

Vessel Component of the San Pedro Bay Ports Clean Air Action Plan



Action Plan Drivers

- Minimize health risk from port operations
- Accelerate existing emissions reduction efforts
- Set consistent project-specific & source-specific standards
- Enable port development

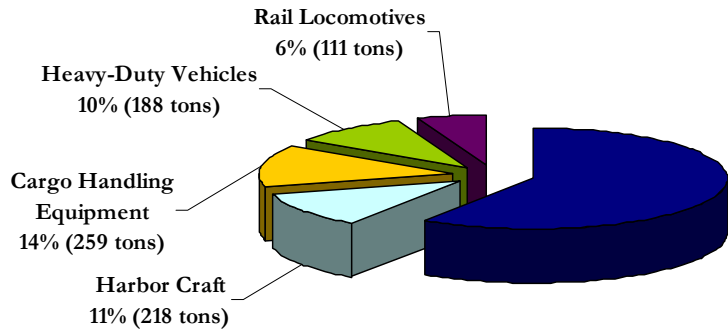


Targeting Transiting and Hotelling Emissions

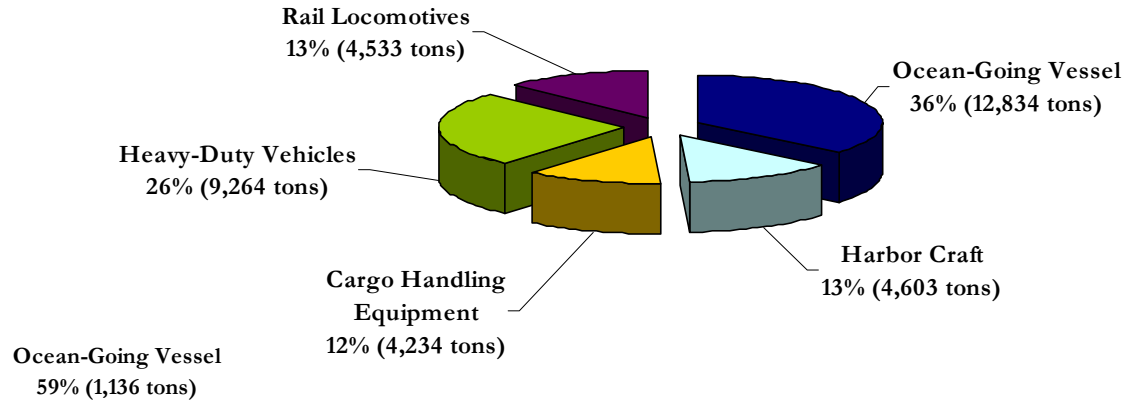


Pollutant Contribution by Source

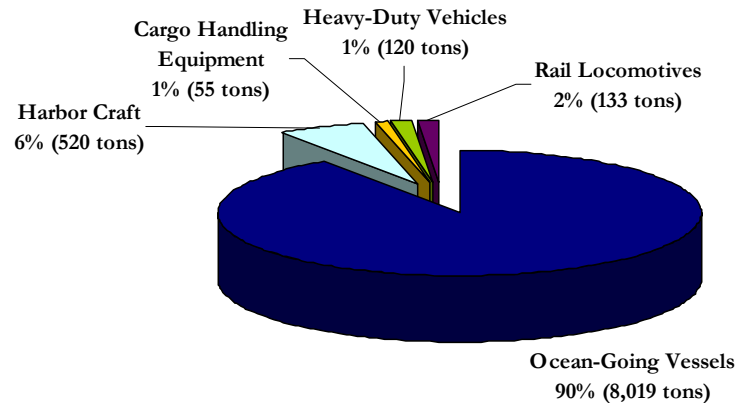
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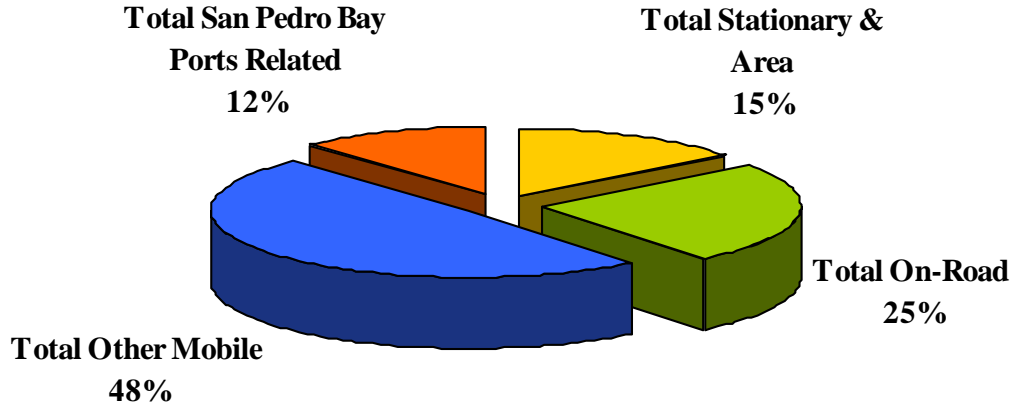


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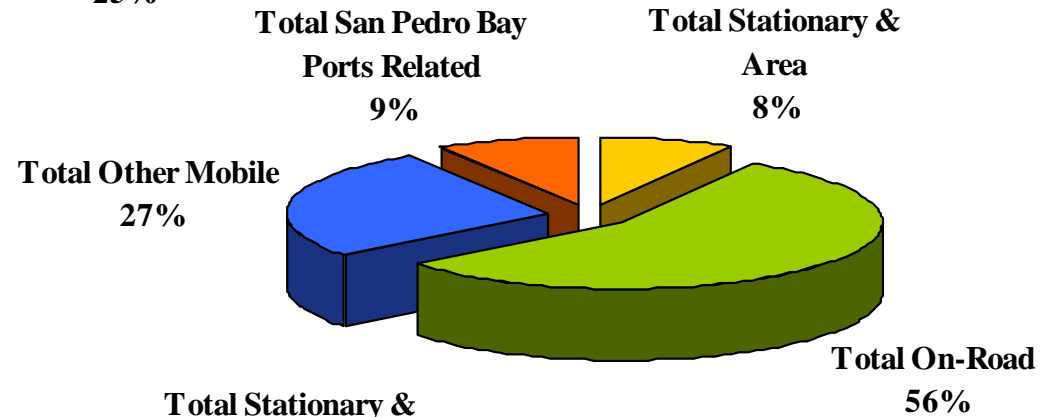


Port-Related Contribution to Basin - 2002

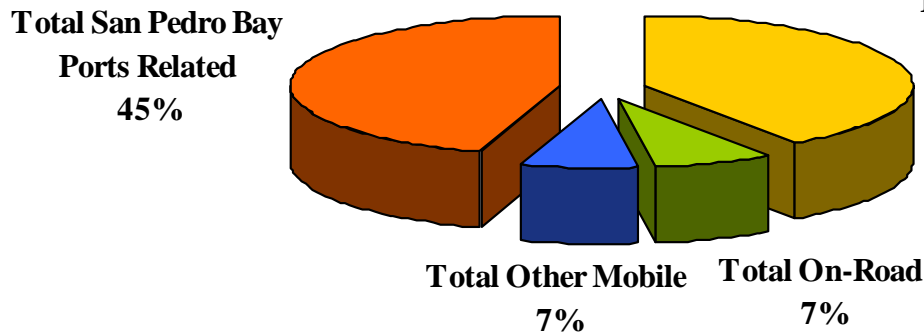
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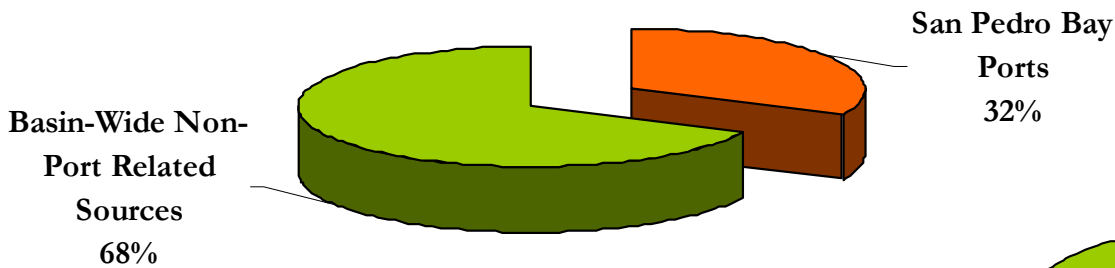


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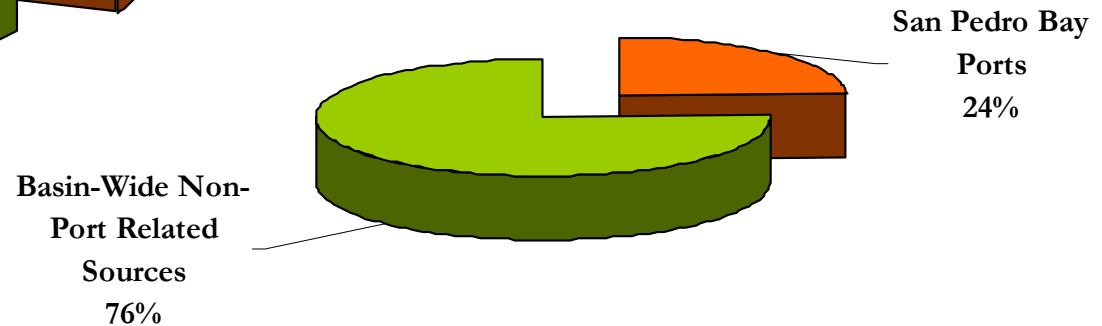


Projected Port-Related Contribution 2020 Without CAAP Implementation

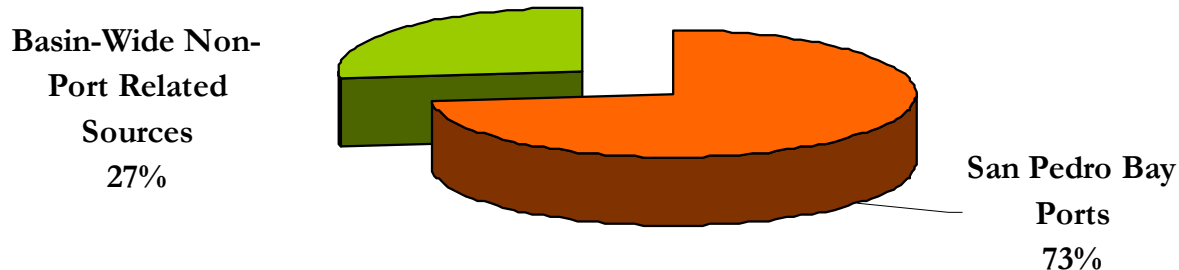
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CAAP Control Measures

Measure #	Control Measure/Initiative
SPBP-HDV1	Performance Standards for On-Road HDV
SPBP-HDV2	Alternative Fuel Infrastructure for Natural Gas HDV
SPBP-OGV1	OGV Vessel Speed Reduction
SPBP-OGV2	OGV Reduction of At-Berth Emissions
SPBP-OGV3	OGV Auxiliary Eng Fuel Improvement Standards
SPBP-OGV4	OGV Main Eng Fuel Improvement Standards
SPBP-OGV5	OGV Main & Aux Eng Emission Improvements
SPBP-CHE1	Performance Standard for CHE
SPBP-HC1	Performance Standards for HC
SPBP-RL1	PHL Switch Engine Modernization
SPBP-RL2	Existing Class 1 Railroad Operations
SPBP-RL3	New and Redeveloped Rail Yards
	Technology Advancement Program
	Infrastructure & Operation Efficiency Improvements
	Construction Standards

Control Measures Ocean Going Vessels

SPBP-OGV1 Vessel Speed Reduction

- **100% Compliance All OGV**
 - Initially 20 nm (measured from Pt. Fermin), extended to 40 nm in 2008
- **Implementation: tariff, incentives, & leases**
- **Issues:**
 - Coast Guard/Marine Exchange/Radar
 - Determine Benefits & Impacts



Control Measures Ocean Going Vessels

SPBP-OGV2 At-Berth Emission Reductions

- **100% shore-power:**
 - Container terminals
 - Cruise ship terminals
 - Selected crude terminals
- **POLA 15/POLB 10-16 shore-powered berths in five years**
- **Standardize shore-power/AMP**
- **Use of alternative control technologies**
- **Work cooperatively with tenants to accelerate**
- **Implementation: leases**



Control Measures Ocean Going Vessels

SPBP-OGV3 & OGV4 Fuel Standards

- Use of $\leq 0.2\%$ sulfur fuels for auxiliary & main engines
 - Initially 20 nm (measured from Pt. Fermin), extended to 40 nm in 2008
- Work w/fuel providers, shipping lines, & other Ports on supply issues
- Implementation: leases & tariffs pending legal evaluation
- Issues:
 - Fuel availability
 - On-board tankage




Control Measures Ocean Going Vessels

SPBP-OGV5 Main & Aux Engine Improvements

- **Emission reduction engine technologies**
 - Sea water scrubbers
 - Slide valves
 - SCR
 - Others
- **Technology Advancement Program**
- **Implementation: leases & voluntary**




CAAP Implementation Strategies

- Lease requirements
 - Tariff changes
 - CEQA mitigations
 - Incentives
 - Voluntary measures
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Sample Lease Language

Vessels


- On and after the effective date of the new lease all vessels calling at the Premises shall use marine distillate fuel with a sulfur content of no more than 0.2% by weight in all vessel internal combustion engines or use exhaust gas treatment technology that provides equivalent emission reductions. Vessels must comply with this requirement when at berth, anchored or transiting within 40 nautical miles, as measured from Pt. Fermin.
 - All vessels calling at the terminal must comply with the Vessel Speed Reduction Program out to 40 nautical miles from Pt. Fermin.
 - Assignee shall require (1) that all Candidate Vessels, as defined below, use shore-side power exclusively when berthed at berths at the Premises equipped for cold-ironing and (2) that Candidate Vessels use berths equipped for cold-ironing unless all such berths are occupied by other Candidate Vessels.
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Sample Tariff Language

TERM: DOCKAGE REDUCTION INCENTIVE FOR COMPLIANCE WITH THE VOLUNTARY VESSEL SPEED REDUCTION PROGRAM

- Any Vessel Operator demonstrating that 90% or more of all its Vessel Trips occur at a Weighted Average Speed of 12 knots or less during calendar year 2006 or calendar year 2007 may deduct 15% from dockage otherwise payable to the Port of Long Beach under this Tariff No. 4 for one year from the date of written notice from the Port that Vessel Operator has qualified for a dockage deduction under this tariff item.
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Future Actions, Monitoring, and Reporting

- **Develop specification information to guide new builds**
 - **Expand Port-Area Air Monitoring Network**
 - **Emissions Inventory-Regular updates**
 - **Monitor Progress on each Clean Air Action Plan measure**
 - **Annually Report Progress on Clean Air Action Plan**
 - **Development of Comprehensive lease covenants**
 - **CEQA documents for specific projects with CAAP measures integrated into project/mitigation measures**
 - **Technology Evaluations**
 - **CAAP Revisions**
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Thank You!

