

Retrospective on California's Air Quality Program



February 21, 2002

California Environmental Protection Agency



Air Resources Board



A Look Back



Twenty Years Ago...

- Unhealthy levels of lead, NO₂, SO₂, carbon monoxide, ozone, particulate matter, and toxics
- In the South Coast:
 - Over 100 Stage 1 alerts
 - 49 pphm peak ozone level

Today...

Lead: Attain

NO₂: Attain

SO₂: Attain

CO: All but 2 counties attain

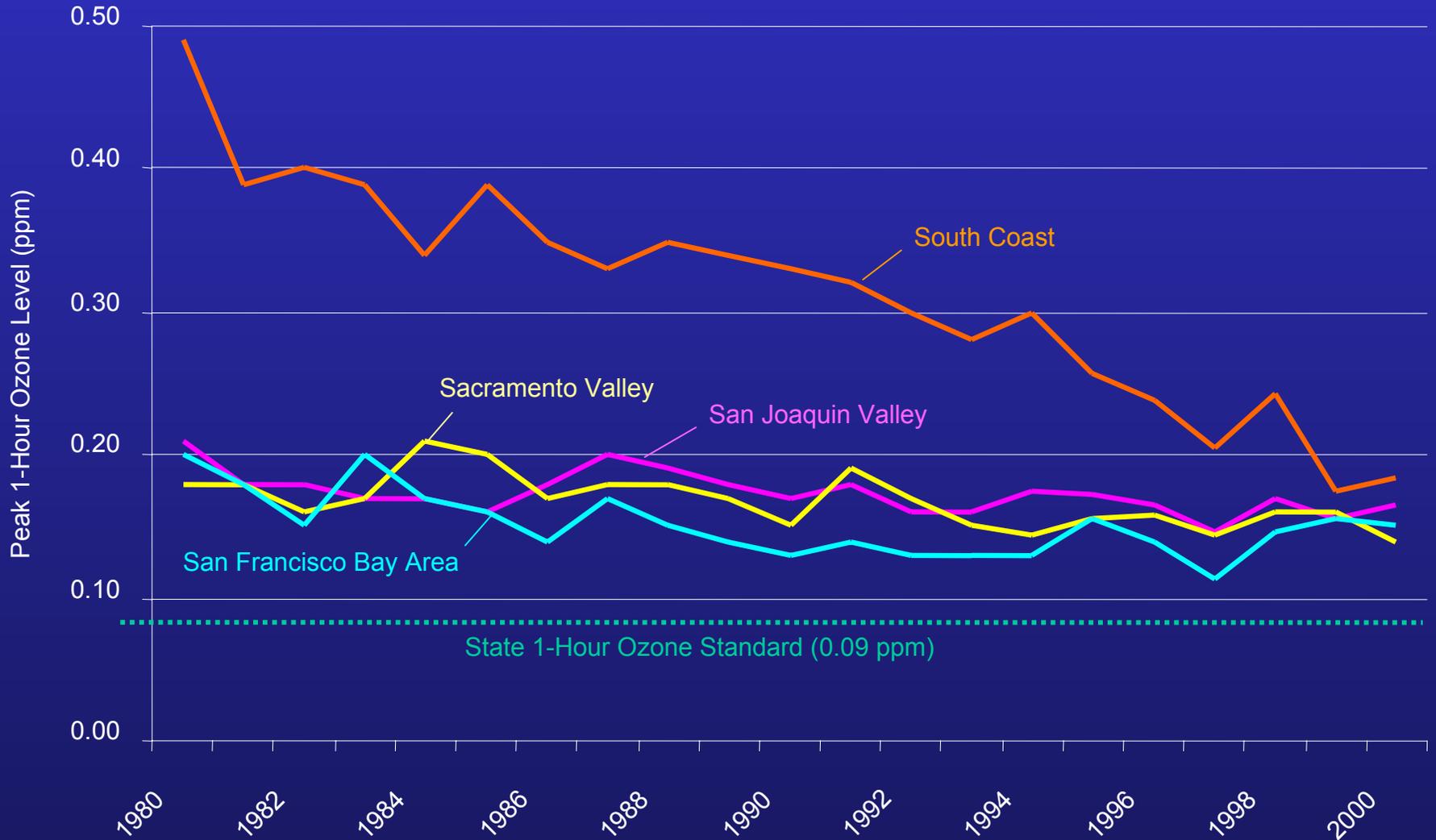
Ozone: No Stage 1 alerts

South Coast peak cut over 50%

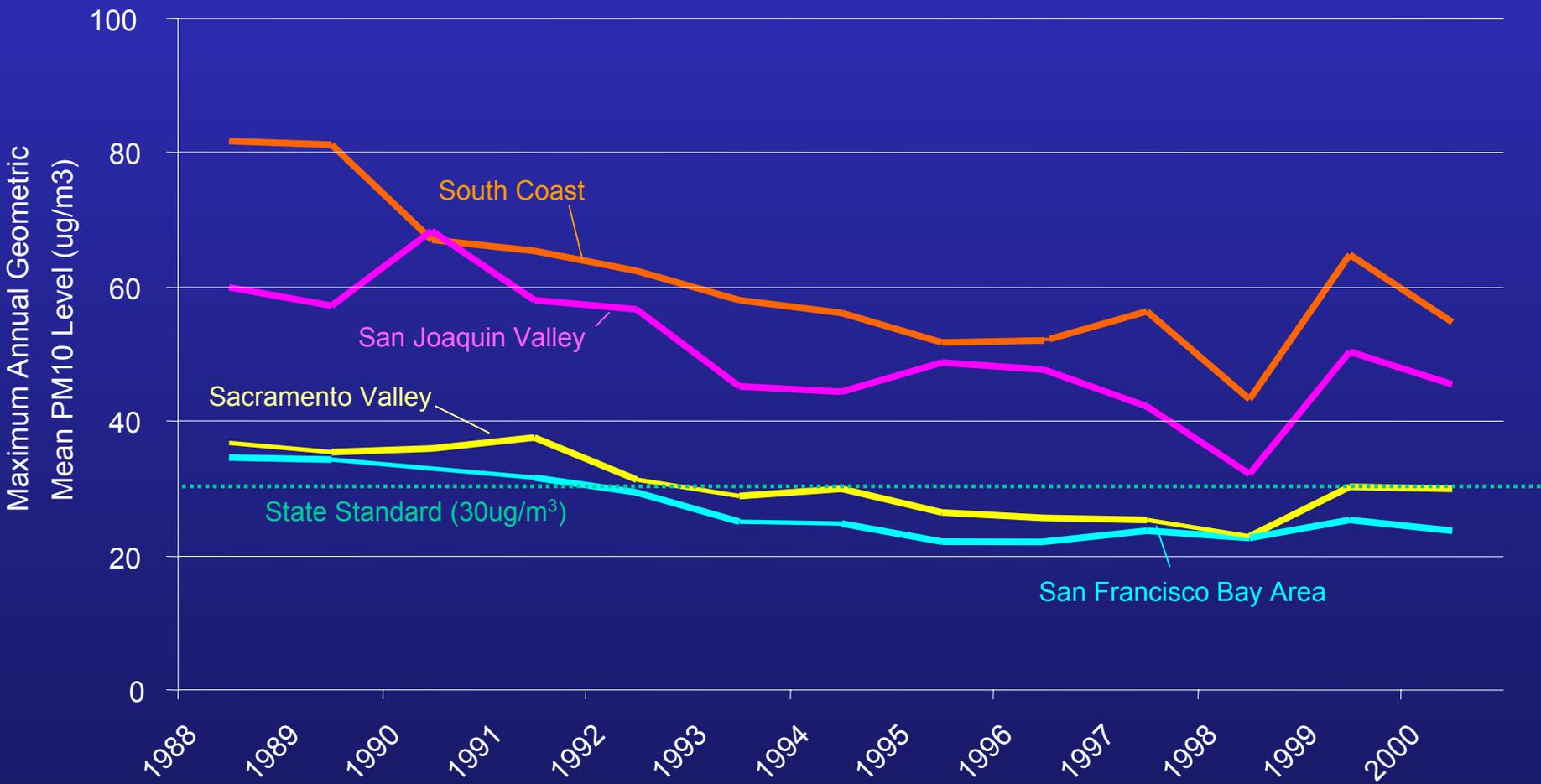
PM₁₀: Annual levels reduced 20+%

Toxics: Nearly 50% risk reduction

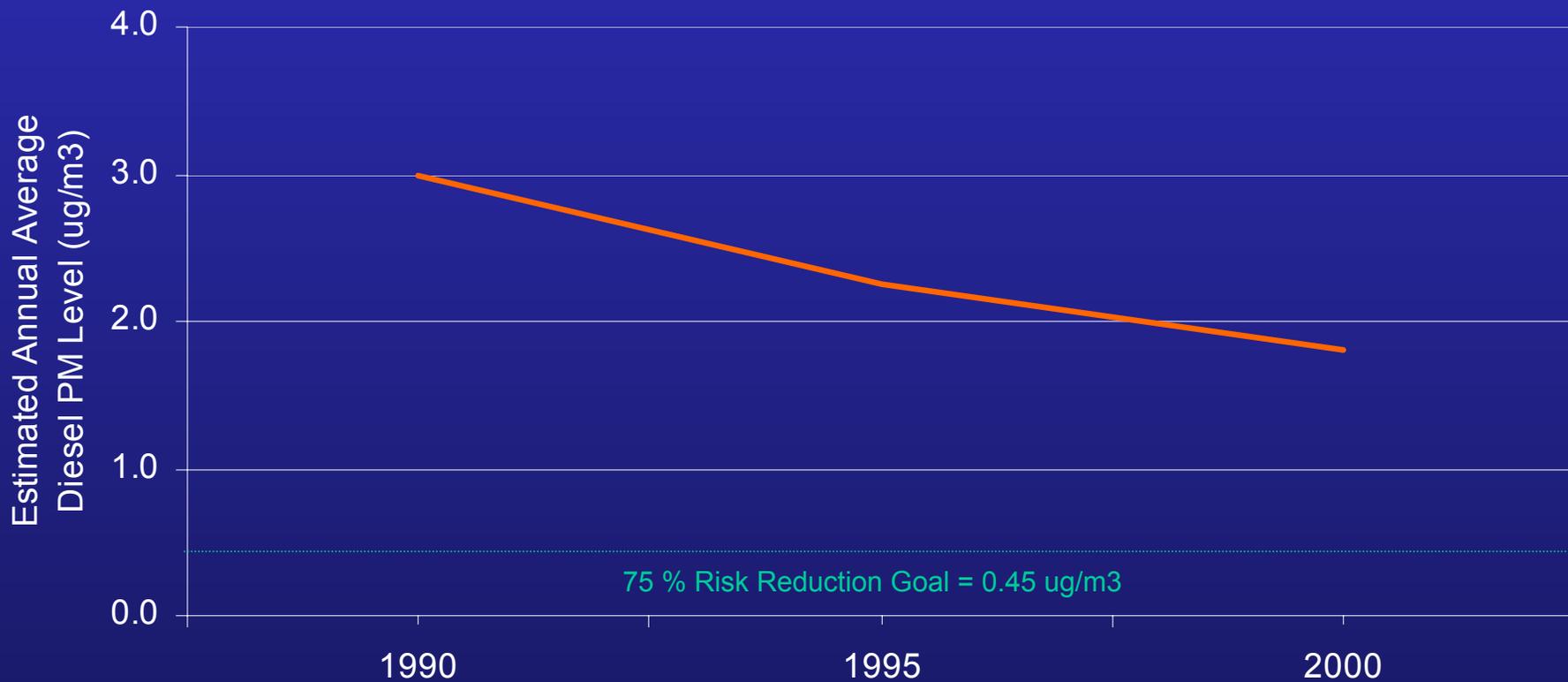
Peak Ozone Levels in California



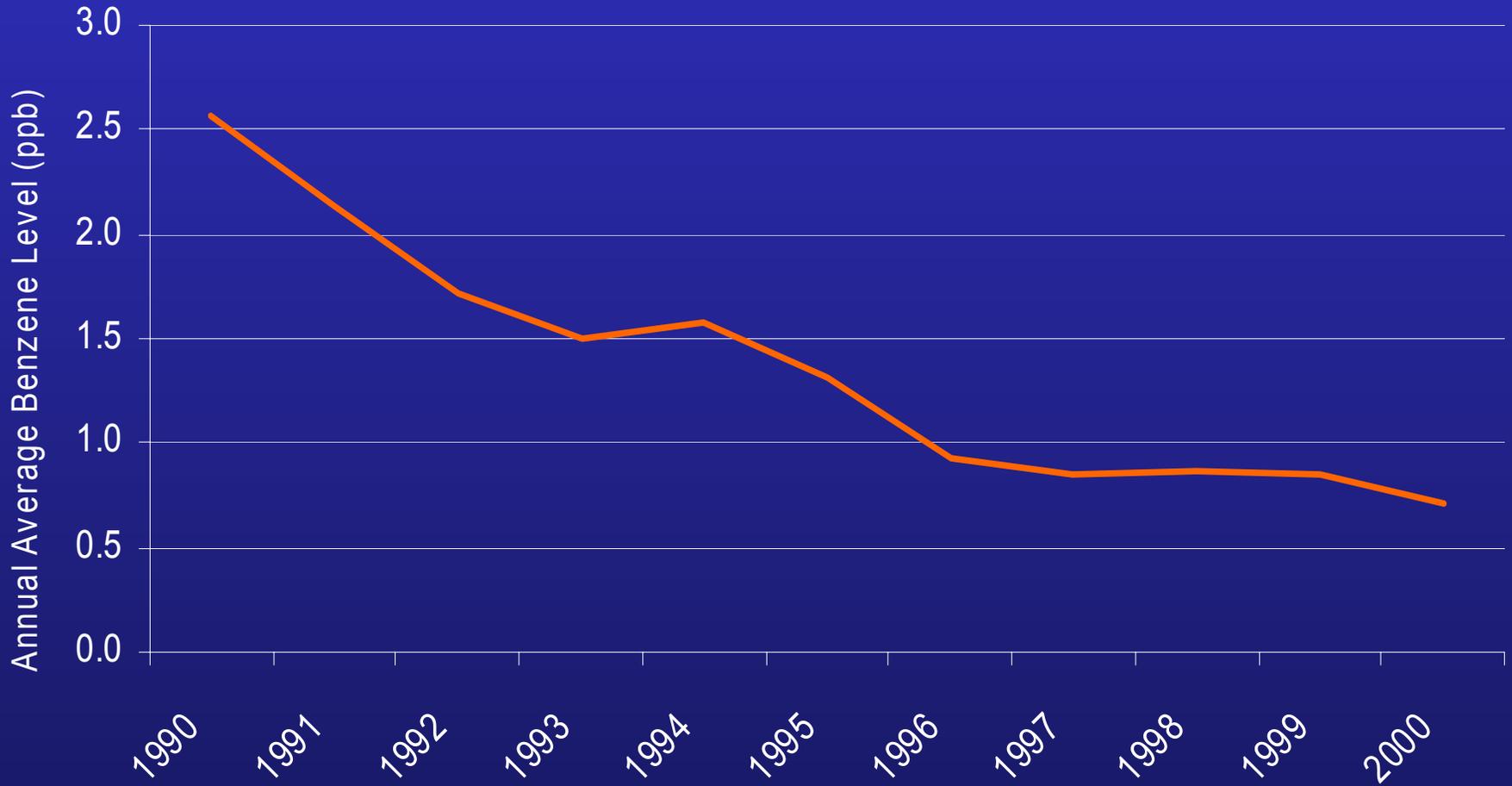
Annual Average PM10 Levels in California



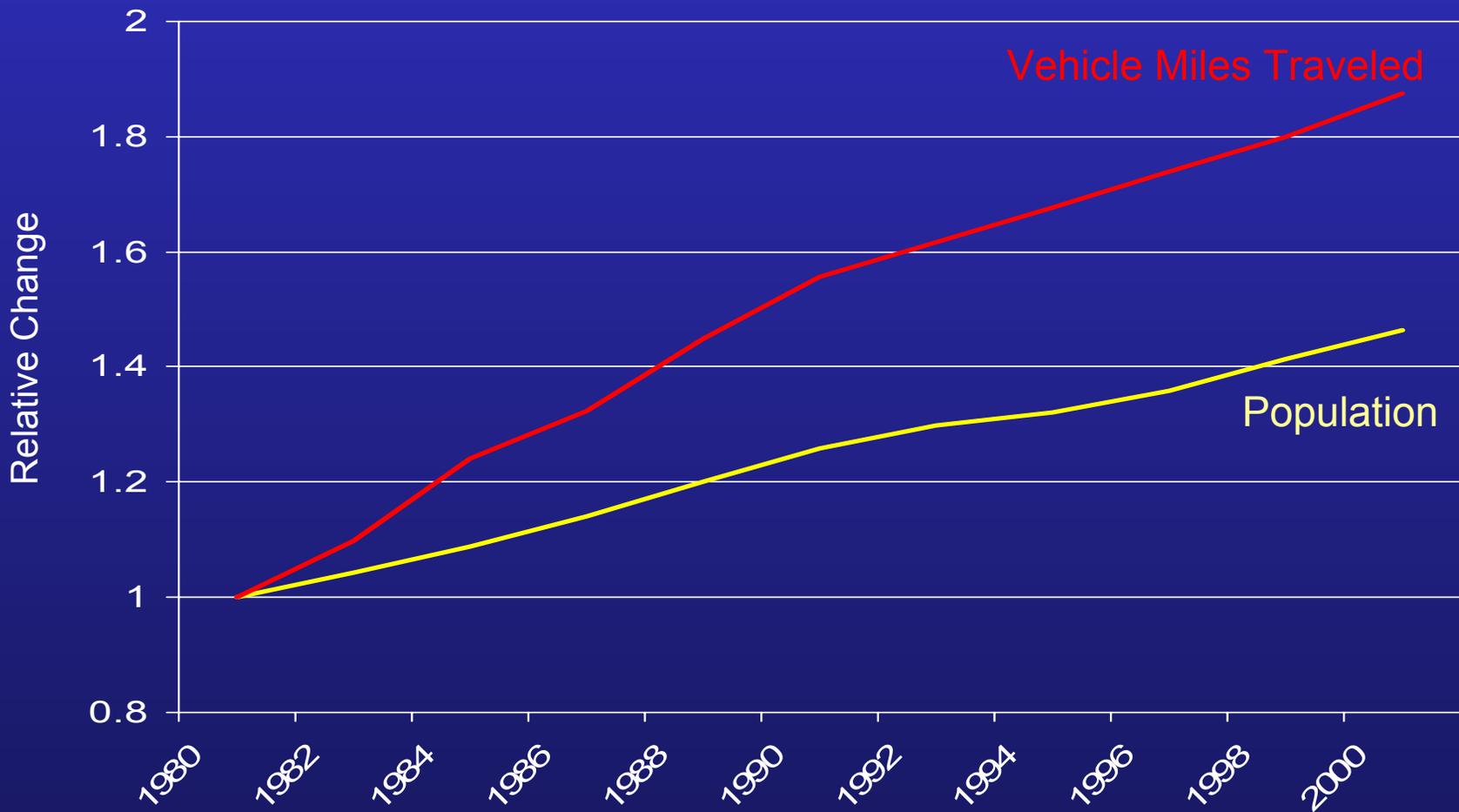
Estimated Statewide Diesel Particulate Matter Levels



Statewide Benzene Levels



More People, Even More Miles Traveled



How is clean air progress achieved?

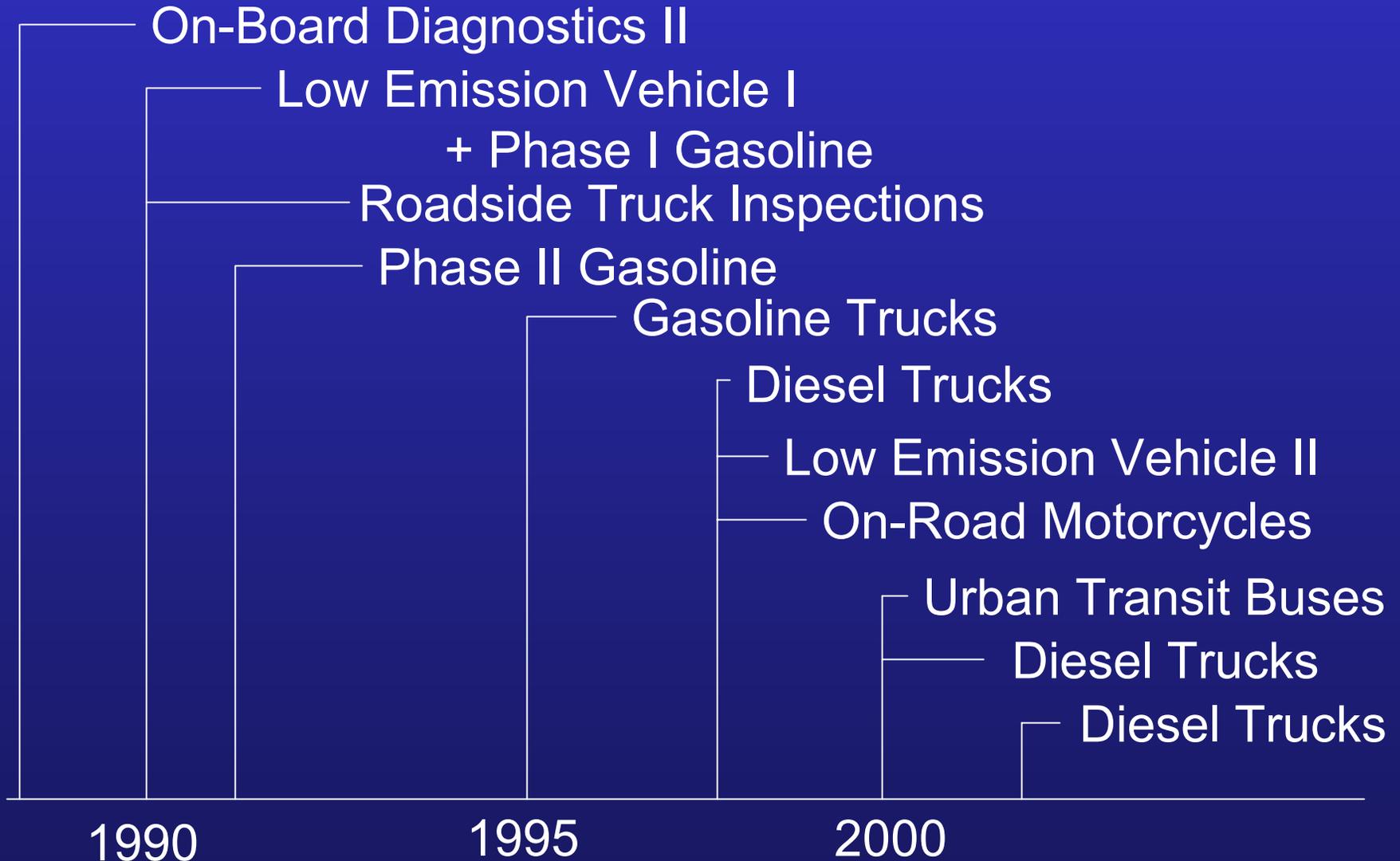
- ARB programs
- Complementary federal actions
- Local air district programs
- Transportation plans and other local actions

ARB's Role in Reducing Vehicle Emissions

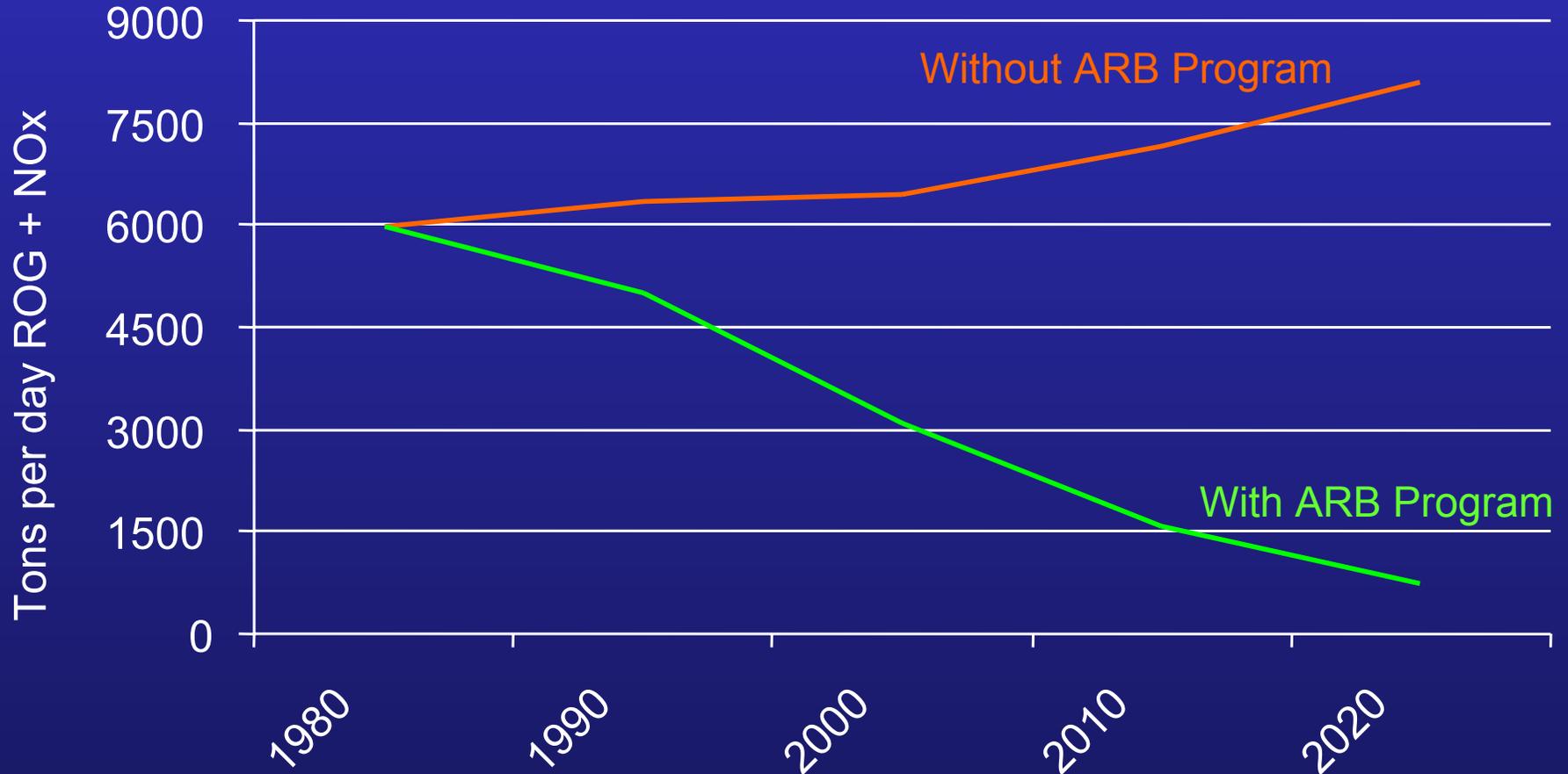


Key Motor Vehicle Regulations

ARB Adoption

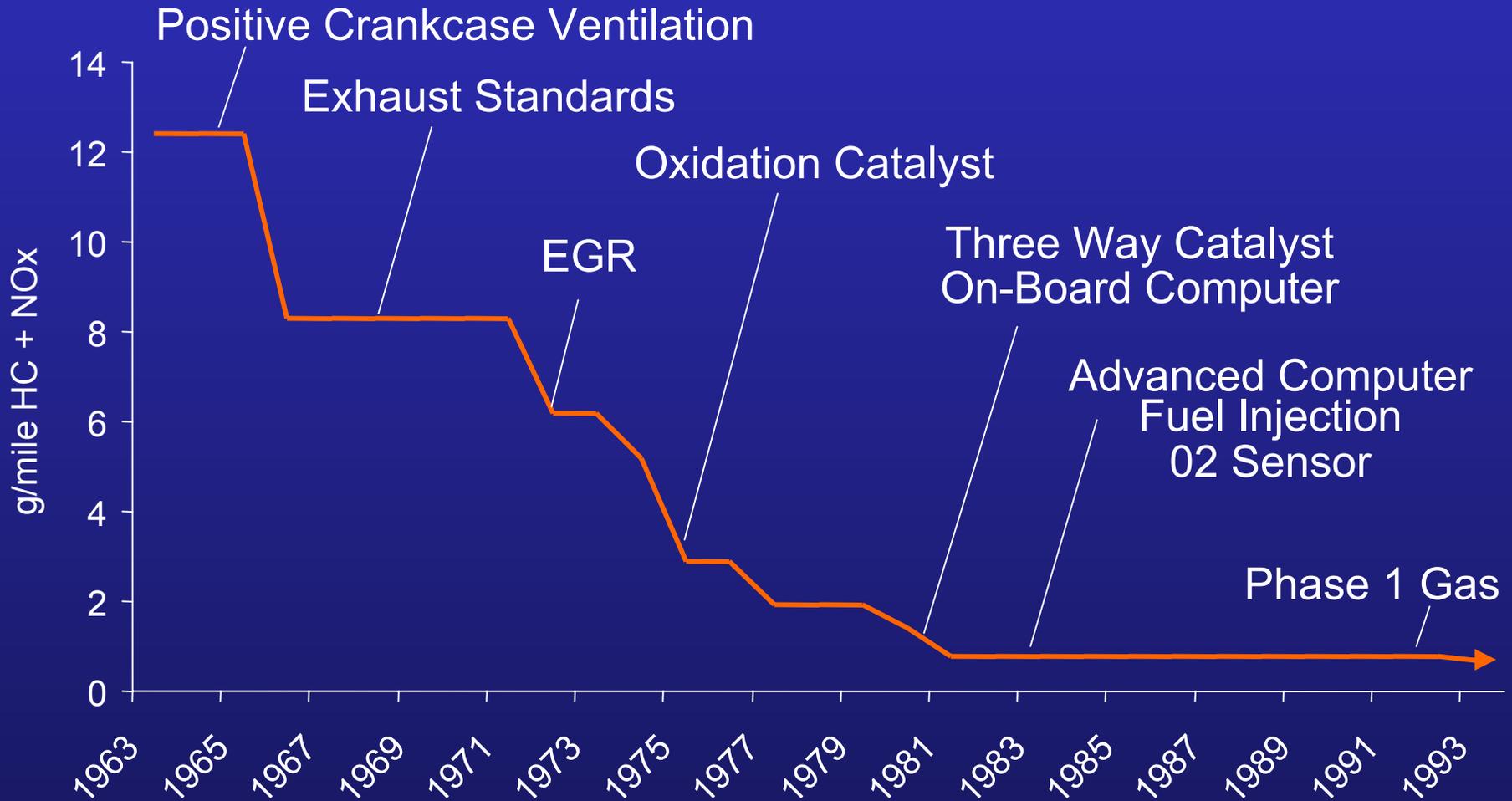


Statewide Motor Vehicle Emissions Ozone Precursors



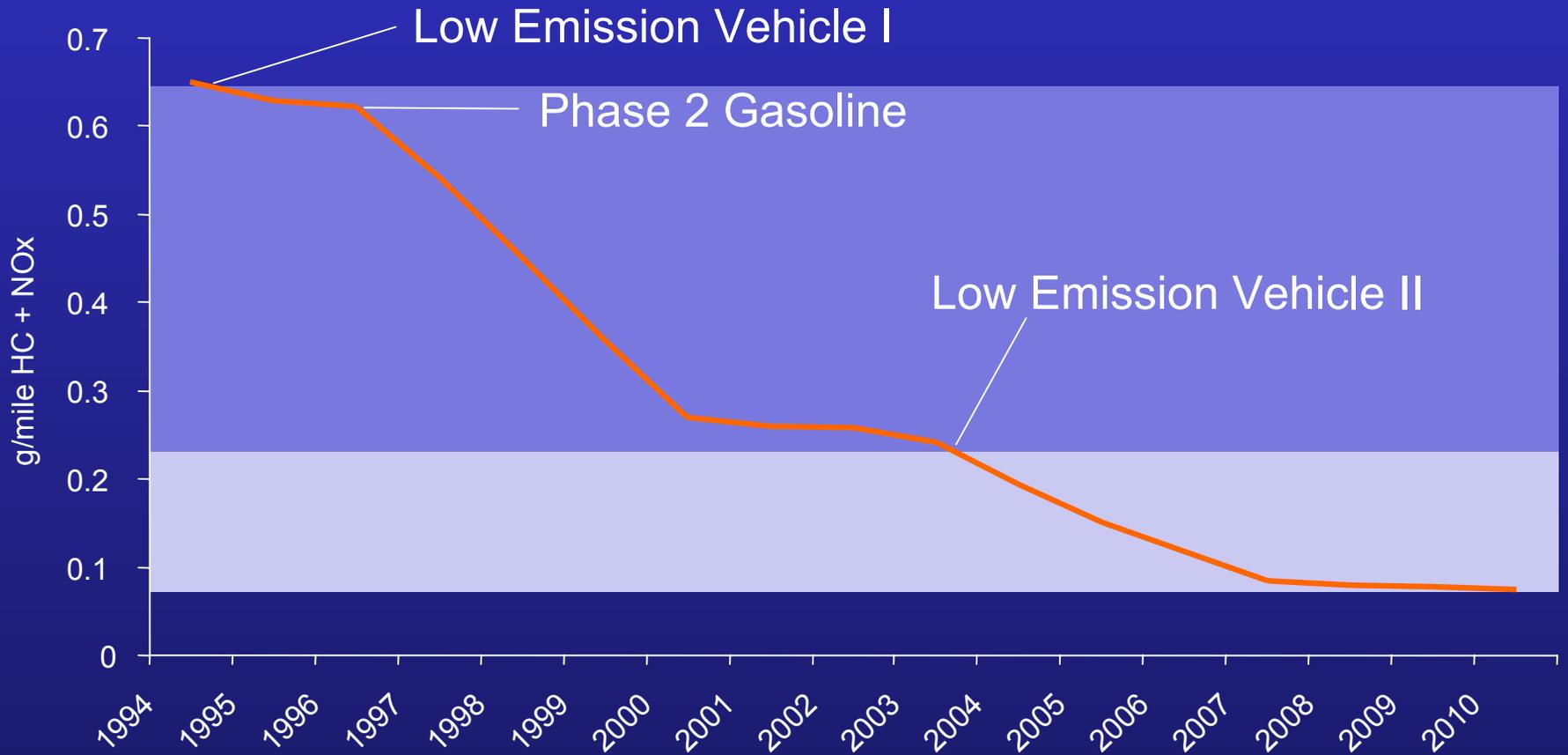
Evolution of ARB Auto Controls

Implementation: 1963 - 1993

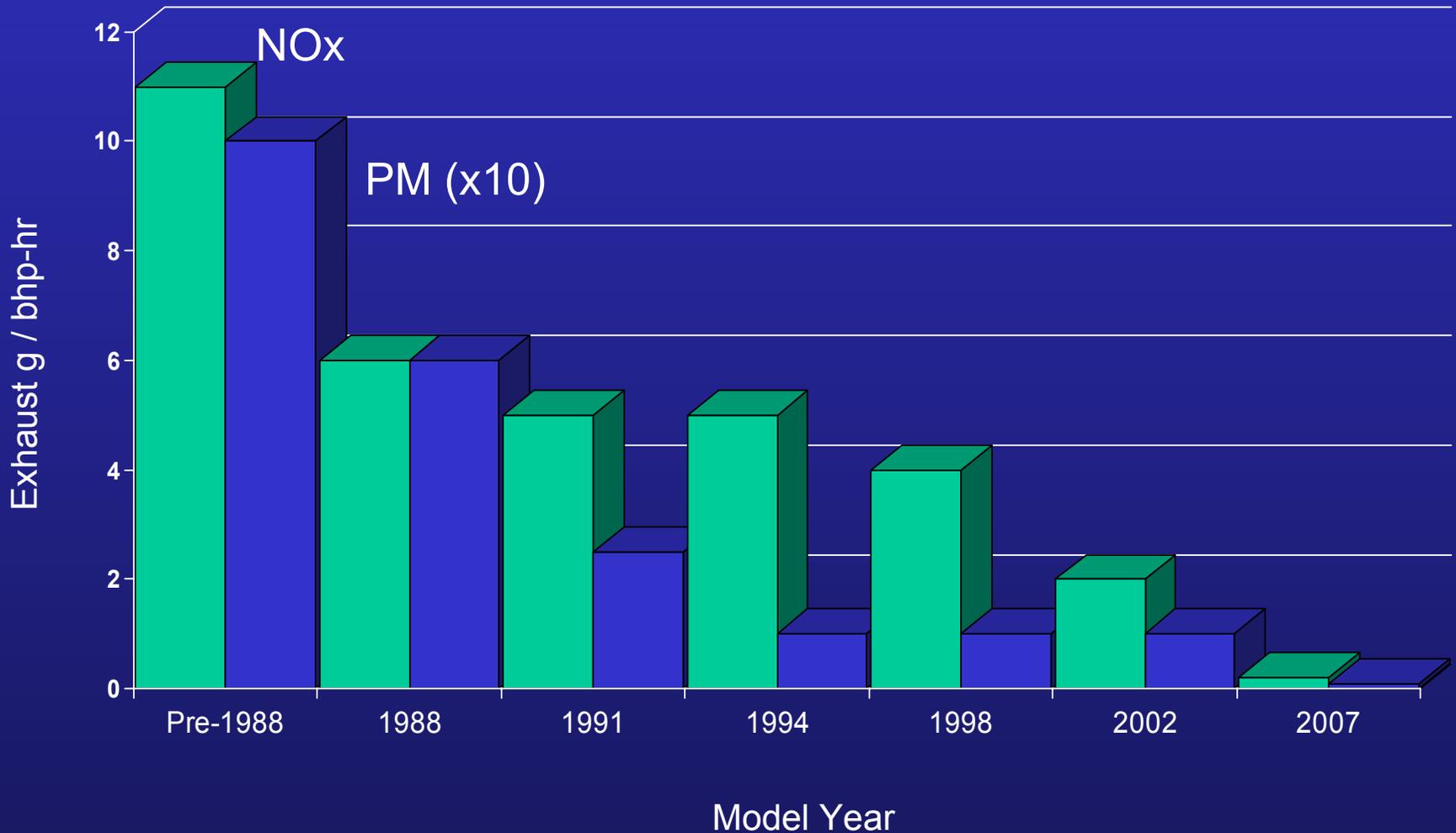


Evolution of ARB Auto Controls

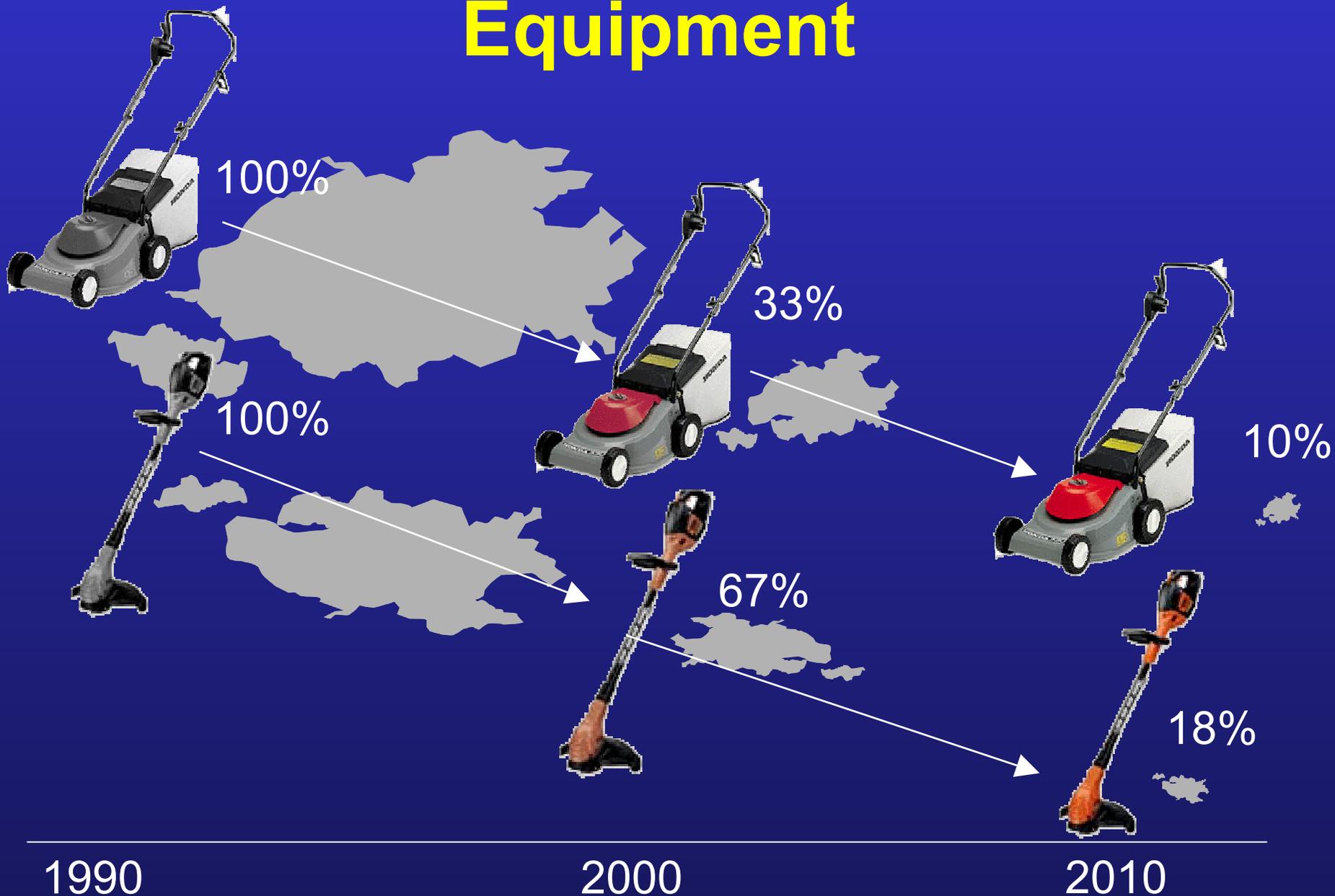
Implementation: 1994 - 2010



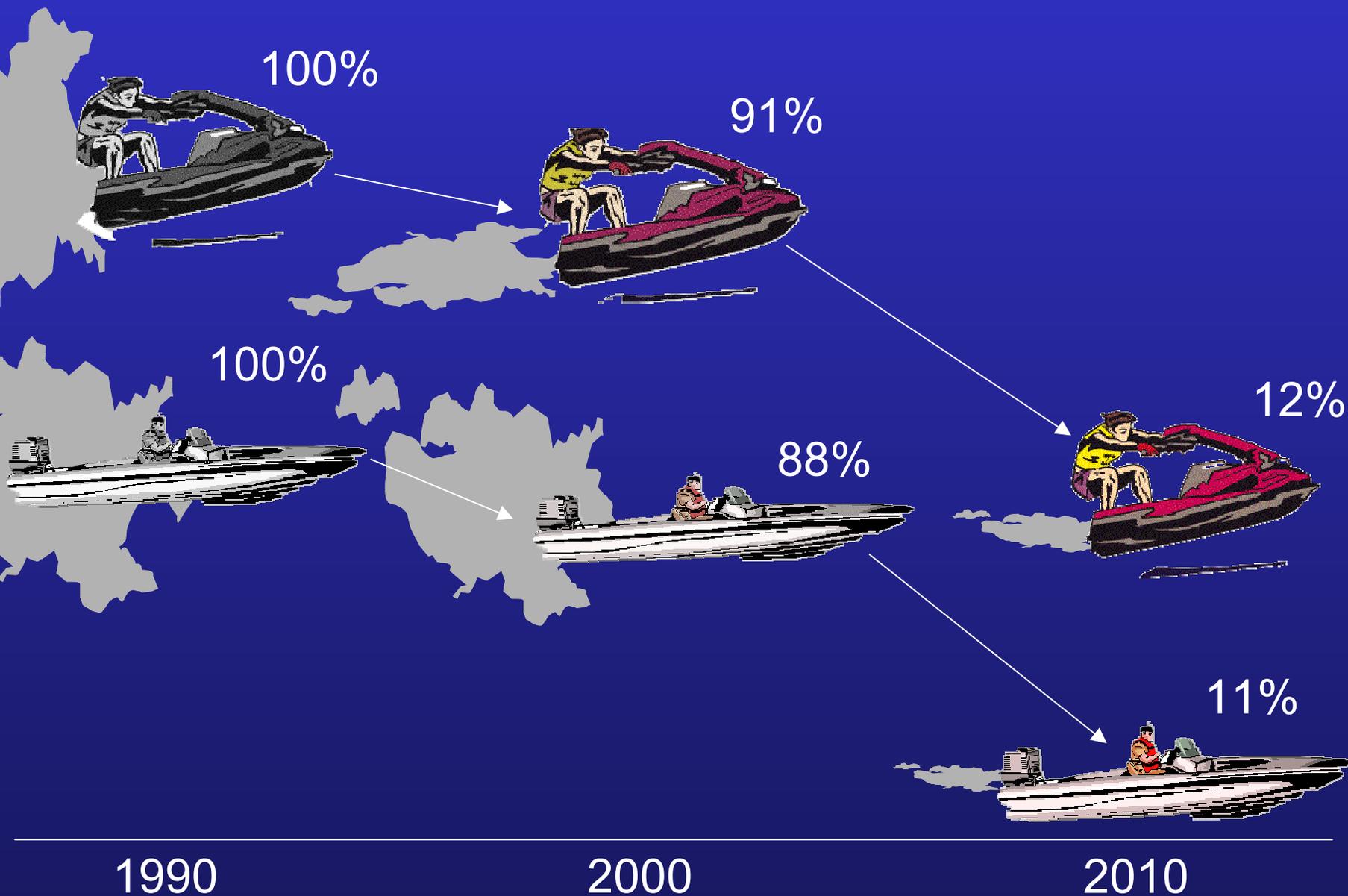
Heavy-Duty Truck Engine Standards



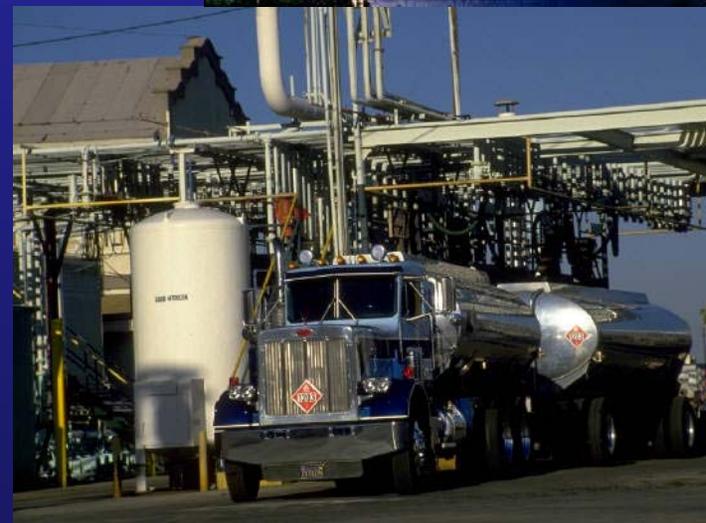
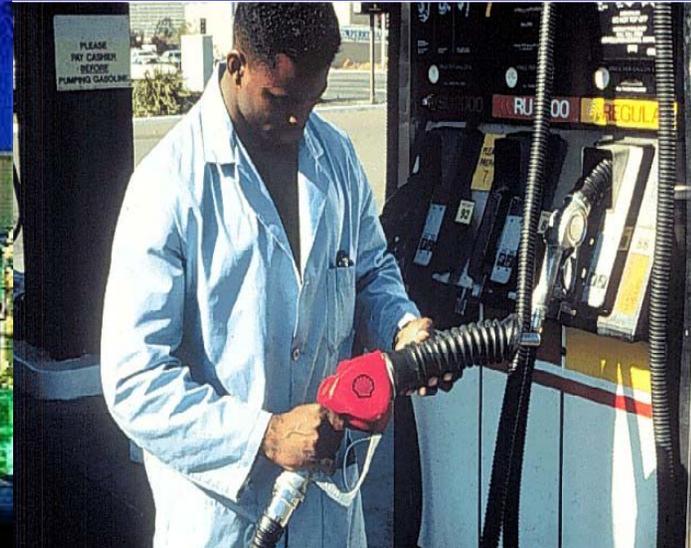
Cleaner Lawn and Garden Equipment



Cleaner Watercraft



Reducing Life Cycle Emissions Gasoline



2000 - 2010

A Decade of Cleaner Engines

Lawn and Garden Equipment

Cars

Trucks

Motorcycles

SUVs

Forklifts

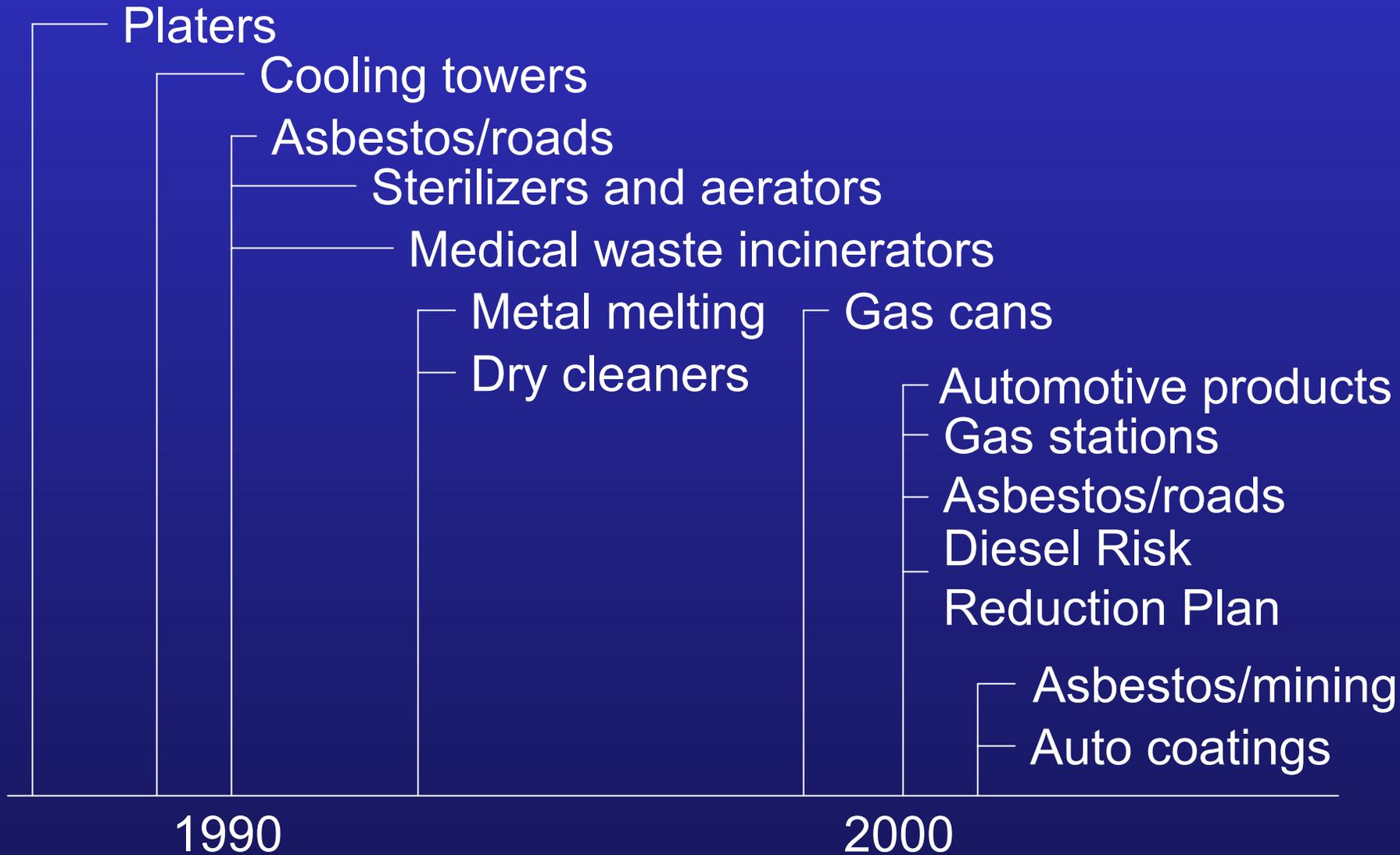
Watercraft



Community Health

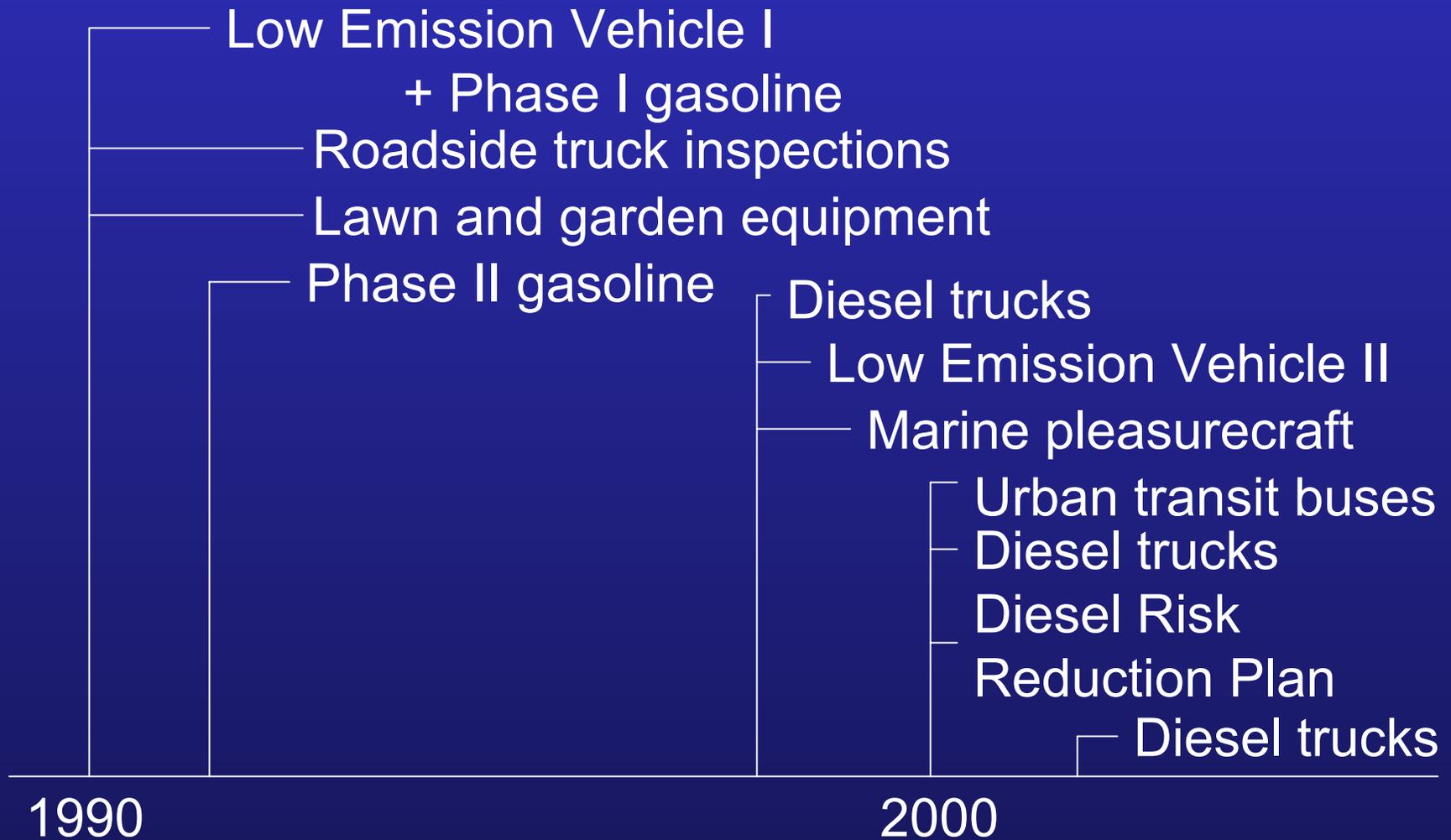


Key ARB Actions to Reduce Toxics Facilities and Products



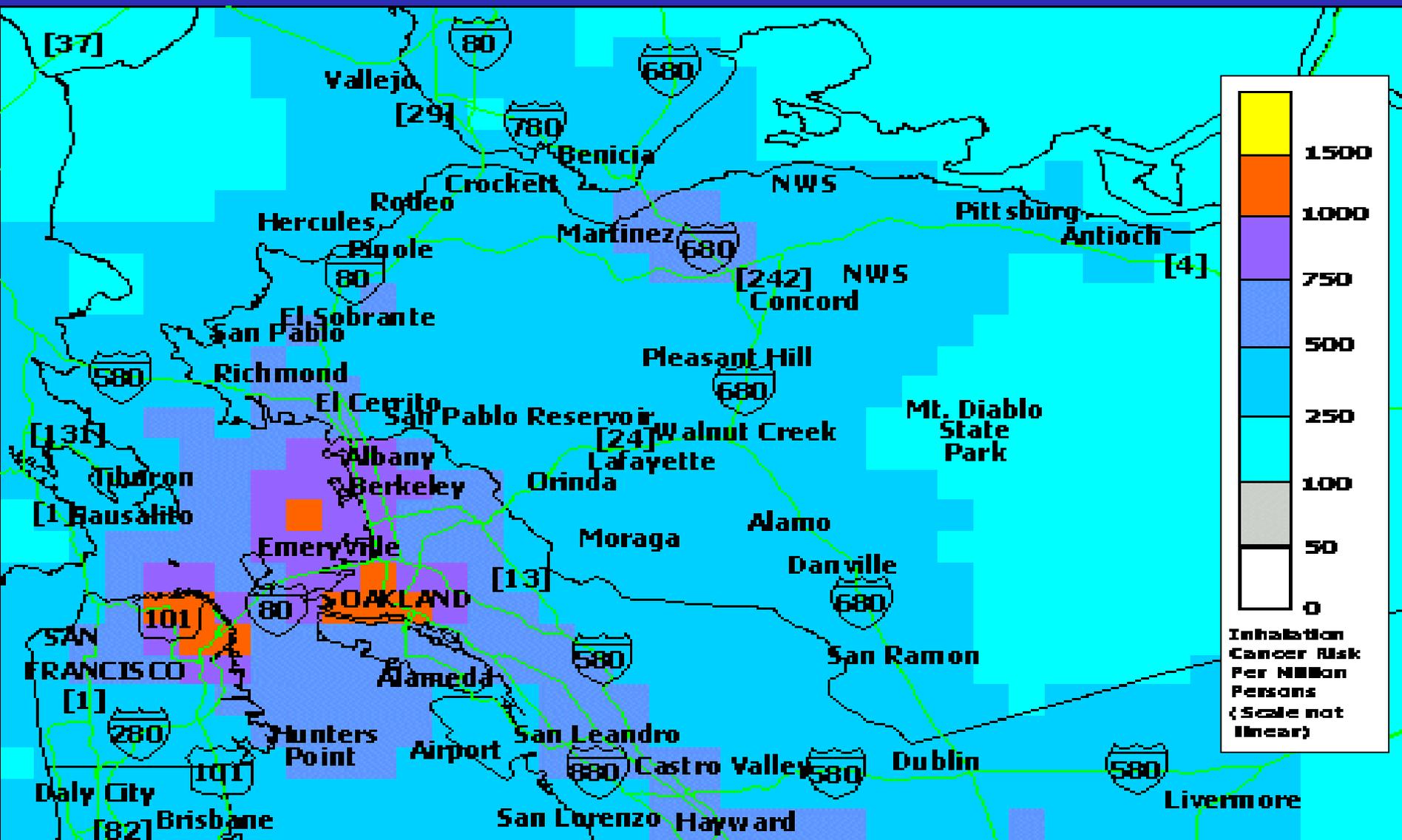
Key ARB Actions to Reduce Toxics

Mobile Sources

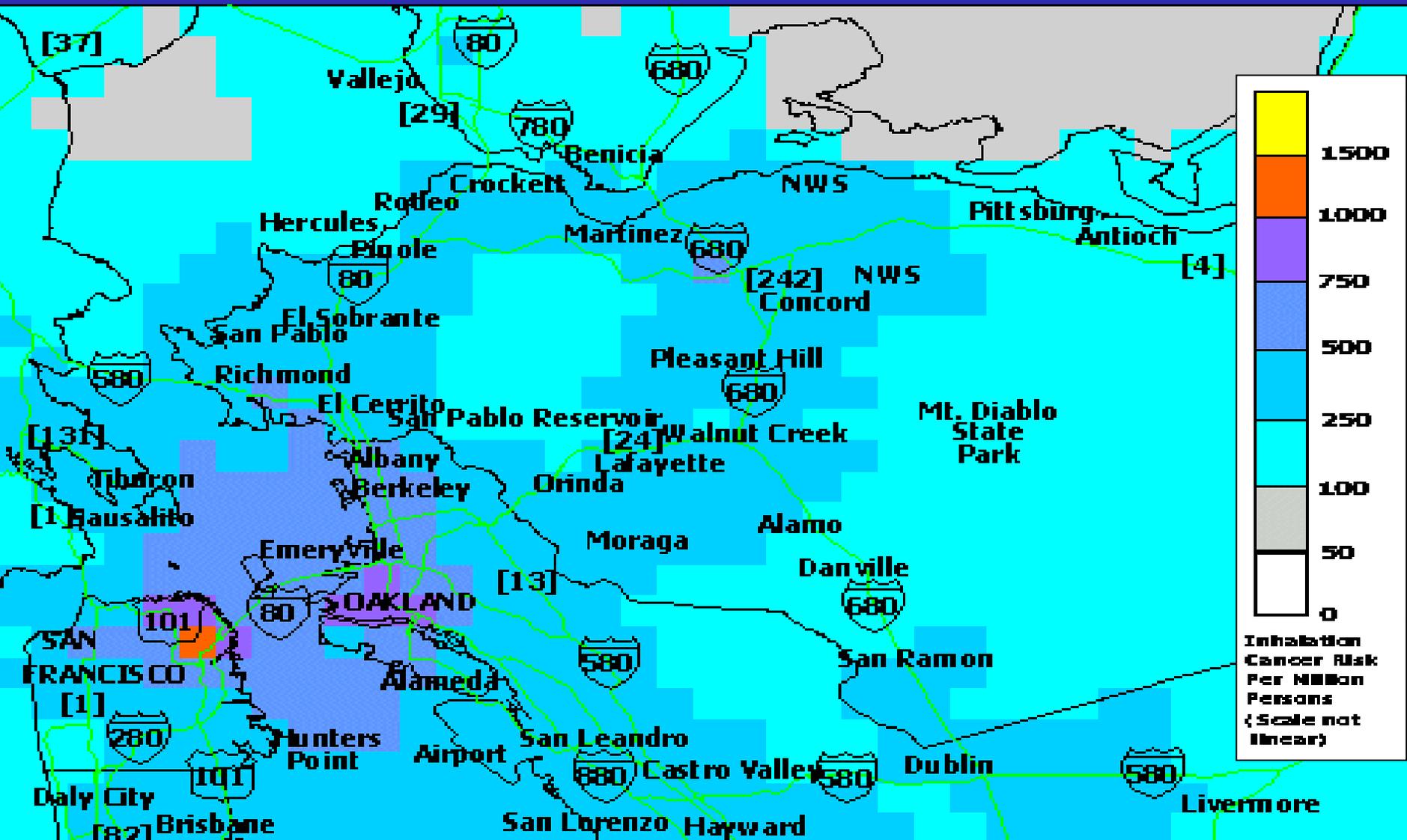


1990

Air Toxics Cancer Risk/Million



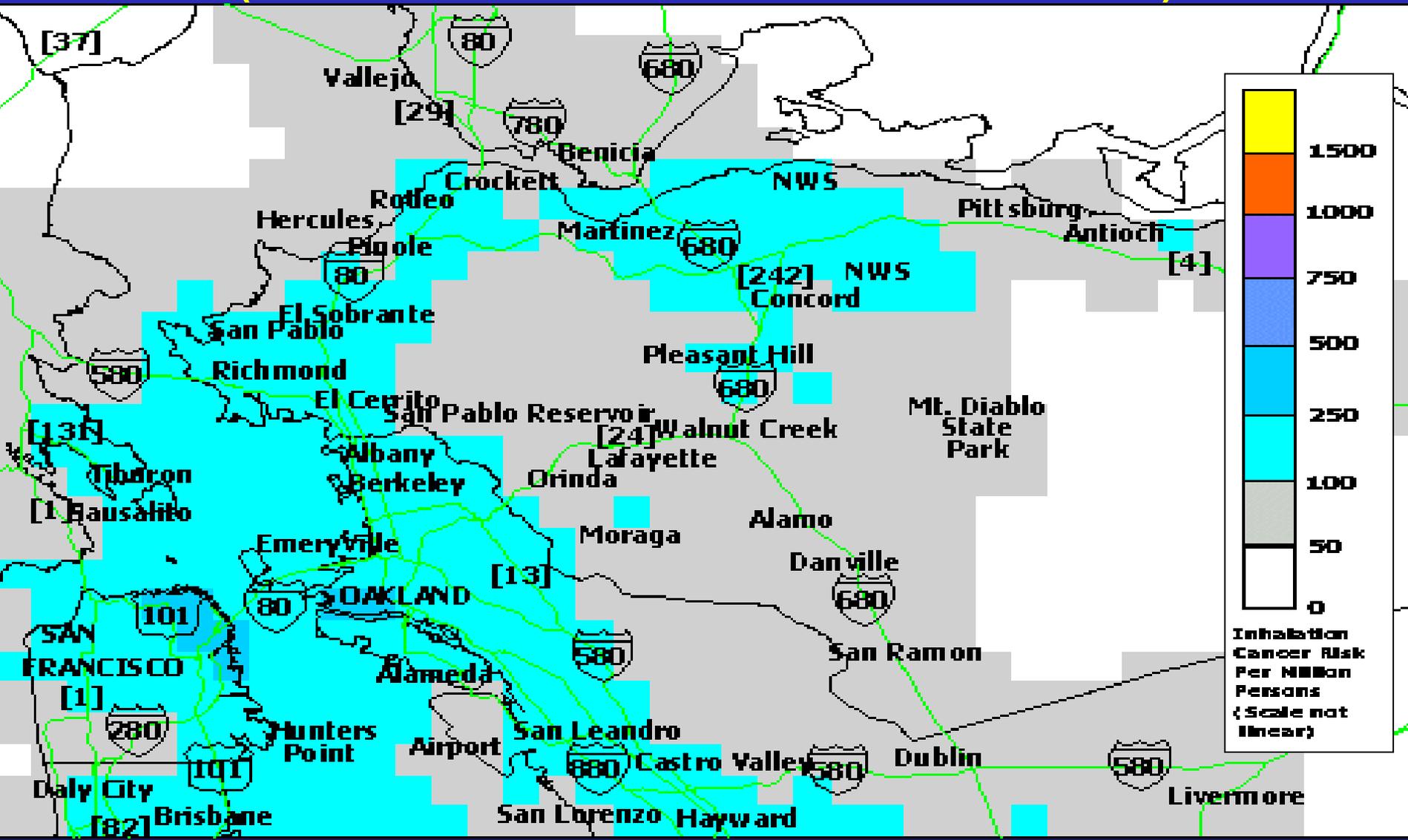
Current Air Toxics Cancer Risk/Million



2010

Air Toxics Cancer Risk/Million

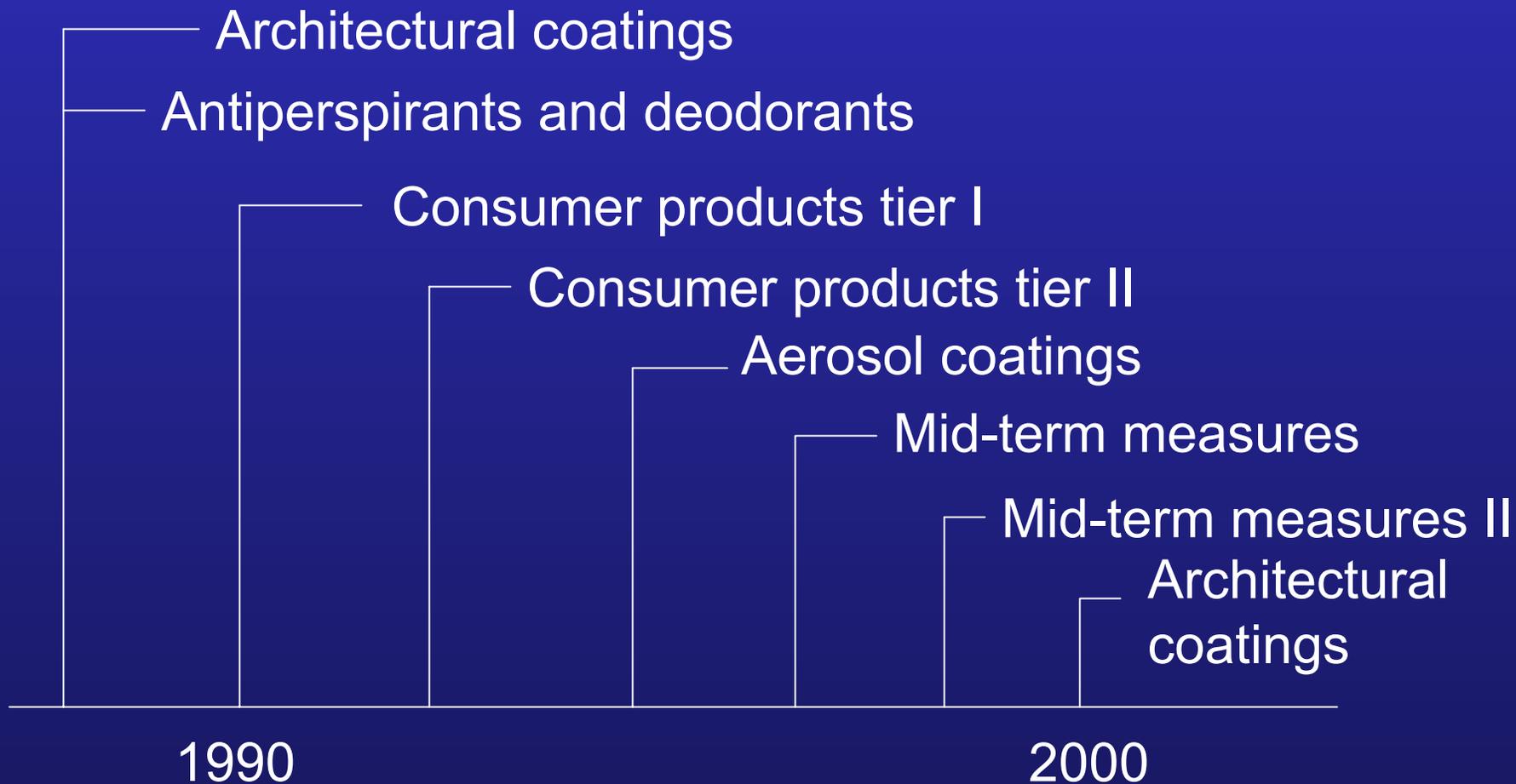
(with diesel risk reduction 75% from 2000)



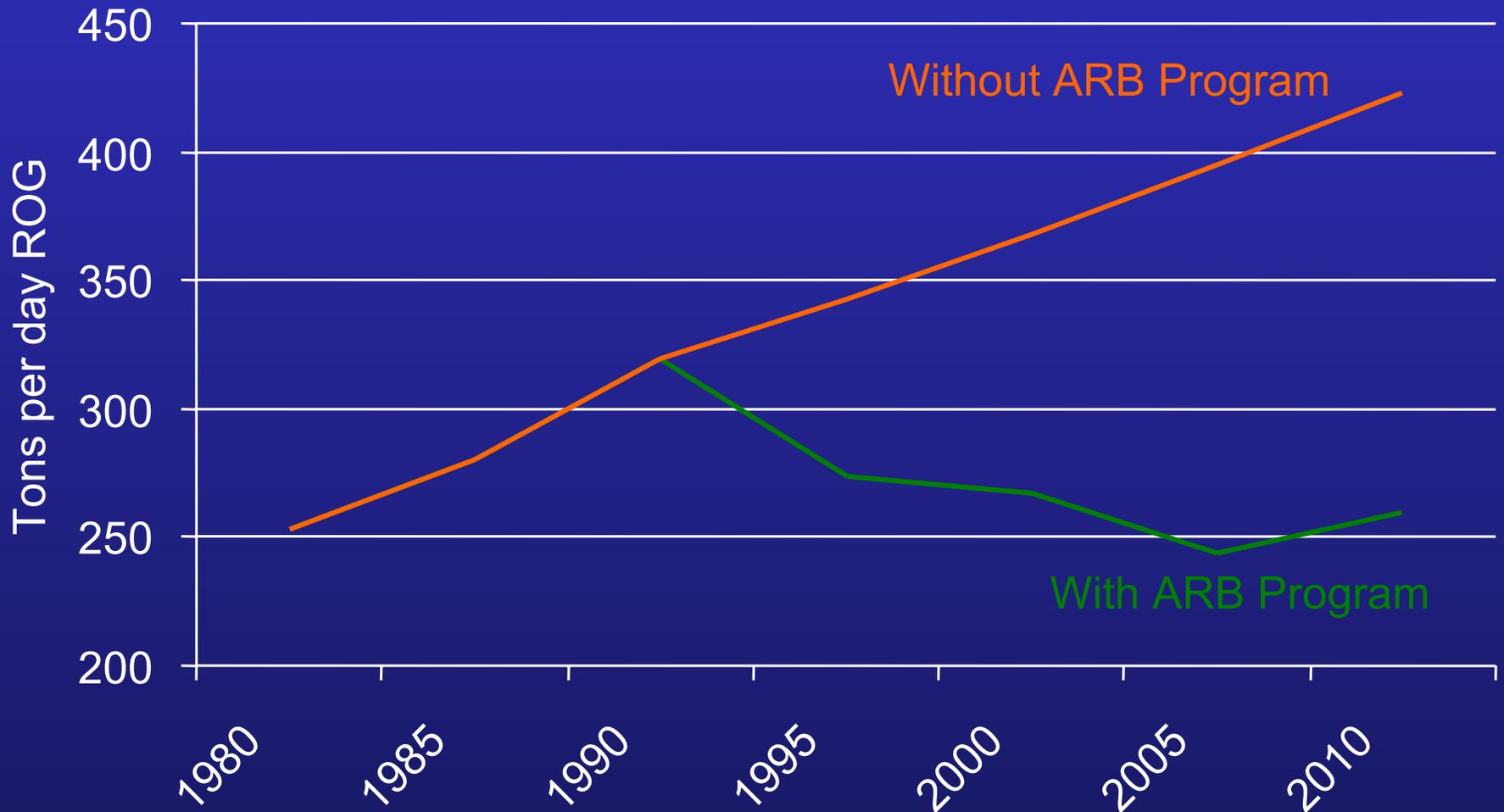
Consumer Products



Key ARB Actions to Reduce Emissions from Consumer Products



Offsetting Growth in Consumer Product Use



A Look Ahead

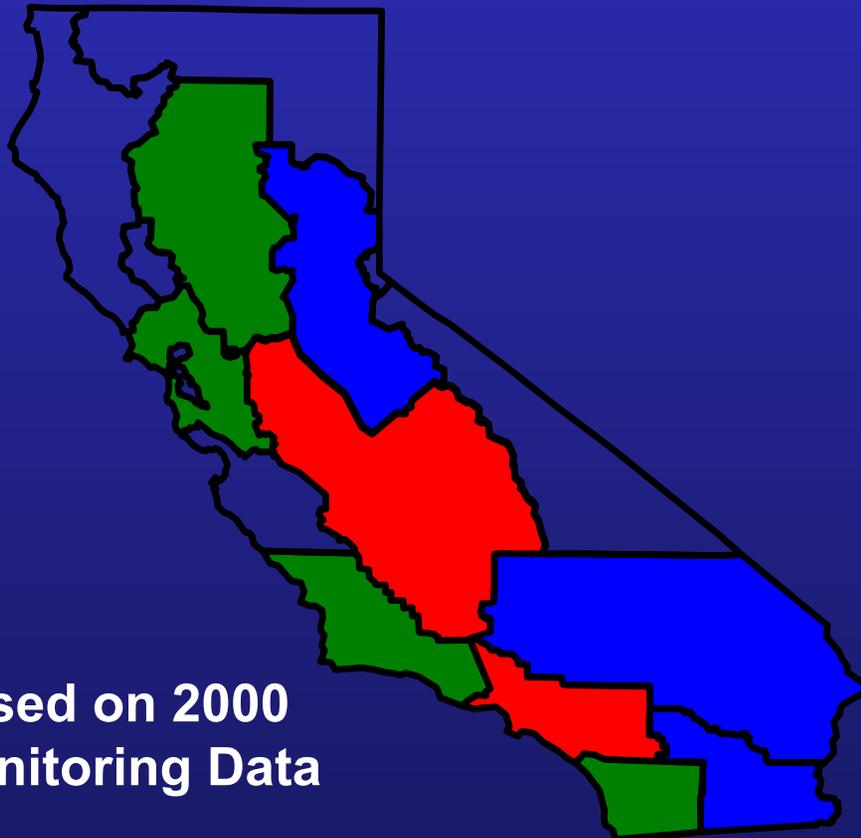


The Challenge...

Over 90% of Californians Breathe Unhealthy Air at Times

Days Over State
Ozone Standard

Days Over State
PM10 Standard



Based on 2000
Monitoring Data

0-5 Days

6-50 Days

50-100 Days

>100 Days

Need for Further ARB Programs

- To meet air quality standards
- To reduce risk from air toxics
- To address community health and environmental justice

Air Pollution Health Effects

- Air pollution in California contributes annually to as many as:
 - 17,000 premature deaths
 - 55,000 hospital admissions
 - 1,300,000 asthma attacks
 - 3,300,000 lost work days
- We are all part of a ‘vulnerable population’ at some point in our lives

ARB Health Studies

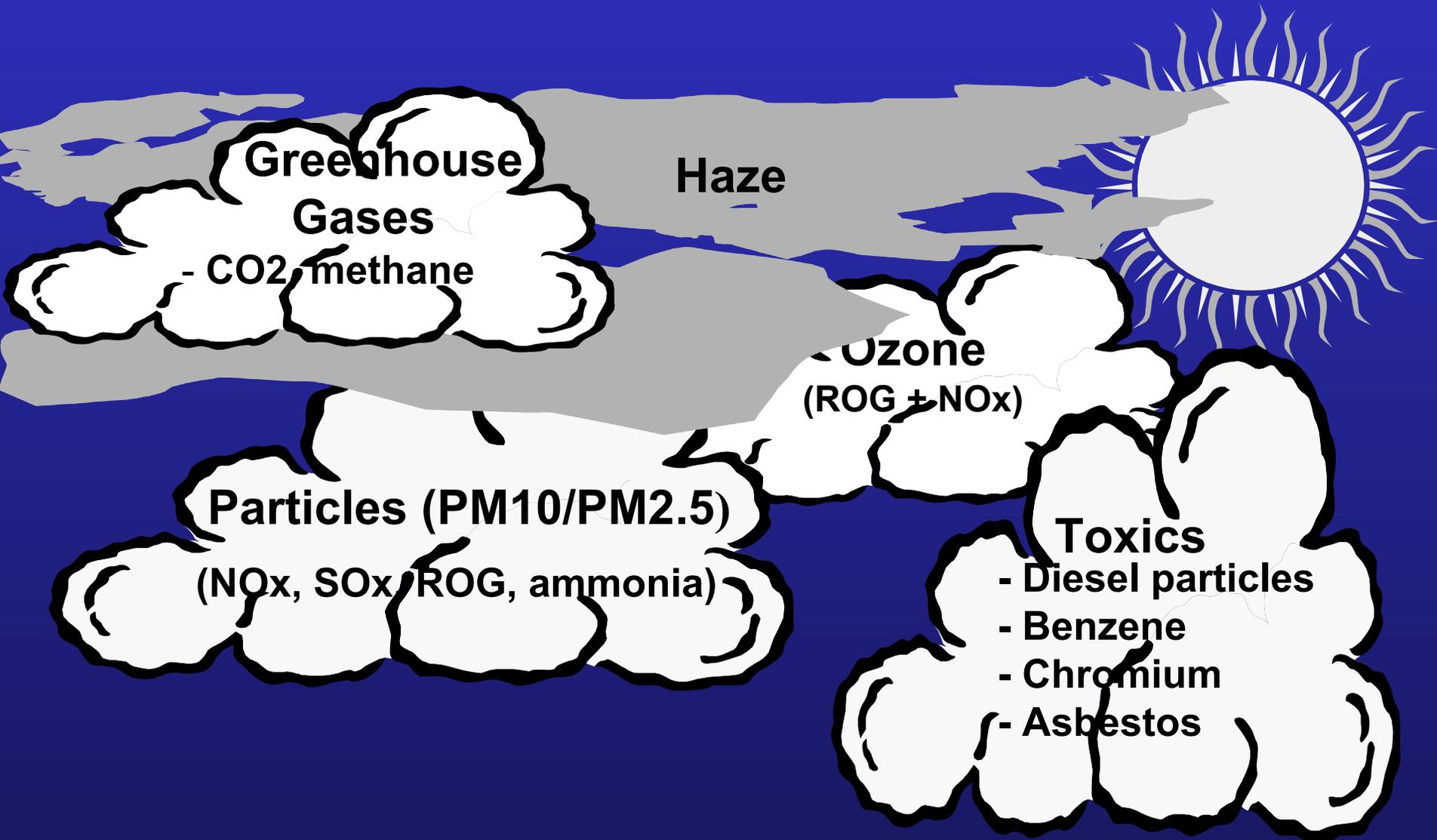
- Lung growth and asthma in children
 - Children's Health Study (Southern CA)
- Asthma progression in children
 - Fresno Asthmatic Children's Environment Study
- Cardiovascular system in the elderly
 - Cardiovascular Health Study (Sacramento)
- Diesel particle effects
 - Freeway Emission Study (Los Angeles)

ARB's Clean Air Plan: 2002 - 2020



Strategies for a Healthy Future

One Atmosphere



Near Term Needs and Long Term Vision

- Define new strategies to meet attainment deadlines
- Reduce air toxics risk as quickly as possible
- Promote technologies of the future

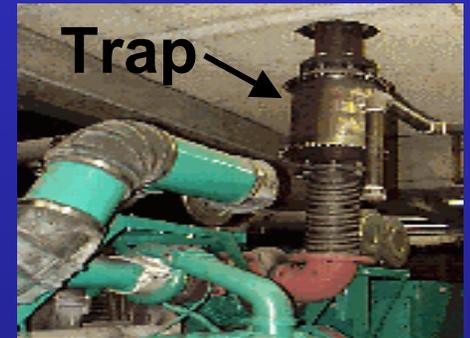


Clean Air Plan Strategies

- Requirements for cleaner vehicles, equipment, fuels, and products
- Continued federal action
- Tighter controls on air toxics
- Recommended local strategies
- Opportunities to increase efficiency

Countdown to Zero

Controls/Retrofits



Reformulation



Zero Emission Future