2016 Ozone Plan

Draft Chapters 1, 2, 3 and 5

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June 8, 2016

Santa Barbara County
Air Pollution Control District

Presentation

- Background
- Chapter 1, Introduction
- Chapter 2, Local Air Quality
- Chapter 3, Emission Inventory
- Chapter 5, On-Road Emissions and Transportation Control Measures
- Questions/Discussion

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Background – Tentative Schedule

Activity	Date	Action
Introduction and Draft Stationary Source Control Measures to CAC	March 2016	Review and discuss
Draft Chapters 1, 2, 3, and 5 to CAC	June 2016	Review and discuss
Additional CAC meetings, if needed	July or August 2016	Review and discuss
CAC to consider Final Draft 2016 Ozone Plan	August or September 2016	Recommend that District Board adopt plan
Public review period	30 days prior to adoption hearing	Issue public notice
District Board consideration of 2016 Ozone Plan	October or December 2016	Adopt Plan

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Background – Plan Requirements

- **California Clean Air Act (1988)**
  - Attain the Ozone standard by the earliest practicable date
- **Triennial progress reports:**
  - 1991 (initial plan), 1994, 1998, 2001, 2004, 2007, 2010, 2013
- **Objectives:**
  1) Assess the effectiveness of our program
  2) Include strategies to obtain further emission reductions

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Background - Plan Organization

- **Chapter 1:** Introduction
- **Chapter 2:** Air Quality
  - Attainment Status, Trends, Population Exposure
- **Chapter 3:** Emission Inventory
  - Stationary Sources, Area-wide Sources, Mobile Sources
  - Emission forecasts
- **Chapter 4:** Stationary Source Control Measures
  - Proposed strategies to help meet attainment goals
- **Chapter 5:** Transportation Control Measures
  - SBCAG strategies that help reduce pollution

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Background – Plan Implementation

- Proposed Control Measures – develop according to plan schedule
- Further Study Measures – collect information, analyze

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Background – March CAC

At the March CAC meeting:

- Provided an introduction to the 2016 Ozone Plan
- Reviewed the Draft Stationary Source Control Measures
- Discussed control measures, asked for input and feedback from CAC

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Chapter 1, Introduction

The 2016 Ozone Plan addresses planning requirements for the state ozone standard, pursuant to the California Clean Air Act.

Basis	Concentration	Status
State 1-Hour	0.09 ppm	Nonattainment
State 8-Hour	0.070 ppm	Nonattainment
Federal 8-Hour (Old)	0.075 ppm	Attainment
Federal 8-Hour (New)	0.070 ppm	Undetermined

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Chapter 1, Introduction

- Eighth triennial update to the original state Air Quality Attainment Plan, adopted in 1991
- “Every feasible measure” and “expeditious adoption schedule” strategy *(HSC 40914.b.2)*
- Required to include:
  - Triennial progress report
  - Triennial plan revision

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Chapter 1, Introduction

Table 1-1

Requirement	Submittal
Air Quality Analysis	Chapter 2
Population Exposure	Chapter 2
Population Trends	Chapter 3, Chapter 5
Emission Inventory	Chapter 3, Appendix C
Stationary Source Control Measures	Chapter 4
Control Strategy Cost-Effectiveness	Chapter 4
Transportation Control Measures	Chapter 5
Vehicle Activity and Emission Trends	Chapter 5
Contingency Measures	Chapter 5
Every Feasible Measure and Expeditious Adoption	Chapter 4, Chapter 5 and Appendix A

Chapter 2, Local Air Quality

Air Quality Indicators:

- Expected peak day concentration (EPDC)
- Population- and area-weighted exposure
- Activity indicators (population and growth in vehicle miles traveled, or VMT)

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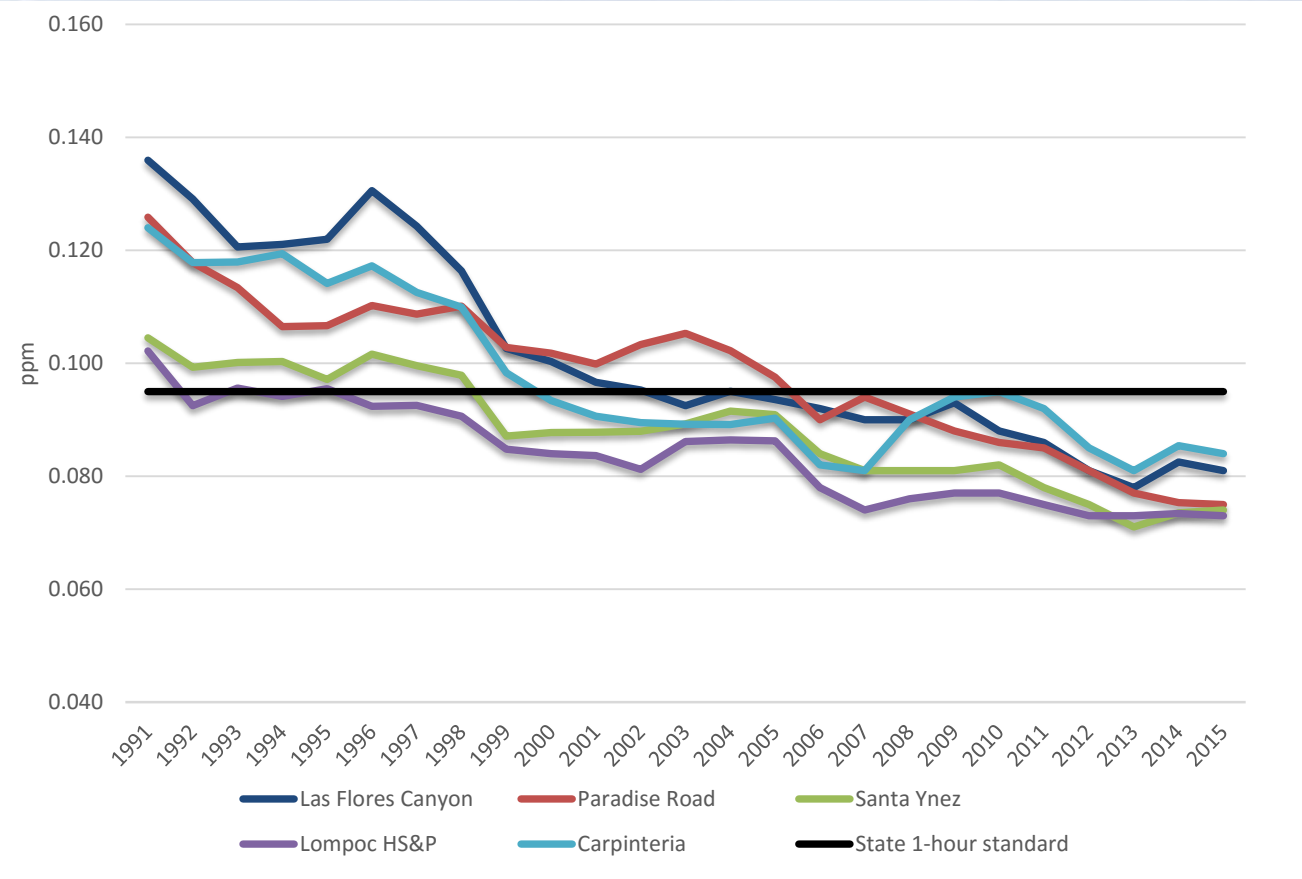
Chapter 2, Local Air Quality

Expected Peak Day Concentration (EPDC):

- The maximum ozone concentration expected to occur once per year, on average
- Based on a statistical calculation
- Uses ambient ozone data collected at each monitoring site over the previous 3 years

Chapter 2, Local Air Quality

STATE 1-HOUR OZONE - EXPECTED PEAK DAY CONCENTRATION



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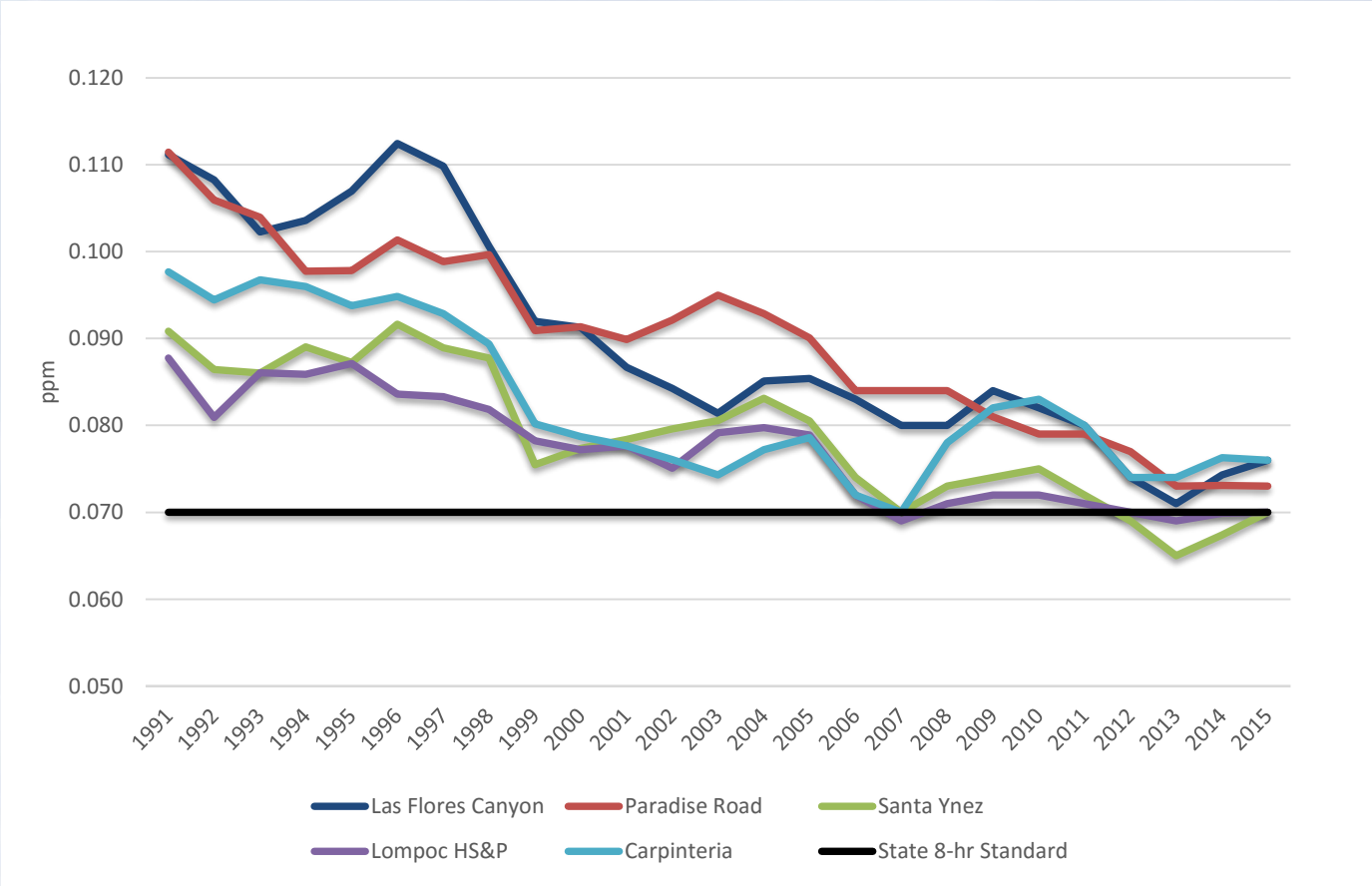
Chapter 2, Local Air Quality

STATE 8-HOUR OZONE - EXPECTED PEAK DAY CONCENTRATION



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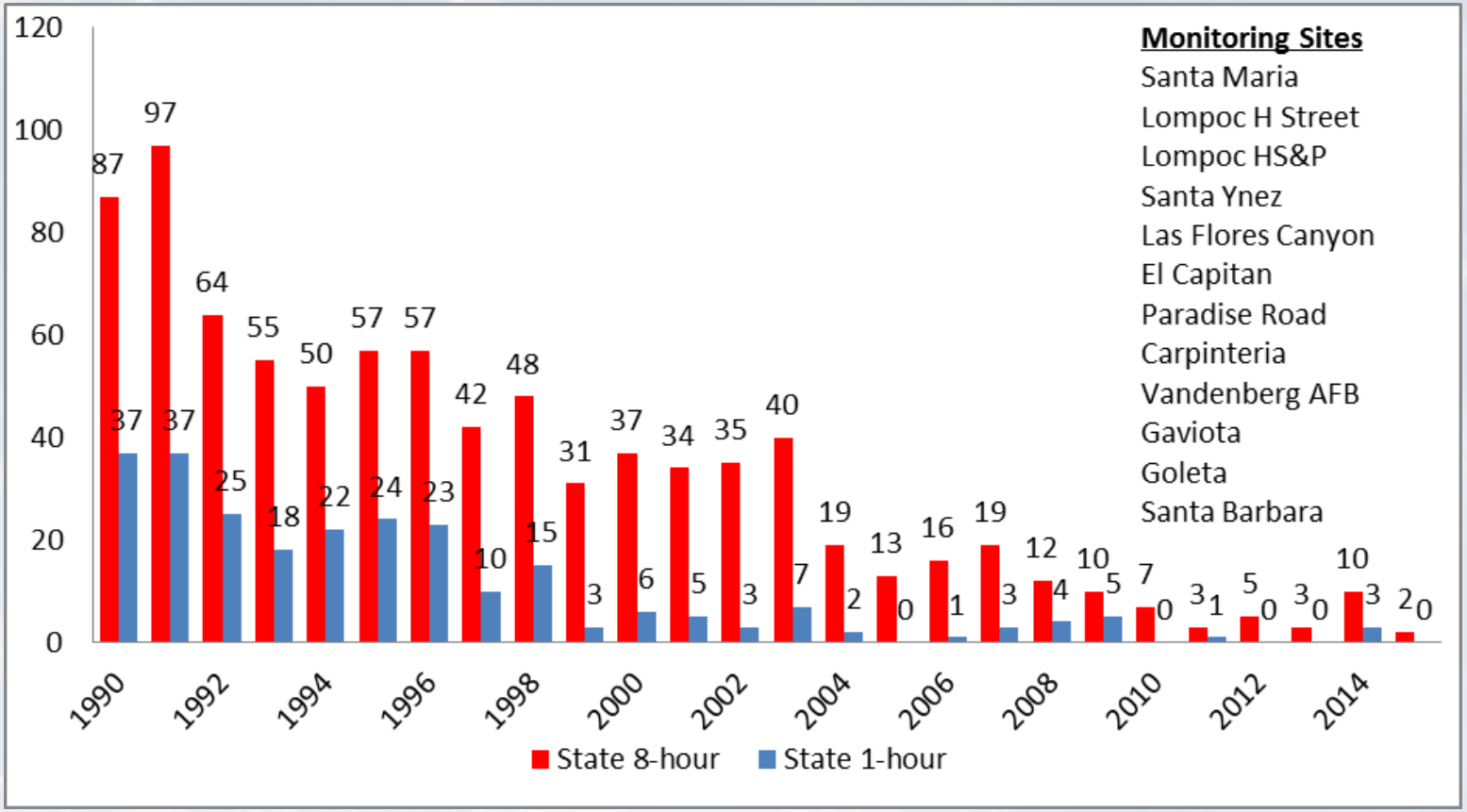
Chapter 2, Local Air Quality

DAYS EXCEEDING STANDARDS



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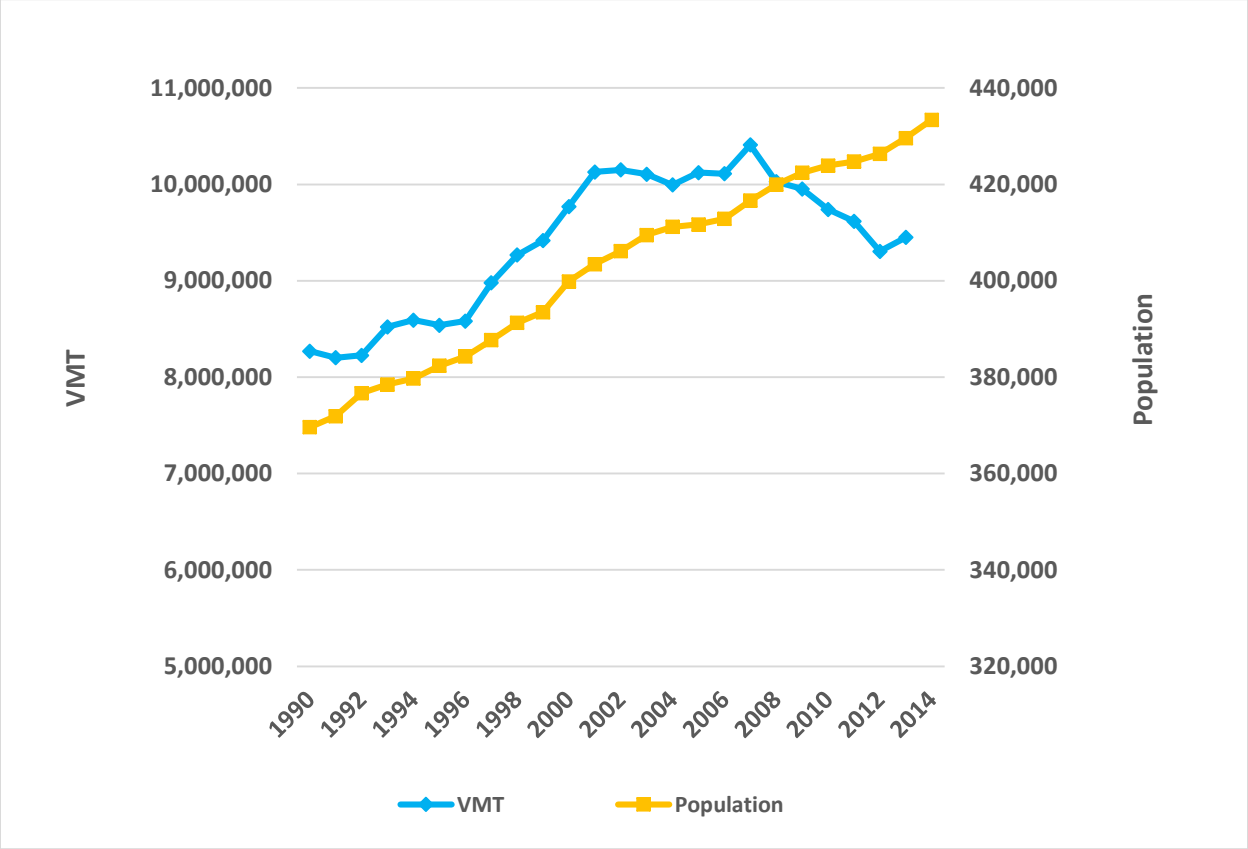
Chapter 2, Local Air Quality

Population and Daily Vehicle Miles Traveled (VMT) Trends



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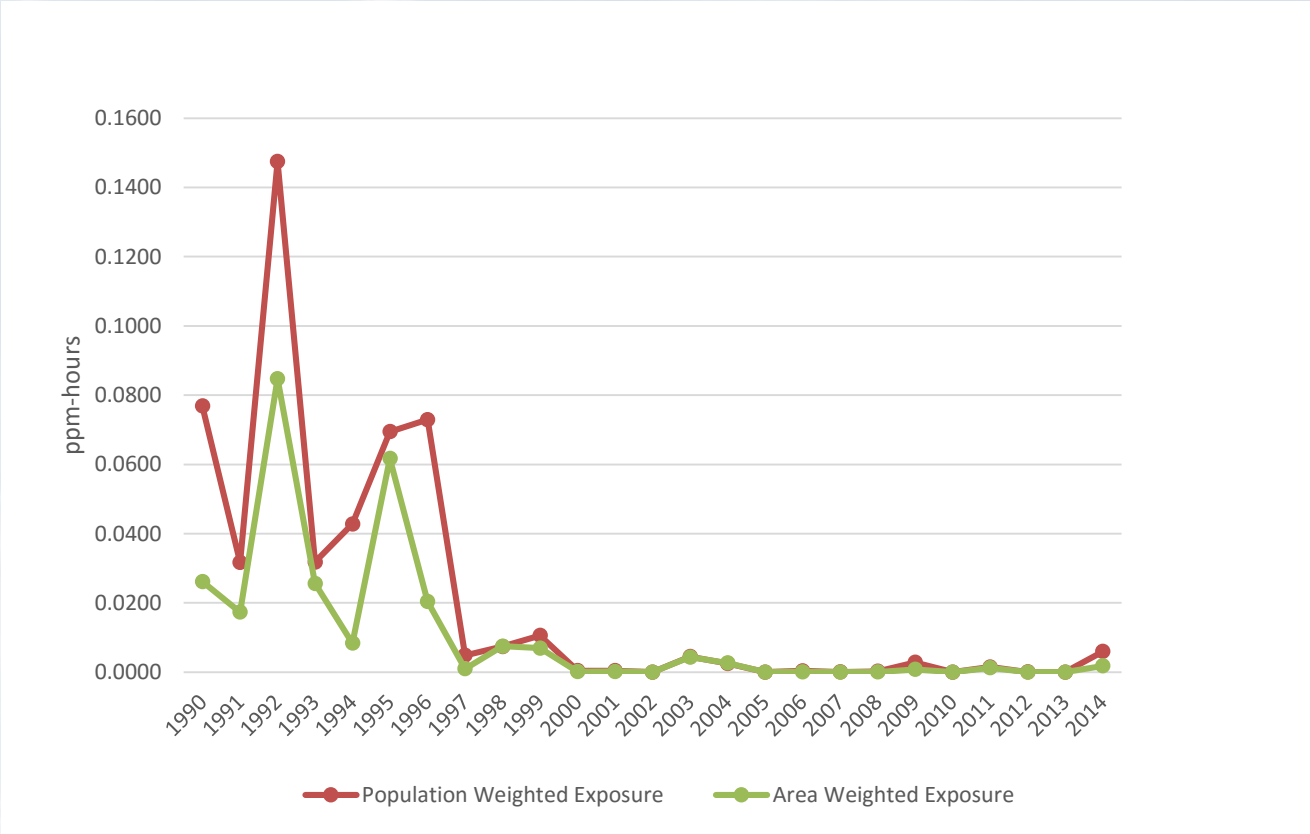
Chapter 2, Local Air Quality

Population- and Area-Weighted Exposure



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Chapter 2, Local Air Quality

Possible Nonattainment-Transitional Status for Santa Barbara County

…if, during a single calendar year, the state standard is not exceeded more than three times at any monitoring location within the district

(CA Health & Safety Code 40925.5)

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Chapter 2, Local Air Quality

Exceedance Days

Monitor Location	2013	2014	2015
Carpinteria	1	7	0
El Capitan SB	0	1	0
Gaviota	0	2	0
Goleta	0	3	0
Las Flores Canyon	1	4	2
Lompoc HS&P	1	1	0
Lompoc H St.	0	1	0
Paradise Road	2	1	0
Santa Barbara	0	3	0
Santa Maria	0	0	0
Santa Ynez	0	0	0
Vandenberg AFB	1	3	0
Total Exceedance Days	**3**	**10**	**2**

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Chapter 2, Local Air Quality

What does a Nonattainment-Transitional designation mean?

- Won’t know our designation until this fall
- Does not affect planning requirements
- May affect implementation schedule for control measures

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Chapter 3, Emission Inventory

- Four major categories: stationary, area, on-road vehicles, other mobile
- Decide on a “base year” (2012) and “future years” (2025, 2035)
- Use approved methodologies
- For forecasting, apply growth profiles then control profiles

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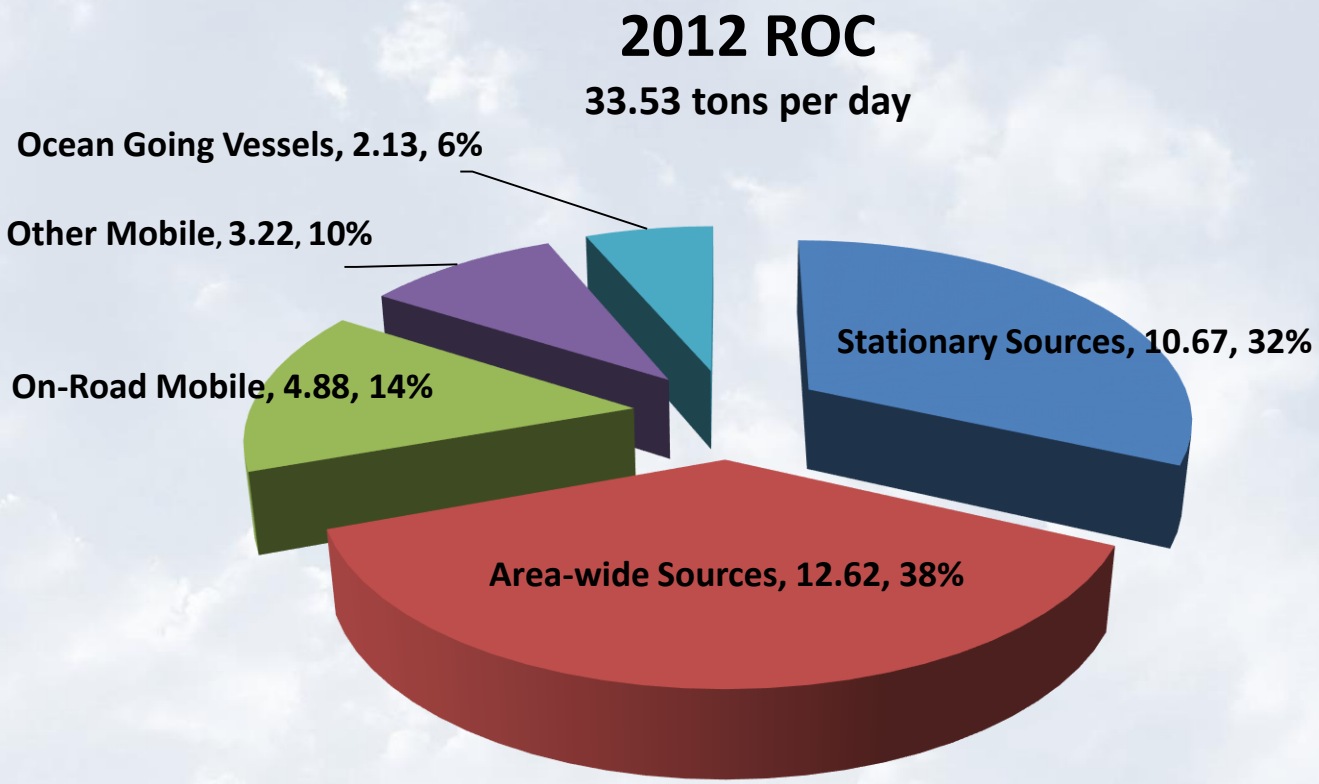
Chapter 3, Emission Inventory



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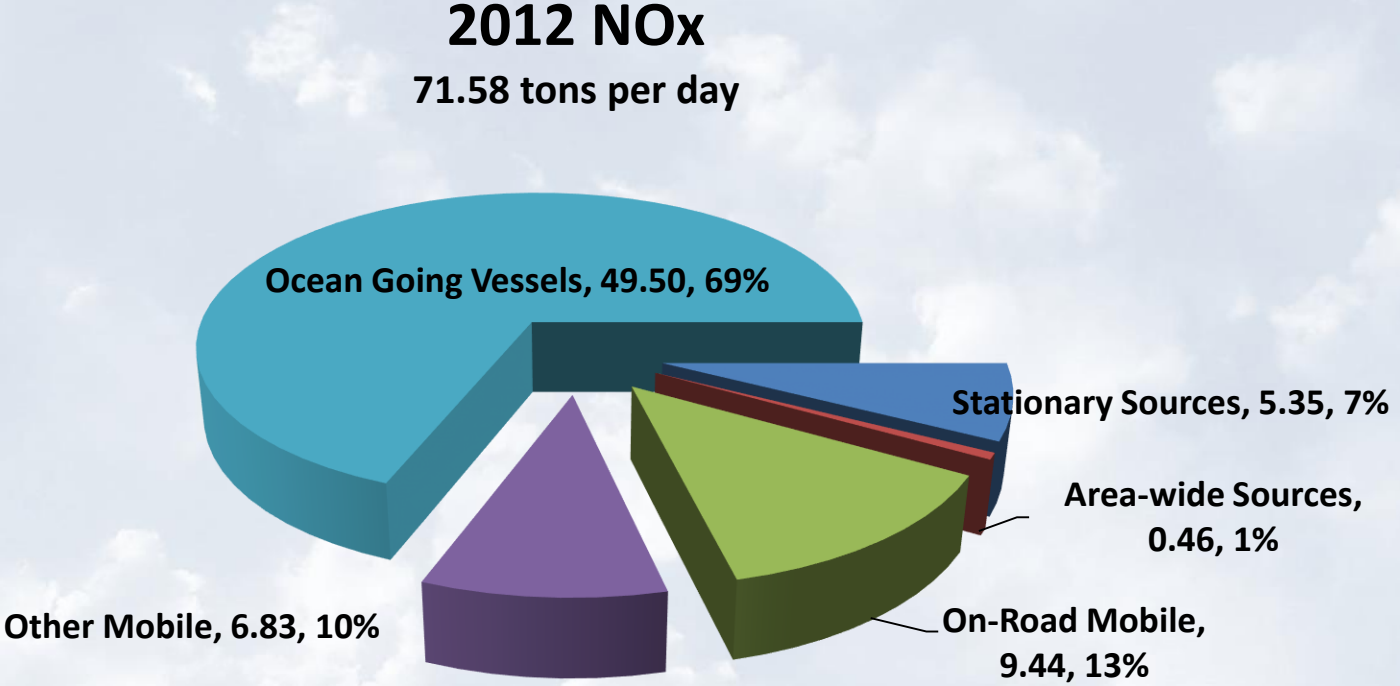
Chapter 3, Emission Inventory



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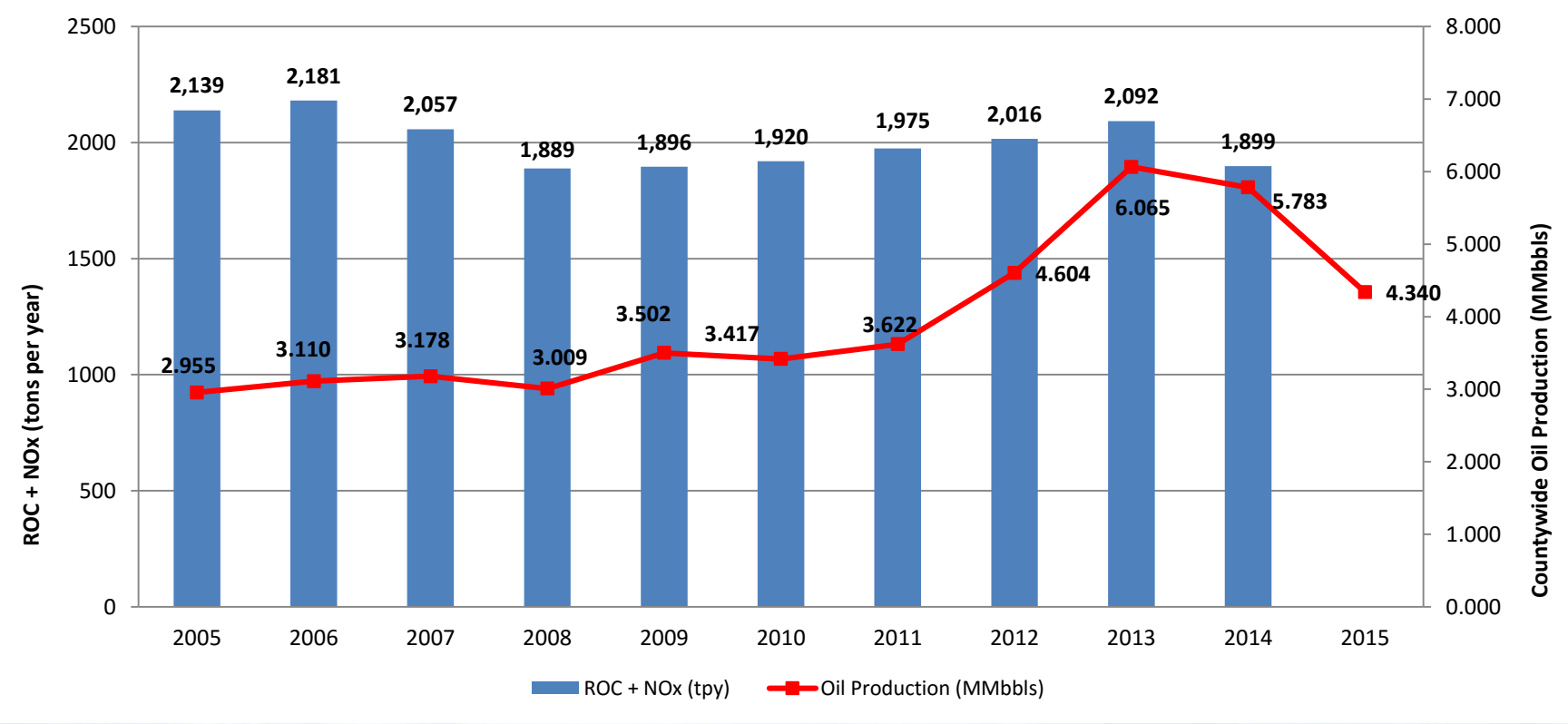
Chapter 3, Emission Inventory

SB County Oil Production vs. Oil & Gas Sector Emissions



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Chapter 3, Emission Inventory

ROC and NOx Emission Forecasts (Tons per Day)

Source Category	2012		2025		2035	
	ROC	NOx	ROC	NOx	ROC	NOx
Stationary Sources	10.67	5.35	11.48	5.15	11.51	5.25
Area-wide Sources	12.62	0.46	10.41	0.30	10.68	0.27
On-Road Vehicles	4.88	9.44	1.81	2.65	1.61	2.11
Other Mobile	3.22	6.83	2.18	4.51	1.93	3.83
Marine Shipping	2.13	49.50	4.14	39.36	6.09	36.24
ERCs			0.27	0.76	0.27	0.76
Total	**33.53**	**71.58**	**30.29**	**52.72**	**32.10**	**48.45**

Marine Shipping emissions have been broken-out of the "Other Mobile" category in this table.

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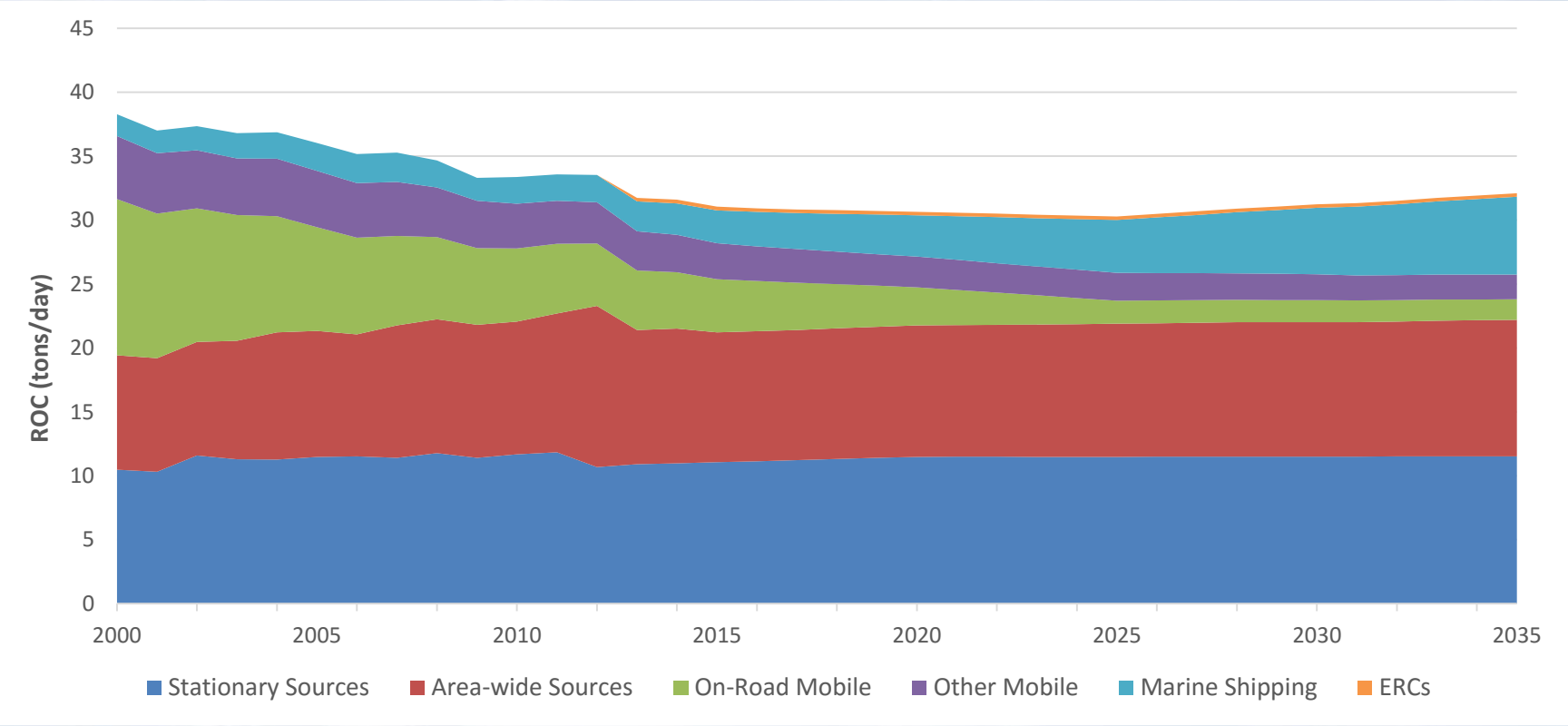
Chapter 3, Emission Inventory

ROC Emission Trends by Source Category



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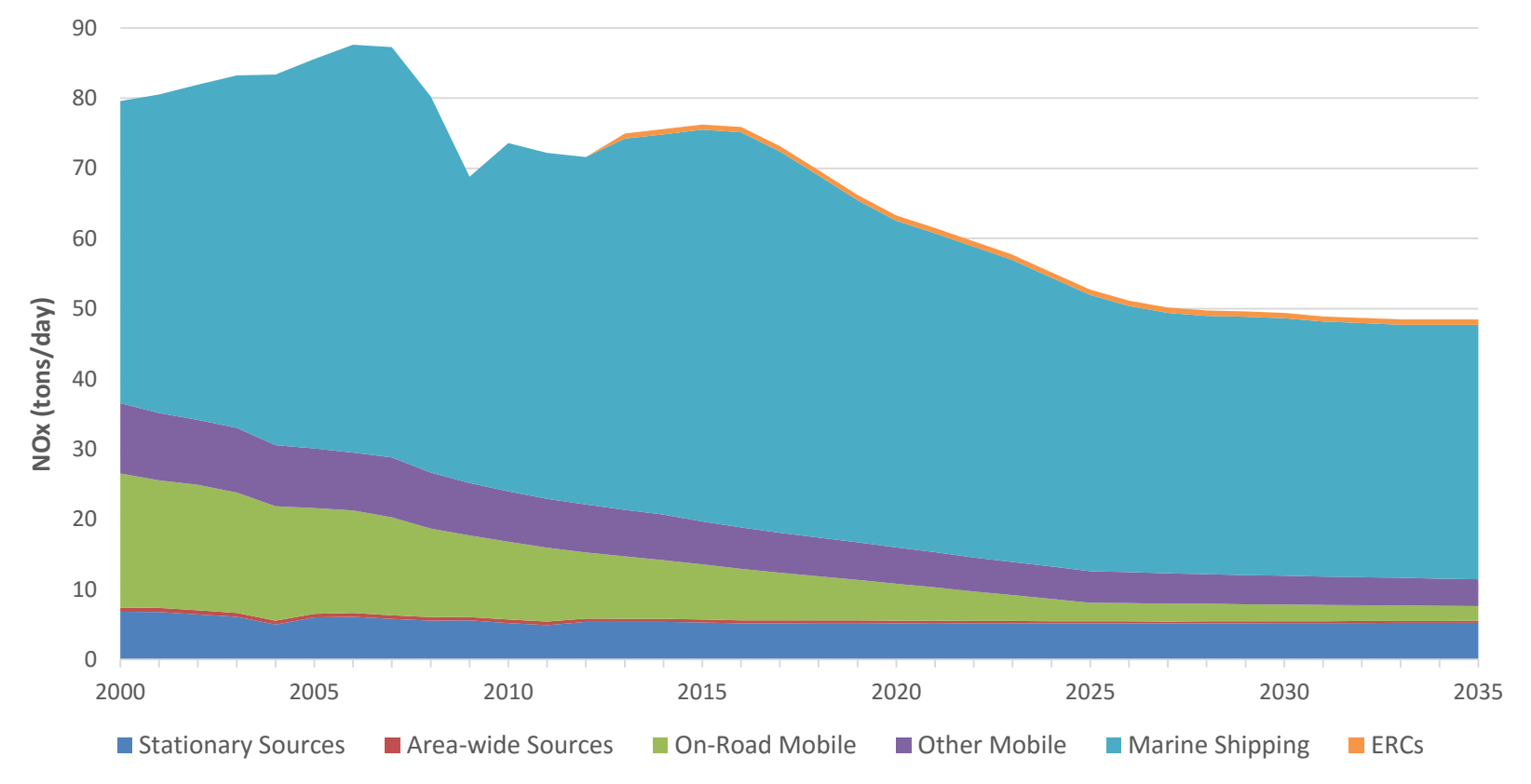
Chapter 3, Emission Inventory

NOx Emission Trends by Source Category



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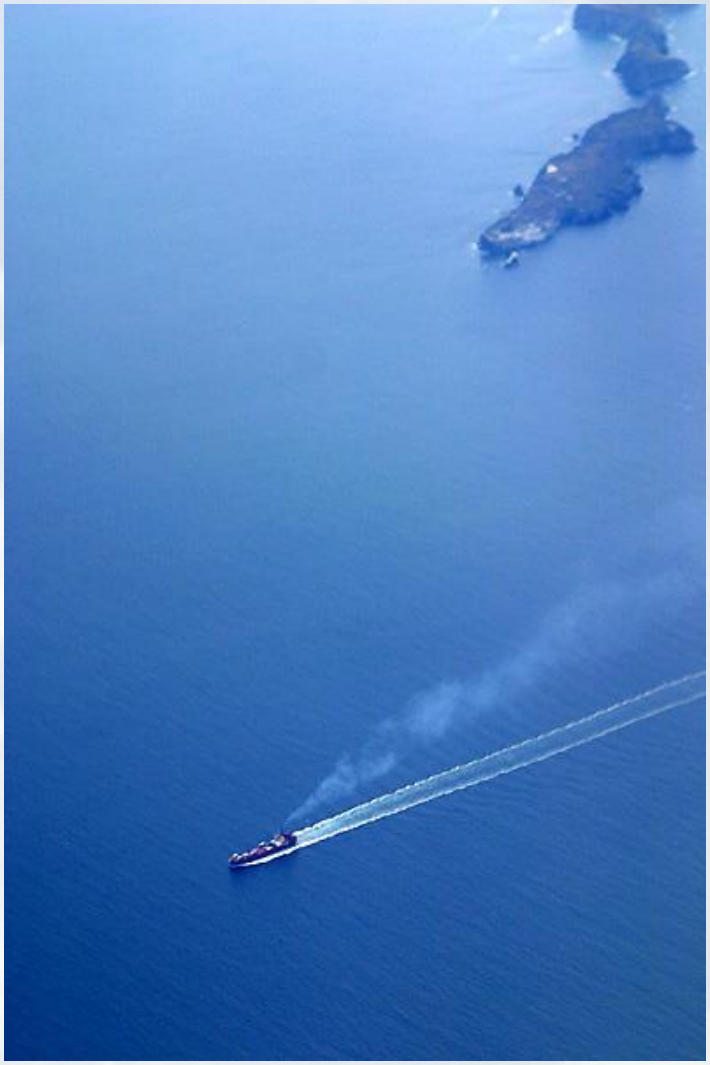
Chapter 3, Emission Inventory

Marine Shipping

- More than 65% of the county's NOx inventory
- Use ARB model
- Emissions occur offshore but move onshore
- Emissions are expected to decrease, but fleet turnover takes a long time
- Activities are projected to increase



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Chapter 5, On-Road Emissions and Transportation Control Measures

SBCAG Role?

- 1993 Memorandum of Understanding
- Responsible for developing Transportation Control Measures (TCMs) and transportation elements
- Provide socio-economic projections

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Chapter 5, On-Road Emissions and Transportation Control Measures

What's New?

- Planning Assumptions: Same as the 2013 CAP
- Some new projects and programs supplement previously adopted TCMs

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Chapter 5, On-Road Emissions and Transportation Control Measures

Trends in Vehicle Activity

- State regulations focus on reducing vehicle miles traveled (VMT)
- H & SC performance measure in Ozone Plan:
  - Hold annual growth rate in VMT to the same growth rate as population

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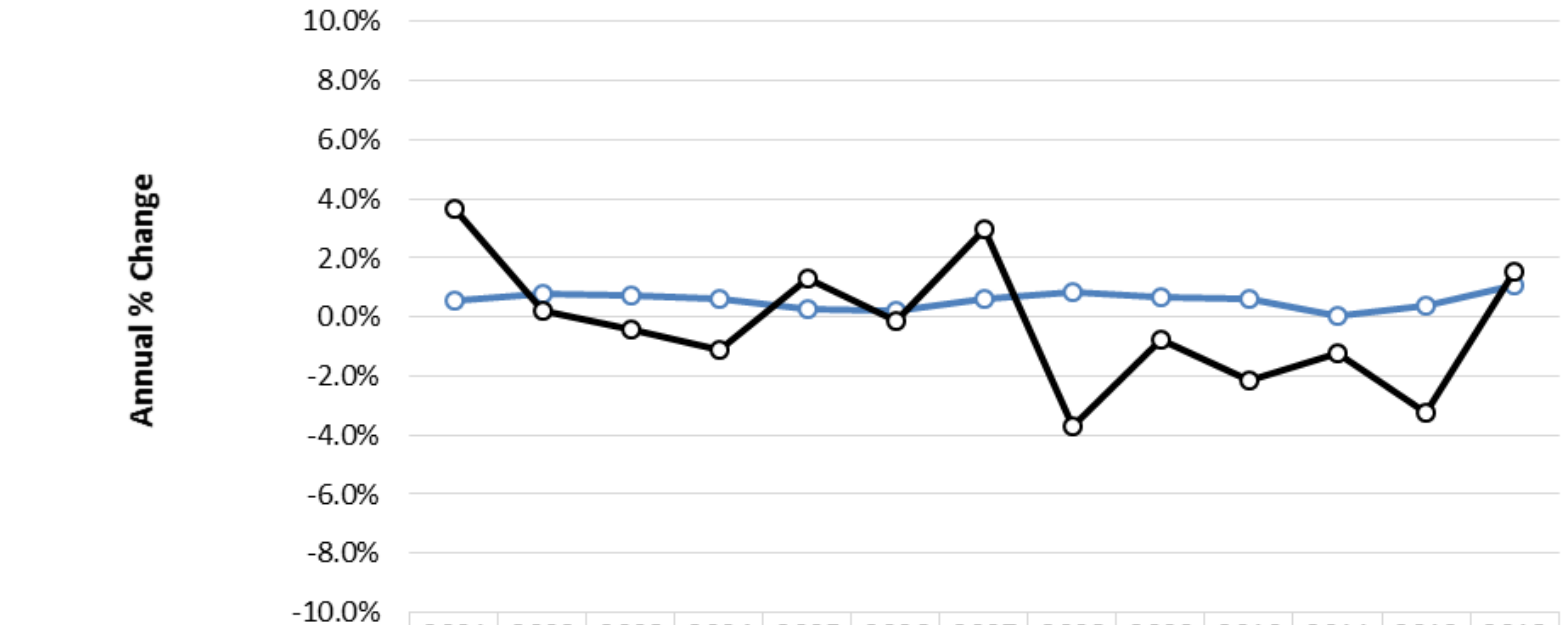
Chapter 5, On-Road Emissions and Transportation Control Measures

Population Growth Rate vs. Daily VMT Growth Rate



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Population Growth Rate	0.6%	0.8%	0.7%	0.6%	0.3%	0.2%	0.6%	0.9%	0.7%	0.6%	0.0%	0.4%	1.1%
VMT Growth Rate	3.7%	0.2%	-0.4%	-1.1%	1.3%	-0.1%	3.0%	-3.7%	-0.7%	-2.1%	-1.3%	-3.3%	1.5%

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Chapter 5, On-Road Emissions and Transportation Control Measures

TCMs are defined as:

- "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing vehicle emissions." (CA HSC §40717.g.)

Classified as:

- Adopted, Proposed for adoption, Further study, Contingency, or Rejected/deleted

Chapter 5, On-Road Emissions and Transportation Control Measures

Adopted TCMs:

T-1	Trip Reduction Ordinance
T-2	Employer- Based Transportation Demand Management Programs
T-3	Work Schedule Changes
T-4	Area-wide Ridesharing Incentives
T-5	Improve Commuter Public Transit Service
T-6	High Occupancy Vehicle (HOV) Lanes
T-7	Traffic Flow Improvements
T-8	Parking Management
T-9	Park-and-Ride Lots / Fringe Parking
T-10	Bicycle and Pedestrian Programs
T-13	Accelerated Retirement of Vehicles
T-14	Activity Centers
T-17	Telecommunications
T-18	Alternative Fuels
T-19	Public Education

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Chapter 5, On-Road Emissions and Transportation Control Measures

Completed Projects/Programs That Supplement Adopted TCMs:

TCM	Designation	Project Sponsor	Project
T-5	Public Transportation	City of Guadalupe	Guadalupe Flyer: Expanded weekend service
		SBCAG, County, Private sector	Clean Air Express: New Saturday service (Santa Ynez-South Coast)
T-6	HOV Lanes	SBCAG, Caltrans	U.S. 101 HOV Lanes – Mussel Shoals to Casitas Pass Rd.
T-10	Bicycle/ Pedestrian	SBCAG, Cities, County	Measure A Bicycle, Pedestrian and Safe Routes to School
		SBCAG, Caltrans	Class I Bike Path at Santa Maria River Bridge – Connects San Luis Obispo and Santa Barbara Counties
		SBCAG, Caltrans	Class I Bike Path – Rincon Beach to Mussel Shoals
		SBCAG, Caltrans, County, Cities	SBCAG Regional Active Transportation Plan
T-13	Accelerated Retirement of Vehicles	SBCAPCD	The Old Car Buy Back Program (on-going)
T-14	Activity Centers	SBCAG, County, Cities, and SBMTD	Sustainable Community Strategy implementation (on-going)
T-18	Alternative Fuels	SBCAPCD and other agencies	Plug-In Central Coast EV Readiness Plan
		SBCAPCD	Tri-Counties Hydrogen Readiness Plan
		County, SBCAPCD	Alternative Fuels Plan

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Chapter 5, On-Road Emissions and Transportation Control Measures

No TCMs proposed for adoption

TCMs proposed for further study

- T-7 Traffic Flow Improvement: Ramp metering onto U.S. 101 in Goleta area

Contingency measure:

- Enhanced Inspection/Maintenance Program (Smog Check II)

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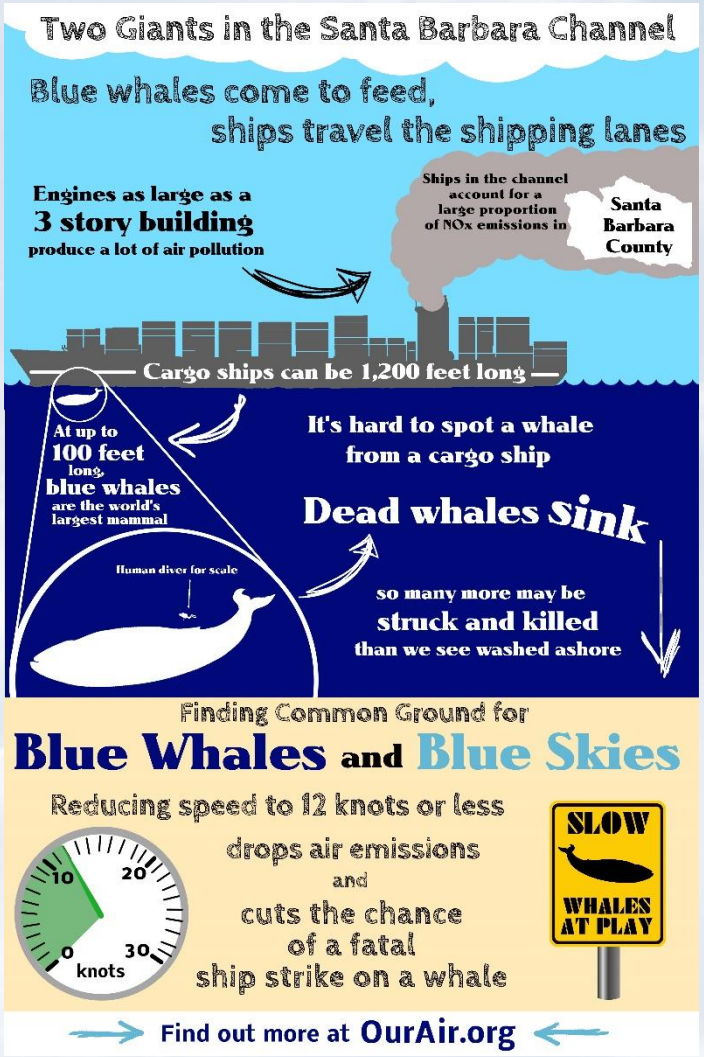
Chapter 5, Strategies to Reduce Emissions from Marine Shipping

Vessel Speed Reduction

- Reduce emissions and protect whales
- Collaborative effort
- 2014 VSR Trial Incentive Program
- Marine Shipping Working Group
- Another VSR program planned for 2016



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Next Steps

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