

# Update on Emission Reduction Plan for Ports and Goods Movement in California

Air Resources Board Meeting  
April 26, 2007  
Sacramento



Air Resources Board  
California Environmental Protection Agency



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## Overview

- Highlights
- Context
- Regional focus
- Sector updates
- Funding

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## Highlights Since Nov 2006

- Implementation of new ARB rules
- Lawsuit against ARB ship fuel rule
- Final Goods Movement Action Plan
- Four drayage truck cleanup proposals
- US EPA proposals for locomotive and marine engines



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## Context

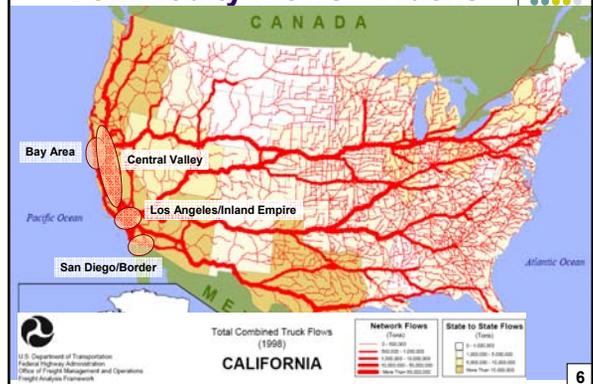
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## Goods Movement

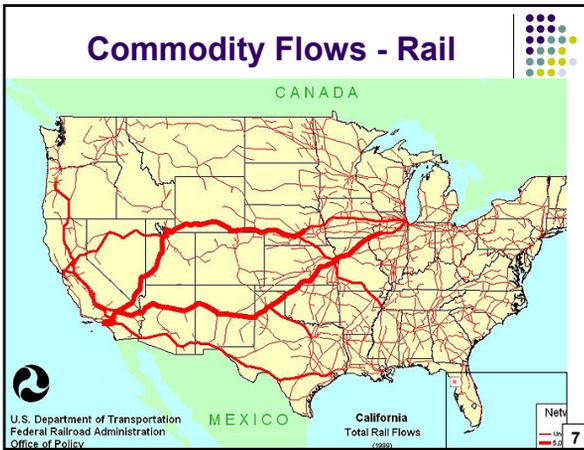


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## Commodity Flows - Trucks



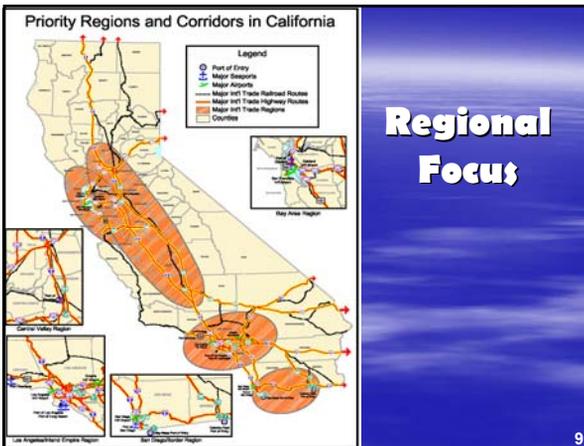
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## Board Goals

- Reverse growth in emissions
- Reduce diesel PM risk
  - Rapid reduction in community risk
  - By 2020, reduce statewide risk 85%
- Attain federal PM2.5 and ozone standards

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## Northern California

- Port of Oakland Maritime Air Quality Improvement Plan
- Bay Area District Green Ports Initiative
- San Joaquin Valley District proposals

*West Oakland Health Risk Assessment*

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## Southern California

- Ports of LA/Long Beach – Clean Air Action Plan implementation and update
- South Coast District proposals
- Port of San Diego Clean Air Plan

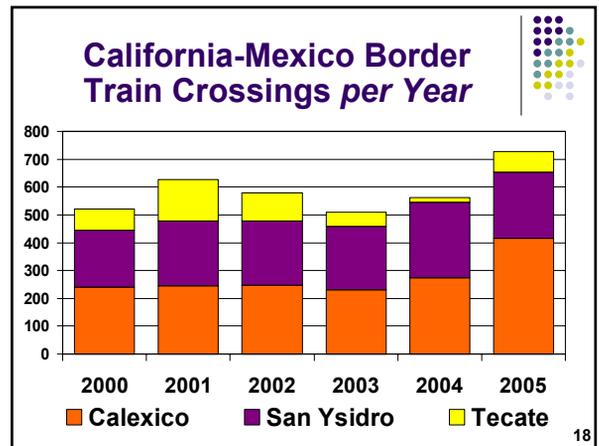
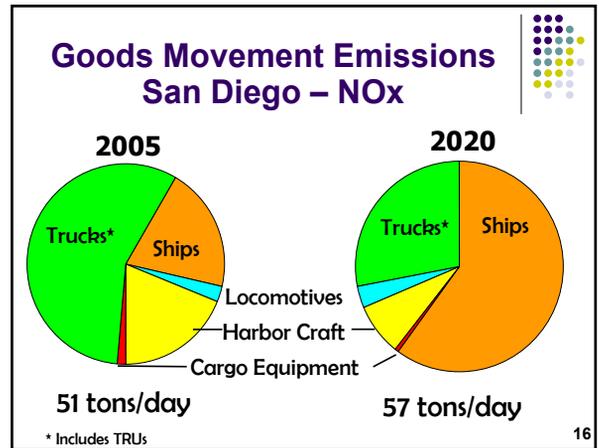
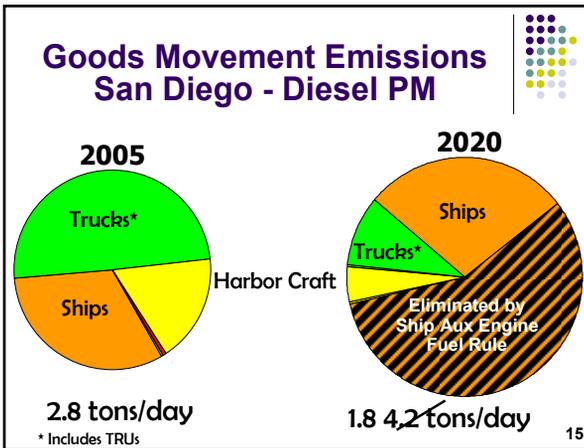
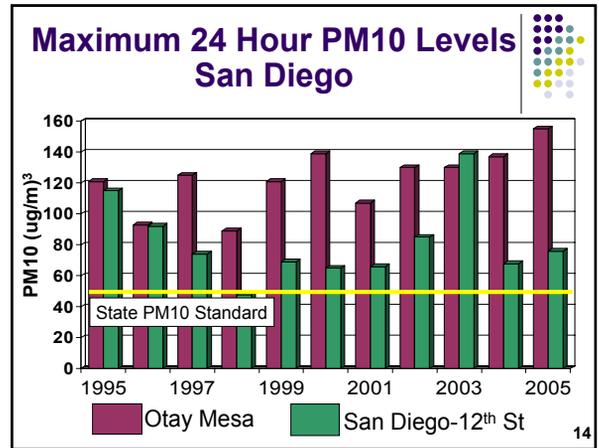
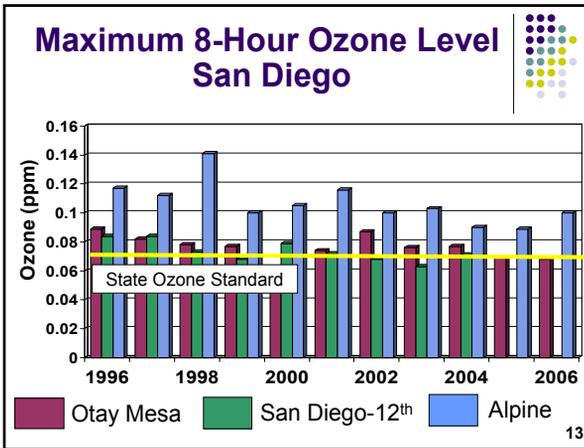
*Port of San Diego*

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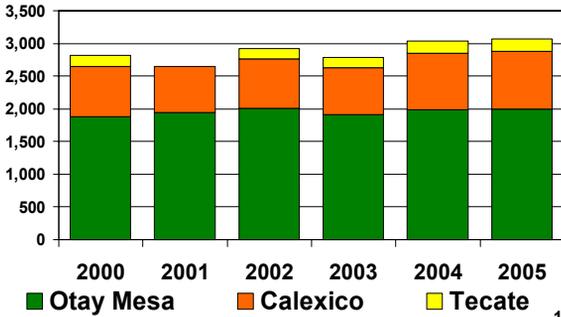
## Focus on San Diego/Border Area

- Air quality
- Border crossings
- Reducing truck emissions
- Issues (NAFTA, megaport)

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## California-Mexico Border Truck Crossings per Day



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## Otagy Mesa Truck Crossing



Average wait time is ~2 hours →  
 1/2 of truck emissions are from idling in queue

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## ARB Border Truck Survey 2006-2007

- 224 participating truckers (206 dual-plated)
- 80% travel to nearby distribution centers
- 45% fuel in Mexico, 25% fuel in CA, 30% do both



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## Mexico's Requirements

- Truck emission standards by model year
  - Pre-94: uncontrolled
  - MY 94-03: align with US
  - MY04 and later: Mexican standards stay at 2003 levels, US standards get more stringent
  - New Mexican trucks today: NOx is 20x US, PM is 10x US standard
- Low sulfur fuel: phase in 2007-2009, starting in northern border area

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## California's Requirements that Apply to International Trucks

- No excess smoke or tampering
- Only trucks meeting US standards for that model year may operate in CA



Engine Labels

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2,070 ARB truck inspections in border regions in 2006: 300 violations (14.5%)

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## Reducing Border Truck Impacts

- Implementation of existing Mexican standards and alignment with US 2007/2010 standards
- ARB private truck fleets rule in development
- ARB truck inspections 
- San Diego District/ US EPA truck retrofits
- Also needed: reduce wait time at border

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## North American Free Trade Agreement

- NAFTA will increase Mexican truck travel
- US DOT – Mexico Pilot Program
  - 100 Mexican + 100 US companies
  - One-year program to allow travel beyond the 20-mile border zone with international cargo
  - Safety audit by U.S. inspectors
  - Congressional proposal to put on hold
- ARB will monitor NAFTA implementation to characterize truck fleet and travel patterns

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## Proposed Punta Colonet Megaport

- 6M containers/yr by 2025
- Proposals now, awards this Fall
- Goal is to open in 2012
- Anticipates new rail line to U.S.
  - UP proposed line to Yuma, AZ



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## Sector Updates

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## ARB Truck Enforcement-2006

- **Neighborhoods**
- **Ports**
- **Freeways**
- **Border**



18,400 inspections: 1,930 violations (10.5%)  
1,990 idling checks: 90 violations (4.5%)

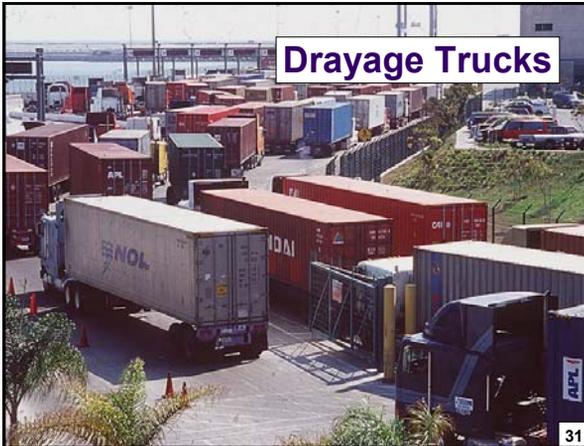
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## Trucks

- ARB rule for private fleets
  - Non-CA trucks typically newer
  - CA trucks often slightly older & owner operated
  - ½ of trucks likely in small fleets (1-3 trucks)
- Challenges:
  - Timing/cost of truck replacements
  - Ability of small fleets to bear costs
- Board consideration in early 2008



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## Drayage Trucks (1) ARB Staff

- Set minimum standards for trucks that access ports/rail yards
- By 2011: phase out pre-1994 trucks; retrofit or replace 1994 and newer trucks
- By 2019: all trucks are 2007 and newer
- Challenges:
  - Defining roles and responsibilities
  - Economics of current business model
  - Coordination with other programs
- Board consideration in late 2007

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## Drayage Trucks (2) Coalition for Clean & Safe Ports

- Environmental, labor, faith-based, community and public health organizations
- Goals: clean air and good, stable jobs
- Ports set technology/efficiency standards
- Ports contract directly with motor carriers (airport concession model)
- Pursuing at LA, Long Beach, Oakland ports

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## Drayage Trucks (3) Ports of LA/Long Beach

- Transition to concessionaire model
  - Motor carriers own “clean” trucks
  - Employee drivers meet security standards
  - Impact fee for dirty trucks during transition
  - Gate fee for all trucks to fund infrastructure
- Progressively ban pre-1994 trucks; replace or retrofit 1994 and newer trucks
- Grants for truck replacement and retrofit
- Implementation beginning January 2008

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## Drayage Trucks (4) Industry

- Rail, Shippers, Retail, Waterfront Coalition
- ARB to set single statewide truck standard
- CA to ban older trucks from registering
- Terminal operators voluntarily impose fees on trucks not meeting ARB standard
- Fees support truck loans and leases
- CA to provide tax incentives

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## ARB Locomotive Inspections



1,320 locomotives inspected in 2006:  
33 violations (2.5%)

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## Locomotives

- Rail yard health risk assessments
  - First nine to be released Spring 2007
- Idle controls on 65% of intrastate locos
- 95% of fuel for line-hauls is now low sulfur
- Transition to cleaner switchers
- Technology demonstrations



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## Locomotives

- March 2007 US EPA proposal
  - Rebuilds: >60% PM, >45% NOx (2010-2013)
  - Tier 3 new: 80% PM control, 60% NOx (2012)
  - Tier 4 new: ~95% PM control (2015), 90% NOx (2017)
- CA Needs
  - Earlier implementation for new builds/rebuilds
  - Tier 4 essential to allow accelerated introduction in CA prior to attainment dates

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## ARB Ship Fuel Inspections



Since January, 28 ships inspected and fuel analyzed for sulfur content: no violations

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## Ships and Harbor Craft

- Defense of ARB auxiliary engine fuel rule
- ARB rule development
  - Ship main engine fuel
  - At dock emission reductions (shore power)
  - Ship speed reduction
  - Harbor craft fleets
- Board consideration this year



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## Ships and Harbor Craft US EPA National Standards

- March 2007 US EPA proposal
  - Ship auxiliary engines and harbor craft engines
  - Tier 3: 80% PM control, 70% NOx (2009-2014)
  - Tier 4: 95% PM control, 90% NOx (2014-2017)
  - No Tier 4 Standards for engines < 800 hp
- CA needs:
  - Tier 4 standards for smaller engines
  - Remanufacture standards for all engines

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## Ships International Standards

- April 2007 US proposal to International Maritime Organization on PM, SOx and NOx emission standards for ships/fuels
  - Fuel: 1,000 ppm sulfur distillate fuel or alternative control (2011)
  - New ships: 20-30% NOx control (2011); 85% NOx control (2016)
  - Retrofit some ships: 20% NOx control (2012)
- ARB supports US recommendations



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## Cargo Handling Equipment

- Implement ARB rule for ports/rail yards
  - Half of pre-2003 off-road yard trucks removed from every fleet by end of 2007
  - New yard trucks and other equipment meet 2007 on-road standards or equivalent off-road
  - Replacement/retrofit of other equipment begins



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## Funding

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## Funding

- Existing incentives continue
- \$1 billion from transportation bond
- Ports of LA/Long Beach proposal for tariffs
- Multiple legislative proposals on bonds/fees



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## Example Candidates for Near-Term Incentives

- Truck replacement/retrofits
- New switcher & other locomotives
- Shore power infrastructure
- Harbor craft engine replacement



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## Goods Movement Action Plan Recommendations

- ARB should allocate \$1B in bond funds in the four priority corridors to:
  - Maximize emission reductions
  - Reduce community health risk
  - Provide early reductions
  - Implement ARB Emission Reduction Plan
  - Maximize matching funds
- Infrastructure projects should include mitigation cost and use green equipment

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## Bond Policy Issues

- Accountability and transparency
- Sustainable investments
- Continued California operation
- Co-funding levels
- Allocation across sources/regions



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## What's Next

- ARB rulemakings
- Port truck program(s)
- US emission standards
- Health risk assessments
- Legislation and staff proposal for bond program