



# Smart Growth & Climate Change: Can you get there from here?

**Steve Winkelman**  
**Center for Clean Air Policy (CCAP)**

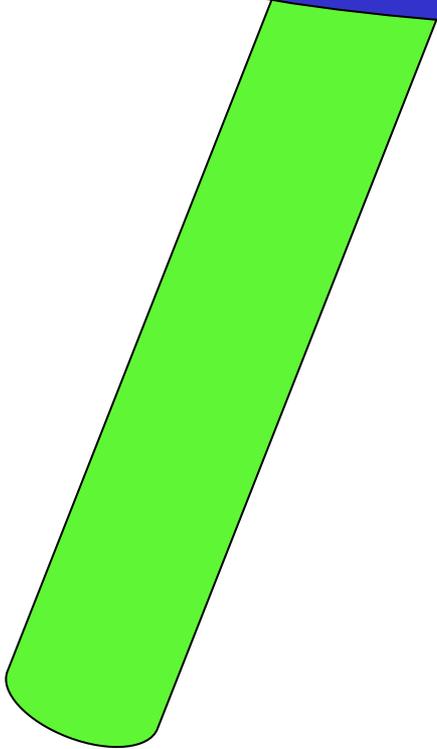
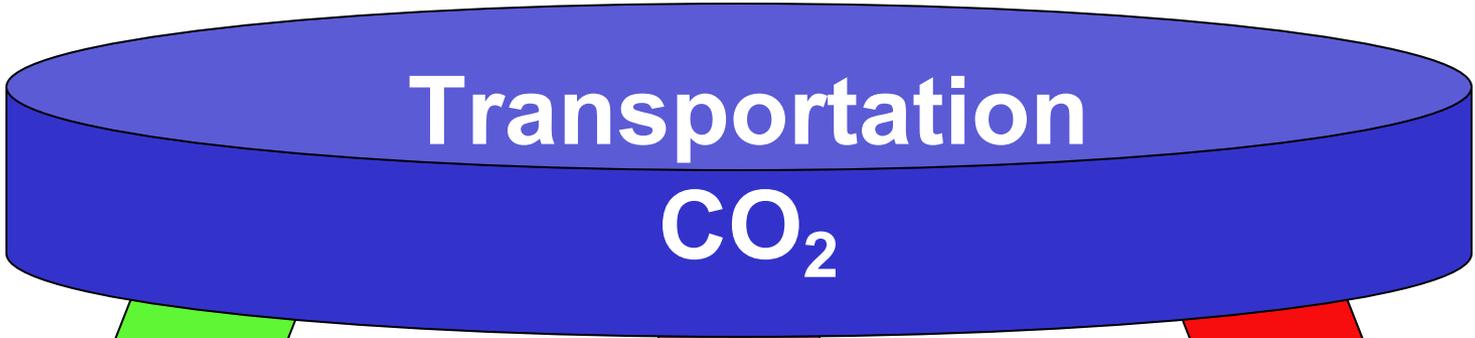
**Haagen-Smit Symposium**  
**Challenge to Change: The Role of Land Use and Transportation**  
**in Meeting Climate Change Program Goals**

**April 9, 2008**  
**Seascape Resort on Monterey Bay**

# Center for Clean Air Policy

- Since 1985 CCAP has been a recognized world leader in climate and air quality policy and is the only independent, nonprofit think-tank working exclusively on those issues at the local, national & international levels.
  - » Assistance enacting **state climate plans**: CA, CT, NY...
  - » Smart Growth and Climate Change
    - Linking **Green-TEA & Climate Policy** dialogue
    - ***Growing Cooler***
    - **CCAP Transportation Emissions Guidebook**
  - » **Urban Leaders Adaptation Initiative**
  - » US and European **Climate Policy Initiative** Dialogues
  - » GHG policy projects in China, Mexico, Brazil, India
  - » Dialogue on future international climate actions

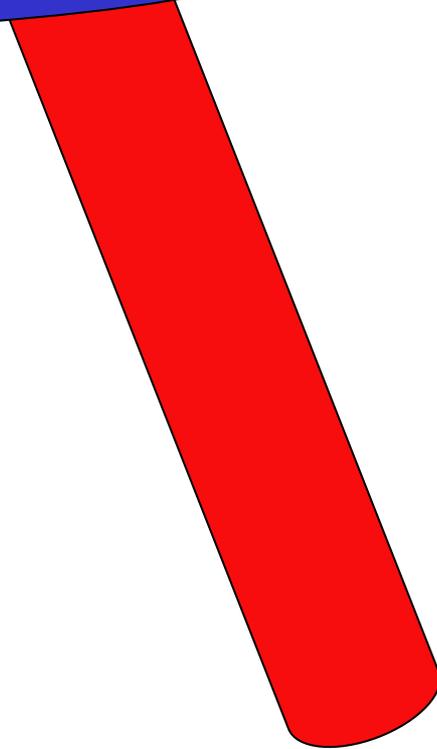




**Vehicles**



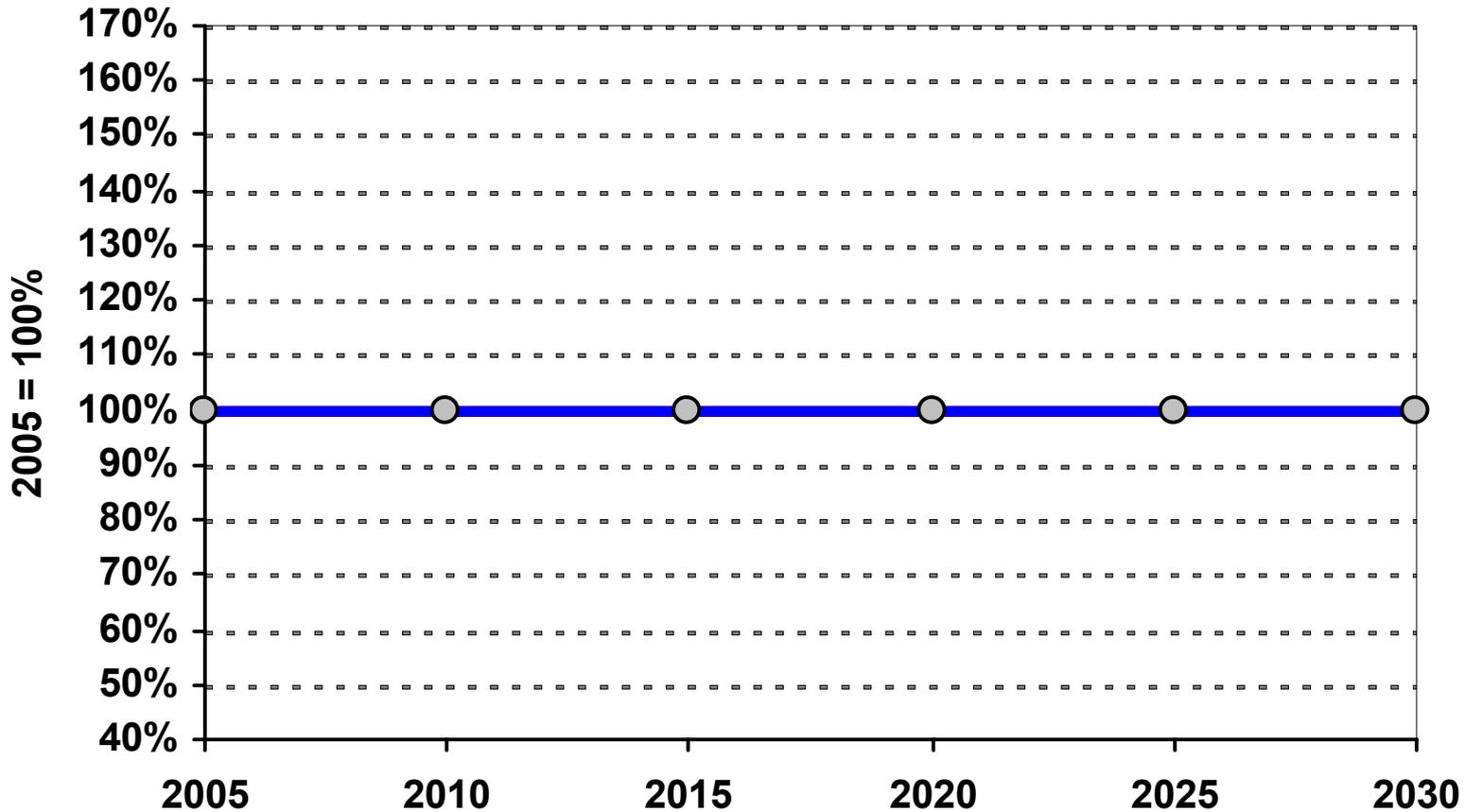
**Fuels**



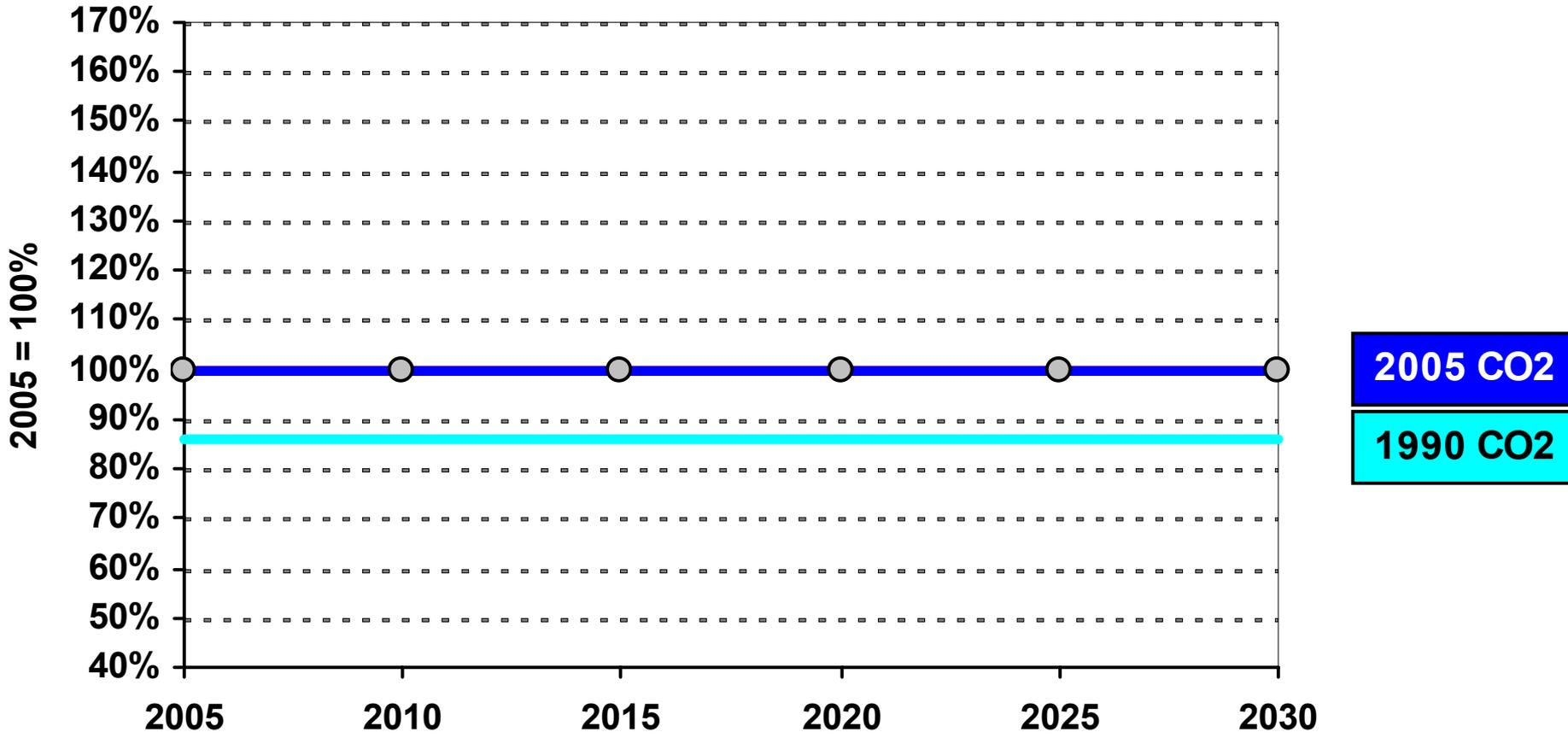
**VMT**



# 2005 Transportation CO<sub>2</sub> Levels in California

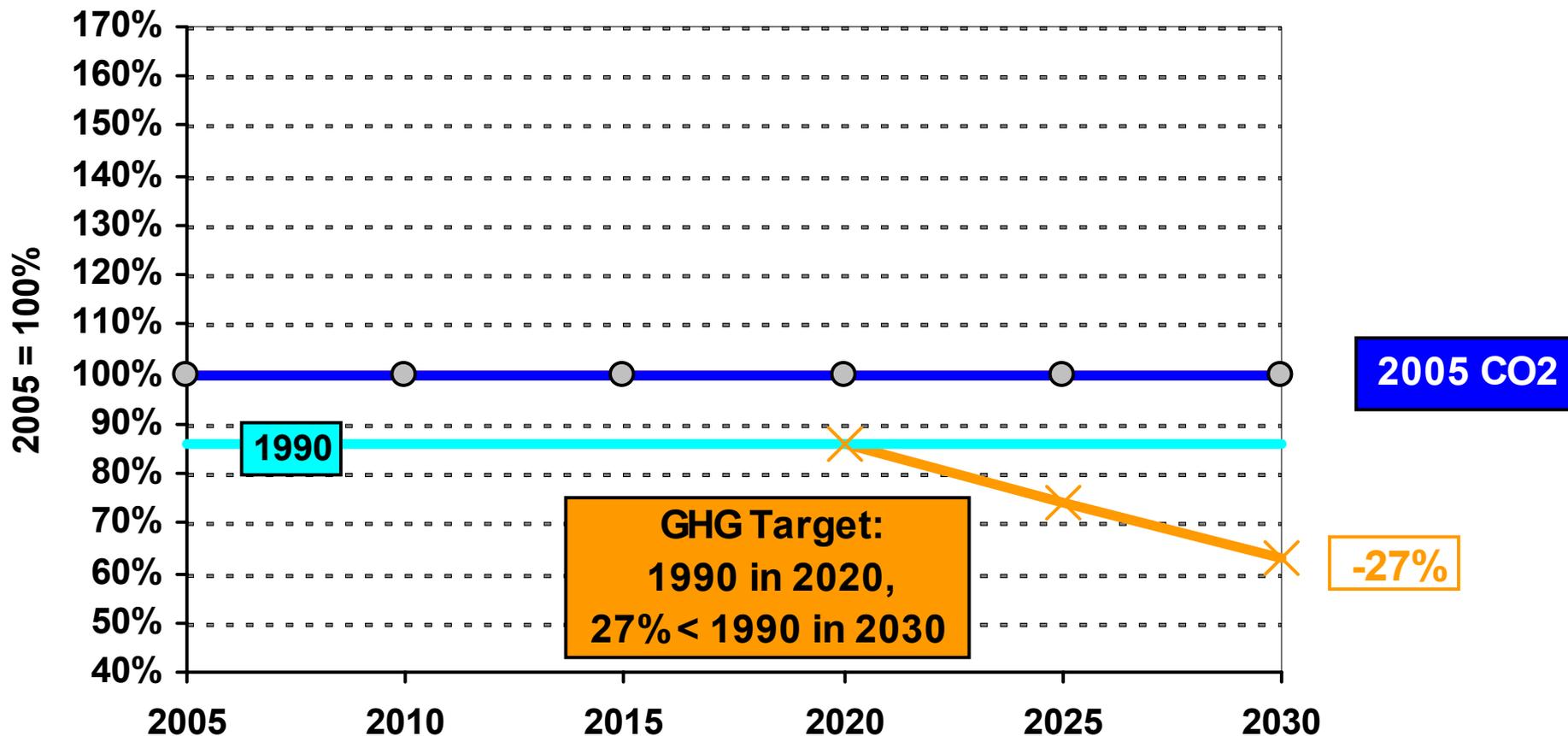


# 2005 CO2 Levels 17% above 1990 levels (CA) (1990 levels are 14% < 2005 levels)

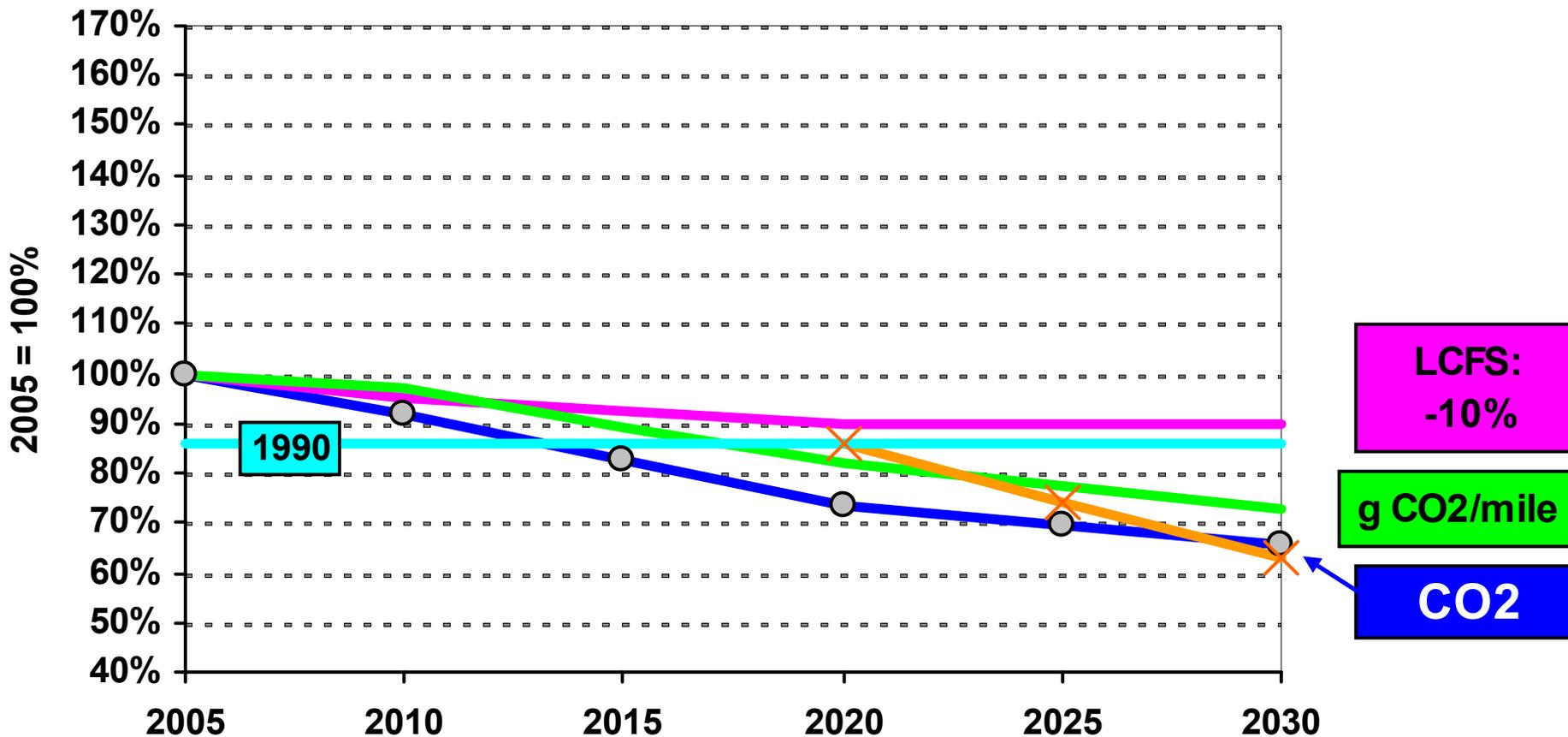


Source: S. Winkelman based on CEC 2006

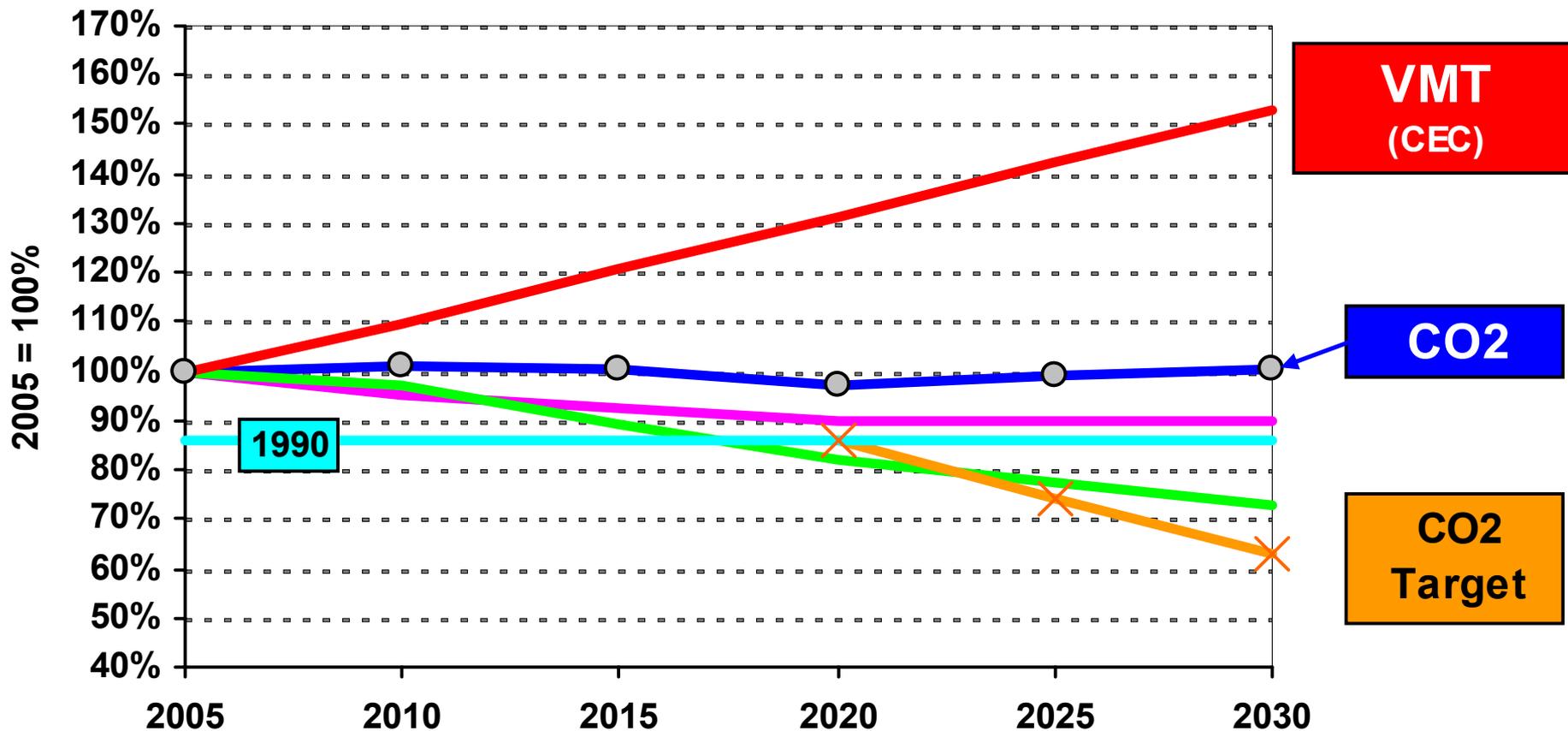
# California CO<sub>2</sub> Targets: 1990 in 2020 27% < 1990 in 2030



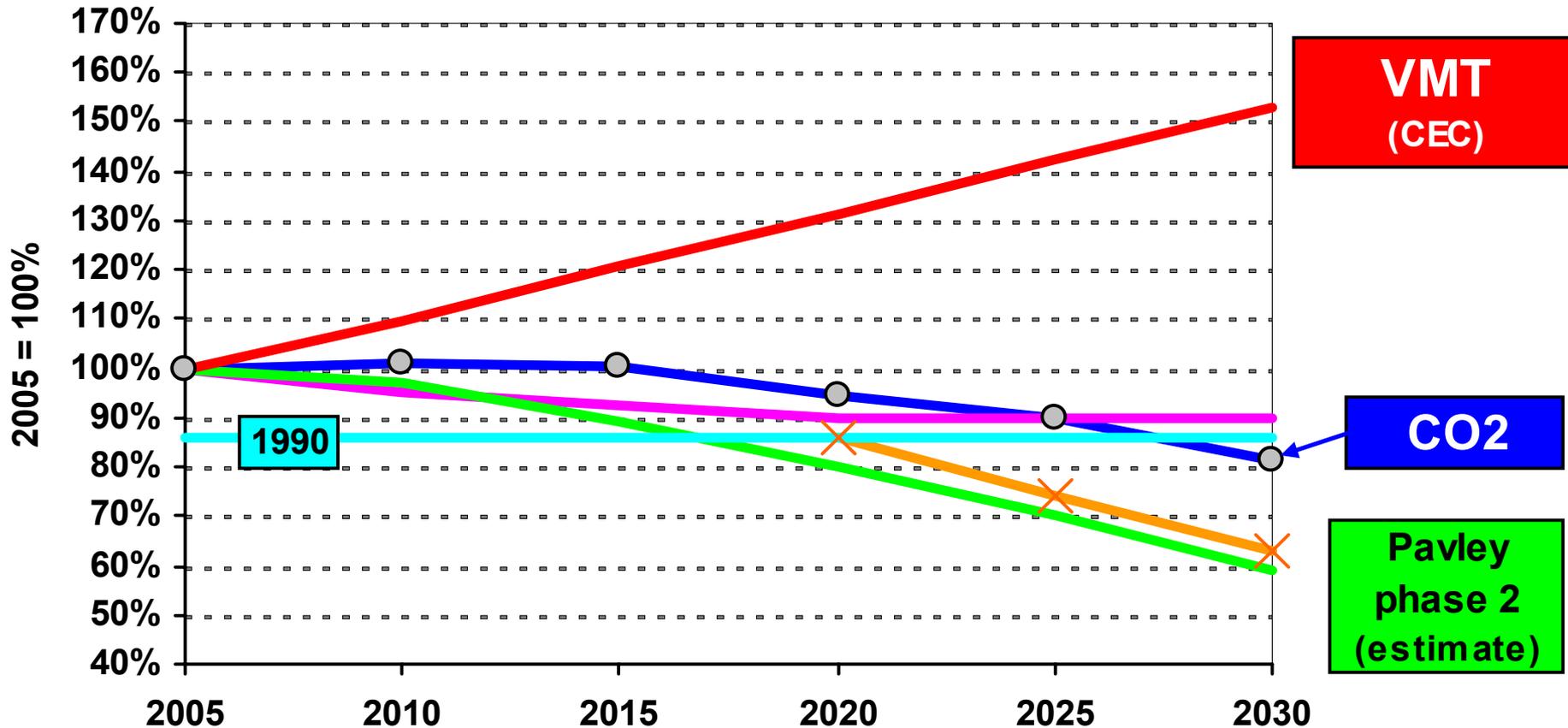
# With **AB1493** and **LCFS** 2030 CO<sub>2</sub>: 23% < 1990 (without VMT!)



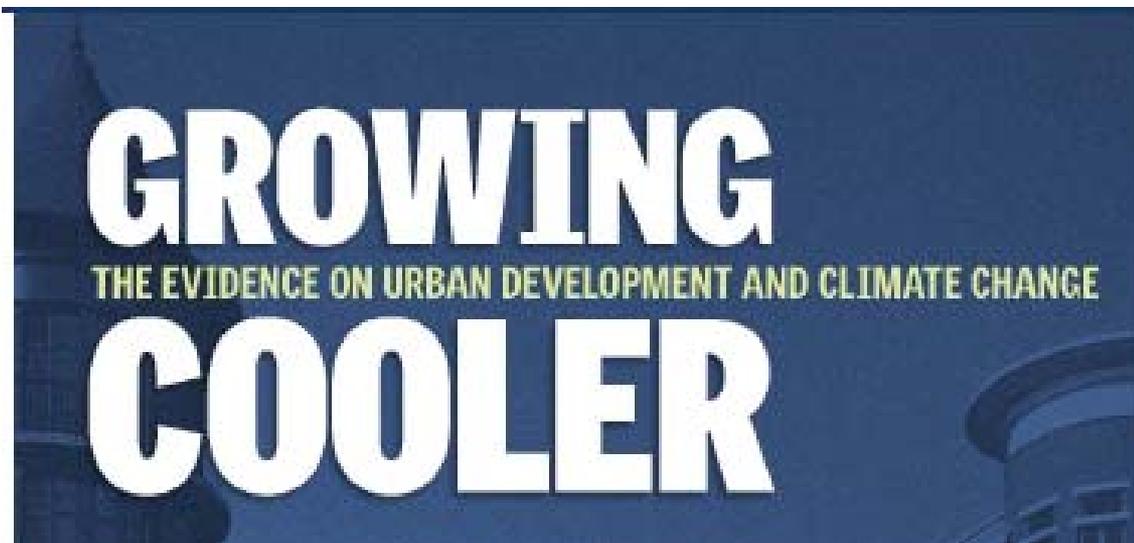
# With **CEC VMT** Growth forecast: 2030 CO2 is 17% above 1990 (CA)



# Estimated impact of **Pavley 2**: 2030 CO2 is 5% below 1990 (CA)



# By how much can we slow VMT growth?



Ewing,  
Bartholomew,  
Winkelman,  
Walters & Chen

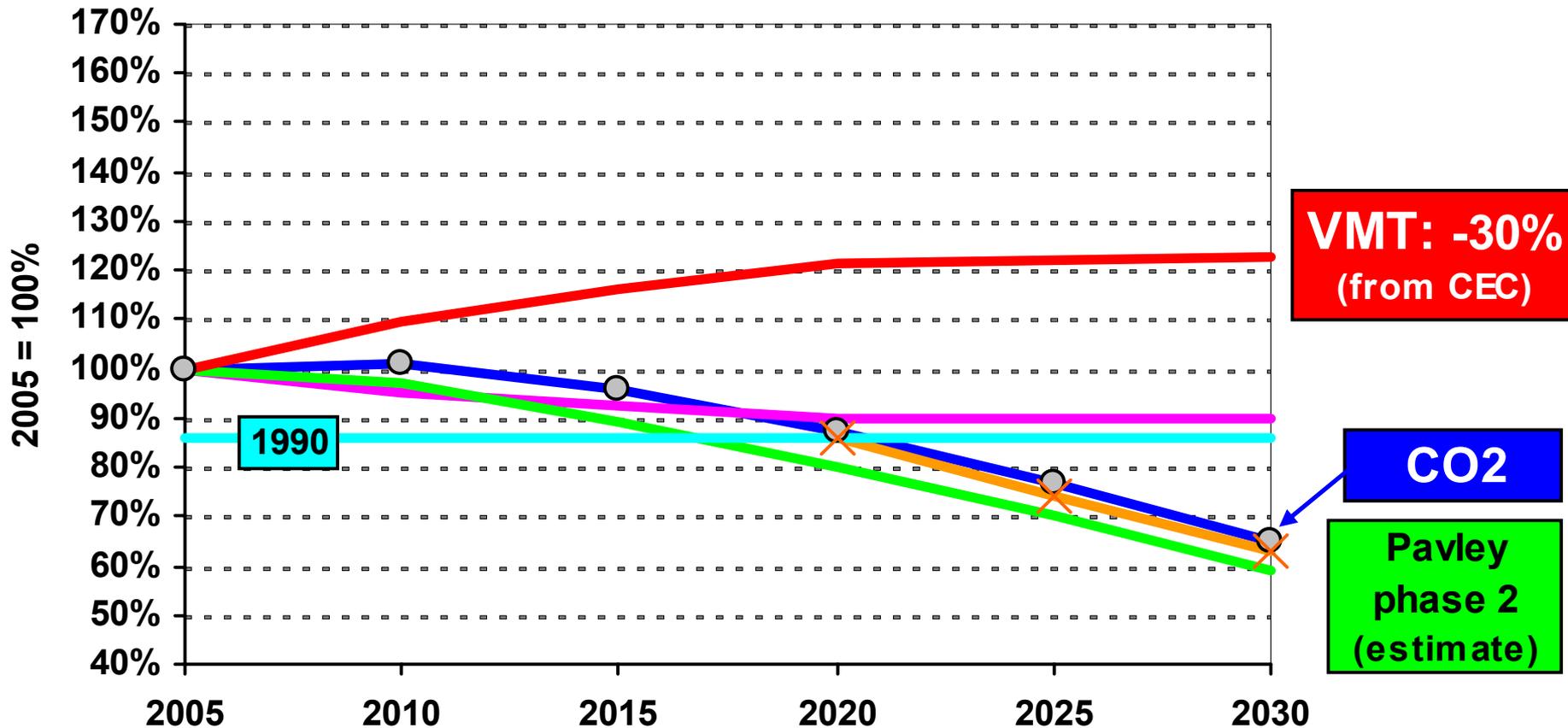
[www.ULI.org](http://www.ULI.org)

- **4% national VMT reduction** by 2030 (from trend)
  - » 80 MMTCO<sub>2</sub> savings: 50% of 35 MPG CAFE
- **Just from land use** -- excludes pricing, other policies
- Based on empirical & modeling literatures *to date*

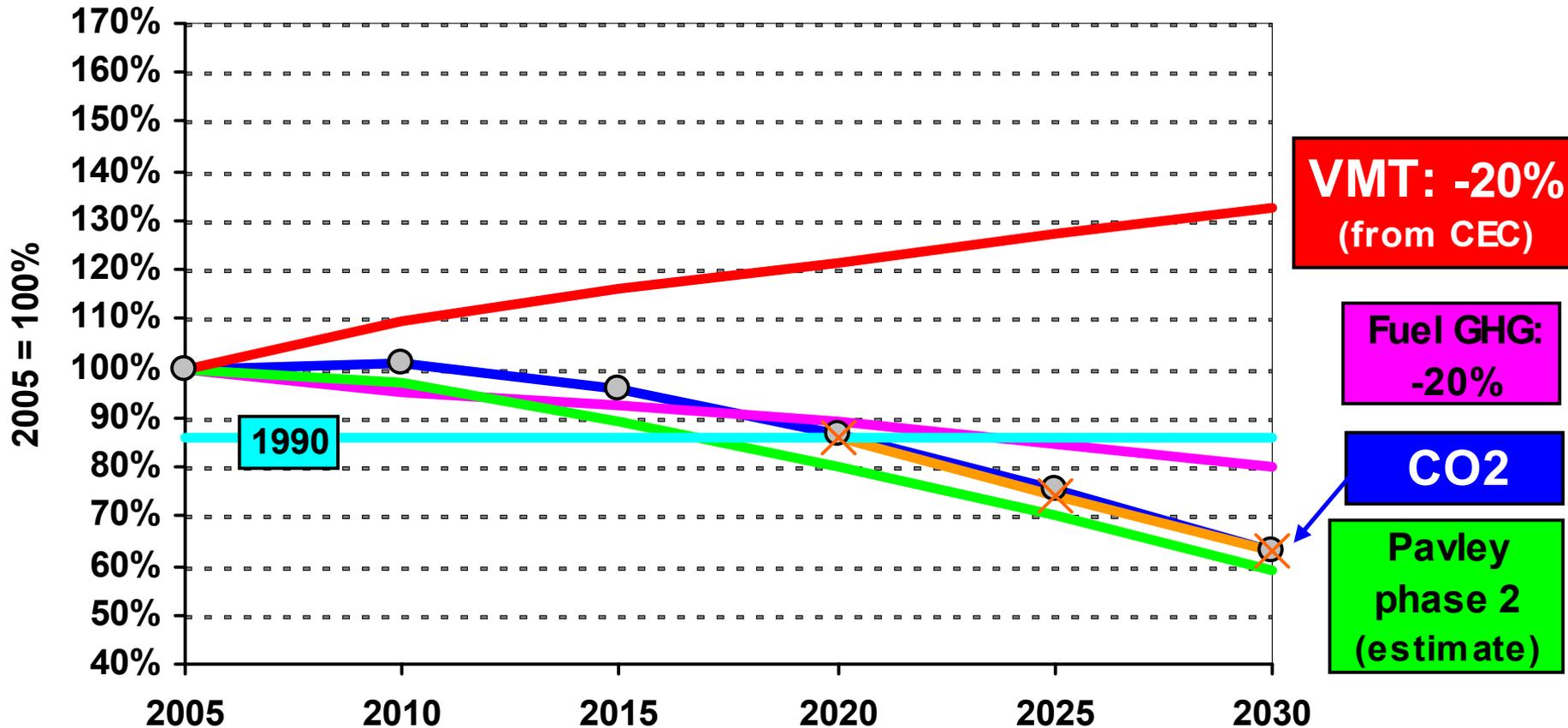
# By how much can we slow VMT growth? (continued)

- **Cambridge Systematics (Bill Cowart)**
  - » - **23% VMT by 2030** (from trend)
  - » Pay-as-you-drive insurance, smart growth, transit, parking measures, TDM, bike/walk
- **AASHTO goal:**
  - » Cut VMT growth in half:  
+2 trillion VMT instead of +4T VMT from 2006-2055
  - » - **23% VMT in 2030** (from trend)
  - » - **67% VMT in 2050** (from trend)

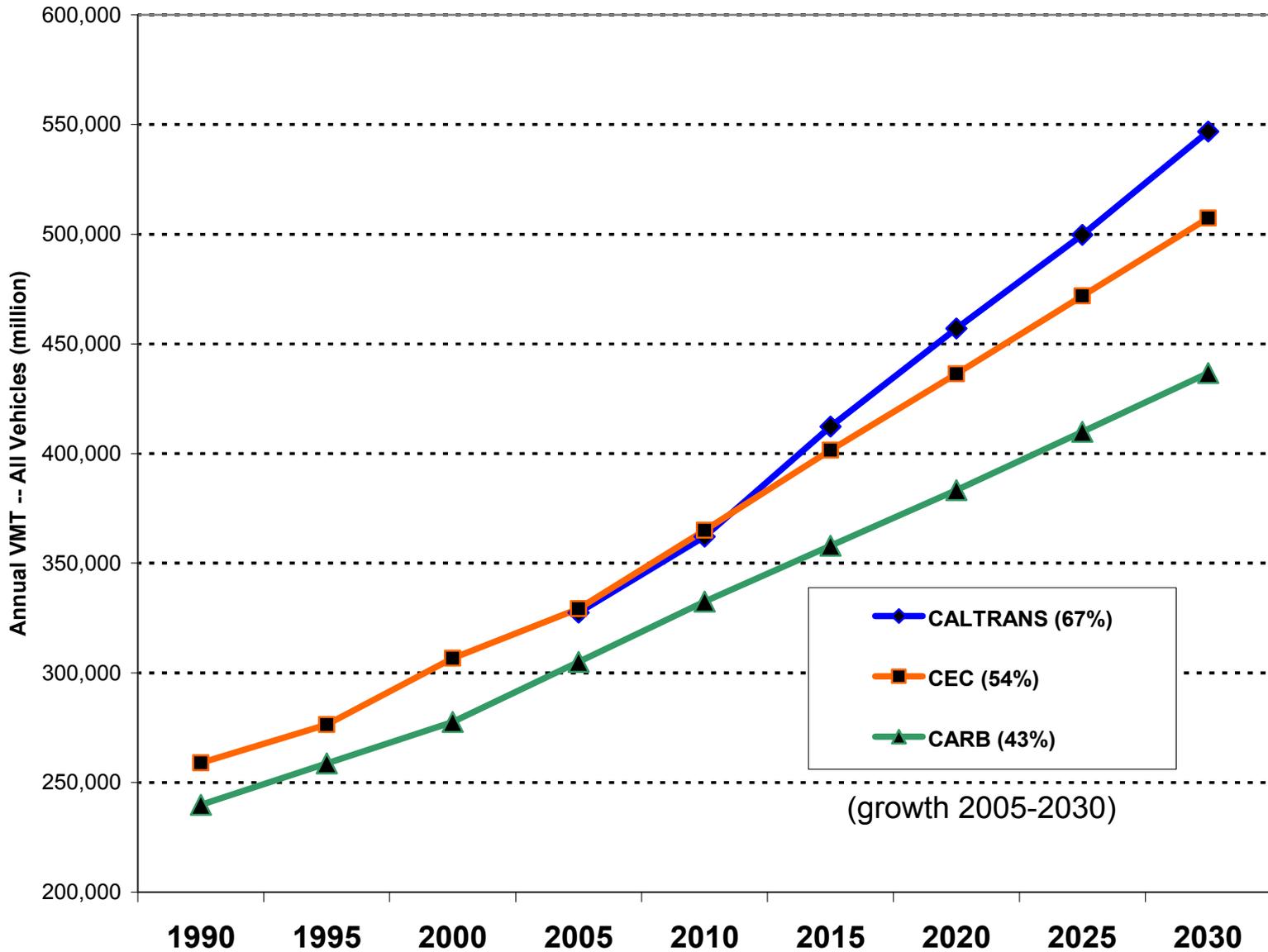
If: **- 30% VMT** (- 8% VMT/capita)  
2030 CO2 is 24% below 1990 (CA)



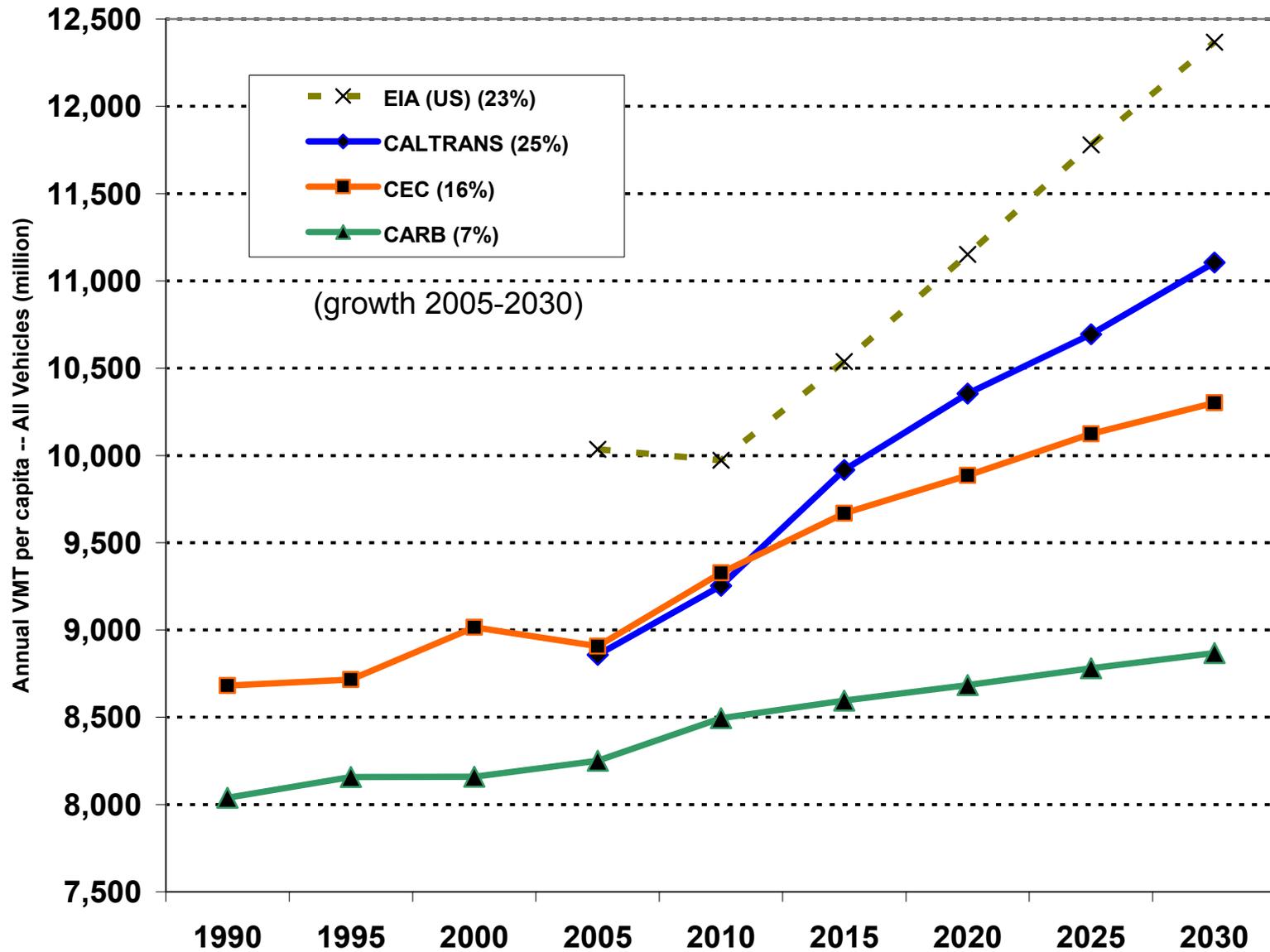
If: **-20% VMT** (flat/capita), **-20% LCFS**  
2030 CO2 is 27% below 1990 (CA)



# CA VMT Forecasts Differ Significantly



# CA VMT Per Capita Forecasts (& US)



# Reflections

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- **Past performance no guarantee of future returns**
  - » The literature only reflects what's been tried to date
- **Need a comprehensive package**
  - » Regional targets (local too?)
  - » Technical support/capacity building (data, models, tools)
  - » GHG performance-based infrastructure funding
- **Vision over precision**
  - » Bottom-up ownership of a positive vision
  - » Directionally correct
  - » Flip the burden of proof

# Negative \$/ton: SACOG 2050 Blueprint (CCAP preliminary calculation)

	<b>Costs (savings)</b> <b><u>NPV (millions)</u></b>
Major transportation capital costs	<b>-\$ 233</b>
Private fuel costs	<b>-\$ 384</b>
<u>Transit operating costs</u>	<b>\$ 118</b>
	<b>-\$ 500</b>
Cumulative CO2 Savings	<b>7.2 MMTCO2</b> <b>- \$ 70/ton</b>
- \$200/ton w/other infrastructure savings	
- \$341/ton w/reduced mitigation land purchases	

# US Climate Policy & VMT Reduction (draft CCAP straw-man)

- **State/Regional VMT Goals**
  - » Launch 'discovery' process using transport/land use scenario analyses to identify workable targets
  - » Goals reflect local conditions, trends, opportunities
- **Use allowance value to help meet VMT goals**
  - » To make it a funded mandate
  - » Using \$ from cap on refiners to supplement price signal and address market failure on VMT
  - » Transit, smart growth, state/local capacity building
- Set stage for climate-friendly transportation bill...

# Green-TEA

## A Legacy for the Planet?

- Business as usual policy will increase VMT
  - » Funding formulas *reward* VMT, fuel use, lane miles
- **Will the next transportation bill make the climate problem better or worse?**
  - » Build upon or wipe out GHG savings from Energy Bill?
  - » Feds must be accountable for next \$300 billion spent
- **Tie funding to GHG performance**
  - » Devote 30% of funding for meeting VMT goals
  - » Something for everyone: transit, smart growth, pricing, fix-it-first, multi-modal freight, strategic bottle-neck relief



1 km walk



+



Sidewalks...

...are as  
**sexy** as  
**hybrids!**

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# Questions? Comments? Thank You!

## **Steve Winkelman**

Director, Transportation & Adaptation Programs

Transportation: [www.ccap.org/transp.htm](http://www.ccap.org/transp.htm)

Adaptation: [www.ccap.org/domestic/ULAI.htm](http://www.ccap.org/domestic/ULAI.htm)

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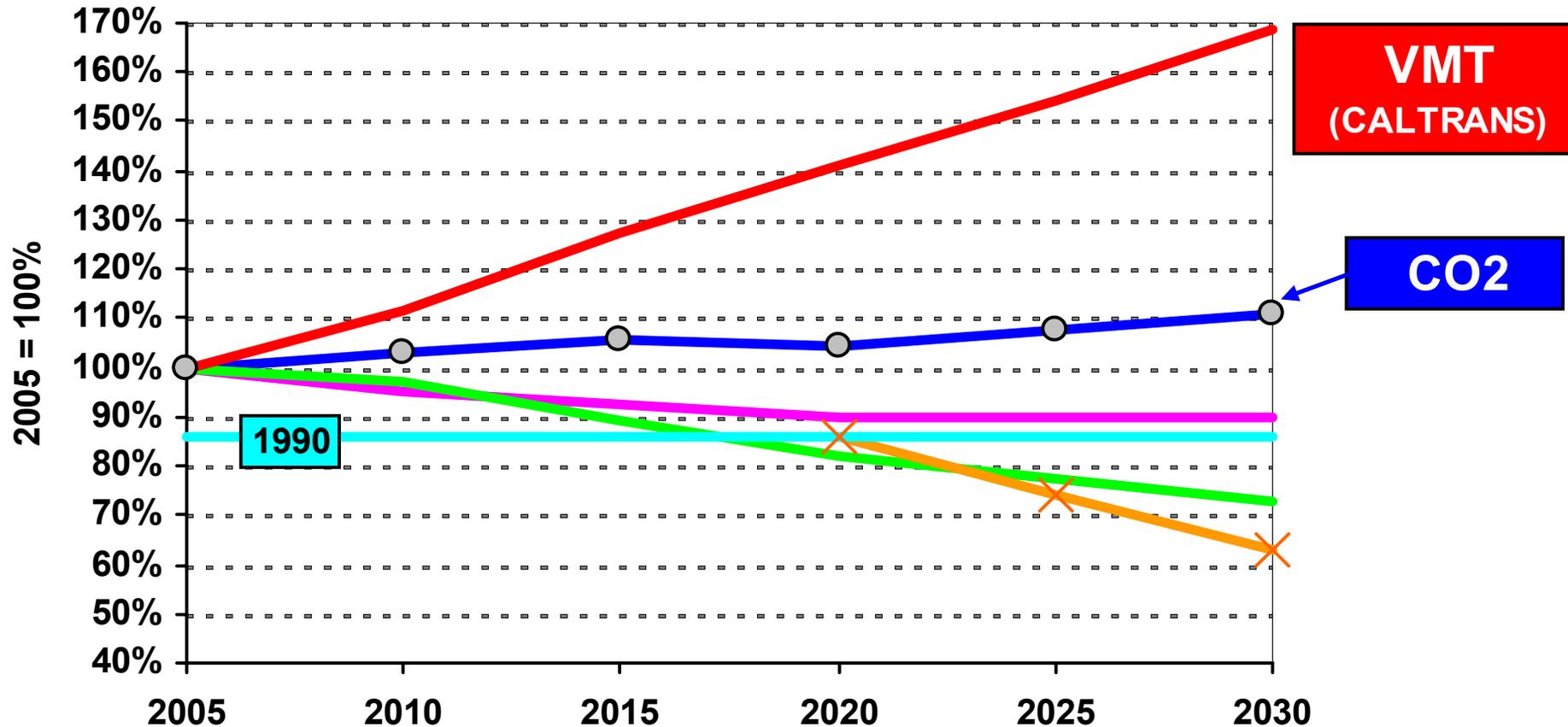


# **Supplemental Material**

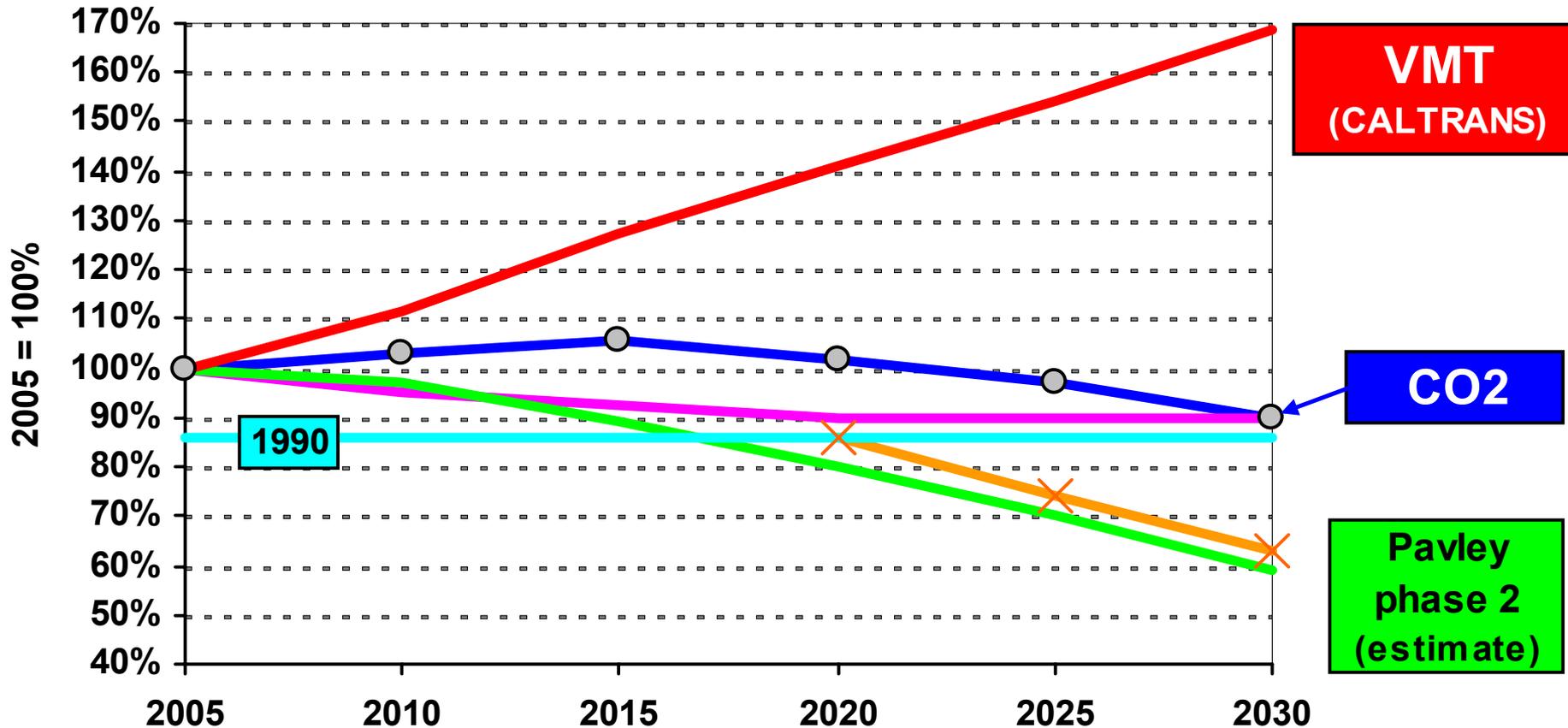
# Has it been done? Who's Trying?

- **Portland, Oregon: 1990-2005**
  - » -6% VMT/capita vs. +10% nationally
- **TOD in Arlington-Ballston (VA) corridor**
  - » 38% transit to work, 12% HH don't own cars vs. 4% for region
  - » Value creation: 8% of County land use, 33% of real estate tax \$, Arlington has lowest property tax for major jurisdiction in N. VA
- **plANYC** –visionary, comprehensive package
- **California:** all the ingredients, working hard on the recipe
- **MA:** offset requirements for new developments
- **King County, WA** Ron Sims is asking:  
“What do we need to do?”

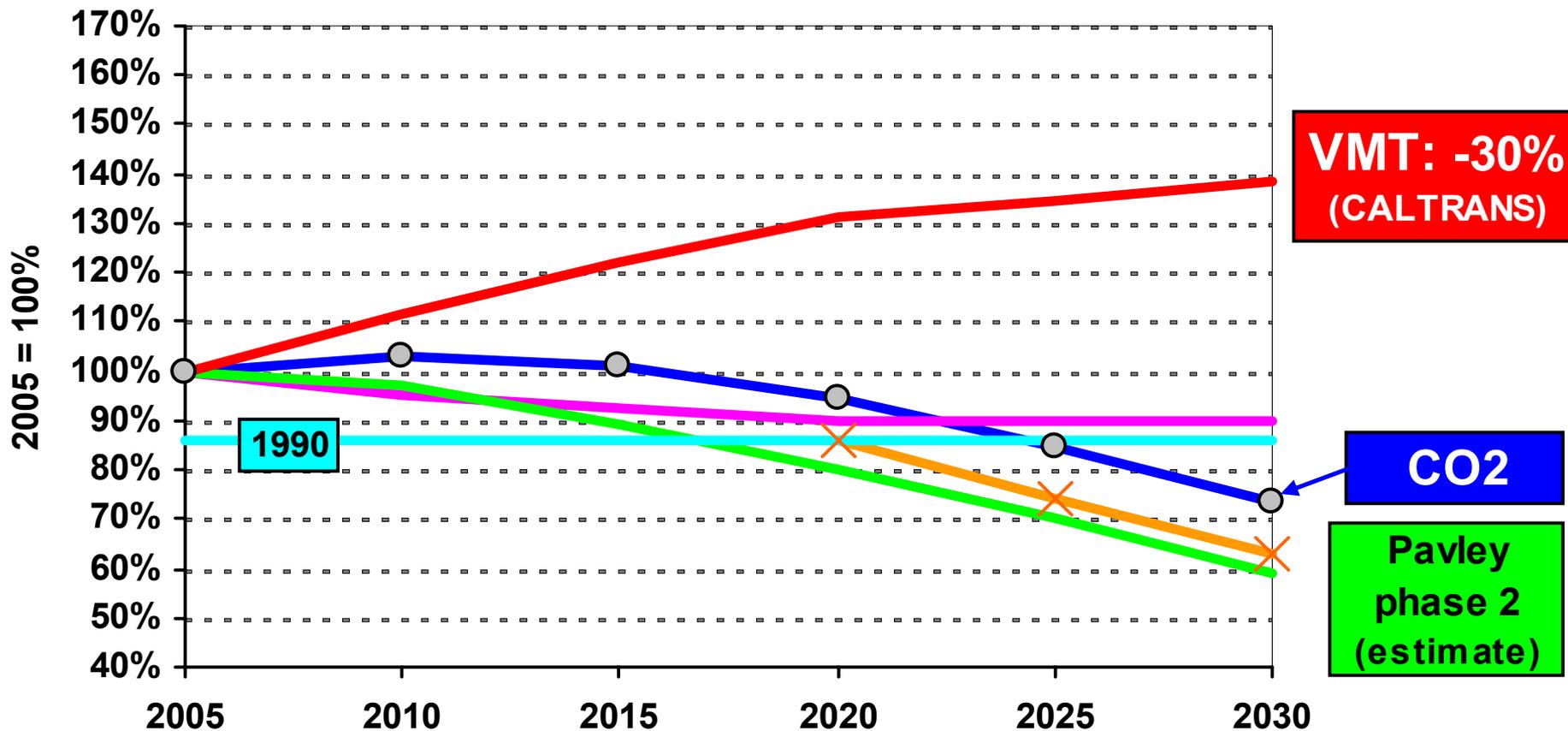
# The impact of **VMT** Growth (CALTRANS): 2030 CO2 is 29% above 1990



# Estimated impact of Pavley 2: 2030 CO2 is 4% above 1990

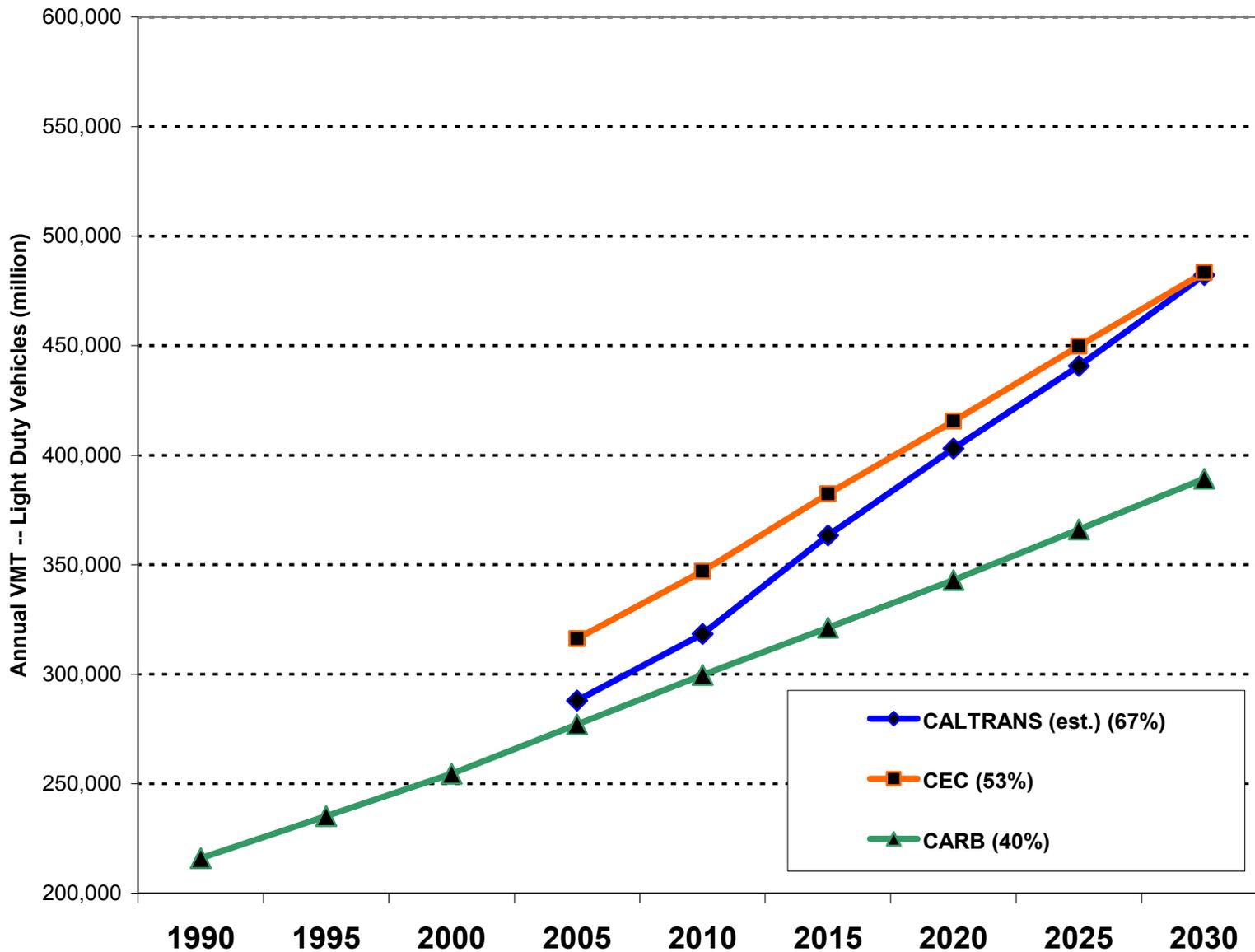


# With 30% VMT Reduction: 2030 CO2 is 14% below 1990



Source: S. Winkelman. Based on estimate of AB 1493 Phase 2 savings, CALTRANS VMT forecast, and LCFS.

# CA Light Duty VMT Forecasts



# CA Light Duty VMT Per Capita

