

# **Sector-Based Workshop**

## **Land Use and Local Initiatives**

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Annmarie Mora  
California Air Resources Board**

**December 14, 2007**

# Overview

- **Transportation**
  - Characteristics
  - Reduction strategies
  - ‘Action’ & ‘Enabling’ Measures
- **Municipal Operations**
  - Characteristics
  - Reduction strategies
  - ‘Action’ & ‘Enabling’ Measures
  - Green buildings

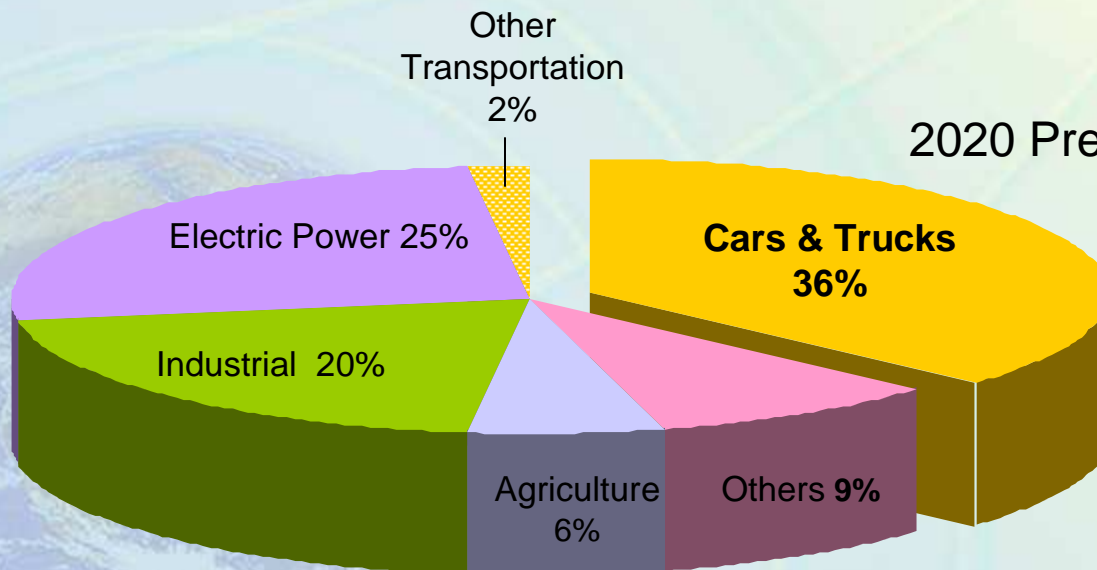
# Transportation Emissions

Passenger cars and heavy-duty trucks:

1990 Baseline Emissions:  
**138 MMTCO<sub>2</sub>E**

2004 Baseline Emissions:  
**172 MMTCO<sub>2</sub>E**

2020 Preliminary Forecasted Emissions:  
**216 MMTCO<sub>2</sub>E**

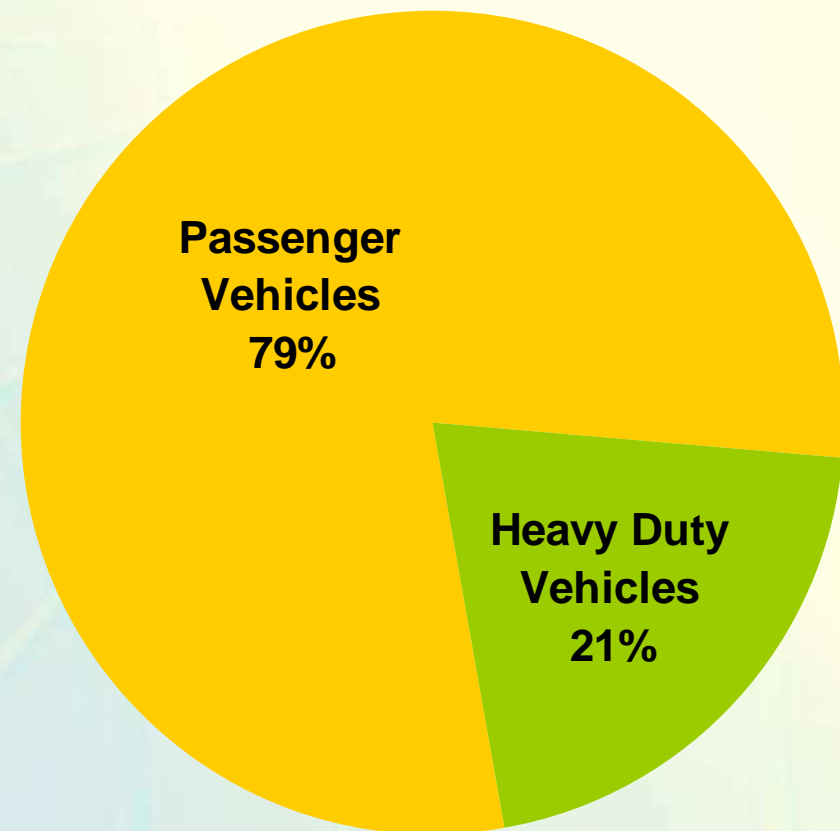


\*ARB GHG Inventory, 2004 Baseline Data

# On-Road Transportation Sources

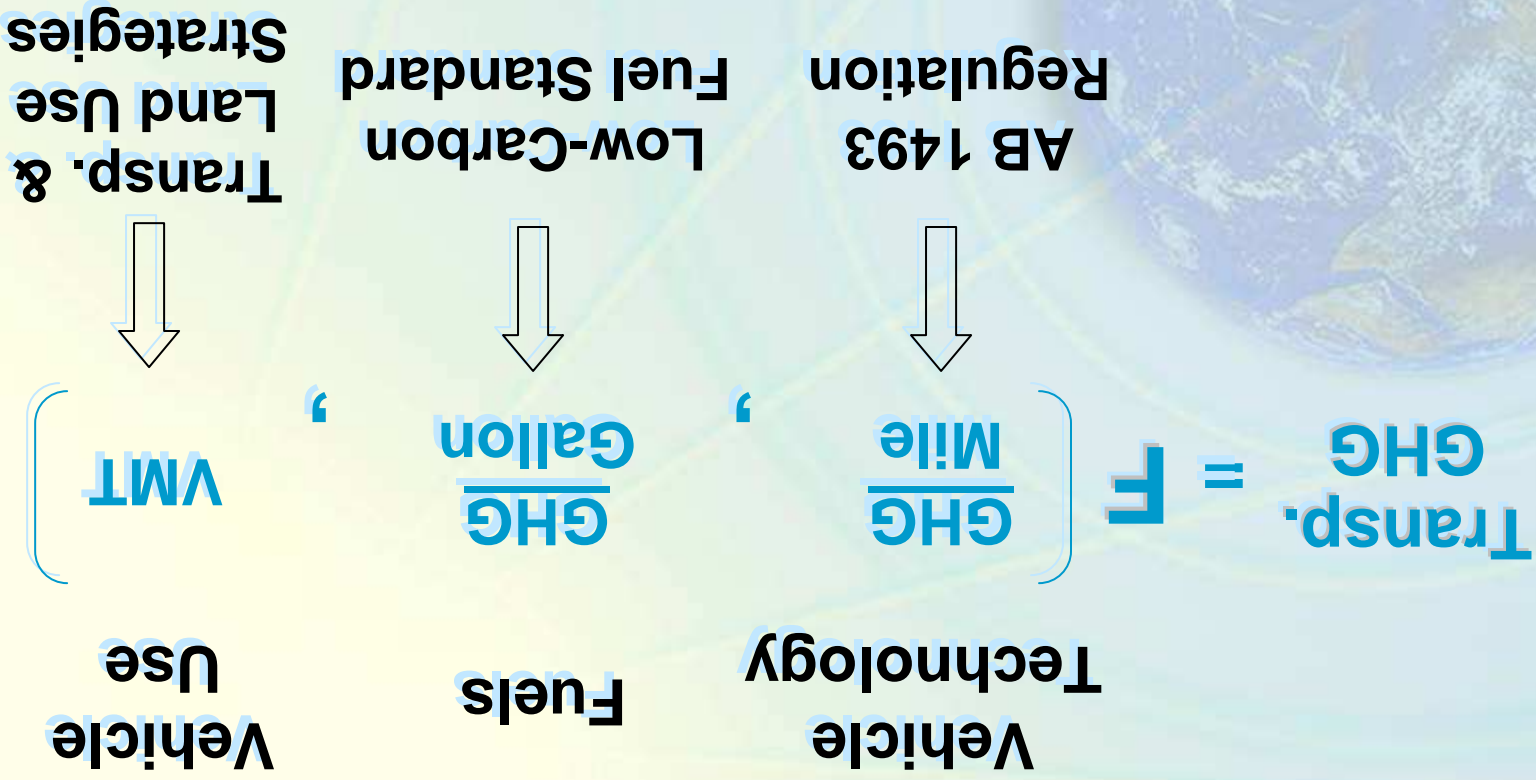
Passenger Vehicles  
**136 MMTCO<sub>2</sub>E**

Heavy Duty Vehicles  
**36 MMTCO<sub>2</sub>E**



ARB GHG Inventory, 2004 Baseline Data

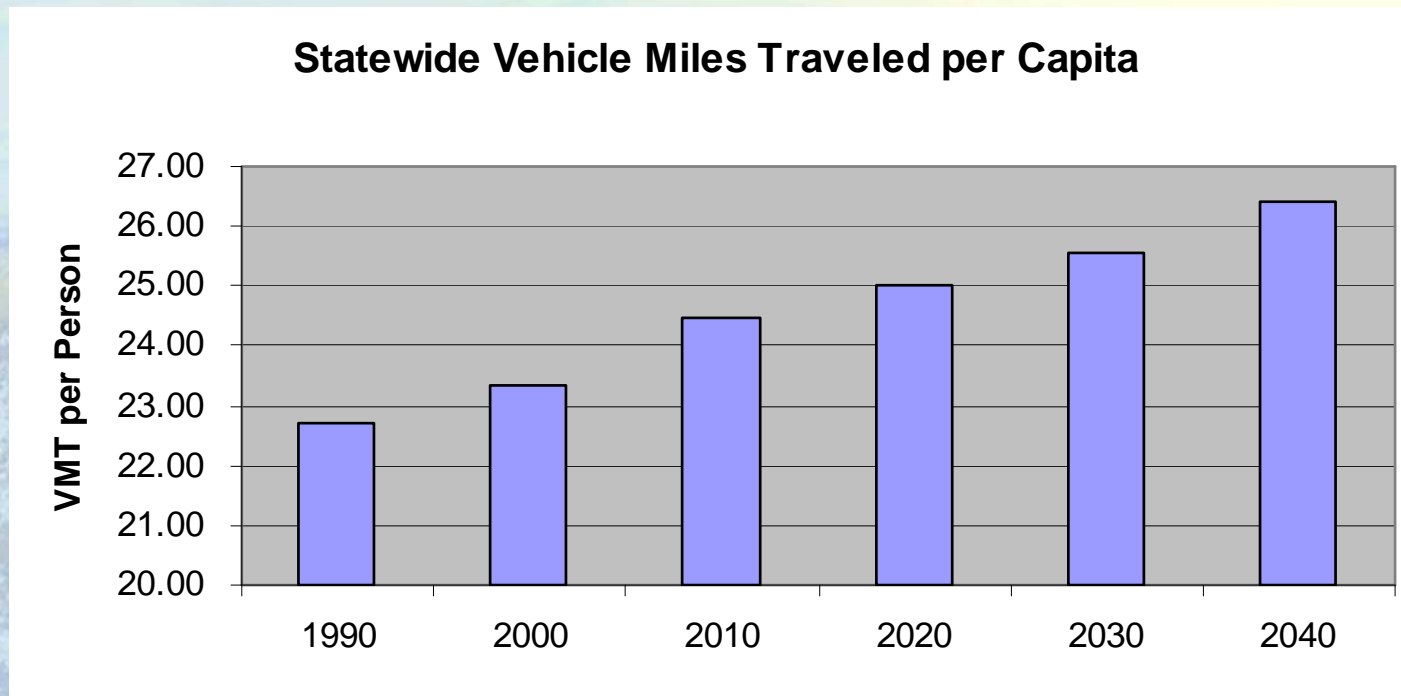
# Transportation GHG



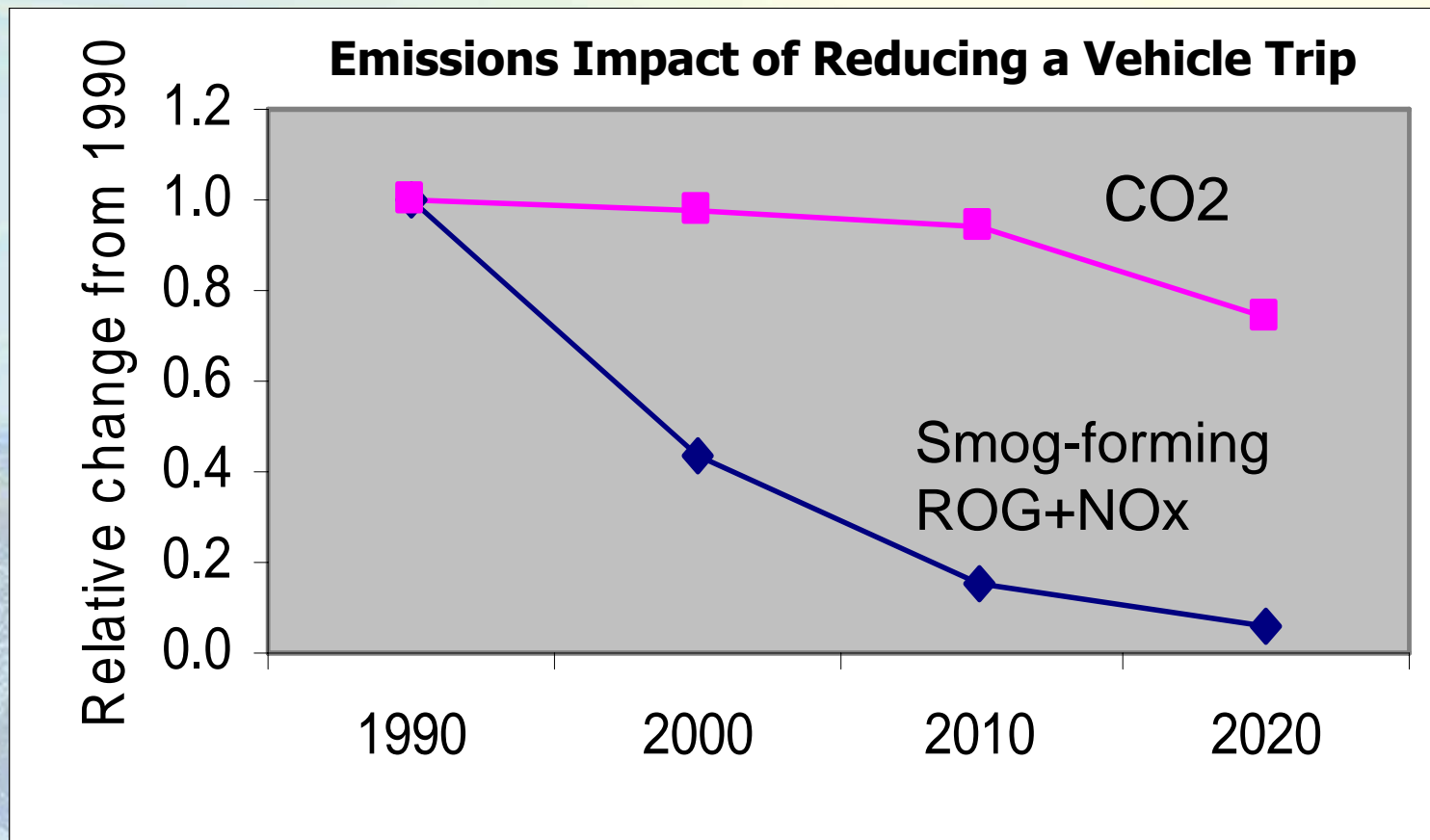


# Vehicle Miles Traveled (VMT): Trends

- Billions in transportation investment
- Existing land use patterns and driving behavior
- Vehicle miles traveled per capita projected to continue growing

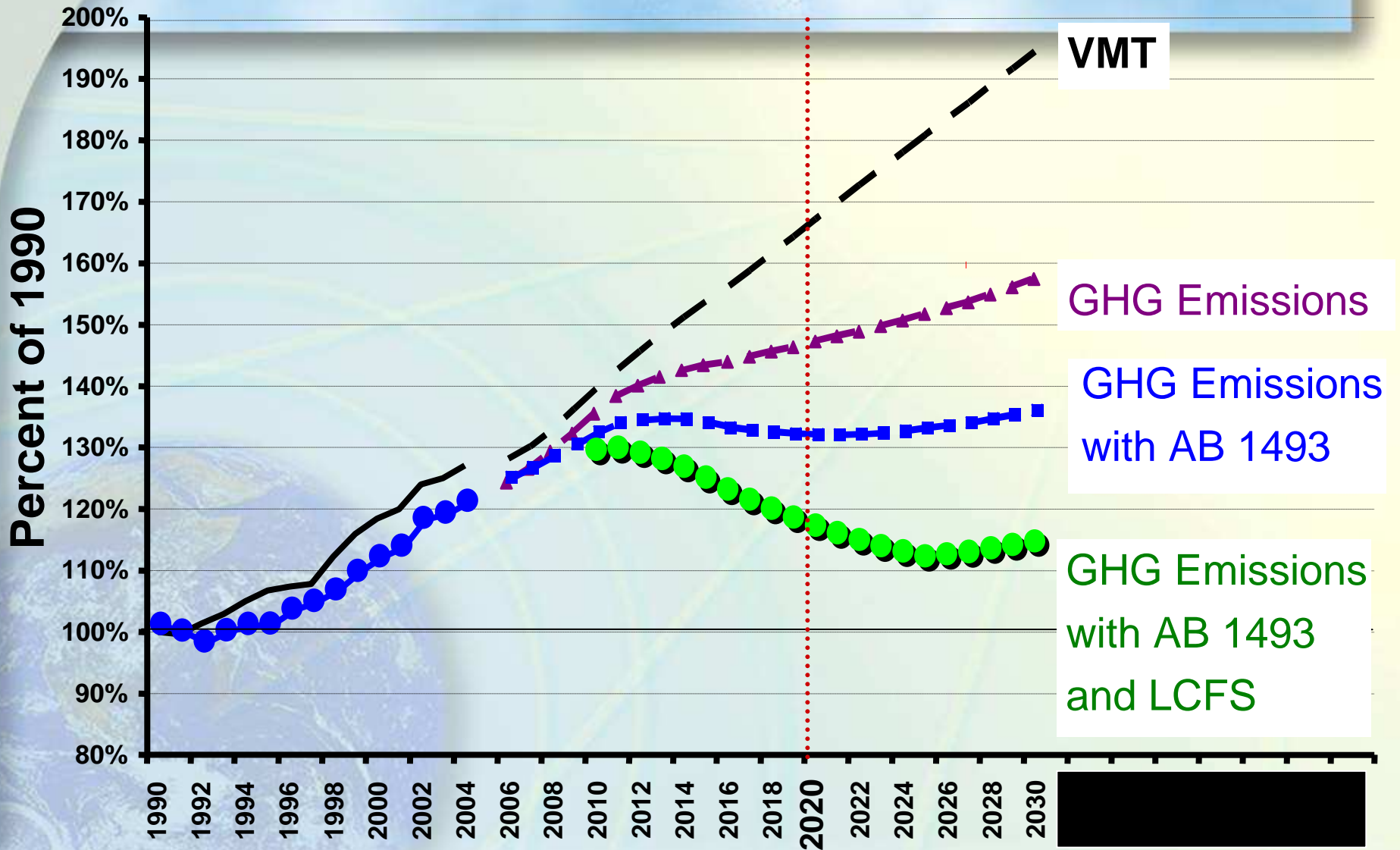


# VMT Reduction: It Matters for Climate Change



Source: EMFAC

# Historical and Projected Vehicle Miles Traveled (VMT) GHG Emissions





# Drivers of VMT Reduction

## Integrated Strategies

### Alternate Mode Infrastructure

Transit  
Carpool/Vanpool  
Bike  
Walk

### Land Use

Density  
Diversity  
Design  
Destinations

### Pricing Signals

Cost per mile  
Cost per gallon  
Parking costs

### Transportation Conservation

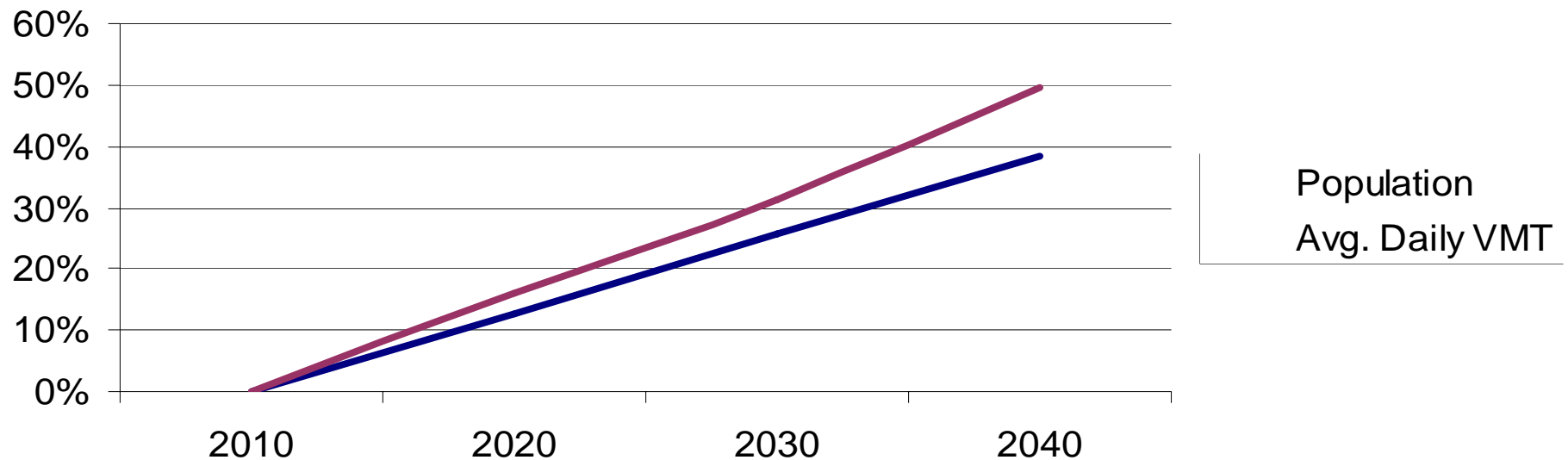
Education  
Incentives to drive less  
TDM Programs

# Potential VMT Impacts of Land Use Strategies

<i>Community type</i>	<i>Household VMT/year</i>
<b>Auto-oriented Suburban</b>	28,000 +
<b>Smarter Growth Suburban</b>	17,000 – 23,000
<b>Urban</b>	10,000 – 16,000

# Land Use: An Important Long-Term Strategy

**Statewide Projected Population and VMT Growth  
2010-2040**



**Population: By 2020 (+13%). By 2040 (+39%).**

**Land use strategies mostly impact new growth.**

# Regional Impacts Modeled

## Sacramento Region -- 2050

Parameter	Base Case 2050	Adopted Plan 2050	Difference
<b>VMT per household per day (excludes commercial vehicles)</b>	47.2	34.9	12.3 fewer miles per household per day, a 25% reduction
<b>People Living in Areas with Good Mix of Jobs and Housing</b>	26%	53%	27% increase
<b>Growth Near Transit</b>	5% New Jobs 2% New Housing	41% New Jobs 38% New Housing	36% more new jobs and homes near transit
<b>Additional Urbanized Land</b>	666 square miles	304 square miles	362 fewer square miles urbanized
<b>Daily Vehicle Minutes of Travel (per household/day)</b>	81 minutes	67 minutes	14 fewer minutes per day
<b>Per Capita CO2 and PM Emissions from vehicles</b>	Set at 100%	85% of Base Case	15% less than the Base Case per capita

Source: SACOG, Regional Blueprint Program, 2005

# VMT Reduction and Efficient VMT

- Per capita VMT Reduction
  - A good surrogate for reducing GHGs
  - Effective performance measure for planning
- Efficient VMT
  - Speed affects GHG emissions
  - Reduce extreme congestion through intelligent transportation systems, other approaches
  - Research emphasizes need to limit adding lane miles



# Existing Approaches

- Consensus: **Fundamental Change Needed**
- Current actions:
  - Blueprint Planning Process
  - Integrated Land Use and Transportation Planning
  - Attorney General's CEQA Actions
  - OPR and CEQA Guidelines (SB 97)
  - Proposed Legislation (SB 375)
  - General Plans Incorporating Climate Change

## What We've Heard

- California Transportation Commission (CTC) Regional Transportation Planning (RTP) Guidelines Work Group
- Metropolitan Planning Organizations (MPOs) / Regional Transportation Planning Agencies (RTPAs)
- Energy Commission Integrated Energy Policy Report (IEPR)

# CTC RTP Guidelines Work Group

- Regional GHG reduction strategy
- VMT per capita and measurable performance measures
  - Transportation investment
  - Land use strategies
  - Pricing signals
- Move toward better modeling

## MPOs / RTPAs

- Ready to help
- Good planning vital
  - Bay Area Smart Growth
  - Sacramento Region Blueprint
  - San Diego Regional Planning
  - Southern California Compass (2% Strategy)
  - SJV Valley Blueprint Planning Process
- Land use (locals), Pricing (legislature)

# Energy Commission's IEPR Report

- Mitigating Energy Needs with Smarter Growth -- Recommendations
  - Statewide growth plan
  - GHG levels to guide local planning
  - Local plans to reduce GHGs
  - State technical and financial assistance
  - Legislation recommendations



# Land Use Subgroup of CAT (LUSCAT)

- State interagency team:

**CEC**

**HCD**

**ARB**

**Cal/EPA**

**IWMB**

**PUC**

**Caltrans**

**OPR**

**Water Board**

- Coordinate the State's Climate Change land use strategies
  - **2008 CAT Report**
  - **Stakeholder Input**
    - *Advisory Group*
  - **Tool and Resources**

# LUSCAT Stakeholders' Initial Input

- Housing Element and Housing Finance
- CEQA and General Plan Guideline Update
- State Agency Climate Change Guidelines
- Energy Aware Planning Guide Update
- Regional Transportation Plan Guideline Update
- Regional Blueprint Planning
- GHG criteria for Grant Programs

# Potential Emission Reduction Measures

## Action Measures

Enhance and expand transit

Infill development;  
TOD; Smart growth

## Enabling Policies

Align federal/state/local funding mechanisms

CEQA relief; incentives for Blueprint and Blueprint implementation

# Perspective on Approaches

## Incentives

**Voluntary Actions**  
**Tax breaks**

**CEQA relief**  
**Transit, bike, walk  
infrastructure**

**Urban limit lines**  
**CEQA thresholds**

**Mandatory regional  
and local targets**

## Requirements

The background features a stylized globe on the left side, partially obscured by a large, semi-transparent blue rectangular bar at the top. The globe shows continents and oceans in shades of blue and green. Overlaid on the globe and the rest of the page are several thin, light-colored lines that form a grid or network pattern. The overall color palette is dominated by blues, greens, and yellows, creating a clean, modern aesthetic.

# Municipal Operations



# Municipal Operations GHG Sources

- Government Building and Facility Energy Use
- Government Fleet Vehicles
- Water Treatment and Landfill Operations
- Urban Forestry
- Port/Airport Operations
- Other Operations

# GHG Emission Reduction Opportunities

- Energy Conservation and Efficiency
- Waste Reduction
- Clean Energy Use
- Storing and Offsetting Carbon Emissions
- Promoting Community and Individual Action

## Current Activities

- ICLEI – Local Governments for Sustainability
- US Conference of Mayors – Climate Protection Agreement
- Institute for Local Government - California Climate Action Network
- LUSCAT
- CCAR Local Government Protocol

# Current Emission Reduction Measures for Municipal Operations

## Action Measures

Increase agency and commercial buildings built to LEED Silver Certified standards

Decrease waste from agency operations

Community education

## Enabling Policies & Tools

- Green Building ordinance
- Funding incentives
- Permitting relief
- Design assistance
  
- Incentivizing recycling facilities
- Waste audit and reduction plans
- Climate-friendly purchasing
  
- School curriculum
- Energy efficiency consultations
- Local Green Award program

# Potential Scoping Plan Measures

**Early Action Measure:** Toolkit for Local Government and Businesses (measurement tools, best practices, verification)

## **Scoping Plan:**

- Comprehensive Climate Action Plans
- Green Building Standards
- Cool Communities
- Climate Neutral Policies
- Climate-friendly operations
- Climate-friendly transportation
- Community education and outreach



# Climate Action Plans

- Components of a climate action plan
  - Conduct a baseline emissions inventory and forecast
  - Adopt an emissions reduction target for the forecast year
  - Develop a local action plan
  - Implement policies and measures
  - Monitor and verify emission reductions

# Green Buildings

- Leadership in Energy and Environmental Design (LEED) Green Building Rating System provides standards for environmentally sustainable construction
- Cost-effective
  - No significant difference in average construction cost
  - Reduces operating costs (30-40% in energy savings)



**Cal/EPA Headquarters  
Sacramento, CA**  
Energy savings add up to  
~ \$1.5 million a year  
(LEED EB platinum certified)



**West Valley Branch  
Library, San Jose**

# Potential Emissions Reduction Measures for Municipal Operations

## Action Measures

Increase Climate Action Plans (CAPs) developed by local agencies statewide

Increase *implementation* of CAP projects, programs, and policies statewide

## Enabling Policies and Tools

- Target Development
- Funding Mechanism
- CCAR Protocol
- Community Footprint Calculator
  
- Funding Mechanism
- CCAR Protocol
- CEQA Relief
- Community Education Initiative

# Perspective on Approaches

## Incentives

### Voluntary Actions

Tax breaks

Funds for CAPs

Urban limit lines

CEQA thresholds

### CEQA relief

Transit, bike, walk  
infrastructure

CAPs for Funds

Mandatory regional  
and local targets

## Requirements



## Next Steps

- Workshops in February 2008
- Join local action listserve:  
[lclaction@listserv.arb.ca.gov](mailto:lclaction@listserv.arb.ca.gov)



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