



Sustainable Freight Transport

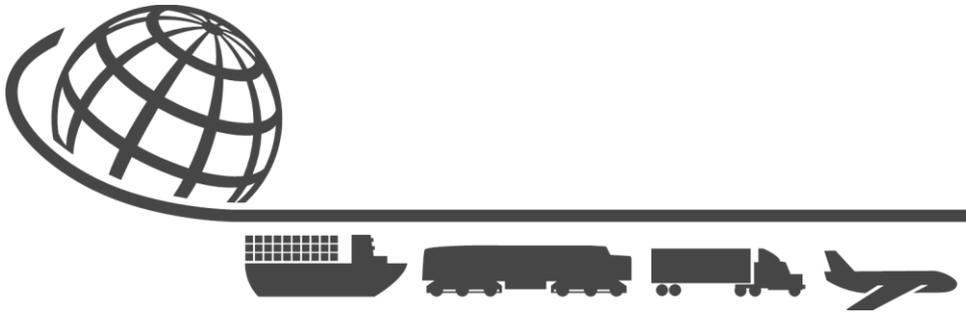
California Environmental Protection Agency

 **Air Resources Board**

January 23, 2014

Freight Transport System

Modes:



Facilities:

- Seaports
- Airports
- Rail yards
- Distribution centers
- Warehouses
- High traffic roads
- Border crossings

Freight Impacts at Many Levels

Climate change



Regional air pollution



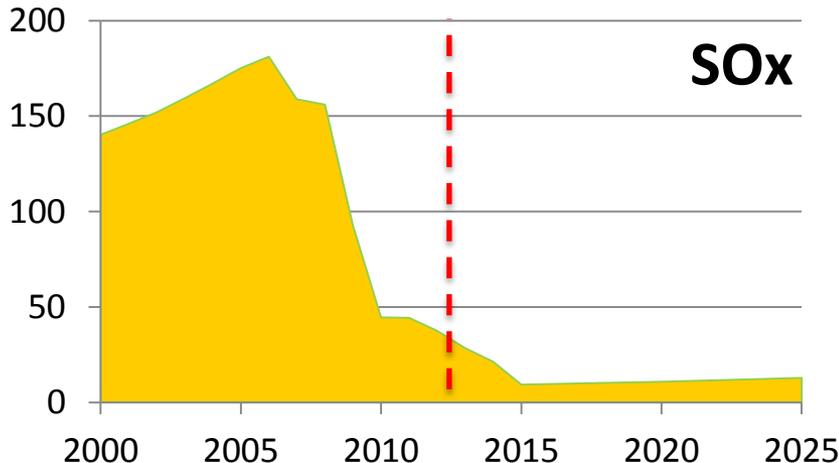
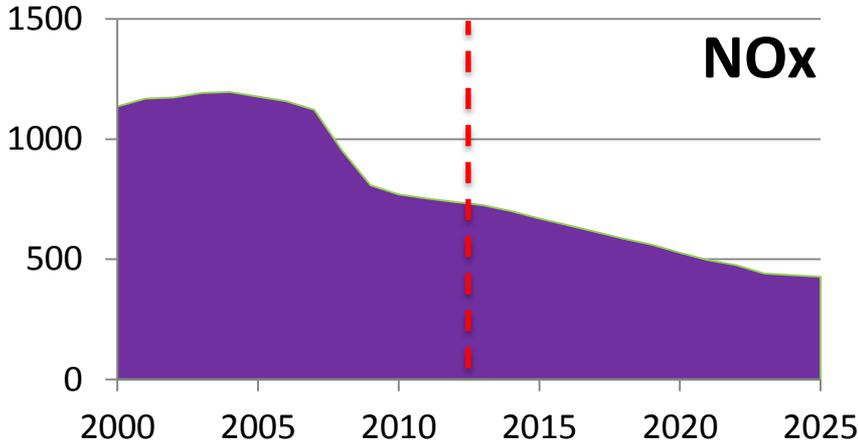
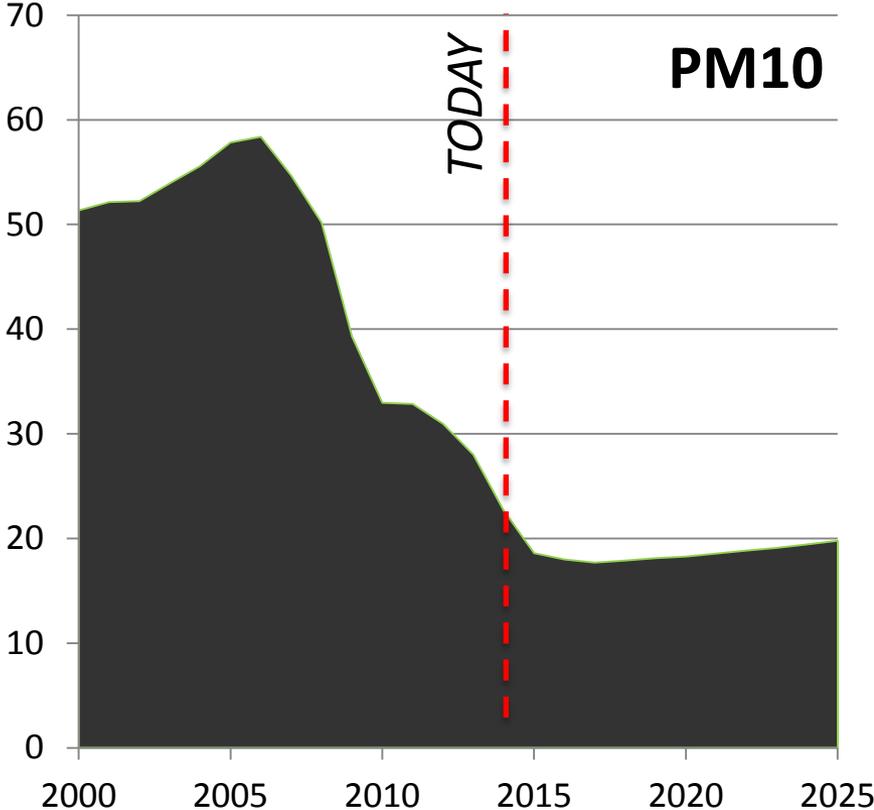
Localized health risk



Actions Taken to Cut Freight Pollution

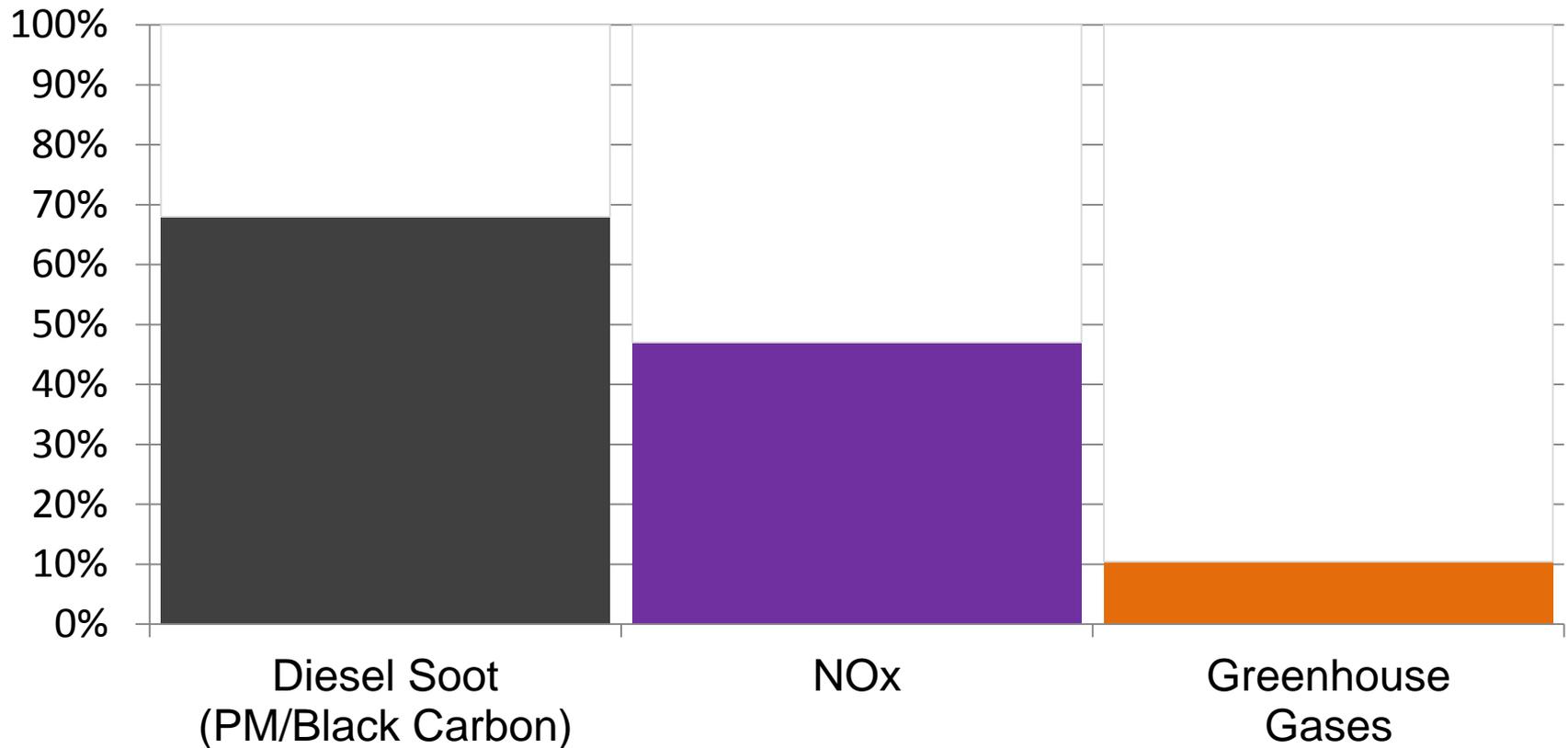
- Environmental advocates and researchers: studies, awareness, calls for action
- Trucking, rail, shipping lines, terminal operators, and other businesses: substantial investments in cleaner equipment and fuels
- ARB: 12+ rules for fuels, ships, trucks, trailers, and equipment; plus studies, agreements, incentives
- Air districts: incentives, enforcement
- US EPA: national/international rules, incentives
- Ports: tariffs, leases, incentives, infrastructure

Progress in Reducing Freight Emissions in California with Existing Program (Tons/Day)



Freight is Still a Significant Contributor to Air Pollution in California

Exhaust Emissions from All Freight Equipment as a Fraction of Statewide Emissions



Near-Term Actions to Further Reduce Health Risk from Freight Operations

- Implement 2014 deadlines for CA rules, plus prior requirements (Industry, ARB)
- Continue to prioritize impacted communities and expand enforcement through cooperative agreements (ARB, Districts, Ports, Cities)
- Provide incentives to businesses for clean equipment (Districts, ARB, CEC, Ports, US EPA)
- Support and participate in technology demonstrations (Industry, Districts, Ports, CEC, ARB)

Drivers to Transform Freight System

- Further reduce localized health risk
- Attain more stringent ozone standard
- Meet greenhouse gas targets
- Increase energy security
- Support logistics growth and new jobs
- Maintain ports' competitiveness
- Improve transportation mobility



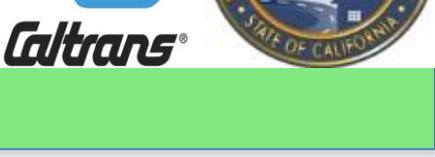
Sustainable Freight Symposia



***“Transitioning to
Zero-Emission
Freight Transport
Technologies
Symposium”***

**April
2013**

Participants from
technology developers,
government, business,
logistics industry, fuel
providers, community
and academia



May
2013

80+ leaders from
government, utilities,
air districts, business,
logistics, agriculture,
community and
academia

*“Sustainable Freight
Transport System”*



Themes

- Need for broad stakeholder engagement throughout process
- Value collaboration and transparency
- Demonstrate technology in the real world...and learn from it
- Seek the triple bottom line – economic, environmental, and community benefits
- Work on tough issues from the beginning
- Start now to meet long-term objectives

Sustainable Freight Strategy



What is a sustainable freight system?

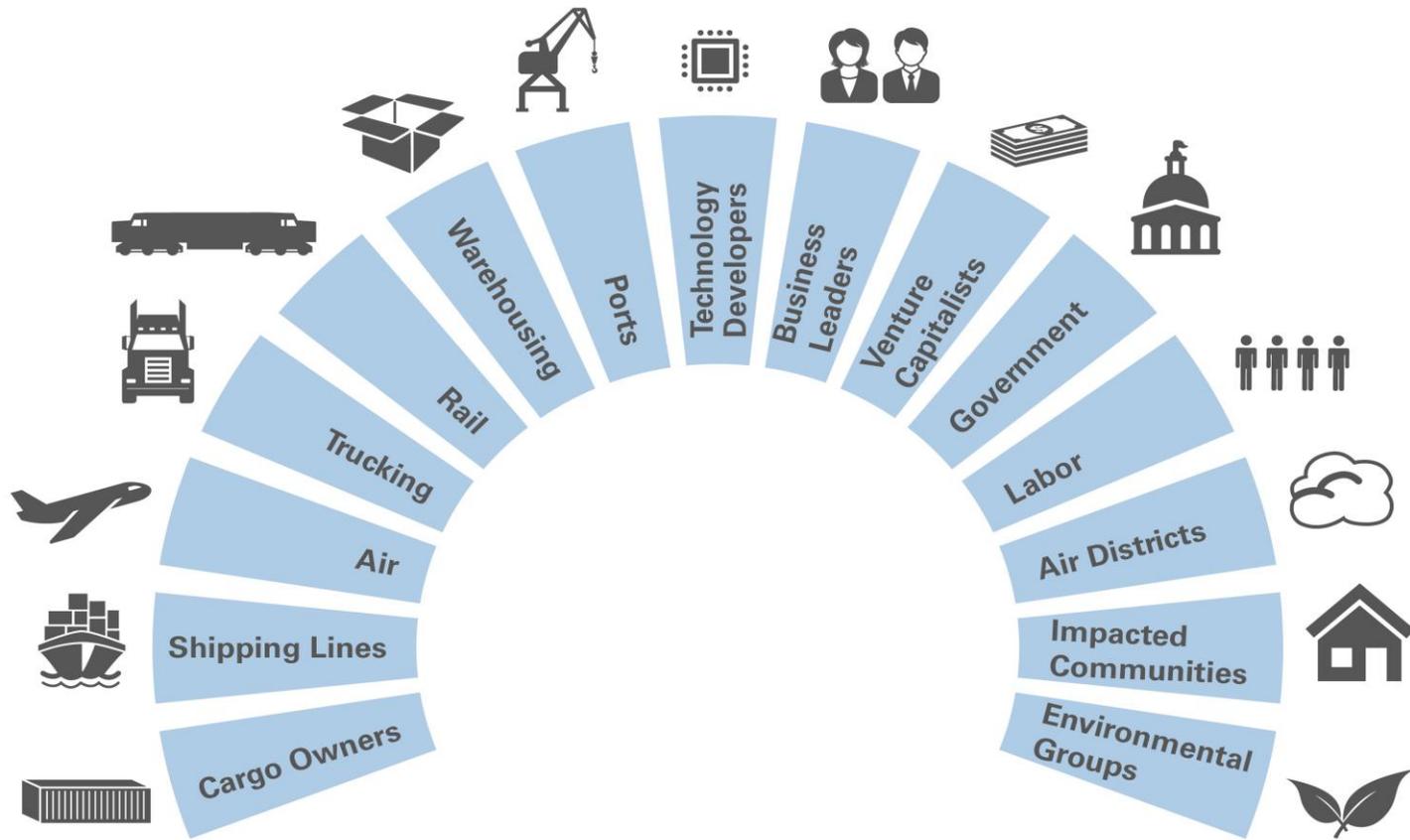
Potential objectives identified thus far:

- Move cargo more efficiently
- Rely on zero/near-zero emission equipment powered by renewable energy
- Support clean air and healthy communities
- Provide reliable velocity and expanded capacity
- Integrate with national/global systems
- Foster competitiveness of California's logistics industry and jobs

Elements of Strategy Document

1. Freight fundamentals and need for transformation
2. Stakeholder concepts for sustainable freight
3. Conclusions of technology assessments
4. Efficiency metrics and opportunities
5. Criteria for freight transportation projects
6. Criteria for new freight facilities
7. Actions needed over next 5 years

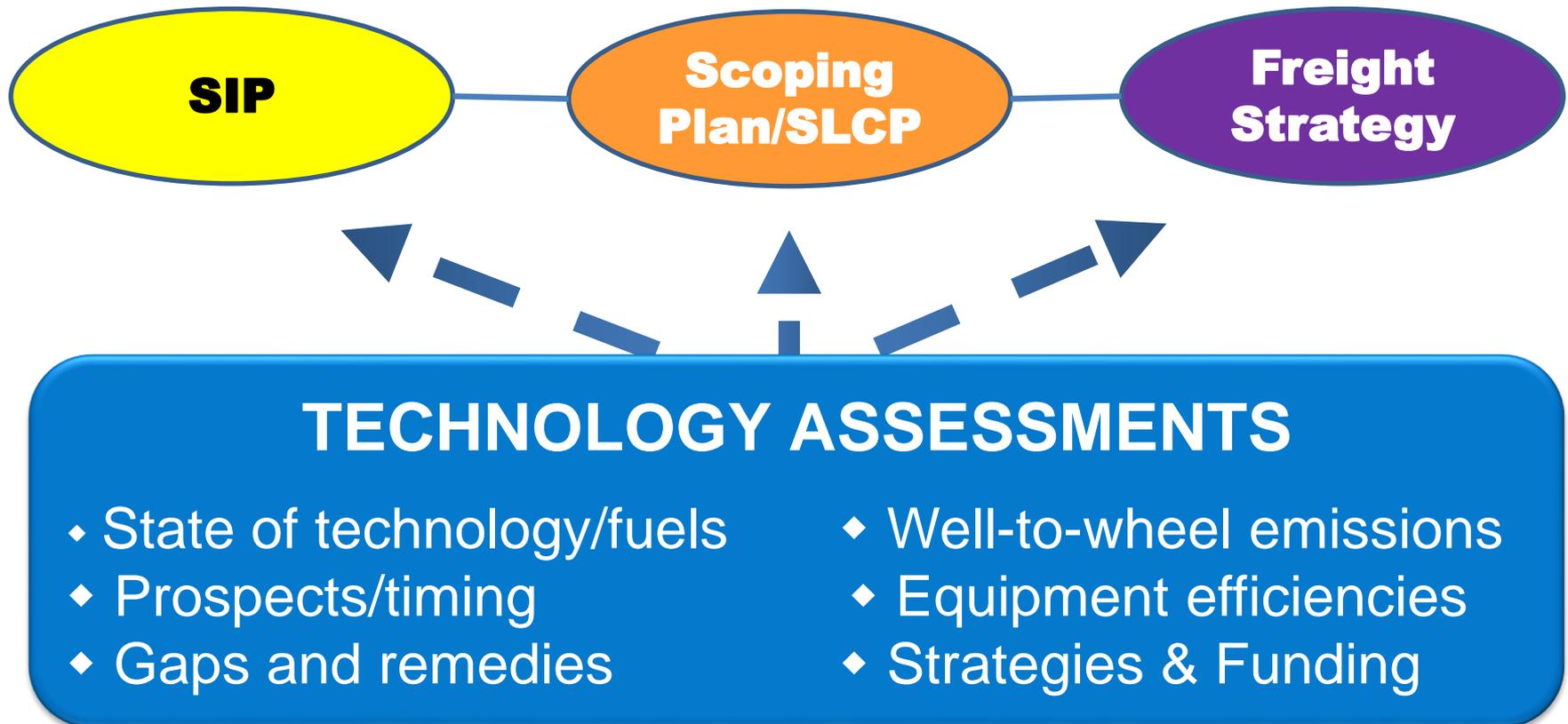
Elements of Strategy: Freight Stakeholders



Elements of Strategy: Stakeholder Engagement Forums

- Stakeholder focus groups on needs and approaches
- Existing community, agency, industry forums
- California and Federal Freight Advisory Committees
- Public workshops to discuss focus group input, staff analyses, concepts, and recommendations
- Coalition building with leaders

Elements of Strategy: Technology Assessments to Inform Plans



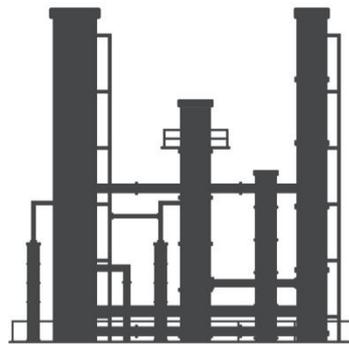
Elements of Strategy:

Well-to-Wheels Emissions Analysis

- Enables comparison of upstream + tailpipe emissions with technology/fuel combinations
- Supports development of performance standards
- What does “zero-emission” mean (equivalent to no tailpipe emissions and California grid power)?



EXTRACTION



REFINING



COMBUSTION

Elements of Strategy: Efficiency Metrics and Opportunities

- Improve freight system efficiency
- Metric to set goals and gauge progress
- Ask industry and academic experts what actions could government take to support efficiency improvements at the company, sector and system levels

Elements of Strategy:

Criteria for Freight Transportation Projects

- Provide as ARB input to the California Freight Advisory Committee for the Freight Mobility Plan to influence federal, State and local decision-making
- Possible scope: freight-related road, highway, and rail crossing projects
- Support addition of environmental objectives to project design
- Advocate for air quality/climate criteria as co-equal with established transportation metrics to prioritize projects for analysis, selection, and funding

Elements of Strategy:

Criteria for New/Expanded Freight Facilities

- Provide as ARB input and an informational resource for planners, community residents, and local decision makers
- Possible scope: major ports, rail yards, warehouses, distribution centers, airports, and border crossings
- Support air district/community efforts to call attention to air quality/climate needs upfront in project siting, design, and operational decisions

Actions Needed Over Next Five Years

- Research and demonstrations
- Policies and regulations
- Investments and incentives
- Industry practices

2014 Timeline - Sustainable Freight Strategy

When	Focus of Work Effort	Stakeholder Forums
Winter	Stakeholder concepts, technology assessments, efficiency, principles for transportation projects	Board meeting, focus groups, community and stakeholder meetings
Spring	Stakeholder concepts, technology assessments, efficiency, criteria for transportation projects	Initial public workshops
Summer	Draft assessments, initial efficiency metrics/options, draft criteria for transportation and freight facilities, outline of measures and actions	Focus groups, community and stakeholder meetings
Fall	Sustainable Freight Strategy draft document and stakeholder feedback	Public workshops, Board meeting

Staff Recommendation

Adopt Resolution 14-2, which would:

- Recognize development of the Sustainable Freight Strategy as a high priority
- Direct staff to engage stakeholders and build a coalition to affect change outside of ARB's immediate sphere of influence
- Direct staff to identify and prioritize actions to move California towards a sustainable freight transport system