

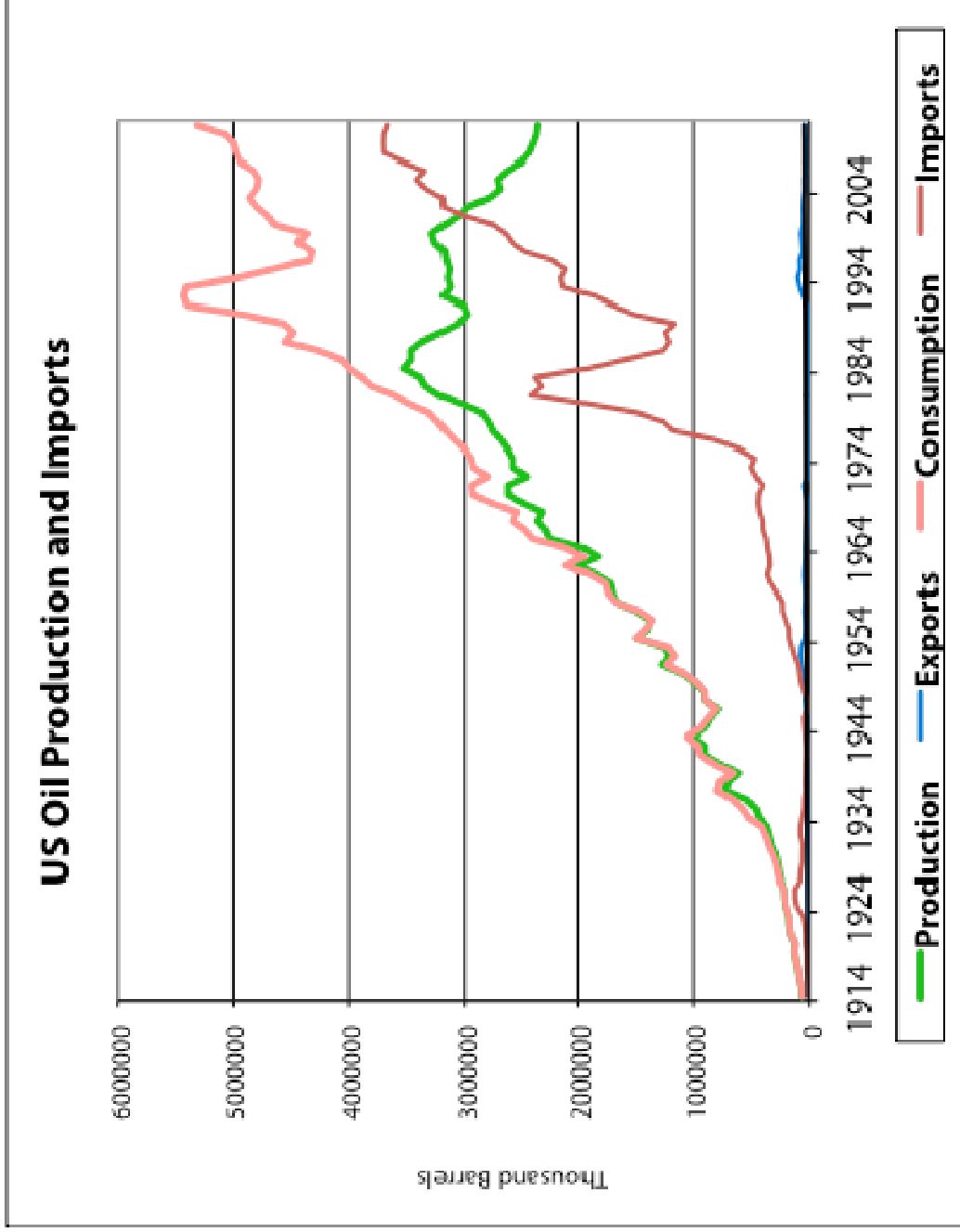
Sustainable Transportation

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Encinitas, July 12 2010



Basis of Mobility



Sustainable Transportation Defined

- Conserves resources
 - Oil
 - Air
- Low impact on environment
 - Air pollution
 - Climate change greenhouse gases
 - Minimizes negative health effects

Objectives of a sustainable transport system

- Improve access to goods and services without excessive or unnecessary mobility and subsequent emissions
- Economic growth with less transport, less resource use, fewer environmental impacts
- Economic development opportunities without a proportional increase in transport activity (and emissions) is known as decoupling

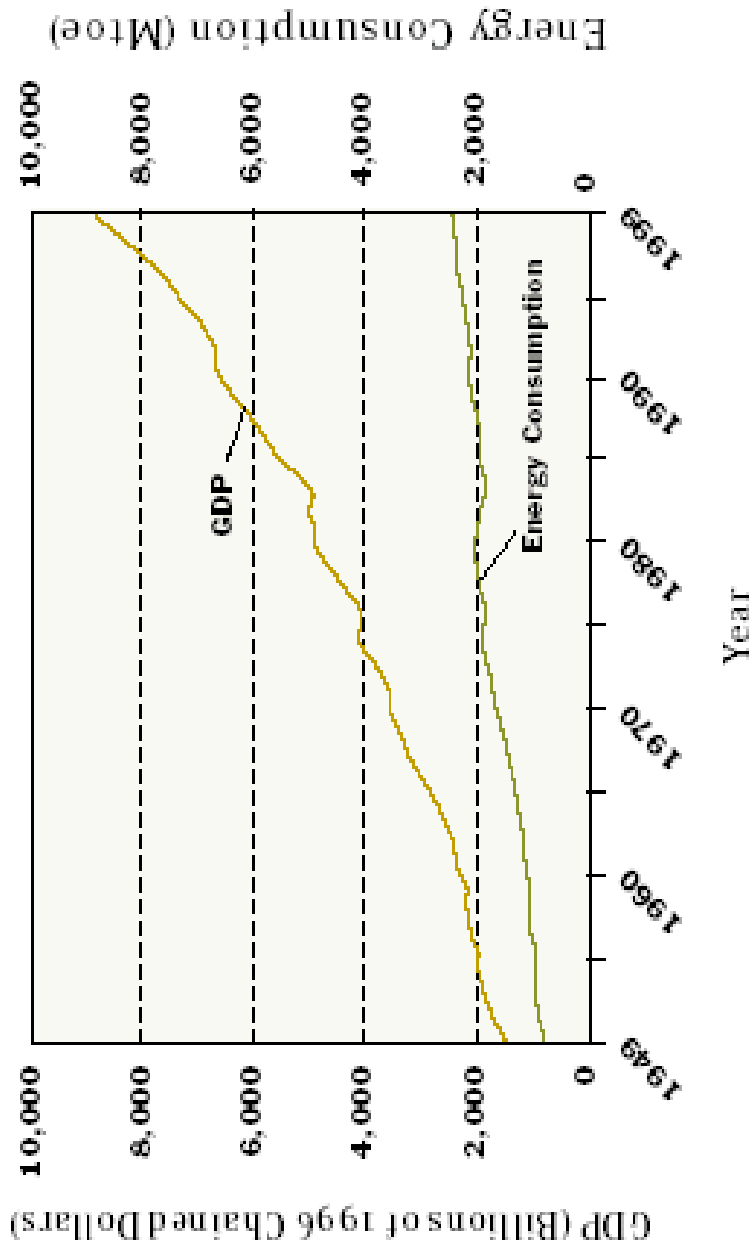
Decoupling can be relative or absolute

Absolute decoupling is aim

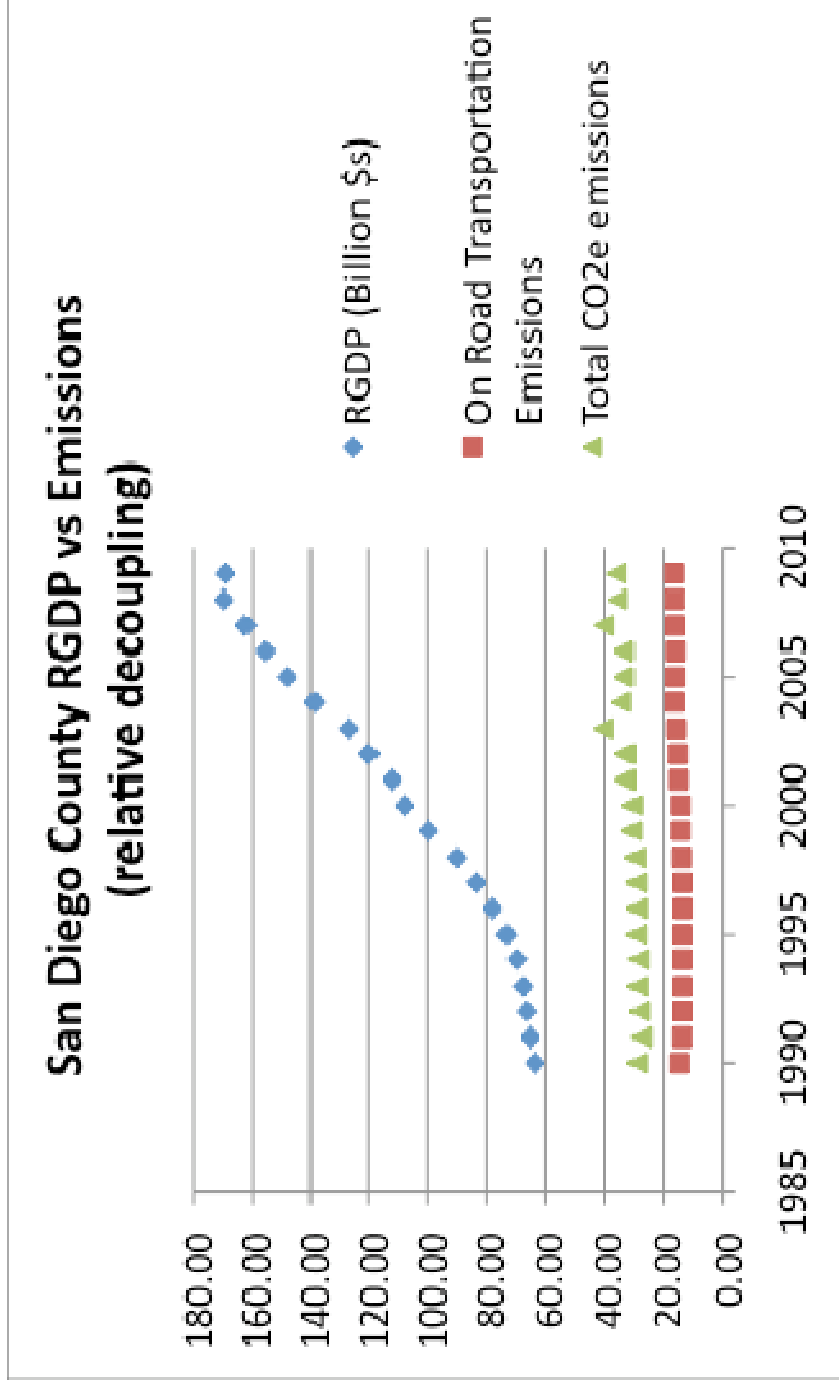
Energy GDP Relative Decoupling

Historic Growth in U.S.

GDP and Energy Consumption 1949-1999

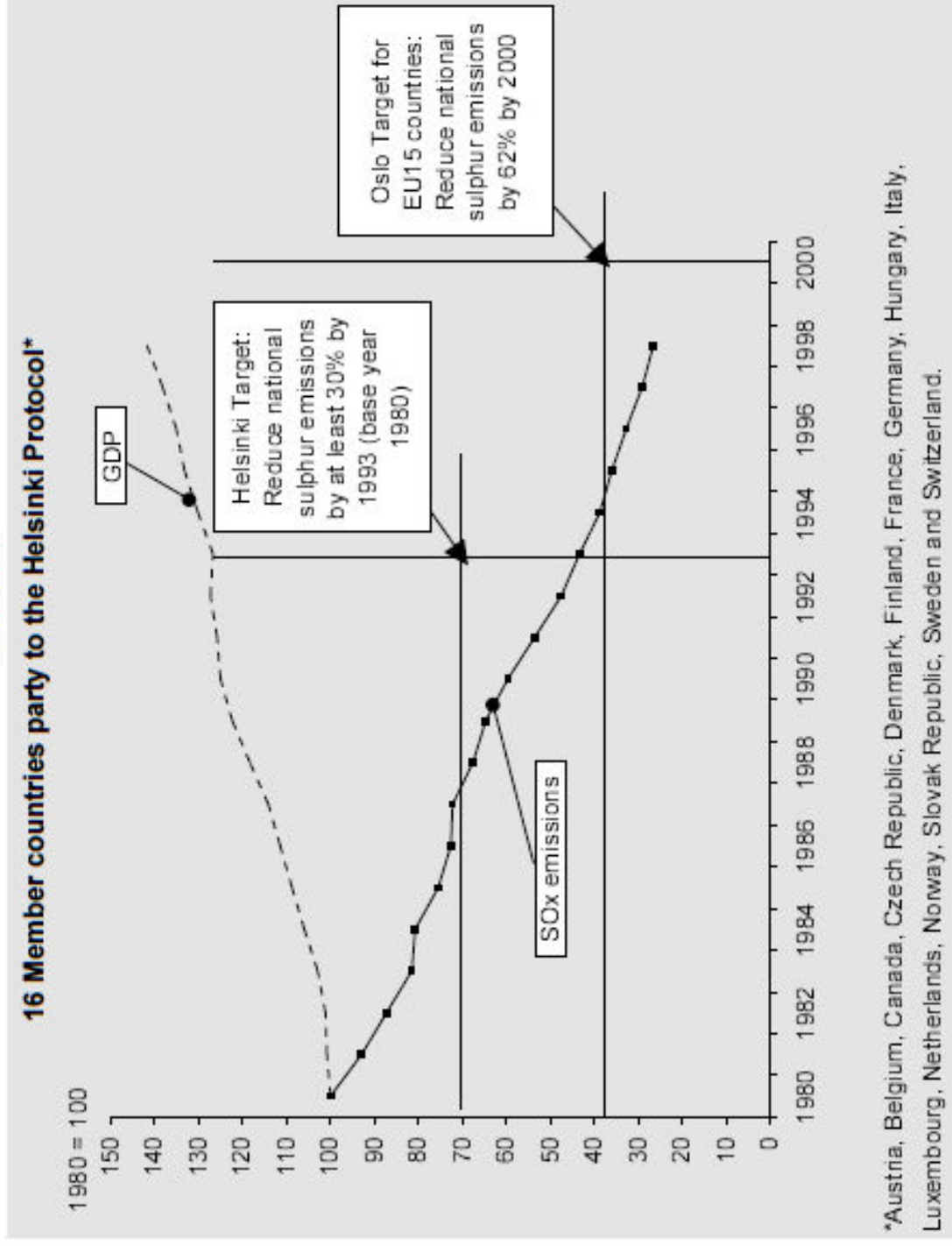


San Diego County Relative Decoupling



Example: Absolute decoupling

Figure 2.2.2 Achievement of targets of UN-ECE convention on long range transboundary air pollution (CLRTAP)



Sustainable Transport in Energy Policy

? – national

- Since 1973
- DoE established 1977
- **Vehicle fuel efficiency standards CAFÉ**
- **55 mph Speed limit**
- Daylight savings time
- Petroleum reserves
- National Energy Act 1978
- Energy Independence and Security Act (EISA) 2007

EISA 2007

- Title I
 - Improve **fuel efficiency** of vehicles 35 mpg by 2020
 - **Electrification**
- Title II
 - Promote **biofuels**
 - Mandatory ethanol production quotas
 - Flexfuel vehicles and E85
 - Tax credits
 - Taxpayer funded

California Energy Policy - components

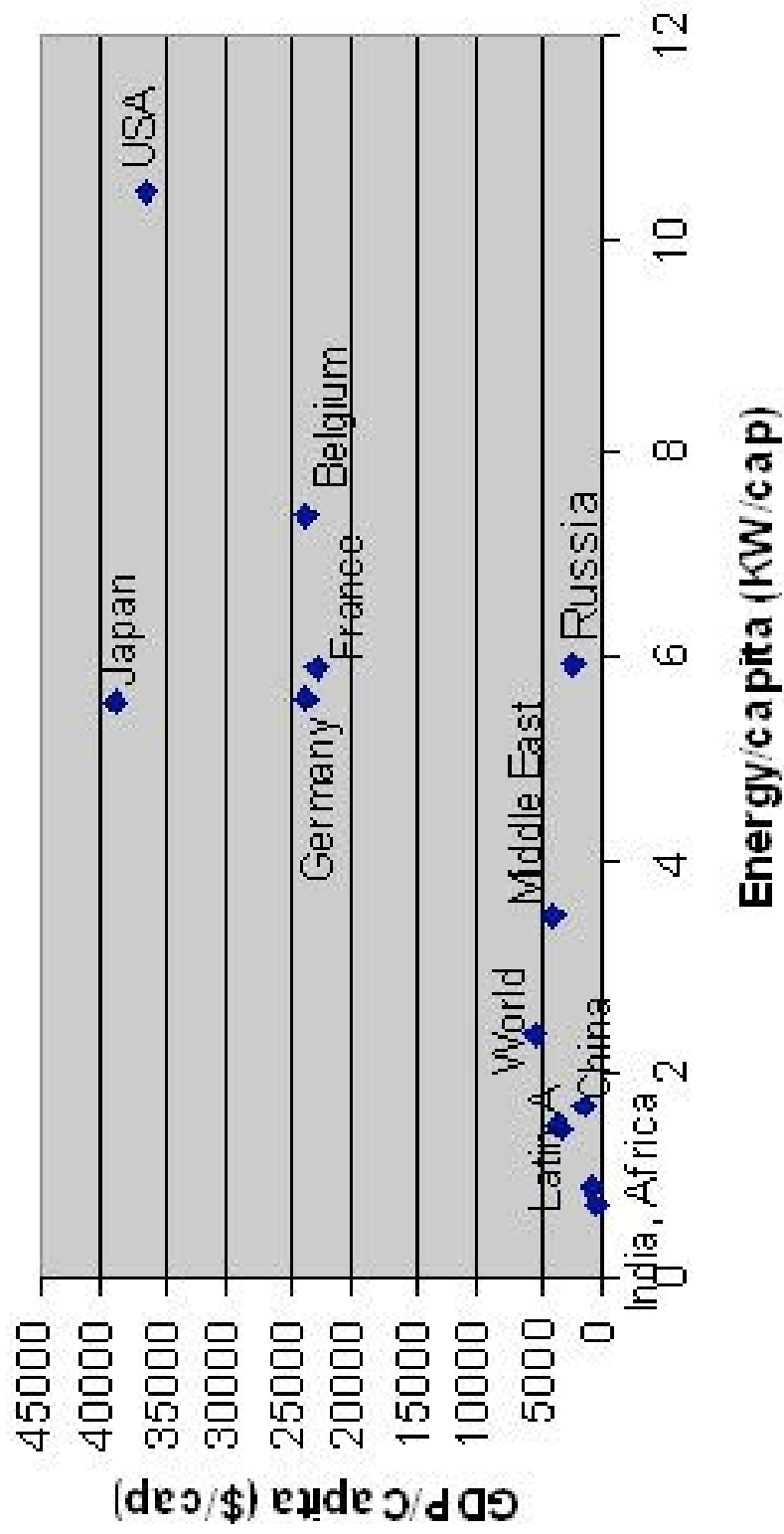
- California Energy Commission 1974
 - Historical and forecast data
 - Licensing thermal power plants > 50 MW
 - Promote EE standards (appliances, buildings)
 - Incentives for RE
 - Promote alternative and renewable fuel and vehicle technology (2007)
 - AB 118 \$120 mi/year
 - Integrated Energy Policy Reports
- AB 32 Global Warming Solutions Act
- SB 375 Land Use Planning and Transportation

- SANDAG Regional Energy Strategy (2009)
 - Alternative fuels
 - EV and peak electricity demand
 - deployment
 - Land use and transportation planning support
- SANDAG 2030 Regional Transportation Plan
 - Smart growth concept/map
 - Sustainable Communities Strategy
- SANDAG Regional Climate Strategy (2010)
 - To help achieve SB 375 target
 - Tools and options for RTP/RCP

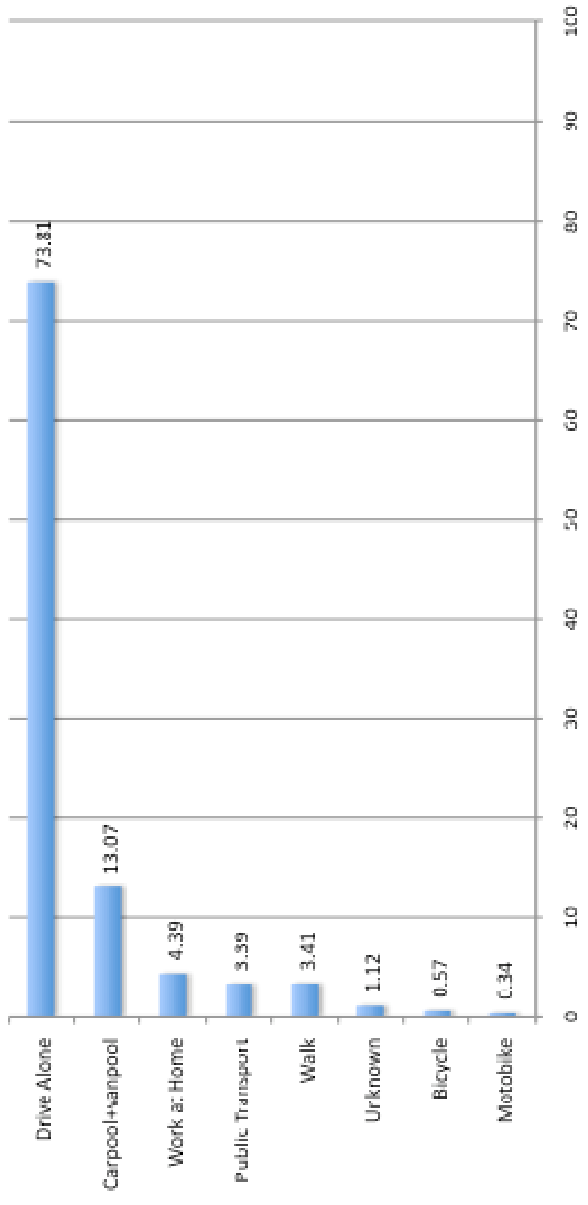
Comparative Transport Energy Indicators

GHG emissions from private vehicle per capita	kg
US cities (CO2)	4,405
San Diego County (CO2E)	4,442
Canada cities (CO2)	2,422
Australia cities (CO2)	2,226
Western Europe cities (CO2)	1,269
High income Asia cities (CO2)	825
China, cities (CO2)	213

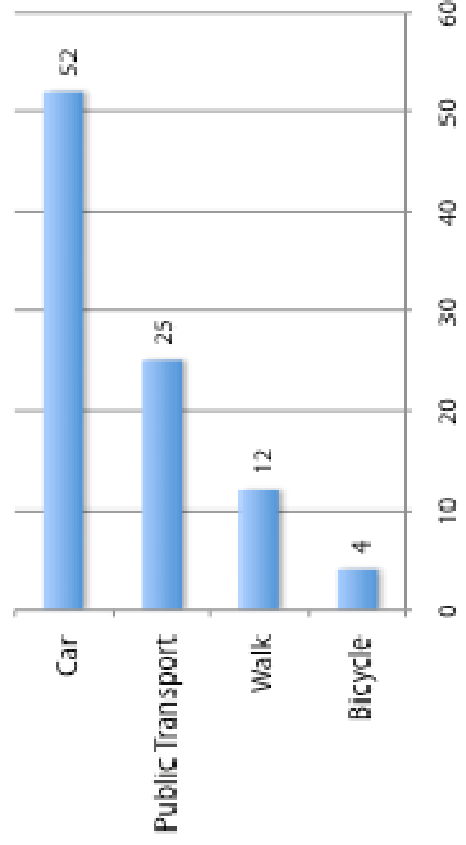
Energy and GDP



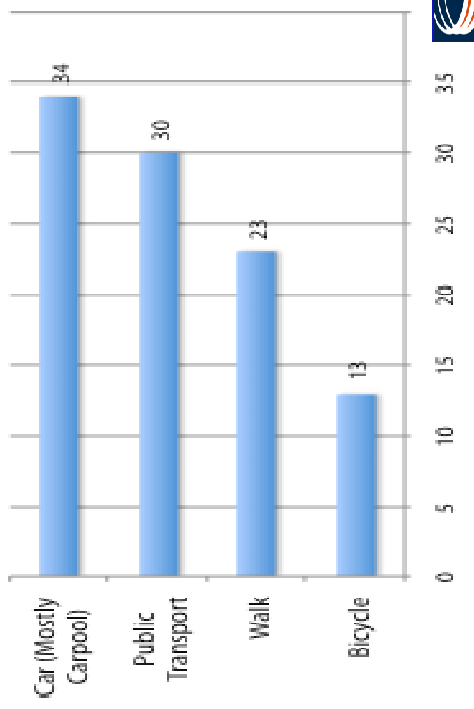
How San Diegans get to work (2000)



Vancouver



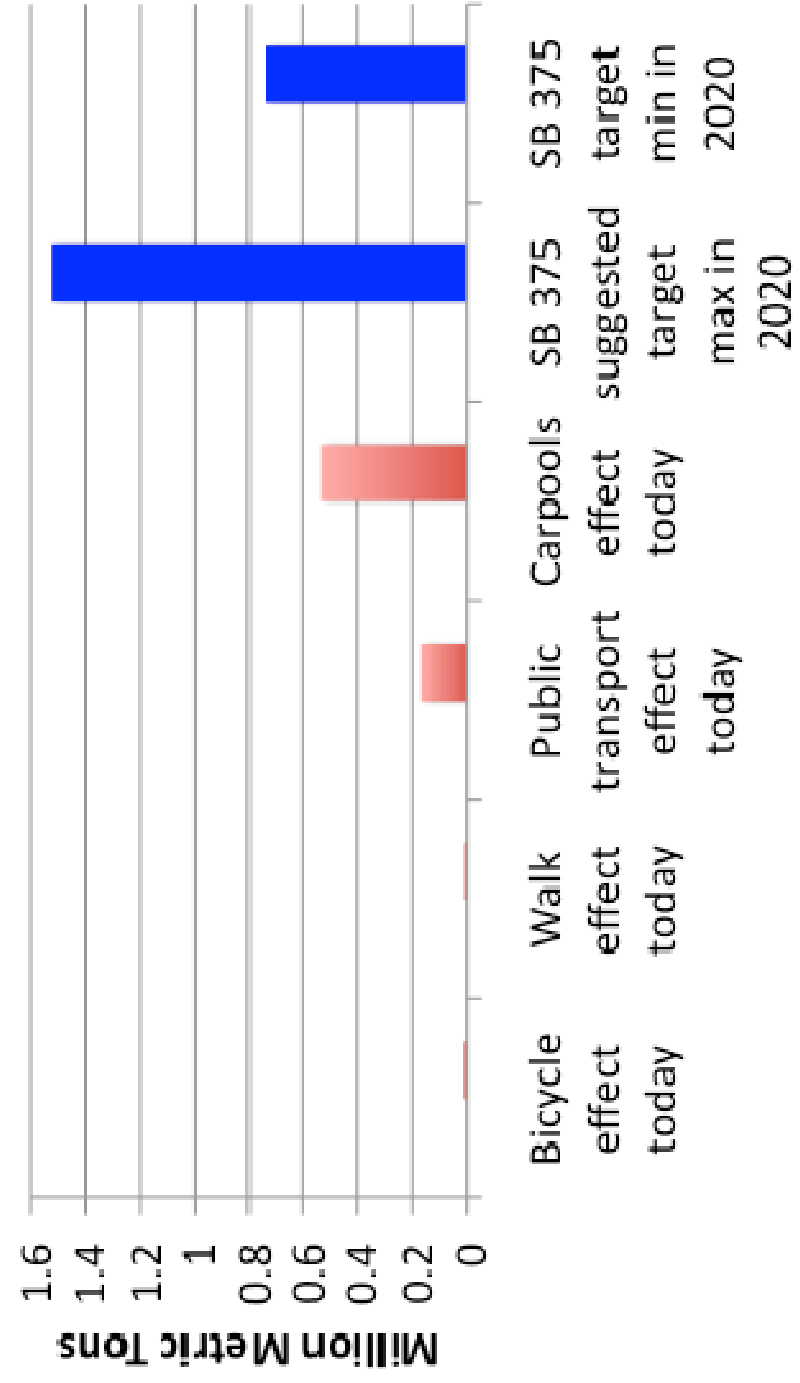
Berlin



SB 375 Land use planning and transportation

- Develop regional GHG reduction target to be achieved from use of passenger cars and LDTs
- Encourage **compact development**
- Enable **better transportation practices**
- CARB : 5-10% per capita GHG reduction from 2005 level by 2020
- A 5% per capita target is roughly **0.76 MMT**
total CO₂e reduction (10% is **1.52 MMT**)

GHG Reduction Effect of Commute Measures, San Diego County



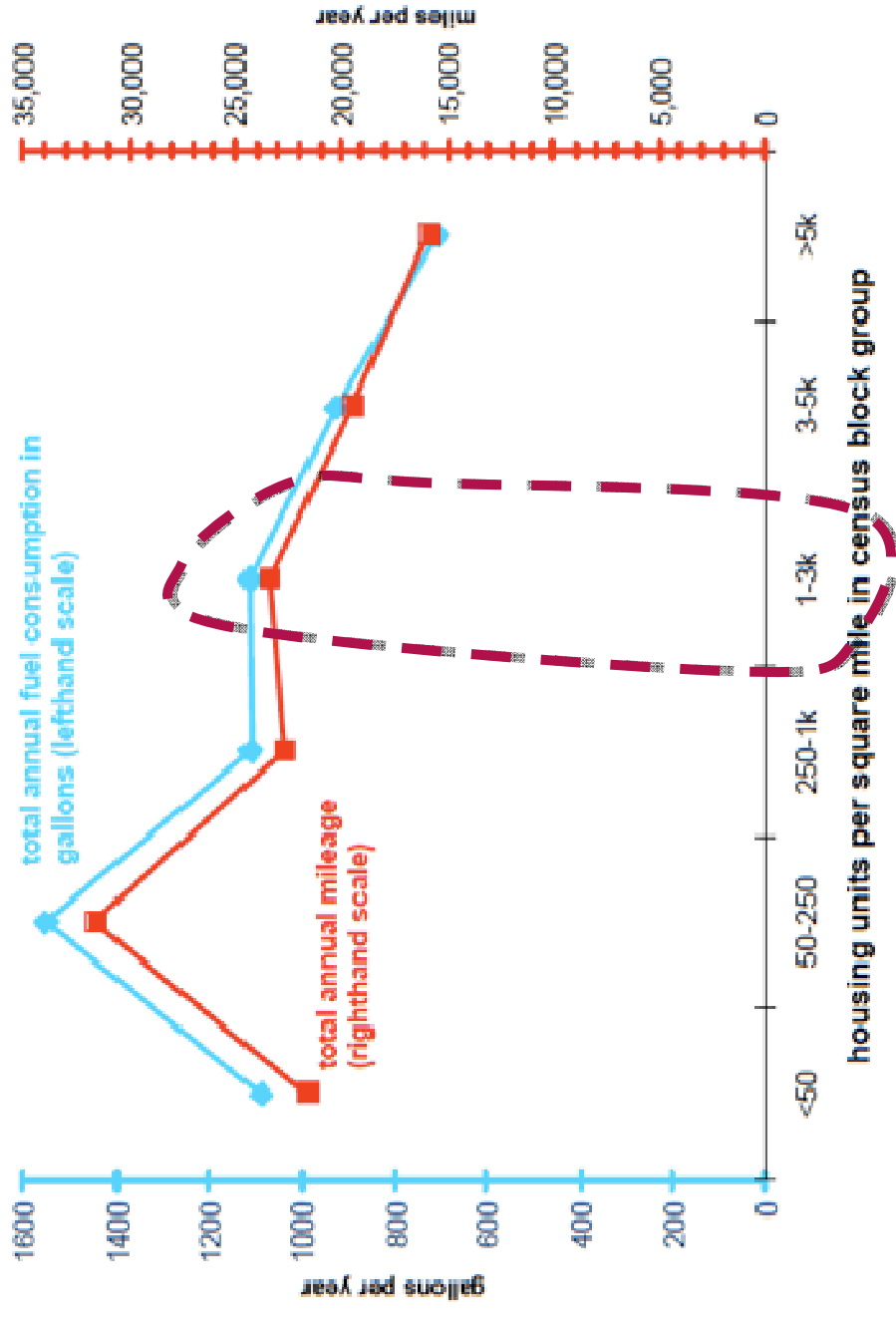


Figure 8 Annual Total Mileage and Fuel Consumption by Residential Density in Terms of Housing Units per Square Mile in Census Block Group

San Diego County Housing Densities

	Housing		
	Area (mi2)	Units	Units/mi2
La Mesa	9.0	24,258	2,695
El Cajon	14.4	34,593	2,402
Lemon Grove	3.9	8,581	2,200
Imperial Beach	4.4	9,376	2,131
Solana Beach	3.4	5,802	1,706
National City	9.2	15,325	1,666
Vista	18.6	29,794	1,602
Chula Vista	50.9	75,123	1,476
Oceanside	42.2	61,113	1,448
San Diego	342.5	487,775	1,424
Escondido	36.2	45,994	1,271
Encinitas	19.6	23,739	1,211
Del Mar	1.8	2,146	1,192
Santee	16.5	19,168	1,162
San Marcos	24.0	26,312	1,096
Carlsbad	39.1	40,417	1,034
Coronado	14.0	7,767	555
Poway	39.1	16,046	410
Unincorporated			
County	3,572.0	156,112	44
County	4,261	1,089,451	256

QUESTIONS?

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