

California Climate Action Mandates: Opportunities and Challenges to Fundamentally Integrate Land Use and Transportation Planning

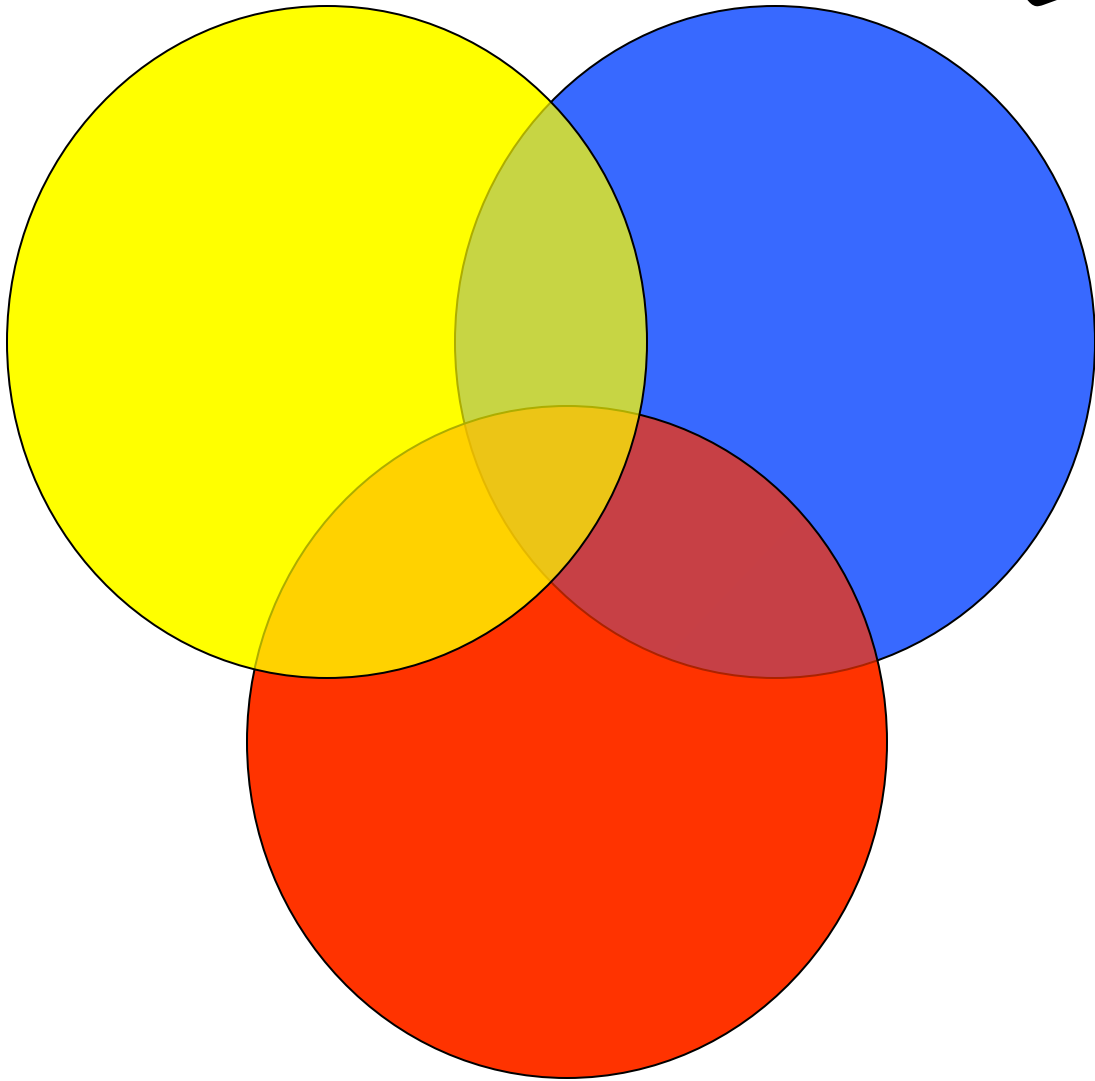
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Local Air Quality

Regional Mobility



Global Climate Change

Air Quality Challenges

HISTORIC

- Smog (Ozone)
- Fine Particulate (PM_{2.5})
- Air Toxics (Carcinogens)

EMERGING

- Climate Change (Greenhouse Gases)
- Ultrafine Particulate

PM_{2.5} and Ozone Health Impacts Exposures above State Standards in South Coast

Health Outcome	Cases per Year
Premature Death	6,200
Hospital Admissions	4,600
Asthma and other Respiratory Symptoms	140,000
School Absence Days	2,400,000
Work Loss Days	980,000
Minor Restricted Activity Days	6,700,000

Pollution saps state's economy, study says

Deaths, illnesses linked to particulates and ozone cost \$28 billion yearly, Cal State Fullerton report shows.

LOUIS SAHAGUN

The California economy loses about \$28 billion annually due to premature deaths and illnesses linked to ozone and particulates spewed from hundreds of locations in the South Coast and San Joaquin air basins, according to findings released Wednesday by a Cal State Fullerton research team.

Most of those costs, about \$25 billion, are connected to roughly 3,000 smog-related deaths each year, but additional factors include work and school absences, emergency room visits, and asthma attacks and other respiratory illnesses, said team leader Jane Hall, a professor of economics



Benefits of Meeting Federal AQ Standards in South Coast

Reduction in:	Value in \$Millions
Mortality	\$20,223
Chronic Bronchitis	\$640
Heart Attacks (Non-Fatal)	\$226
Minor Restricted Activity Days	\$196
School Absences	\$106
Hospital Admissions	\$92
Work Loss Days	\$72
Respiratory Symptoms	\$64
Other	\$2
Total	\$21,621

Recent AQ-Related Health Studies

PEER-REVIEWED SCIENTIFIC JOURNALS

- **Cardiac and Pulmonary Health Risks from Near-Highway Exposures**

Environmental Health – Tufts Univ. School of Medicine (Brugge 2007)

- **Air Pollution and Atherosclerosis**

Genome Biology – Geffen School of Medicine, UCLA (Gong 2007)

- **Long-Term PM_{2.5} Exposure and Cardiovascular Events in Women**

New England Journal of Medicine – Univ. of Washington (Miller 2007)

- **Adverse Effects of Traffic Exposure on Children's Lung Development**

The Lancet – USC School of Medicine (Gauderman 2007)

2009 AQ-Related Health Studies

PEER-REVIEWED SCIENTIFIC JOURNALS

- **Reducing PM_{2.5} Improves Life-Spans**
New England Journal of Medicine – Brigham Young University (Pope 2009)
- **Traffic Exposure and Decreased Lung Function in Adults with Asthma**
Am. Academy of Allergy, Asthma & Immunology - UCSF (Balmes 2009)
- **Chronic Ozone Exposure Linked to Higher Risk of Death from Respiratory Ailments**
New England Journal of Medicine – UC Berkeley (Jerrett 2009)
- **Ambient Air Pollution and Risk of Fetal Growth Restriction**
Journal of Epidemiol. and Community Health – UMD New Jersey (Rich 2009)

California Climate Costs to California

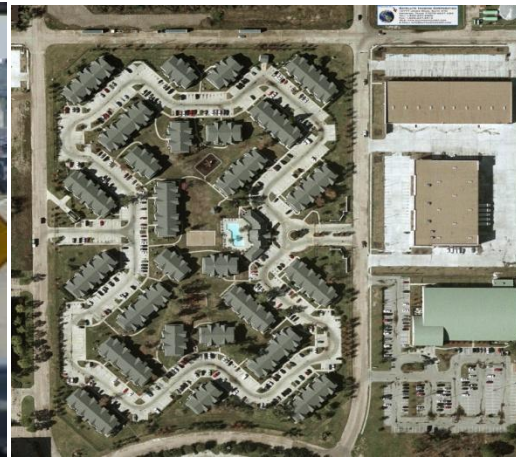
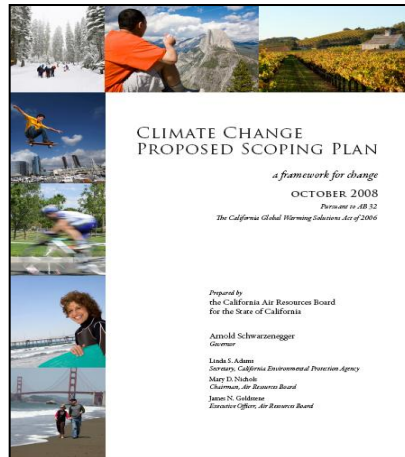
- From 2009 California Climate Adaption Strategy (draft) August 2009:

Category	Impact
Wildfires, next 5-20 yrs	>\$2B/yr
Buildings and contents with 100-yr flood due to 1.4m sea level rise	480,000 people at risk Nearly \$100B
Coastal erosion /	\$8.6B/yr
Loss tourism \$, average per beach area	\$36.7B/yr
Real estate assets	\$300M to \$3.9B/yr
Loss hydro and increase electricity	\$2.7 to 6.3B/yr

- \$270B to \$540B in 2100 if climate change not mitigated*

How Will We Navigate?

- AB 32
- SB 375
- MAP 21 ?



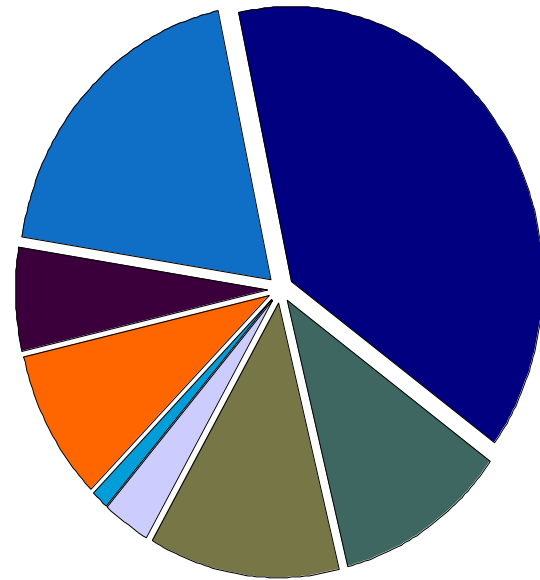


Will 2010 / 2011 be a Period of:

1. Lost Opportunity
or Great Success?
2. Paradigm Shift?

Where Can Local Governments Help Reduce GHGs?

- Local governments have a primary role
- Use planning process to maximize efficient land use and transportation
- Transportation is the largest sector




SB375 Opportunities

- Climate change aside, need for sustainable community development
 - Local air quality
 - Water demand
 - Energy
 - Mobility
 - Others



Strategies

- Livable & Transit Friendly Communities
- Eco-Designed Buildings
- Advanced Technologies (e.g., Electric Powered Rail, Plug-in Hybrid Vehicles, Alternative Fuels)



Working Together On AB32 & SB375 Implementation

- High Level Co-operation & Common Purpose
- Enhanced Relationship between
Local Government and
Air Quality and Transportation Agencies

Resource needs

- Funding
 - Transportation Systems
 - Planning
 - Redevelopment
 - Incentives
 - Reliable and Sustainable Funding Sources
- Technical Tools
 - Best Management Practices/Menu of Options
 - Integrated Land Use / Transportation Model Improvements



SCAQMD

PR2301 – Indirect Source Regulation

- To reduce criteria pollutant emissions from development and redevelopment projects
- 2007 AQMP/SIP Commitment
- All Feasible Measures
 - 7 districts with ISR measures; 1 APCD in federal non-attainment areas
 - fees or reduction targets with fee option



Design Objectives

- Provide regulatory certainty & consistent with CEQA air quality analysis
- Maximize compliance flexibility while SIP approval
- Maximize co-benefits of AB32 and SB375 GHG reductions



Key Features

- Reduction target (% reduction) with menu of options
- Economic off-ramps
- Administrative efficiency
 - Local government delegation based on program equivalency
- Complimentary to CEQA process and SB375 implementation
 - Projects exempt from PR2301 if qualified for CEQA exemption or streamlined review under SB375

Conclusions

- Must rethink existing land-use / transportation / air quality planning framework
- Land-use, mobility and air quality linked
- Local and global air quality key to local project acceptance
- Greater funding possible through program synergies