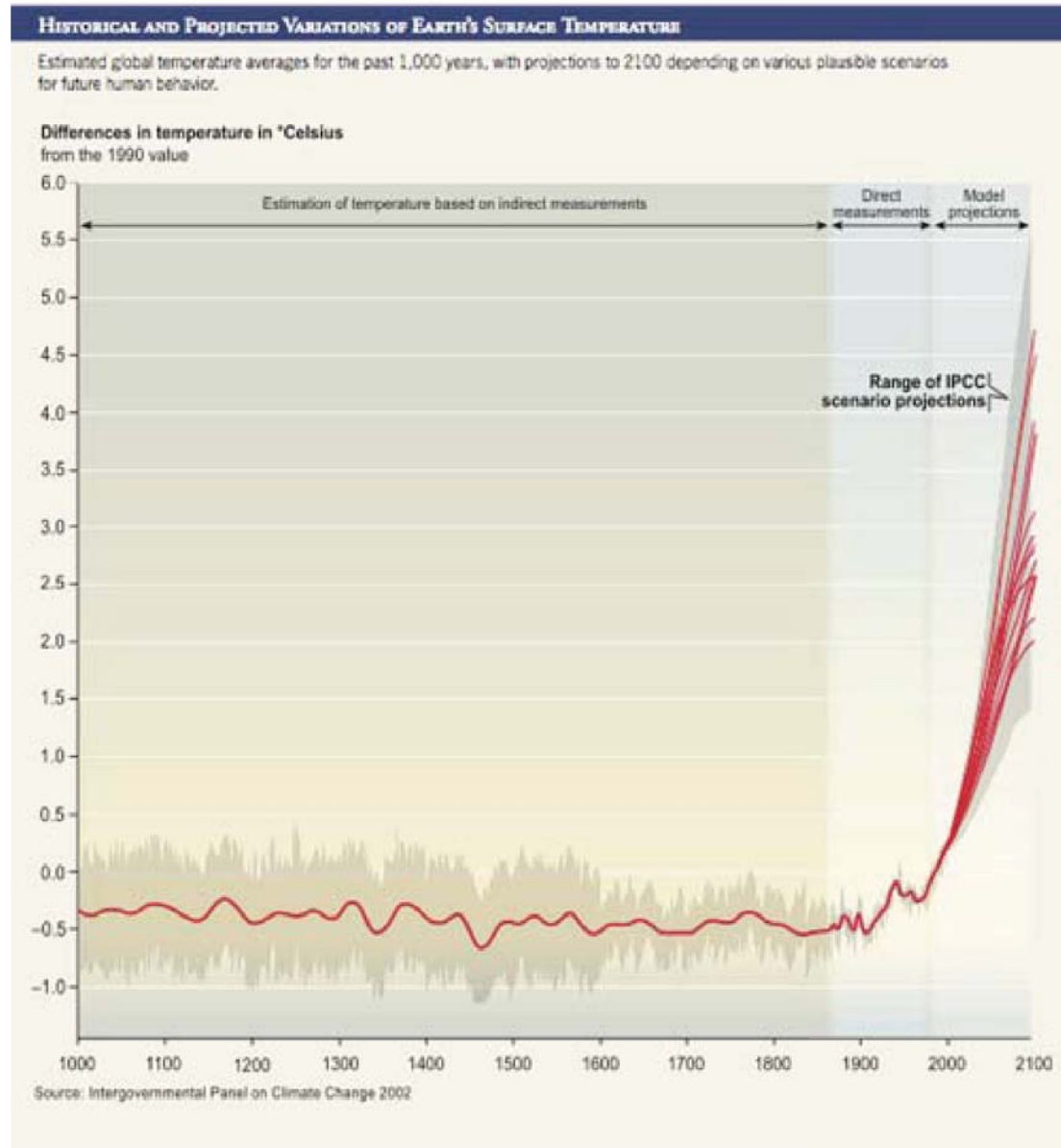


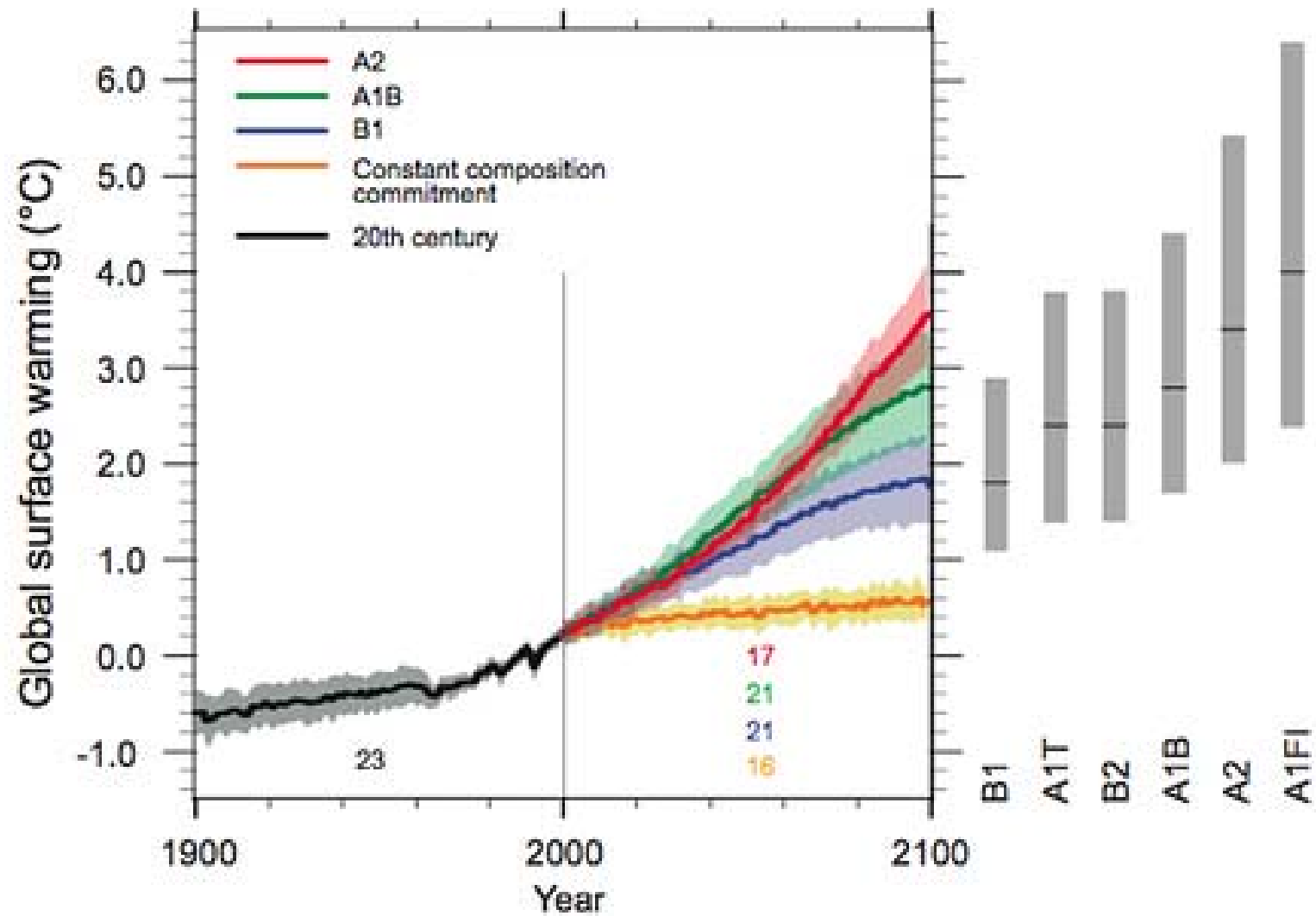
Urbanism and Climate Change



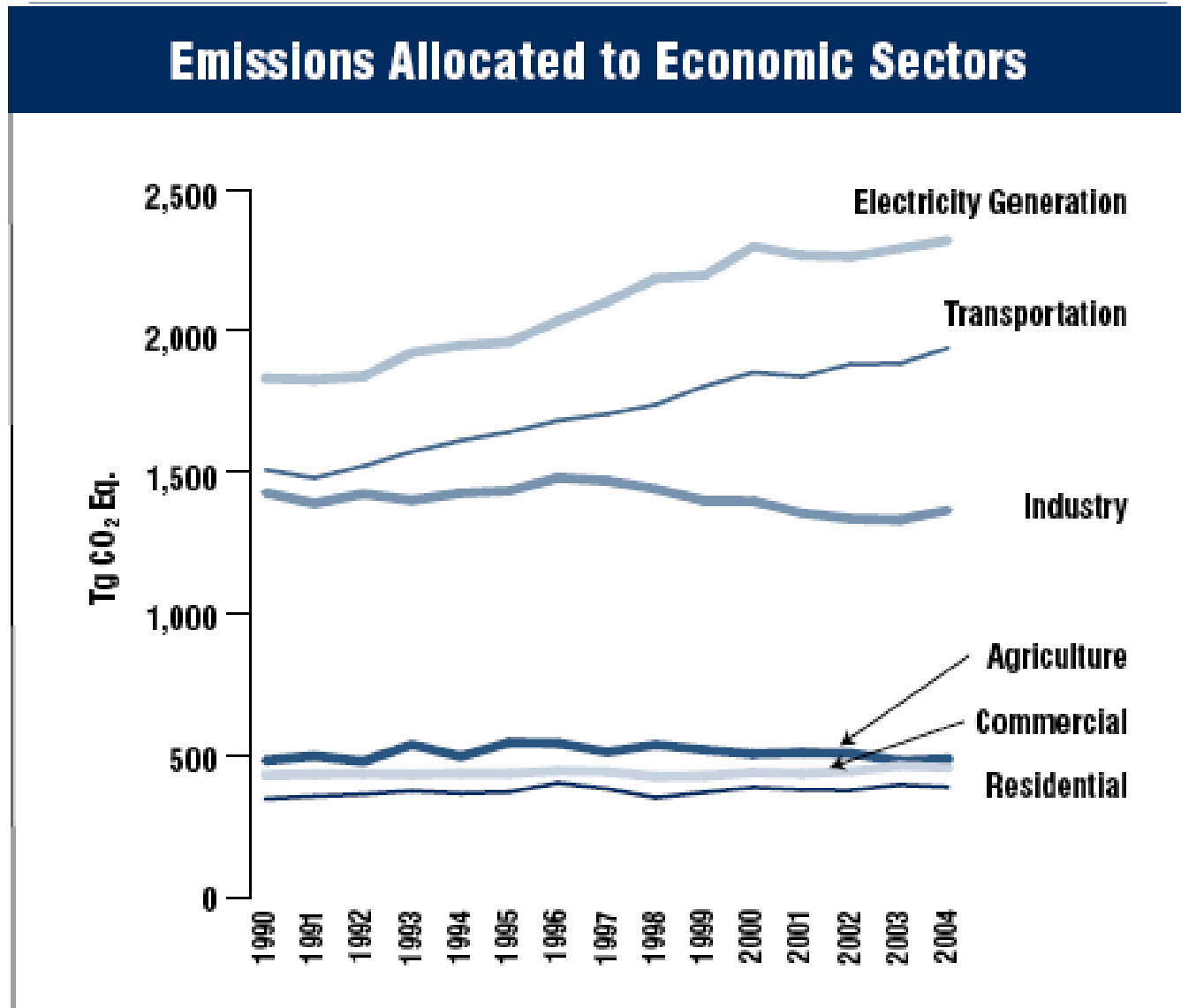
IPCC: Rise in Global Temperature

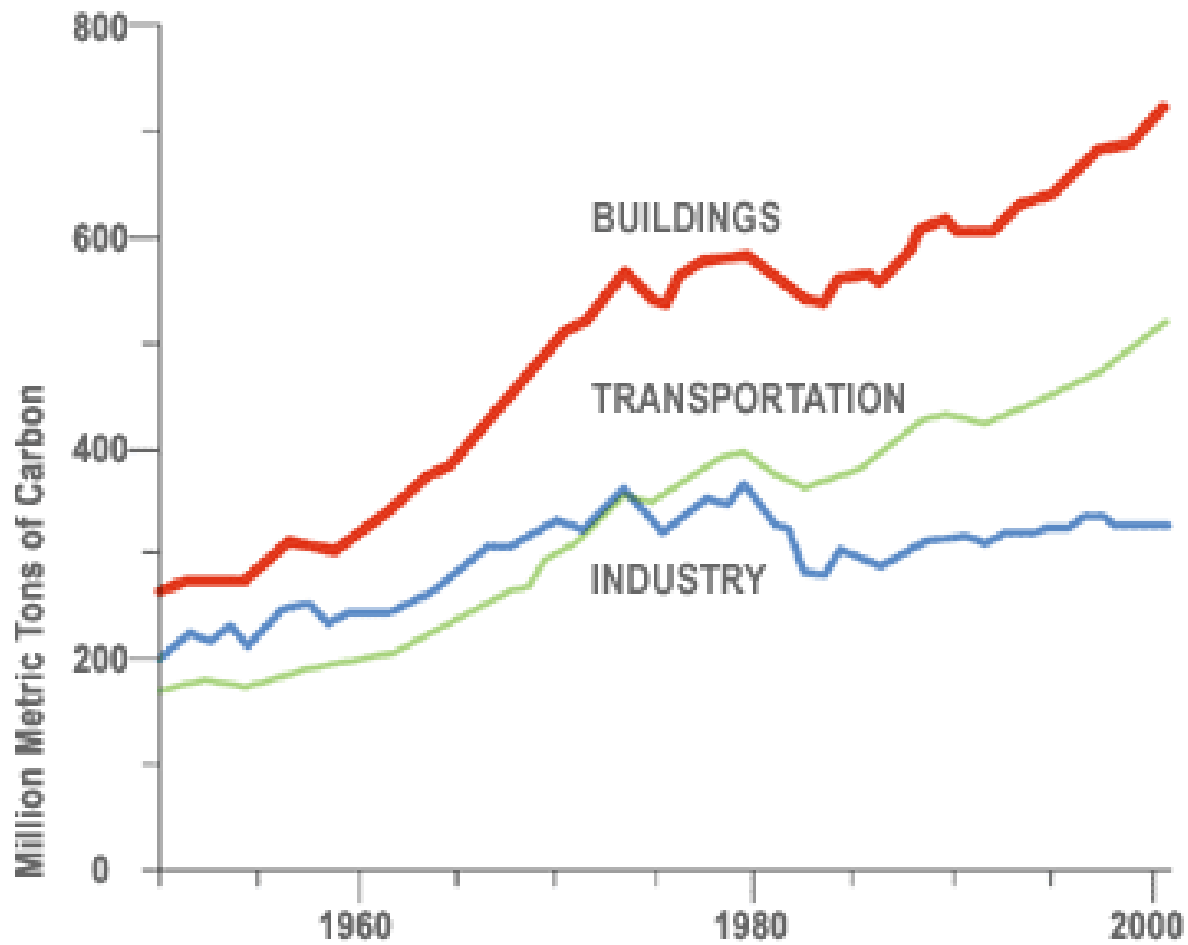


IPCC, February 2007



Transportation is a Large Contributor to Greenhouse Gas Emissions, US EPA, 2006



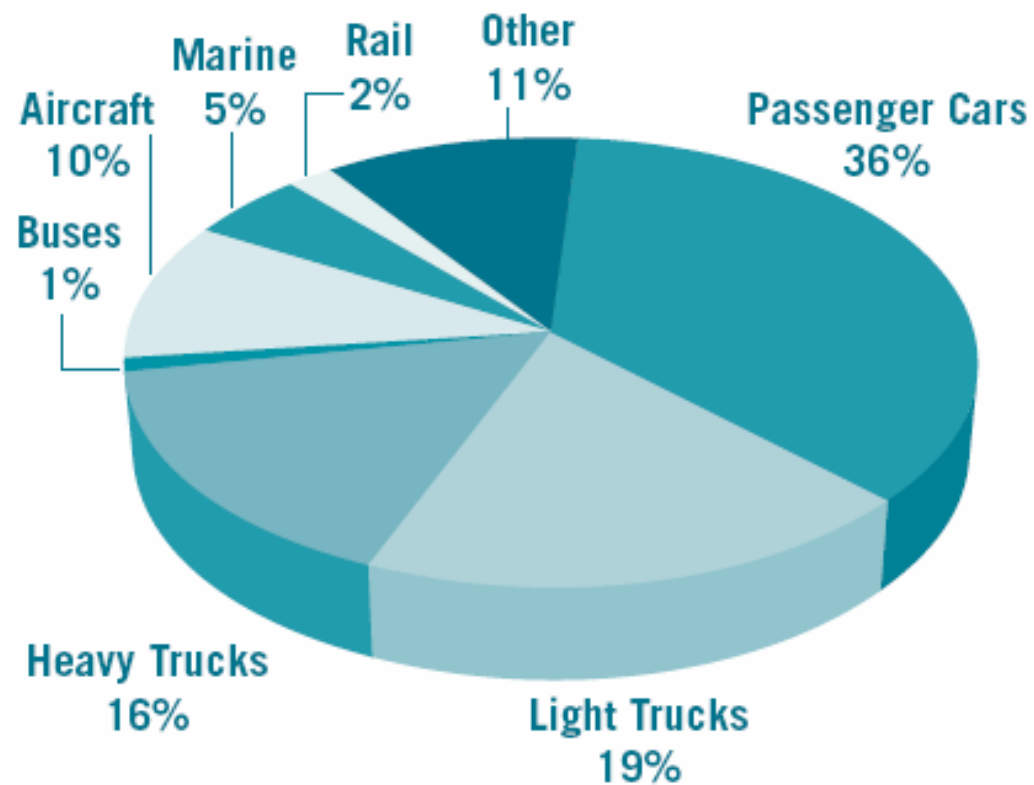


Source: Ed Mazria, 2030 Architecture Challenge

Transport Modes

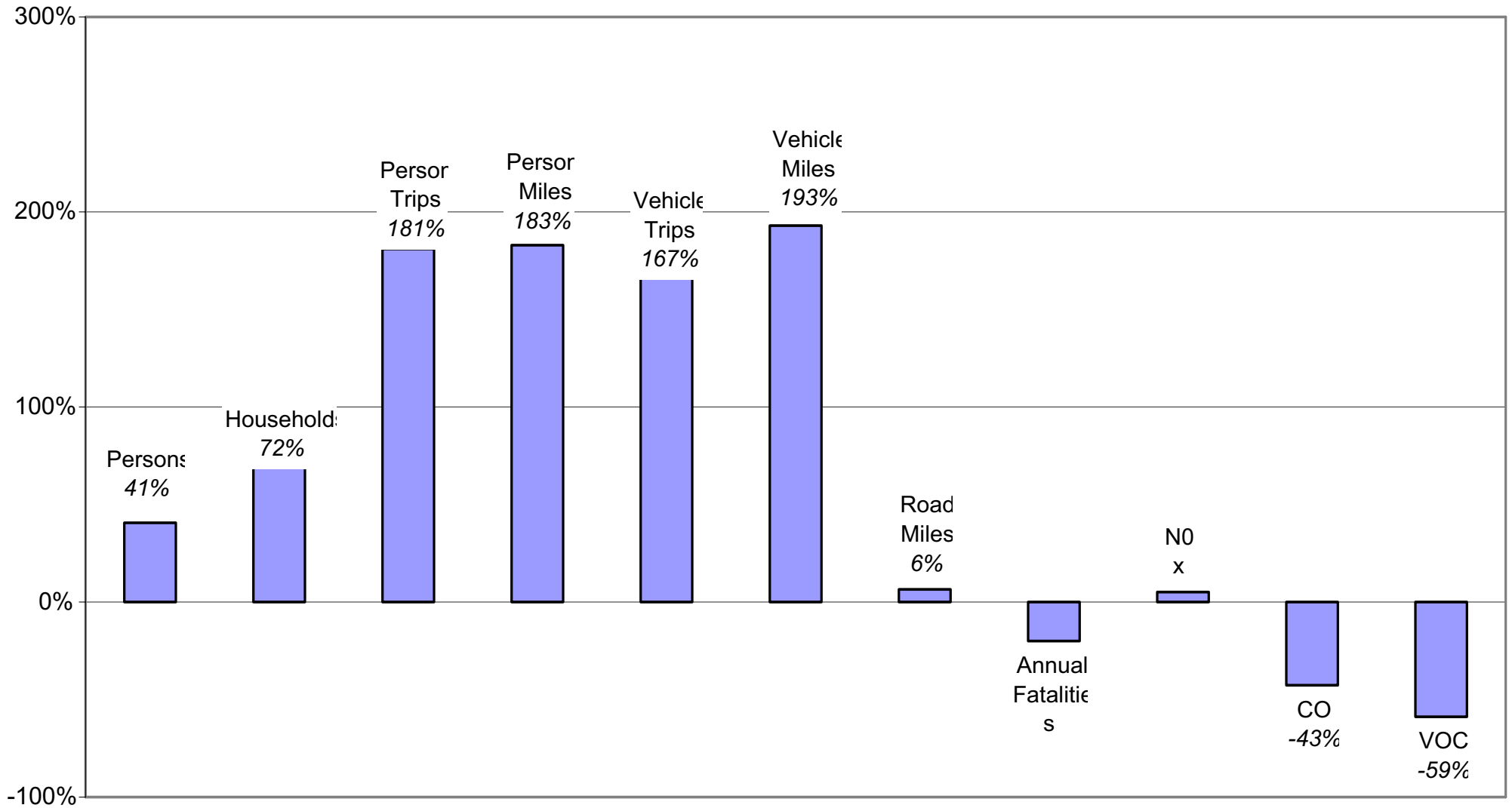
Transportation GHG Emissions

by Mode, 2000



Source: U.S. EPA, 2002, Table 1-14.

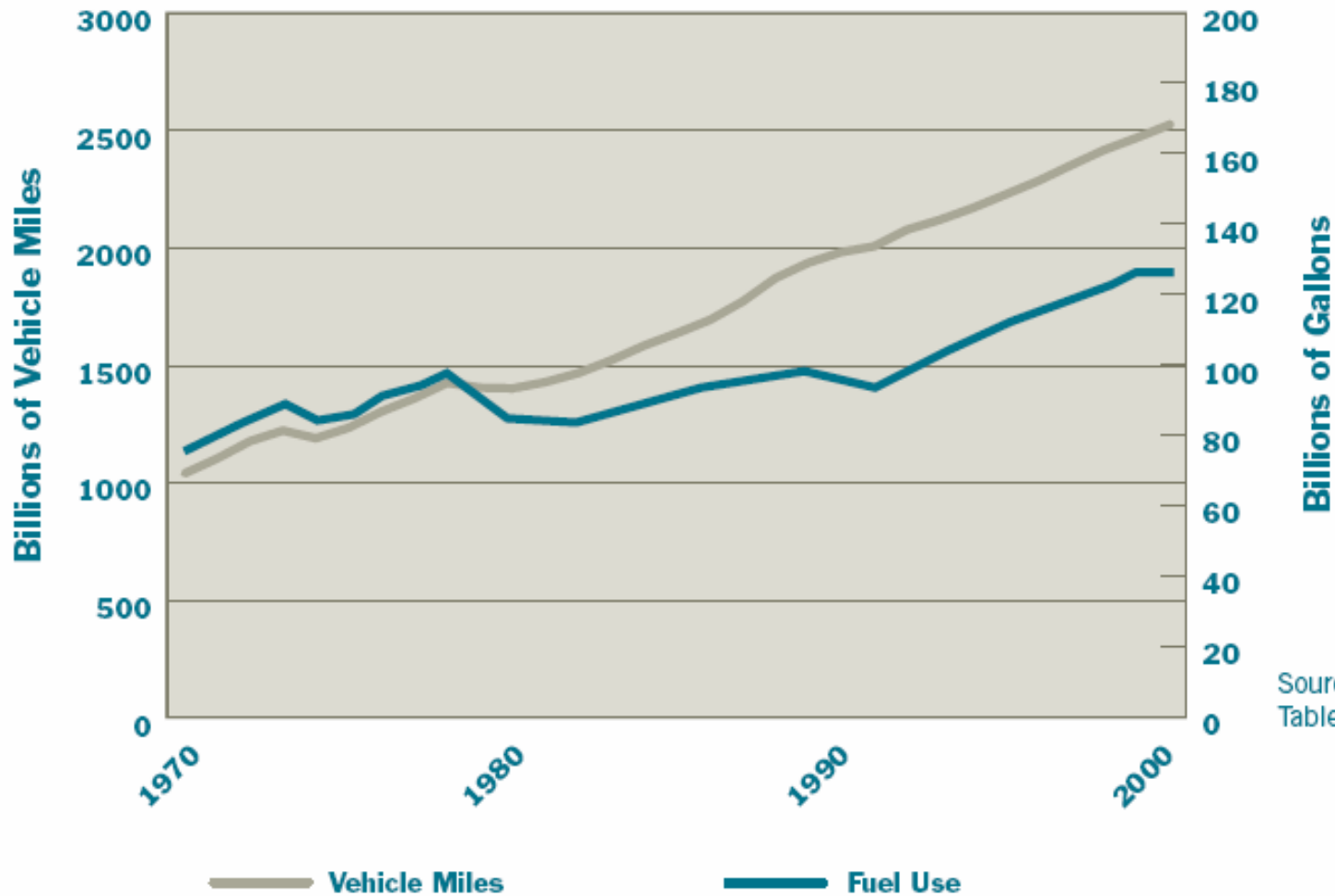
Person Trips & Miles Increase Faster Than Population



FHWA, Highway Statistics, change in travel from 1969-2001

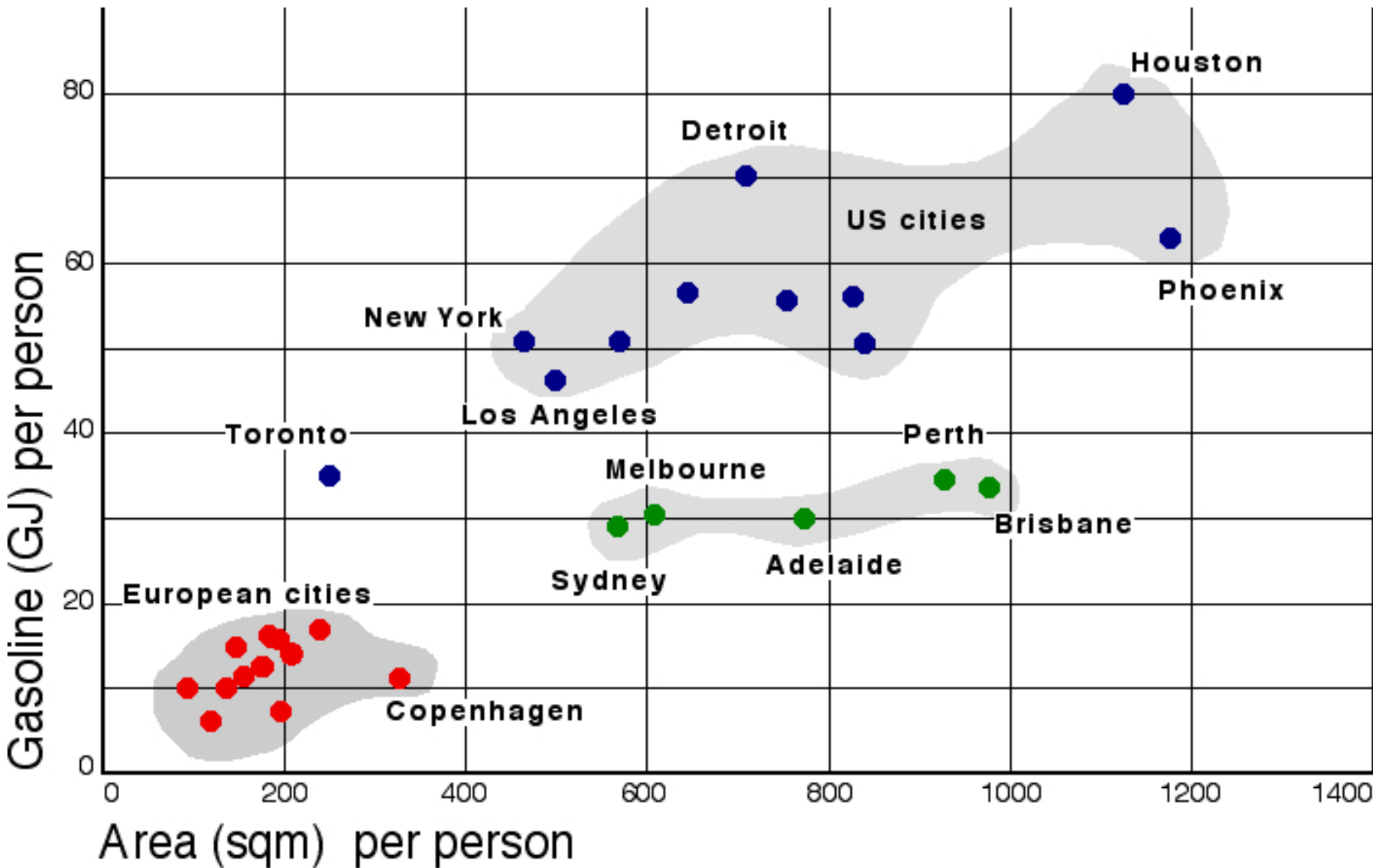
Travel Offsets Fuel Economy Improvements

Passenger Car and Light Truck **Travel and Fuel Use**



Source: Davis, S.C. and S. Diegel (2002), Tables 7.1 and 7.2.

Gasoline Use and Density



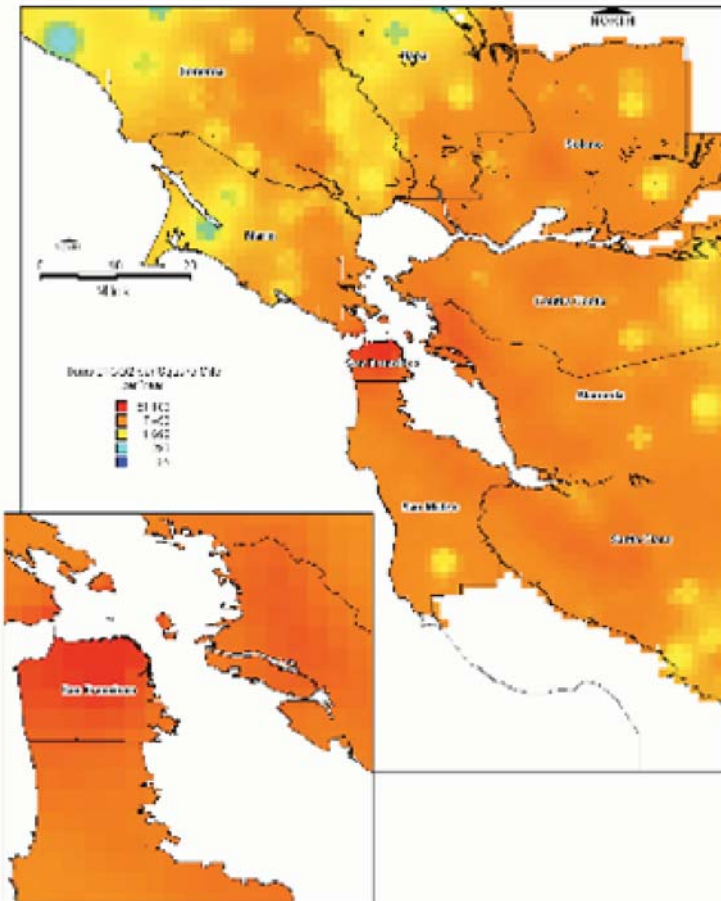
Data from Newman and Kenworthy, 1995.

Two Views of Cities and CO₂

CO₂ Generated by Automobiles in the San Francisco Region per Year

Traditional View:

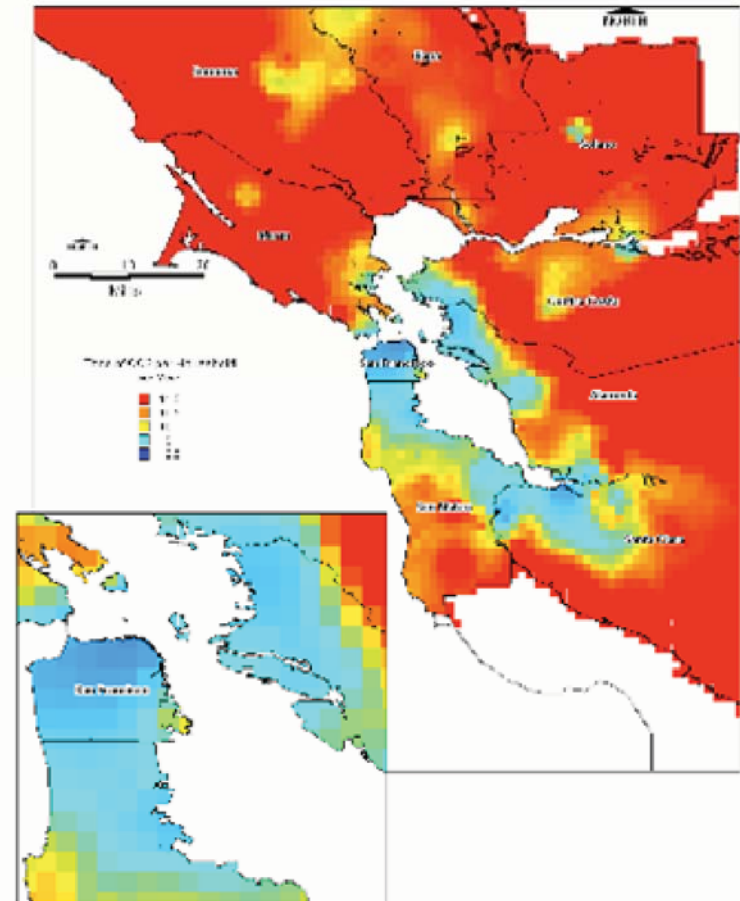
Cities produce large amounts of GHGs.



Data Source: 2002 Census, California Dept. of Transportation, and Federal Highway Administration.

Emerging View:

City dwellers produce relatively low amounts of GHGs.



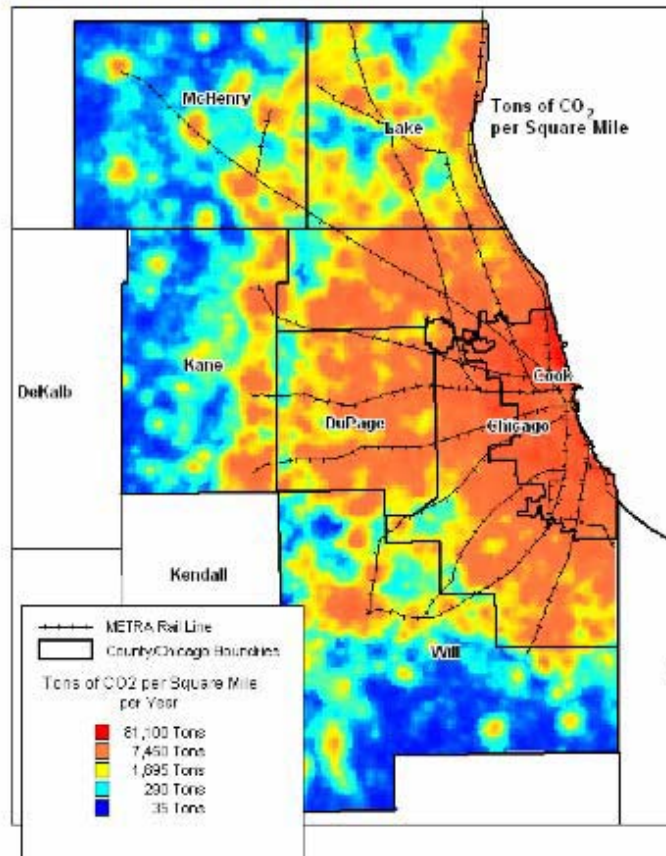
Data Source: 2002 Census, California Dept. of Transportation, and Federal Highway Administration.

Each color represents one fifth of the land area on each map.

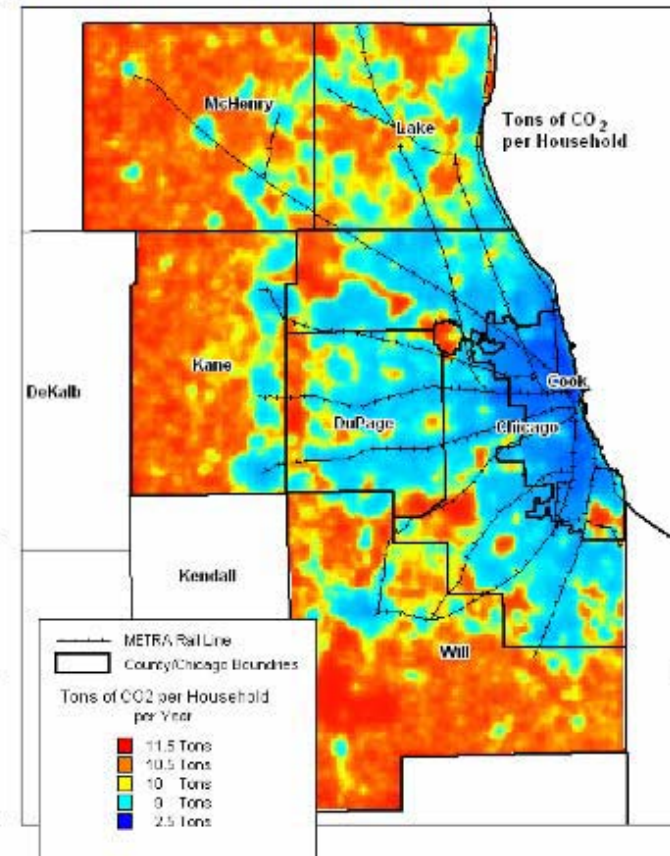
Chicago Metropolitan Area

Two Views of Cities and CO₂ CO₂ Generated by Automobiles in the Chicago Region per Year

Traditional View:
Cities produce large amounts of GHGs.

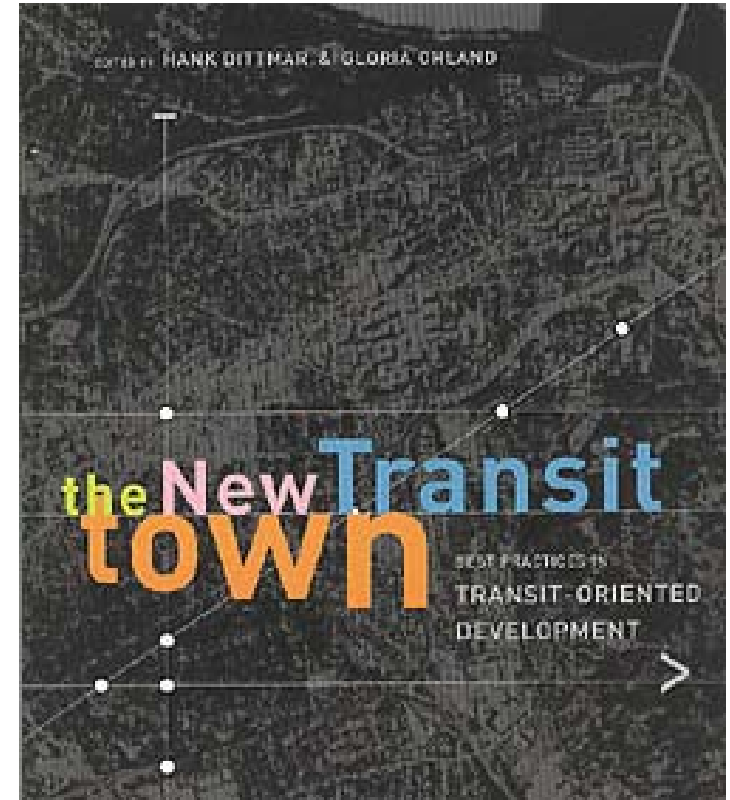
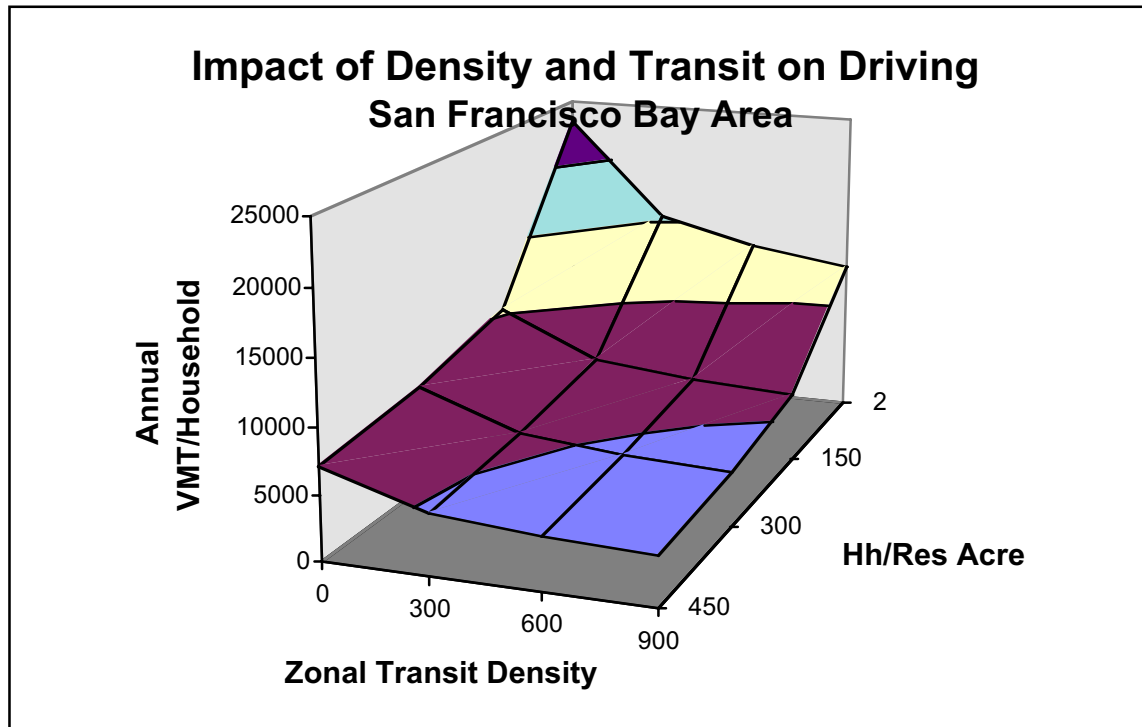


Emerging View:
City dwellers produce relatively low amounts of GHGs.



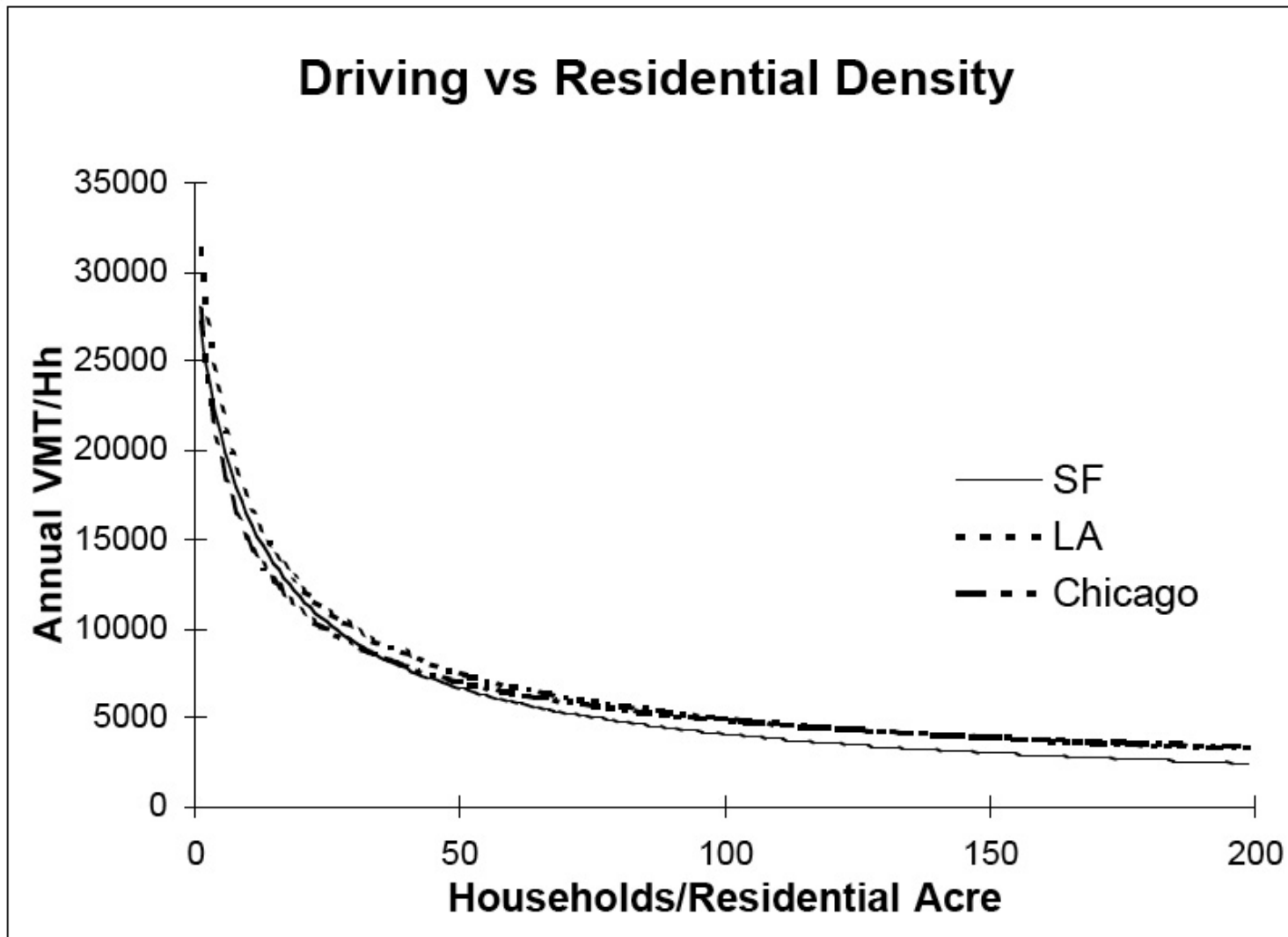
Each color represents one fifth of the land area on each map.

Location Efficiency



- Urban design factors including residential density, transport access and pedestrian friendliness are positively correlated with reductions in driving, even after controlling for household size and income.
- Holtzclaw, Clear, Dittmar, Transportation Planning and Technology, 2001. (www.reconnectingamerica.org); Dittmar, *New Transit Town*, 2005.

VMT & Residential Density

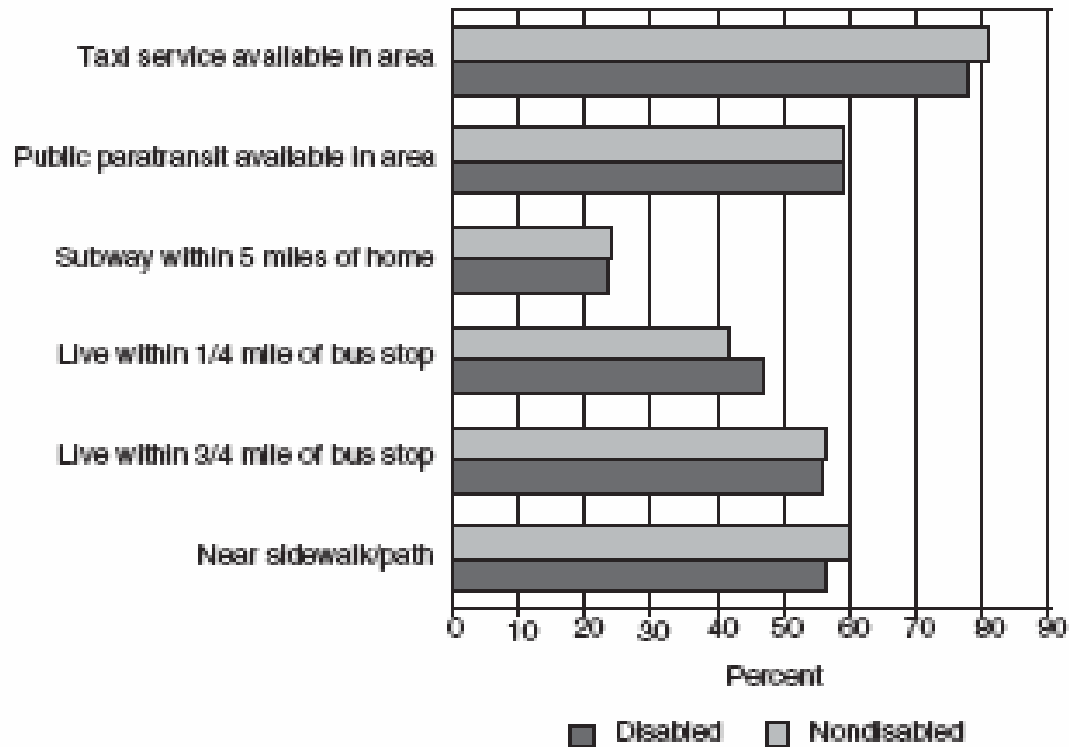


Holtzclaw, Clear, Dittmar, *Transportation Planning and Technology*, 2001.

(www.reconnectingamerica.org)

Accessibility to Public Transport

Transportation Availability



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, 2002 National Transportation Availability and Use Survey

Only about 40 percent of Americans live within 1/4 mile of a bus stop of any kind, and under a quarter live within 5 miles of rail. Only 60 percent live near a sidewalk or path of any kind.

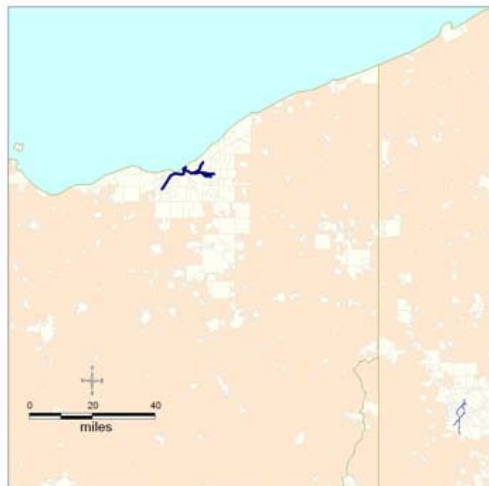
In a region, there must a network for transit to work well



New York - Extended (962 Stations)



Washington DC - Large (163 Stations)



Cleveland - Medium (50 Stations)

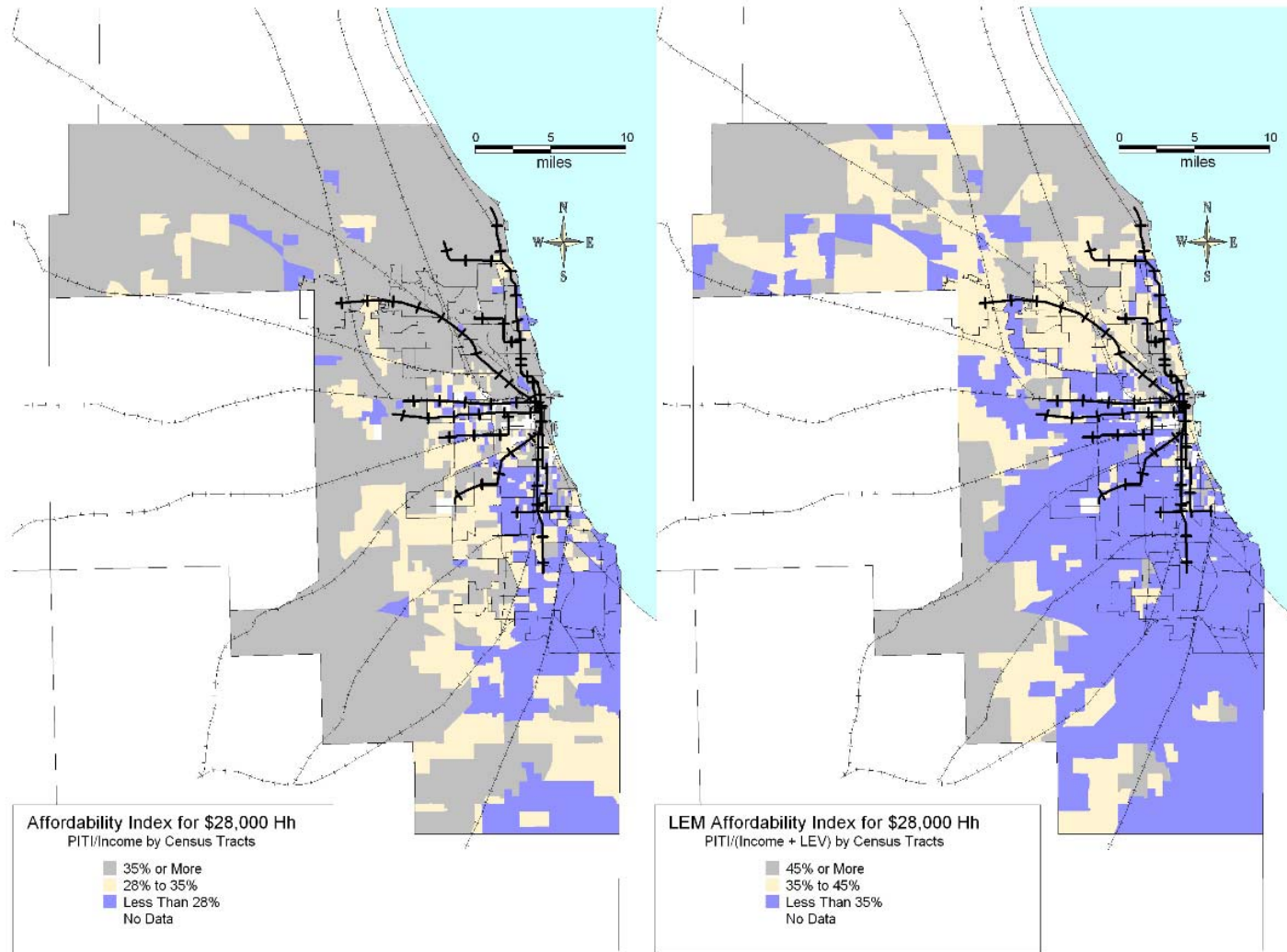


Denver - Small (30 Stations)

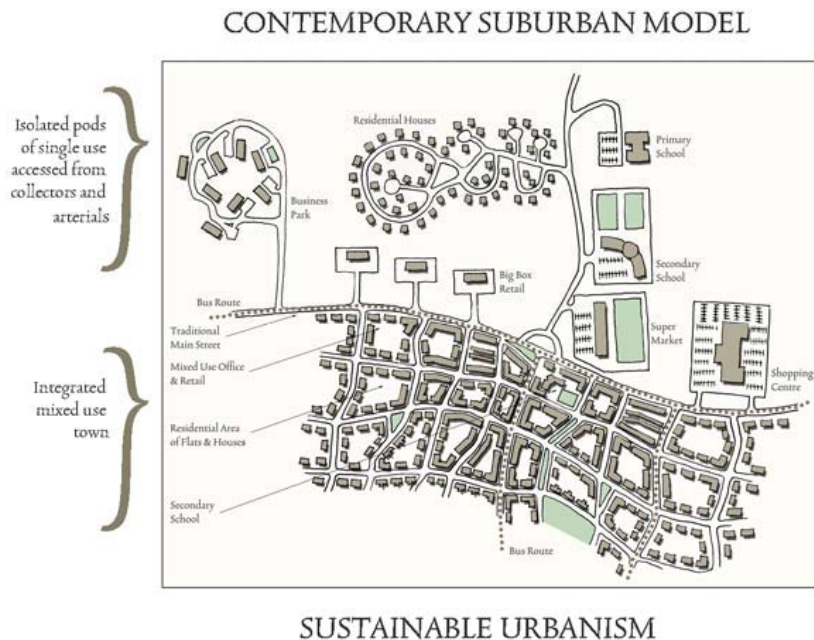
Four Transit Systems Shown at the Same Geographical Scale



Location Efficiency & Housing Affordability



Principles of Sustainable Urbanism



- Walkable neighbourhoods are the core of the sustainable city; daily needs within a 5 minute walk;
- A legible network of connected streets accommodates vehicles and pedestrians;
- Neighbourhoods are both mixed use and mixed income;
- Cities and towns are shaped by physically defined and accessible public spaces; and
- Urban places are framed by architecture

Stern Review: The Economics of Climate Change, Nov 2006

“The benefits of strong, early action on climate change outweigh the costs.”

“The evidence shows that ignoring climate change will eventually damage economic growth. Our actions over the coming few decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes. Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries. The earlier effective action is taken, the less costly it will be.”

Stern Review, November 2006

“Regulatory measures may be appropriate either instead of, or complementary to, tax or trading instruments, and can be more effective and efficient in a number of important circumstances, in particular to promote efficiency through strategic coordination of key markets, for example, by reducing long-run transport demand through integrated land-use planning and infrastructure development. . .

“Spatial and strategic planning can affect patterns of energy consumption. Higher-density urban environments, for example, typically consume less energy for transport and in buildings. In addition, land use controls such as restrictions on the availability and pricing of parking spaces, the use of pedestrian zones and parks, and land use zonal strategies (including congestion charging), have the potential to support integrated public transport to reduce the use of private motor vehicles.”