





Advancing Goods Movement

through the Inland Empire

Managing Growth of the Goods Movement System

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Goods Movement Southern California "SYSTEM"

• Largest port complex in North America – San Pedro Bay Port Complex with deep water

• Largest intermodal rail facility in North American – BNSF Hobart /710 Fwy.

•Air Cargo from LAX and Ontario

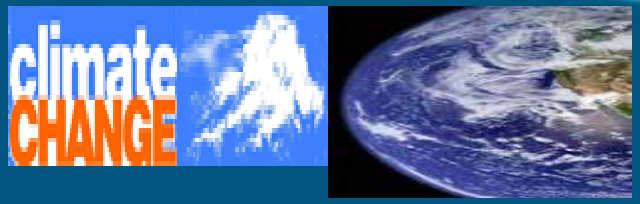
•Strong capacity for 2-way truck traffic

•Intermodal trucks 14,500 LA/LB ports

•Warehousing: - Southern California is the largest industrial sector in the U.s. with 1.5 billion sq.ft. of warehouse distribution in our 5 county region (LA, Orange, Riverside, San Bernardino, Ventura).

- •In the next 6 months in the same 5 county region there is another 40 million sq.ft. of inventory empty building and /or finished product coming on-line. Based on historical absorption rate of 5 million sq.ft. a year this means we could have an 8 year inventory of space.

•Population & GDP



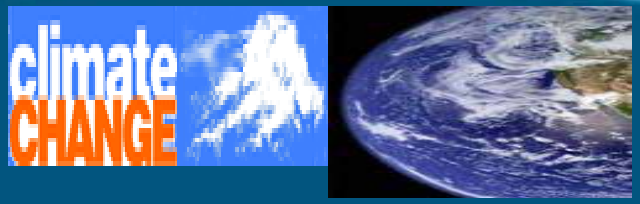
AB 32 (Nunez and Pavley) California Global Warming Solutions Act of 2006 Greenhouse Gases (GHG)

AB 32 Established first-in-world regulatory and market mechanisms to achieve "real, quantifiable, cost-effective reductions of GHG"

- **CA is 1st state to formally approve a GHG plan required by statue and involves every sector of the economy**

•AB 32 requires CARB to develop regulations to reduce Statewide GHG emissions to

- **•2000 levels by 2010**
- **•1990 levels by 2020 – 25% reduction**
- **•80 percent by 2050**



'Scoping Plan' released on October 15, 2008 - Approved by CARB Board on December 12, 2008

•The scoping plan contains the main strategies California will use to reduce the greenhouse gases (GHG):

- **Reduce vehicle miles traveled (land use)**
- **Vehicle fuel efficiency (Pavley regulations)**
- **Fuel GHG intensity gasoline & diesel (Low Carbon Fuel Standard adopted 4/24/09)**
- **Cleaner/renewable energy, solar, electric, etc.**

•The scoping plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program.

•85% of states emissions are covered in cap-and-trade No discrimination – goods movement, construction, agricultural, cities, school, public agencies (Caltrans)….

•Cost impacts of the AB 32 scoping plan which CARB's own analysis concluded would increase electricity rates by 11%, increase natural gas costs by 8% and increase low carbon fuel costs by $11 billion a year

CA CARB ON-ROAD HEAVY-DUTY DIESEL VEHICLES (IN-USE) REGULATION

Bus and Truck Rule (private fleet rule) http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm

•**Passed 12/08: Regulation requires performance requirements between 2011 and 2023**.

- •By 12/31/2010 pre 1994 engines must be retrofitted with highest PM controls
- •By 1/31/2014 pre 1994 engines must be retrofitted with NOx BACT standard
- •By January 1, 2023 all vehicles must have a 2010 model year engine or equivalent.

•Affected vehicles include on-road heavy-duty diesel fueled vehicles with a gross vehicle weight rating (GVWR) greater than 14,000 pounds, yard trucks with off-road certified engines, and diesel fueled shuttle vehicles of any GVWR.

•For fleets with three or fewer affected vehicles, none of the performance requirements begin until January 1, 2014.

•Out-of-state trucks and buses that operate in California are also subject to the regulation.

CA CARB Drayage Truck Program (port & rail): Approved 12 -24-2008

http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm
http://www.arb.ca.gov/msprog/onroad/porttruck/finaldrayagereg.pdf

•This regulation applies to owners and operators of on-road diesel-fueled heavy-duty drayage trucks operated at California ports and intermodal rail yard facilities.

•This regulation also applies to “motor carriers,” “marine or port terminals,” “intermodal rail yards,” and “rail yard and port authorities“.

•**Intermodal Rail Yard” is any rail facility owned or operated by a Class I railroad where cargo is transferred from drayage truck to train or vice versa that: is within 80 miles of a port;** or, is located more than 80 miles from the nearest port and having, on or after January 2008, 100 or more average daily drayage truck visits in any one calendar month.

•Intermodal rail yards include, but are not limited to, the following facilities: Union Pacific (UP) Oakland, Burlington Northern Santa Fe (BNSF) Hobart, LATC Union Pacific, Commerce UP, Richmond BNSF, Commerce Eastern BNSF, ICTF UP, San Bernardino, Stockton Intermodal BNSF, Lathrop Intermodal UP, and BNSF Oakland.

Drayage Truck Program *Requirements and Compliance Deadlines:*

•Drayage trucks subject to this regulation must meet the following requirements by the compliance deadlines detailed in both Phase 1 and Phase 2.

Phase 1: ***By December 31, 2009, trucks must be equipped*** with:
(A) 1994 – 2003 model year engine certified to California or federal emission standards and a level 3 VDECS for PM emissions;
or,
(B) 2004 or newer model year engine certified to California or federal emission standards;
or,
(C) a 1994 or newer model year engine that meets or exceeds 2007 model year California or federal emission standards.

Phase 2: ***After December 31, 2013, all drayage trucks must be equipped*** with a 1994 or newer model year engine that meets or exceeds 2007 model year California or federal emission standards.

All drayage trucks must be registered with the DTR by the end of September 2009. Additionally, both the DTR registration and truck labels are free of charge (labels are optional). http://www.arb.ca.gov/msprog/onroad/porttruck/porttruck.htm

2007 Ports of Los Angeles and Long Beach Clean Truck Program (CTP)

Clean Truck Program (CTP) vs. CARB Port Drayage Rule:

- **January 1, 2010**
  - CARB bans pre-1994; retrofit 1994-2002
  - CTP bans pre-1996; no retrofit requirements for 1996-2002

- **January 1,2020**
  - CARB replace 2003-2006 with 2010 trucks
  - CTP no similar requirement

http://www.polb.com/environment/cleantrucks/default.asp
http://www.portoflosangeles.org/environment/ctp.asp

Sidebar: Litigation from American Trucking Association is about the Concession Contract; not the rolling truck bans or truck fees.

CA CARB GREENHOUSE GAS EMISSIONS FROM HEAVY-DUTY VEHICLES REGULATION:

http://www.arb.ca.gov/regact/2008/ghghdv08/ghghdv08.htm

CARB Board approved in December 2008

Applicability:

- Long-haul tractors pulling 53’ or longer box-type trailers 53’ or longer
- Box-type trailers (dry-van and refrigerated-van trailers) pulled by long haul tractors
- Responsible for compliance – owner, driver, motor carrier, California-based broker, and California-based shipper
- **Implementation begins in 2010**

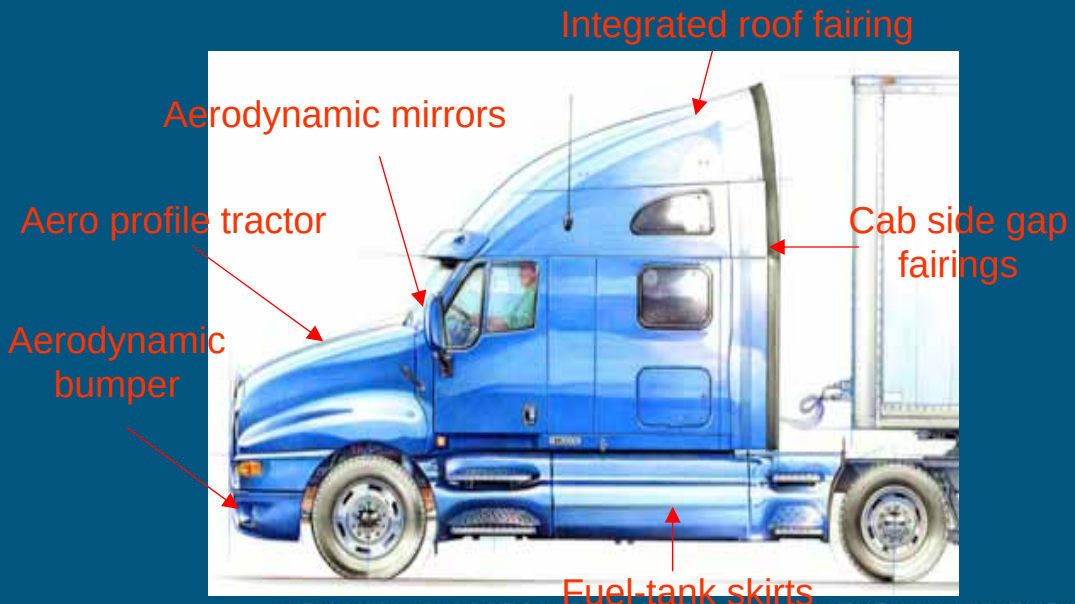
GREENHOUSE GAS EMISSIONS FROM HEAVY-DUTY VEHICLES REGULATION:

Reduce GHG emissions from long-haul tractors by reducing Tractor & trailer aerodynamic drag and Tire rolling resistance

Tractor aerodynamics Streamlined hood, sleeper cab roof fairings, gap fairings, fuel tank fairings, aerodynamic bumper and mirrors

Trailer aerodynamics Side skirts, front gap fairings, rear trailer fairings

Low rolling resistance tires Both tractors & trailers



GREENHOUSE GAS EMISSIONS FROM HEAVY-DUTY VEHICLES REGULATION:

CARB Enforcement Strategy for California Shippers and Brokers

California shippers and brokers notified when a notice of violation (NOV) has been issued to a non-compliant truck transporting their goods

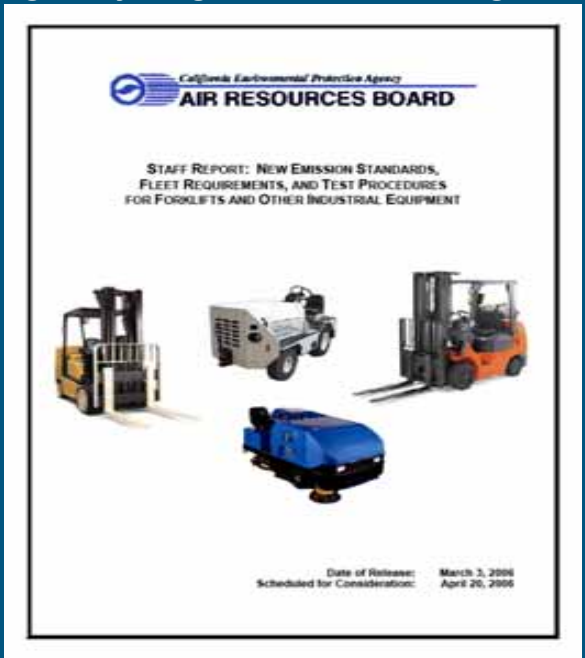
NOV will be issued to owner, driver, and motor carrier found in violation – NOT TO THE SHIPPER OR BROKER

If NOV not settled, and shipper or broker continues to use delinquent owner or motor carrier, shipper or broker may be subject to NOV if:

- Shipper or broker has not taken proactive steps working with ARB, owners, and/or motor carriers to ensure goods are shipped in compliant tractors and trailers, and
- Shipper continues to load freight onto non-compliant trailers owned/dispatched by delinquent owners/motor carriers

CA CARB Large Spark Ignition (LSI) –Off Road (gasoline and liquefied petroleum gas)

http://www.arb.ca.gov/msprog/offroad/orspark/orspark.htm
http://www.arb.ca.gov/msprog/offroad/orspark/background.htm
http://www.arb.ca.gov/msprog/moyer/guidelines/2008green_charts/lsi.pdf



Large Spark Ignition (LSI) –Off Road Rule:

- The regulation established more stringent hydrocarbon and oxides of nitrogen emission certification standards for engine manufactures.
- **New Engine Standards and Test Procedures**
  - 2.0 g/bhp-hr in 2007; 0.6 g/bhp-hr in 2010
  - 95 percent emission reduction vs. uncontrolled
- **Retrofit Kit Verification Procedures**
- Penalty Maximum of $500 per day per piece of equipment

- Individual persons, business and government agencies that own or operate LSI engine-powered fleets in California are subject to the fleet requirement

- **The LIS engines include forklifts, portable generators, sweeper /scrubbers, and an array of agricultural, construction and general industrial equipment. The regulation requires engine and retrofit emission control systems.**

- *Regulation established feet average emission level requirements for medium and large fleets that start January 1,* 2009 and become more stringent with time to January 1, 2010.

AB 32 T-6 Goods Movement Efficiency Measures

CARB held A public workshop to discuss T-6 also referred to as Freight Transport Efficiency was on Thursday, May 21, 2009.

The purpose of the workshop is to discuss the development of measures to reduce the carbon footprint of freight transport.

Information regarding the workshop is available at the following link: http://www.arb.ca.gov/cc/freighttransport/freight.htm

Logistics in a carbon constrained world!

Emissions from freight include both direct and indirect emissions:

- **The direct emissions of domestic logistics are generated by the use of** fuel **in trucks, light commercial vehicles, rail, coastal shipping, and airplanes.**
- **Another source of direct freight emissions are from air conditioning and refrigeration units used in vehicles, warehouses, building and distribution centers.**
- **Indirect freight emissions include those associated with electricity use in warehouses, distribution centers and corporate facilities such as office buildings.**
- **For warehouses, distribution centers, and corporate offices this will involve maximizing the energy and water efficiency of individual facilities.**
- **For freight transport this will involve modal switching where possible, fuel switching where possible, and maximizing the fuel efficiency of vehicle fleets**

Urban congestion =

- Increases: cost, pollution, more resources
- Reduces: safety, velocity, productivity, quality of life

Transportation Management Systems (TMS) / CO-BENFITS

- Optimizing cost and time-efficient operations
- Enables companies to go green by reducing fuel consumption and lowering emissions
- Reduce mileage & improve equipment utilization - more cost-effectively plan distribution routes with suppliers and customers
- Maximize capacity of equipment
- Consolidate multiple customer orders and reduce expedited and extra shipping costs for on-time delivery while honoring customer delivery dates
- Reduce paper – automated bills of lading
- Increase a company's competitive edge while lessening the impact the logistics processes have on the environment.
- Increase security of cargo and equipment
- Measure results
- Co-benefits of TMS with supply chain partners and roadways

MeTrIS: Maps, Analyses, Models

- Components of MeTrIS for freight congestion mitigation are being developed in a project funded by the U.S. Department of Transportation—Research and Innovative Technology Administration, at the University of California, Santa Barbara.

- **Research MeTrIS envisages extensive tracking of transportation assets using Global Positioning Systems (GPS) and Vehicle-Infrastructure Integration (VII) technologies. Vehicles report their location and attributes in real time. Sensors in infrastructure simultaneously report environmental conditions such as bridge ice or fog. The rich data stream from these sensors enables a variety of synoptic information products, both real-time and longitudinal.** http://www.metris.us/

- The system extends beyond what is currently deployed by private logistics-oriented tracking firms, and focuses on analyses and models that employ the data for broad public benefit—in particular, strategic transportation planning, tactical operational efficiencies such as intermodal synchronization and identification of avoidable trips, and security.

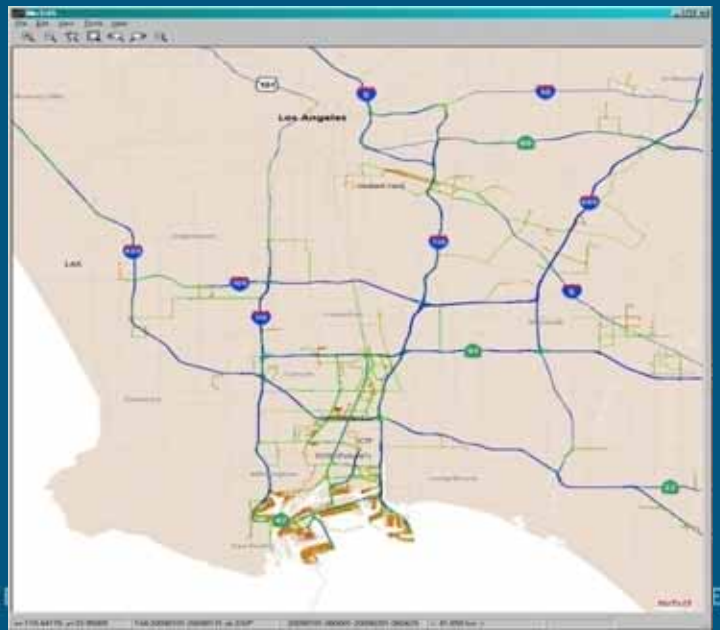
- **MeTrIS technologies promise a future where policy and operational decisions are based on reliable information and verifiable forecasts, and therefore provide solutions that are financially sound, logistically efficient, environmentally beneficial, and equitable to the communities and motor carriers affected.**

MeTrIS: Maps, Analyses, Models

Smart roadways & connectivity

Maps:	First snapshots of drayage in LA/LB
	Origins, destinations, routes, stops, time of day
	Congestion hot spots by time of day
Analyses:	Terminal turn time by time of day
	Highway speed by time of day
	Highway “drainage” (useful to planners)
	Drivers’ working hours, idle time
Models	Deadhead reduction: Strategically placed container depots
	Different operating scenarios
	Up to 25% reduction in traffic
Port sync:	Give terminals precise information on truck arrival
	25-50% reduction in stack rehandling

San Pedro Bay Port Complex



Intersection of supply chain efficiency , carbon footprint, TMS

- **Sustainability and green supply chain initiatives are rapidly moving to top priority positions at many companies – more than green-washing**
- **Market research firm eyefortransport (www.eyefortransport.com) has conducted surveys on the greening of transportation and determined that this is definitely an area growing in significance.**
  - **75% of a company's carbon footprint is related to transportation and logistics activities**
  - **Eyefortransport found that 69% of companies feel that green issues will be increasing over the next three years, and that 9% of companies feel it will be their top priority. Of these companies, 42% plan to use vehicle routing and optimization tools to help drive green supply chain initiatives. This number is sure to grow as the issue of greening grows.**
- **Does Green – $ Green? Intersection of supply chain efficiency to reduce costs and make a company more agile and demand driven, it will also help green your supply chain. Will operational efficiencies safeguard existing margins against rising costs but will also reduce the emissions intensity of operations.**

What are the key drivers of change in the future?

- Changing economy / competitiveness will have an impact on freight flows and the nature of the demand for freight and logistics services
  - **Access to credit / new terms of credit (business and consumers)**
  - **Policy of the state to tax business / workers**
  - **Who is left standing after "The Great Freight Recession" – reshaped market place?**
  - **Growth projections of populations centers**
- Ports of entry competitiveness **(land, labor, business cost, business friendly environmental regulations). Correlation of US Industrial real estate demand with International Trade.**
- Primary production industries **will experience challenges in the future as a result of climate change, water supply and other environmental impacts that may lead to changes in production.**
- Increasing oil prices and energy cost **will drive distribution center locations, size of building and freight flows as we transition to a low carbon economy.**
- The capacity of the freight and logistics industry **to move an escalating volume of freight efficiently, cost-effectively on an aged network**
- Rising costs for the freight and logistics industry (and other energy users), **driving the search for greater efficiencies for more integrated approaches to land use and freight activity.**

As climate change gathers momentum, the responses of governments and the markets will all converge to fundamentally reshape the operating environment of logistics……

- **The challenges of managing strong population growth, supporting a changing economic base, making the shift to a low carbon economy and managing the growing freight task itself.**
- **As a result of climate change, transport companies are simultaneously exposed to demand risk, compliance risk, regulatory risk/cost, increasing cost structures of fuels and energy, operational disruptions…eroded profit margins?**
- **The freight business is highly competitive with tight margins and a mix of small operators and large vertically integrated enterprises. These businesses will naturally tend to focus on the commercial implications for their own operations on particular parts of the network.**
- **How can the Future of Freight move beyond individual interests and provide a balanced plan of action in the interests of the freight network and the state as a whole?**
- How to coordinate all the efforts region/state/national? **National Goods Movement policy?**
- **How do we pay for infrastructure?**

Thank You!

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