Investing in sustainable communities: As a result of increased attention to sustainable communities in the State, funding should be directed to the extent possible to measures that support the realization of regional long-term greenhouse gas emissions goals in jurisdictions that have adopted rules, regulations, incentives, and operating agreements that will provide for higher levels of environmental benefits.

The positive aspects of the existing Trade Corridors Improvement Fund and Goods Movement Emission Reduction Program guidelines should be built upon to incorporate the Guiding Principles and listed actions, and to provide a unified set of screening criteria that could be utilized by all parties investing public funds into the freight system.

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III. State Agency Actions and Pilot Projects

All levels of government, industry, and stakeholders need to coordinate efforts to achieve the Targets and realize the Vision. Included in this draft Action Plan are recommended State agency actions to support this effort over the next five years, as well as pilot projects to be further developed and considered for shared investment and implementation over the next three years.

In the immediate term, the State agencies must continue building on the successful partnerships with the legislature, industry, environmental and community groups, federal, regional and local partners, such as port commissions and metropolitan planning organizations. These partnerships have been instrumental to the success of the system so far, helping to develop and execute a combination of adopted Clean Air Action Plans and regional freight plans, regulations, and strategic investments. The actions and pilot project concepts included in this section represent what is needed to help advance all of these essential elements to the next level.

To plan for the long-term, further consultation and partnership is needed between State government, freight industry, regional, local, and environmental and community partners who are thinking about the future of business and logistics in California. Achieving the Vision will require big ideas and forward thinking that anticipates how freight, consumers, and manufacturing will change into the future. New technology, infrastructure, and investment concepts must be identified, planned for, and implemented. As a starting place for discussion, this section also identifies transformational concepts for further exploration and potential future action.

A. State Agency Actions

The following draft State agency actions are provided for consideration to support improvement of California's freight transport system over the next five years:

1. Work with the legislature to enact a freight transport system funding package that enables new investment for transportation assets and advanced vehicles and equipment that move freight in California's freight corridors and is consistent with the long-term Vision and Guiding Principles presented in this document.
2. Work with the legislature to enact legislation that enables distribution of federal Fixing America's Surface Transportation Act funds based on high-priority State and regional improvements to California's freight corridors as identified in transportation plans and programs.

3. Focus freight infrastructure planning and investments on providing modern freight corridors. Future freight planning and programming documents should identify high-priority projects with multiple benefits for future funding, and establish performance criteria.
4. Accelerate use of clean vehicle and equipment technologies and fuels for freight through targeted introduction of zero and near-zero emission technologies, and continued development of renewable fuels.
5. Establish a sustainable freight think tank to provide foresight into the innovative future of freight transport and identify the transformative technologies, solutions, partnerships, and critical steps for implementation.
6. Convene stakeholders to identify and deploy strategies that consider commercial viability and promote the competitiveness of California's statewide and local freight transport system, develop tools and share data to analyze benefits and impacts of actions, including costs, and develop and implement a quantitative metric to track progress.
7. Work with the freight efficiency development group to refine its work to identify and deploy strategies to improve the efficiency of freight transport in California now and in the coming years, consistent with the objectives of this Action Plan.
8. Convene stakeholders and the California Workforce Development Board to identify and implement steps to ensure that the existing and future workforce meets the needs of the California sustainable freight transport system.
9. Develop a process involving the Office of Planning and Research, along with federal, regional and local partners, and industry and environmental stakeholders, to identify regulatory or permitting process improvements to expedite the delivery of projects identified as meeting the objectives of this plan.

The State agencies anticipate beginning development of the above draft actions for Board or Commission consideration (if applicable) through appropriate processes within the next five years. To the extent feasible, the State agencies considered planning and development timelines, developed associated implementation steps, developed estimates of potential direct costs and benefits, and described impacted sectors for these actions in Appendix C.

B. Pilot Projects

The State agencies will also continue working with stakeholders to develop the following three freight pilot project concepts into shared investment opportunities within the next three years. The purpose of these projects will be to demonstrate on-the-ground progress toward a sustainable freight transport system in the near future. Successful demonstrations will serve as launching points for much broader application with the potential to address significant barriers and yield multiple benefits to California's freight transport system.

- Dairy Biogas for Freight Vehicles (San Joaquin Valley): Work with State and local partners to advance a commercial-scale, dairy biogas sourced, renewable compressed natural gas fueling facility. The pilot may focus on implementation of initial phases of the larger project, including pipeline injection, and the construction of the fueling station.
- Advanced Technology for Truck Corridors (Southern California): Work with partners to promote new technologies that increase efficiencies and encourage zero and near-zero emission vehicles on primary freight corridors. Multiple partners can explore options for intelligent transportation systems, connected and semi-autonomous vehicles technologies, collaborative logistics, and potential incentives for zero and near-zero emission trucks. The pilot may focus on freight signal priority, traveler information systems, and communication systems infrastructure on arterial roads, as well as integrated corridor management on highways.
- Advanced Technology Corridors at Border Ports of Entry (California-Mexico Border): Work with partners to implement information technology management systems, innovative operation techniques, and enhanced traffic management technology. In addition, partner with federal and local stakeholders to incent zero and near-zero emission truck crossings at international ports of entry facilities. The pilot may focus on building capacity for technological means of traffic management, such as Bluetooth sensors in the roadway, Global Positioning System readers, variable messaging, and a specialized border wait time application.

See Appendix D for further discussion of these pilot project concepts.

Successful implementation of each project concept will depend on a number of factors, some within and others outside the control of the State agencies' collective efforts and authority. While the State agencies cannot guarantee eventual implementation of the pilot project concepts, the State Agencies are committed to convening focused efforts around each concept toward that goal. The State agencies will continue to gather more detail on the pilot project concepts described

here. As the State agencies move forward, the pilot projects may change or be adjusted. Implementation of these pilot projects will also be conditional based on the successful completion of applicable public processes, identification of funding, and assessment of economic and environmental impacts.

C. Discussion Concepts for Potential Future Action

In addition to the draft actions and pilot project concepts identified above, the State agencies also identified concepts for further exploration and potential future action. These concepts include complex, big picture ideas that are promising, but will require further discussion with experts and stakeholders to determine their feasibility for effective implementation. Concepts include further development of inland marine corridors, non-traditional transport methodologies, packaging optimization, supply chain consolidation in the agriculture industry, and system efficiency improvements like receiver-led consolidation, full integration of chassis pool systems, virtual container yards, and load tracking systems.

In addition, two large transformational infrastructure projects are currently proposed that could be critical to the development of a sustainable freight transport system: the Interstate 710 Corridor and the State Route 11/Otay Mesa East Port of Entry Projects. These projects have the potential to provide lessons learned for future actions and a platform for innovative strategies. The State agencies will continue to track project developments and seek opportunities for partnership where appropriate.

See Appendix E for further discussion of these concepts and projects.

IV. Process and Next Steps

This document is an unprecedented step that builds on a strong foundation of research, technical, and stakeholder work. To develop this integrated State agency Action Plan, the State agencies considered technical and stakeholder work associated with the *California Freight Mobility Plan*, the *2014 Integrated Energy Policy Report Update*, the *Sustainable Freight Pathways to Zero and Near-Zero Emissions Discussion Document*, the *Heavy-Duty Technology and Fuels Assessments*, and the *Safeguarding California: Implementation Action Plans Report*. From July 2015 through spring 2016, the State agencies held a series of public workshops and webinars, regular meetings with the California Freight Advisory Committee, as well as numerous meetings with individuals and stakeholder groups such as industry associations, environmental and community groups, California Native American Tribes, and small businesses. See Appendix G for more detail on context, information considered, and public process for developing the Action Plan.

The State agencies are releasing this document for public comment and will present it as an informational item at public meetings of the California Freight Advisory Committee, the California Transportation Commission, and ARB in May. The State agencies are requesting comments by July 6, 2016. Comments can also be submitted electronically at www.casustainablefreight.org.

After consideration of comments and any new information received, the State agencies will make changes as appropriate and provide the Action Plan to the Agency Secretaries for Transportation, Environmental Protection, and Natural Resources for consideration and submittal to the Governor.

After transmittal, the State agencies will continue work with federal, State, industry, regional, local, and environmental and community-based partners to inform, refine, and prioritize the strategies and actions identified in the Action Plan. As the State agencies move forward gathering additional information and developing the actions, pilot project, and other Action Plan concepts further, the concepts may change, be adjusted, or new concepts may be added. Implementation of the concepts will also be conditional based on the successful completion of applicable public processes, necessary financing approvals, technical analysis, and economic and environmental reviews. It is important to note that full economic impact analyses are required of regulatory actions developed by the Air Resources Board before the Board considers such actions.

The State agencies anticipate the following implementation milestones.

- July 2016 +: The State agencies anticipate providing periodic updates on Action Plan implementation to the California Freight Advisory Committee.

- By January 2017: The State agencies will focus initial work on actions to enact a freight transport funding package and distribute federal Fixing America's Surface Transportation Act funds dedicated to addressing key State and regional improvements to freight corridors in California.
- By July 2017: The State agencies will establish work plans for the proposed working groups on future of freight, competitiveness, efficiency, workforce development, and regulatory and permitting process improvements. For pilot projects, the State agencies will prepare work plans for the three project concepts identifying scope, partners, timelines, and funding options.
- By July 2018: The State agencies anticipate providing a full progress report on Action Plan efforts.

EXECUTIVE ORDER B-32-15

7-17-2015

WHEREAS California's vast transportation system connects 38 million residents and supports a vibrant economy with \$2.2 trillion in annual gross domestic product; and

WHEREAS California's complex freight transportation system is responsible for one-third of the State's economy and jobs, with freight-dependent industries accounting for over \$700 billion in revenue and over 5 million jobs in 2013; and

WHEREAS California is the largest gateway for international trade and domestic commerce in the nation, with an interconnected system of ports, railroads, highways, and roads that allow goods from around the world to move throughout the state; and

WHEREAS significant investments in freight infrastructure are necessary to ensure the continued economic competitiveness of our state; and

WHEREAS California has recently set new, aggressive targets for reducing pollution, including decreasing greenhouse gas emissions 40% below 1990 levels by 2030 and cutting petroleum use in cars and trucks by up to half from current levels by 2030 and established strategies to prepare for climate change; and

WHEREAS freight transportation in California generates a high portion of local pollution in parts of the state with poor air quality and an increasing contribution of greenhouse gas emissions; and

WHEREAS the policies and investments of state transportation and environmental agencies can influence California's freight system to become more efficient, competitive, and environmentally sustainable; and

WHEREAS future investments to upgrade freight vehicles and infrastructure should utilize technologies, energy sources, and fuels that enable greater transportation efficiency while reducing community and environmental impacts.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, by the authority vested in me by the Constitution and statutes of the State of California, do hereby order the following, effective immediately:

IT IS HEREBY ORDERED that the Secretary of the California State Transportation Agency, the Secretary of the California Environmental Protection Agency, and the Secretary of the Natural Resources Agency lead other relevant state departments including the California Air Resources Board, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system.

IT IS FURTHER ORDERED that this action plan identify state policies, programs, and investments to achieve these targets, and that the plan be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input.

IT IS FURTHER ORDERED that to ensure progress towards a sustainable freight system, these entities initiate work this year on corridor-level freight pilot projects within the State's primary trade corridors that integrate advanced technologies, alternative fuels, freight and fuel infrastructure, and local economic development opportunities.

IT IS FURTHER ORDERED that agencies under my direct executive authority cooperate in the implementation of this Order, and it is requested that other public and private entities assist in its development and implementation as appropriate.

This Executive Order is not intended to create, and does not create, any rights or benefits, whether substantive or procedural, or enforceable at law or in equity, against the State of California or its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that widespread publicity and notice be given to this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 16th day of July 2015.

EDMUND G. BROWN JR.

Governor of California

ATTEST:

ALEX PADILLA

Secretary of State

CALIFORNIA
SUSTAINABLE
FREIGHT
ACTION PLAN

California Transportation Commission

Kome Ajise

May 18, 2016

Overview

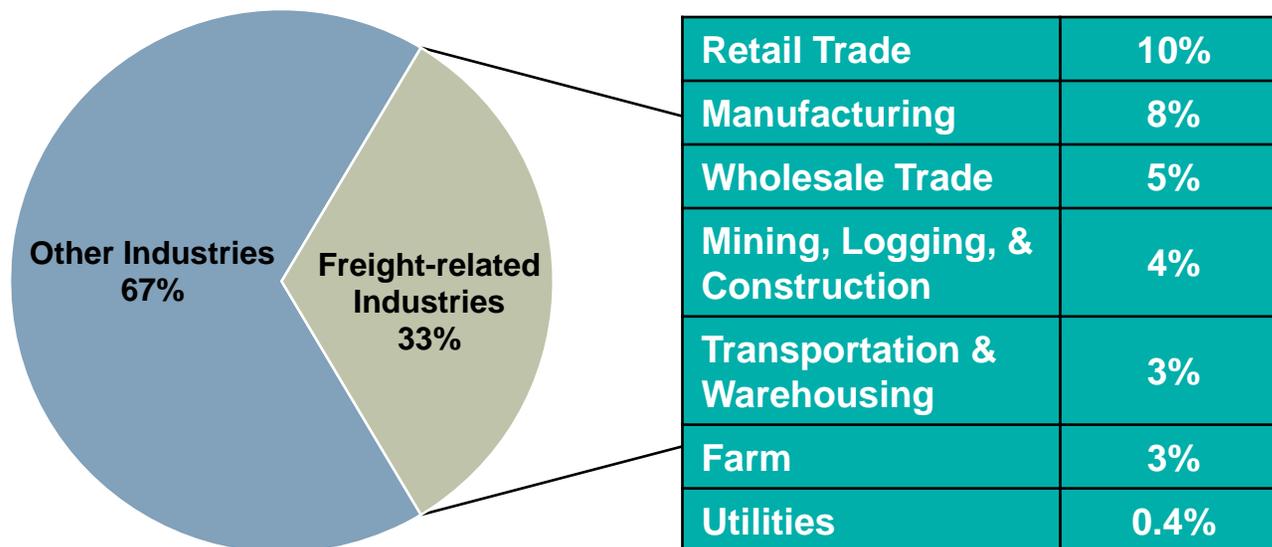
- **California's Freight Transport System**
- **Governor's Executive Order B-32-15**
- **Components of the Action Plan**
- **Process and Next Steps**



1/3 of California's Jobs and Economy

California Industry Employment Composition

Total Employment (2014): 16 Million



Source: EDD, Labor Market Information Division, 2014

Freight Is Important to California's Economy

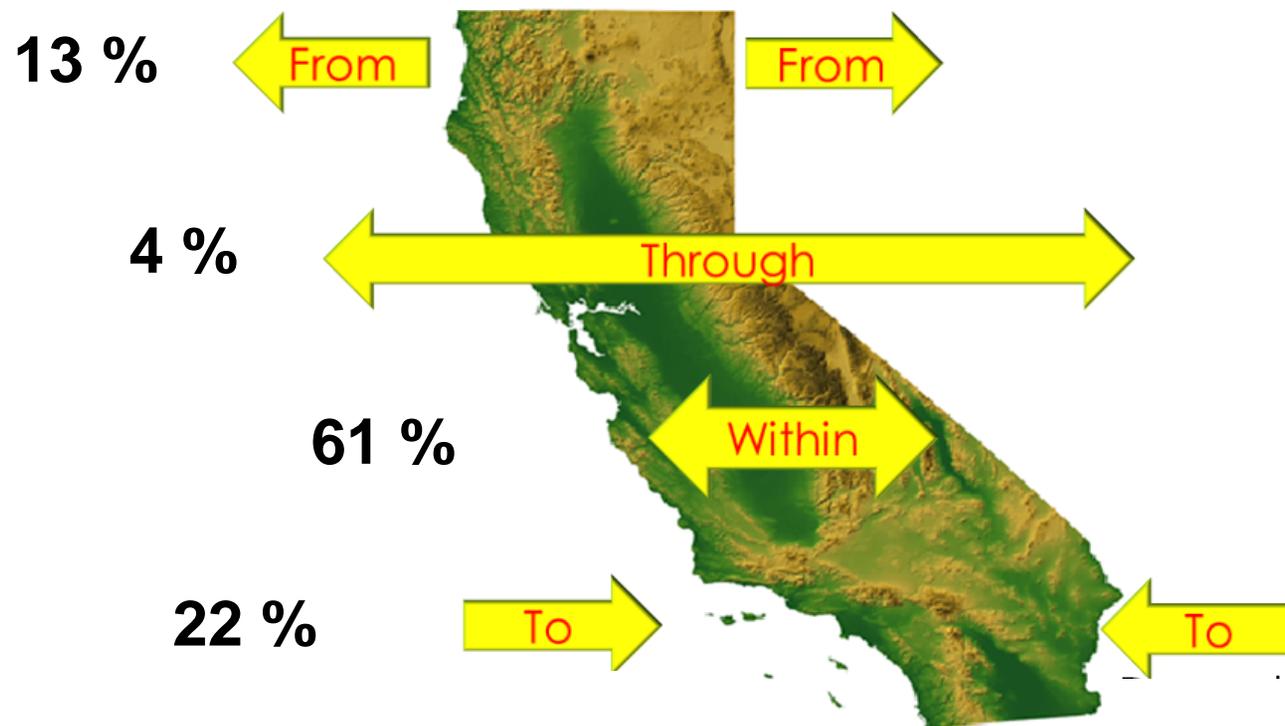
Freight-dependent industries account for:

- Over \$740B of CA Gross Domestic Product, 32% of the California economy (2014)
- Over 5 million jobs, 33% of California jobs (2014)

California freight projections for 2025:

- 25% increase in volume
- 60% increase in commodity value

2/3 of Freight Transport Within California



- Source: Freight Analysis Framework Data by U.S. Department of Transportation, 2015

Under Continuous Pressure to Evolve

- **25 percent increase in volume by 2025**
- **Competition and cost pressures**
- **Demands of e-commerce**
- **System capacity, safety, and security**
- **More protective toxics and air quality standards**
- **Increased vulnerability of freight facilities to climate change impacts**



Progress Will Require Partnerships Across...

- Multiple sectors, disciplines, and organizations
- State government
- Industry
- Environmental and community partners
- Federal, regional, and local agencies
- International bodies



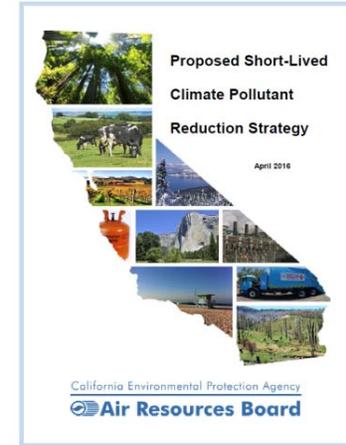
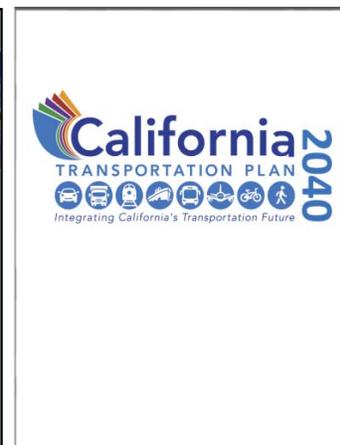
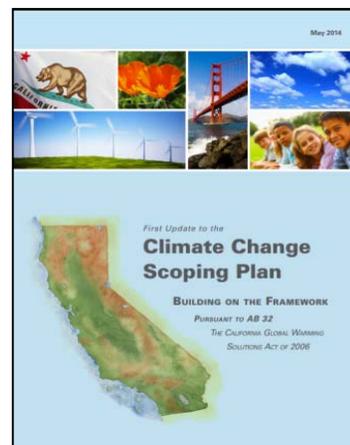
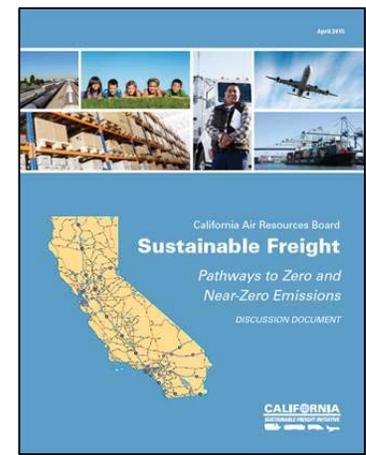
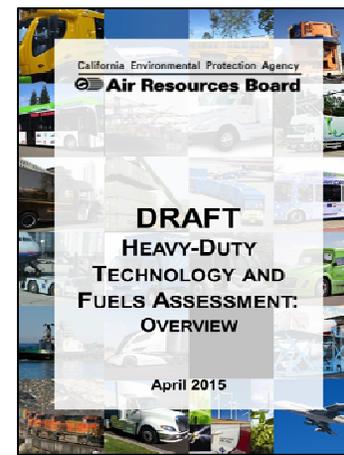
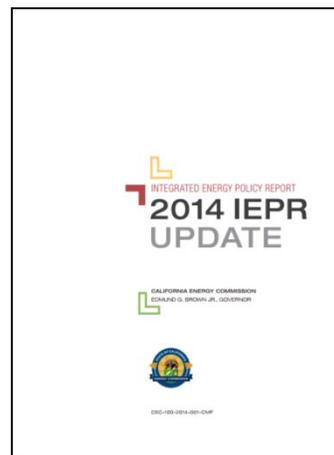
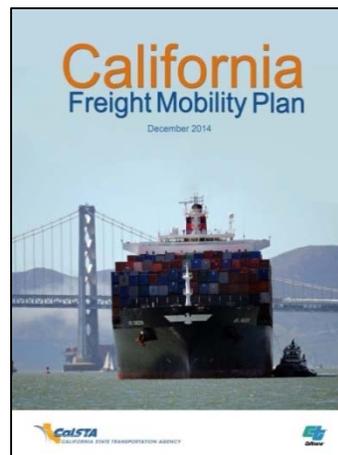
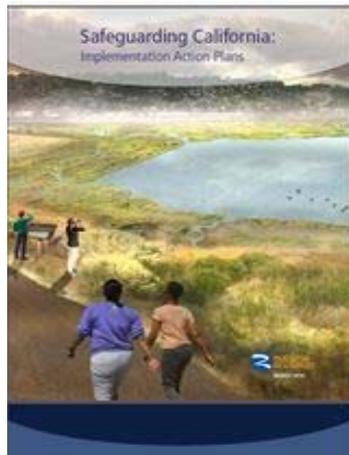
Governor's Executive Order B-32-15

Multi-decade, iterative process needed to transform California's freight system. State agencies, in consultation with stakeholders, to develop plan by July 2016 to:

- **Improve freight efficiency**
- **Transition to zero emission technologies**
- **Increase competitiveness**



Other Recent State Plans



Stakeholder Engagement

Public Workshops and Webinars

- July 2015
- October 2015
- January-February 2016

Individual and Stakeholder Group Meetings

- California Freight Advisory Committee
- Freight Efficiency Working Group
- California Cleaner Freight Coalition
- Tribal governments
- Other groups as requested

Freight Efficiency Working Group

FREIGHT EFFICIENCY STRATEGIES

March 2016

A White Paper Series to Inform the California
Sustainable Freight Action Plan

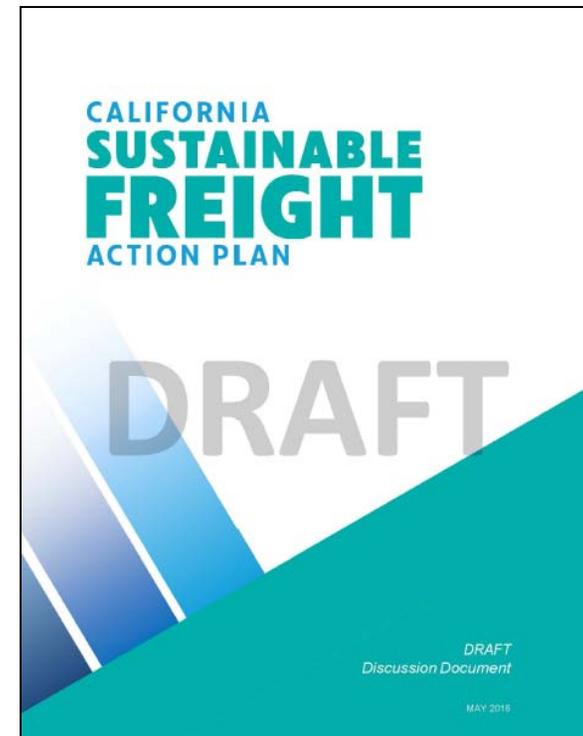
Chaired by Dr. Sperling
and
Convened by Caltrans

- **Participants:** Freight industry, academics, advocates, and government
- **Developed a series of white papers:**
 - Funding for Freight Infrastructure and Clean Equipment
 - Strategies to Maximize Asset Utilization
 - Planning and Policy
 - Operational Modernization at Distribution Nodes
 - Information Technology

Framework of Draft Action Plan

Released on May 3, includes:

- **2050 Freight System Vision**
- **Guiding Principles**
- **2030 Statewide Targets**
- **Freight Funding Approach**
- **State Agency Actions**
- **Pilot Projects**
- **Discussion Concepts**



2030 Statewide Targets

- **System Efficiency:** Improve 25 percent by 2030
- **Technology:** Deploy over 100,000 zero emission vehicles/equipment and maximize near-zero by 2030
- **Economy:** Foster future economic growth within the freight and goods movement industry



Investing in California's Freight Transport System

- **Potential Freight Funding**
 - Fixing America's Surface Transportation (FAST) Act
 - Governor Brown's Fiscal Year 2016-2017 Budget Proposal
- **Approach to Ongoing Freight Investments**
 - Trade Corridor Improvement Fund/Goods Movement Emission Reduction Program – Phase II
 - Further explore matching grants, financing assistance, and bulk purchasing power

State Agency Actions

- 1. Work with legislature on a freight transport funding package**
- 2. Work with legislature on distribution of federal FAST Act funds**
- 3. Plan and invest in infrastructure to modernize freight corridors**
- 4. Accelerate use of advanced technologies and renewable fuels**

State Agency Actions (cont'd)

- 5. Establish a sustainable freight think tank**
- 6. Develop strategies, tools, and data that considers commercial viability and promotes competitiveness**
- 7. Continue work with the freight efficiency development group**
- 8. Implement steps to meet existing and future workforce needs**
- 9. Identify regulatory or permitting process improvements**

Pilot Projects

- **Dairy Biogas for Freight Vehicles**
San Joaquin Valley
- **Advanced Technology for Truck Corridors**
Southern California
- **Advanced Technology Corridors at Border Ports of Entry**
California-Mexico Border



Discussion Concepts

- **Inland marine corridors**
- **Non-traditional transport methodologies**
- **Packaging optimization**
- **Supply chain consolidation in the agricultural industry**
- **System efficiency strategies**
- **Transportation projects**
 - Interstate 710 Corridor
 - State Route 11 Otoy Mesa East Port of Entry



Action Plan Timeline

May 3, 2016	Draft Plan Released for Public Comment
May 10, 2016	California Freight Advisory Committee
May 18, 2016	CTC Meeting
May 19, 2016	ARB Board Meeting
July 6, 2016	End of Public Comment
July 2016	Finalize and submit to Governor

View the full draft Action Plan at:

www.casustainablefreight.org