

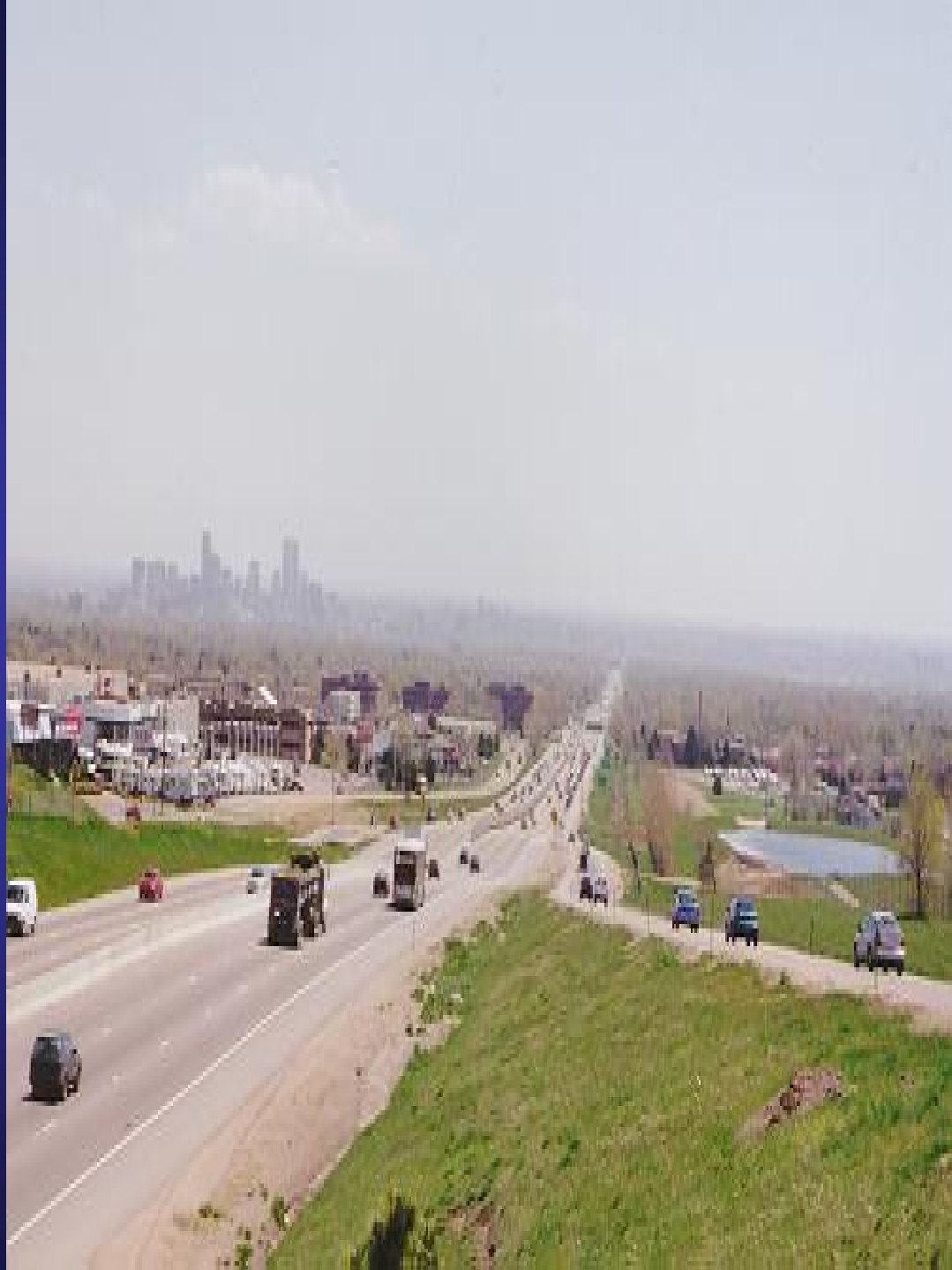


American Cities and Sustainable Development

Why Thinking Globally But Excluding Locally May Be A Recipe For Doom

**By
Edward H Ziegler
Professor of Law
University of Denver**

**Is Our Built
Environment of
Auto-Dependant
Sprawl
Sustainable?**



**America's Built Environment Today
Reflects the Market Trends and
Innovations of the Twentieth Century....**

**Along with our Public Laws, Policies, and
Subsidies Promoting Low Density
Automobile-dependant Sprawl**

**The Balloon
Frame House**

&

**The Housing
Industry**



**The
Automobile
Industry**

&

**The
Interstate
Highway**



**The
Shopping
Mall**

&

**Big Box
Retail**

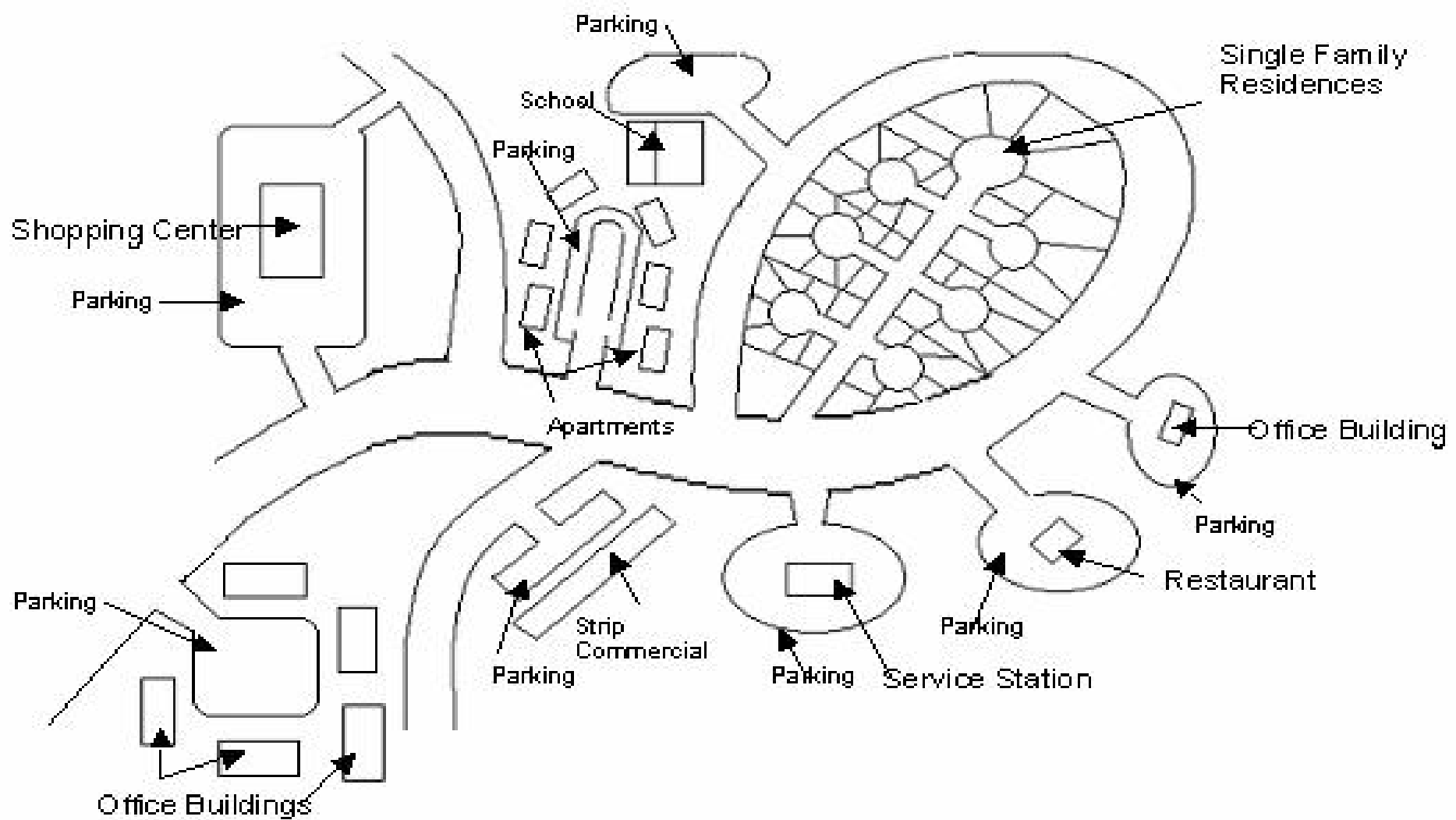


The Suburban Office Park

&

Edge City





**All Land Uses Are Isolated
Pods of Automobile-Dependent Development.**

**A World
Completely
Dependant
on the
Automobile**

&

Fossil Fuels



Sustainable Development?

Global ecosystems and resources are simply not sufficient to sustain the current economies of the industrial West and at the same time bring more than 2 billion people into the global middle class through the same resource intensive development model pioneered by North America and Europe.

Limits on the ability to increase oil production, shortages of water, and the economic impacts of damaged ecosystems and rapid climate change are among the factors that make it impossible to continue current patterns on such a vastly larger scale.

Humanity is now on a collision course with the world's ecosystems and resources. In the coming decades, we will either find ways of meeting needs based on new technologies, policies, and cultural values, or the global economy will begin to collapse.

World Watch Institute, State of The World 3 (2006).

Is Low Density Automobile Dependant Sprawl Sustainable?

- Quality of life – auto use/traffic congestion
- Economic cost to households
- Global competition - job losses/transit costs
- Auto impact public health & safety
- Infrastructure costs/maintenance
- Peak oil - rising gasoline prices
- Global warming – Co₂ fossil fuels

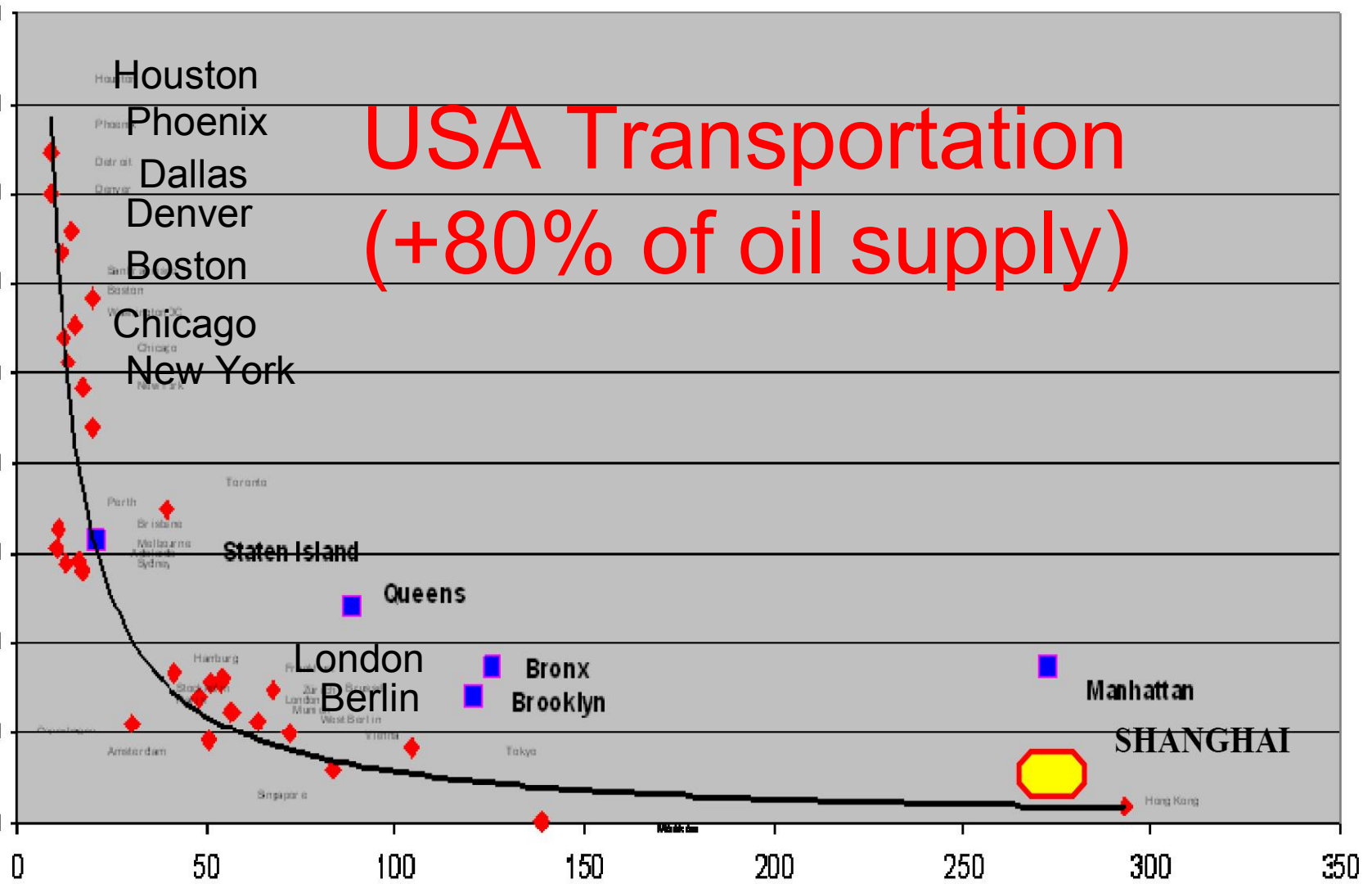
High Density is Green

David Owen
“Green Manhattan”
New Yorker
Oct, 2004



Energy for mobility MJ/p/a

USA Transportation
(+80% of oil supply)



Density people per ha

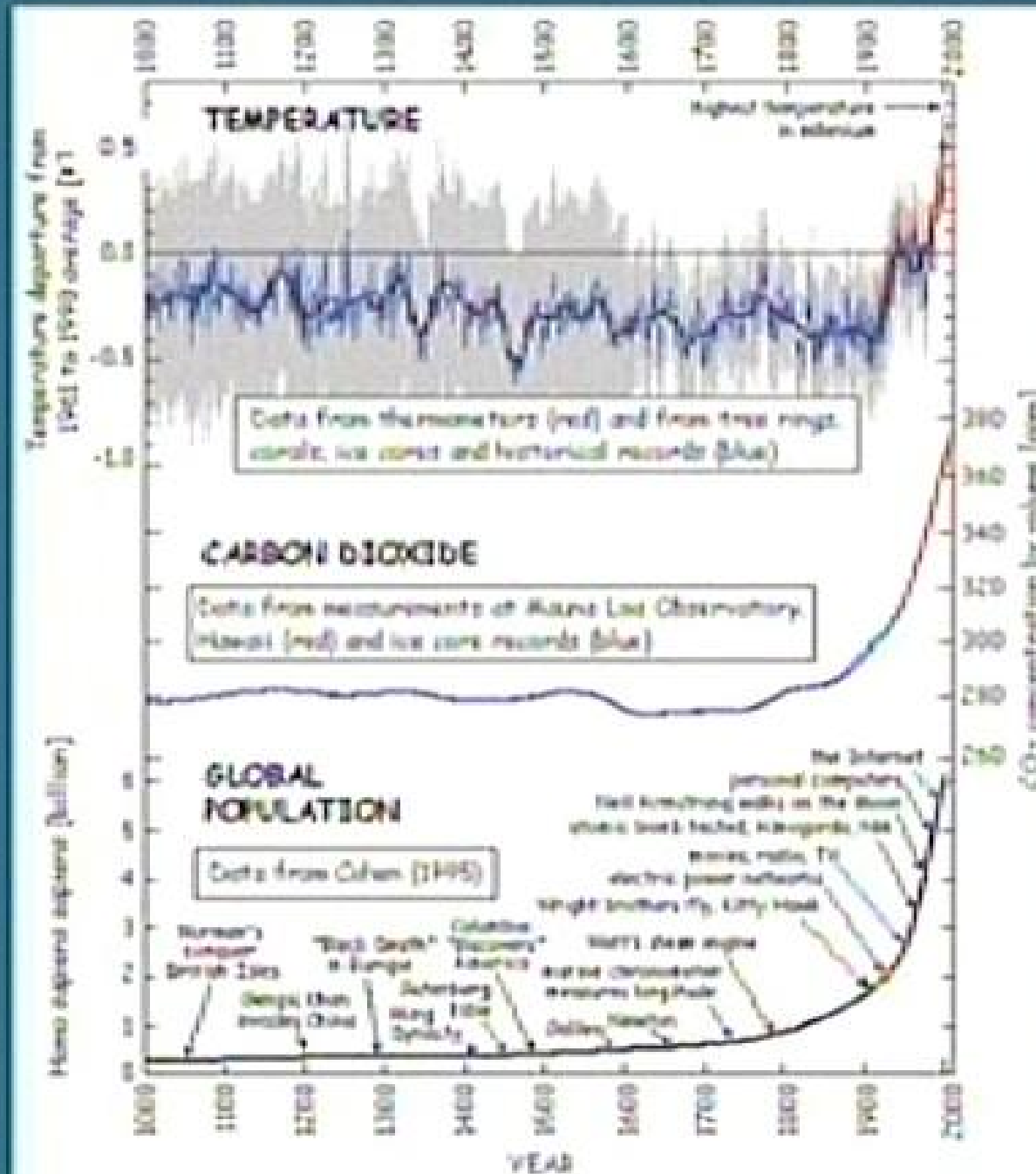
GLOBAL WARMING CLIMATE CHANGE

CO2 Increase

- 1700-280ppm
- 2000-370ppm
- 2999-700ppm

IPPC Estimate

Temperature
Increase by End
of Century
+1.4 _ +5.8°C



GROWTH & CLIMATE CHANGE

FUTURE GROWTH

China and the US are likely to be building thousands of coal-fired green house gas emitting power plants by mid century and both countries will be adding millions of new automobiles with greenhouse emissions from oil consumption.

GLOBAL WARMING

To limit global warming to not more than a 2° Celsius rise in temperature, the world will need to produce by mid century from 100 to 300% of all the energy now produced, and all from non-fossil fuel sources.

United States Energy Consumption

• Coal	23%	Fossil fuels 90%
• Oil	44%	
• Natural Gas	23%	
• Nuclear	8%	
• Hydro		3%
• Solar		<1%
• Wind		
• Geothermal		

Wind and solar energy

.2 %

Peak Oil



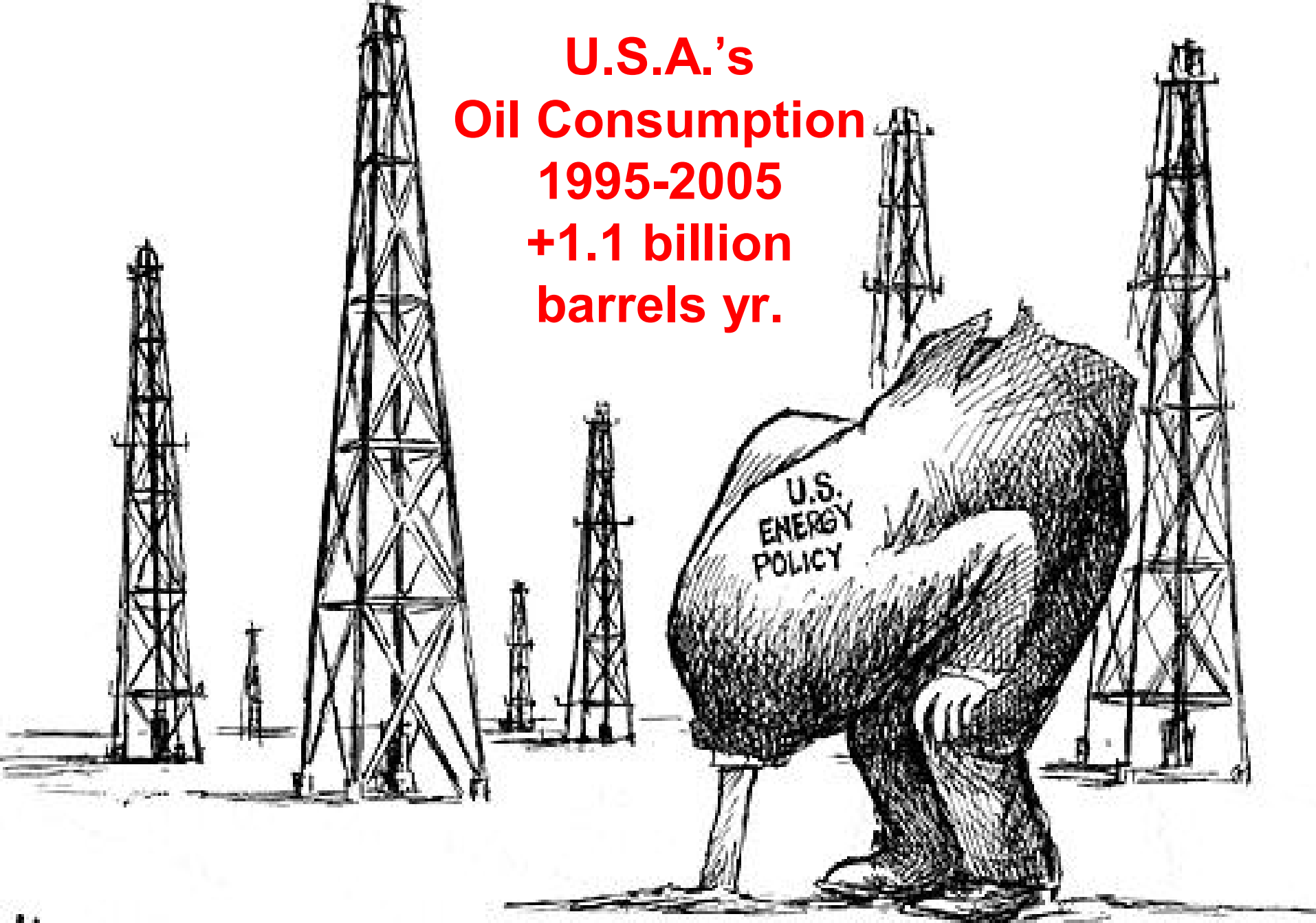
Urban
Collapse?



**China's Oil
Consumption
1995-2005
+1.2 billion
barrels yr.**



**U.S.A.'s
Oil Consumption
1995-2005
+1.1 billion
barrels yr.**



Conservation and energy efficiency
are unlikely alone to be sufficient....

USA Population 300 million

two future growth stages

1. By 2035 year +100 million people than now
2. By 2099 year +250 million people than now

For stage 1 (next 30 yrs.) we will need to build/add

- 70 million new residential units!*
- More new non-residential development than all that now exists!*
- 2/3 this new development in newer suburbs/beyond*
- + 90 million additional automobiles**

*A. Nelson & R. Lang, *The Next 100 Million*, Planning 4, Jan. 2007

** Estimate based on present USA +3 million vehicle yr

21 century?



**Broomfield Subdivision
Colorado USA**

21 century?



**Luodian New Town
Shanghai China**

The Technological Fix?

-business as usual-

The “American Freedom Car”



An ethanol-electric-hybrid car
that gets 600 miles to the gallon

Clean cheap electricity!

To produce hydrogen to run our entire transportation system with cars and trucks getting 80 miles a gallon we will probably need to build 600 (500 megawatt) nuclear power plants by mid-century.



How About Our Urban Renaissance, and Smart Growth and New Urbanism ?

Most large cities and downtowns
in USA grew in the 1990s



Decentralization still dominates



Density dropped across all regions in the U.S. between 1982 and 1997

	Density		Percent Change
	1982	1997	
Northeast	5.87	4.51	-23.1%
South	3.68	2.82	-23.4%
Midwest	4.19	3.39	-19.0%
West	5.46	4.85	-11.2%
United States	4.46	3.55	-20.5%



Densities continue to decline....

2003 USA Census Data

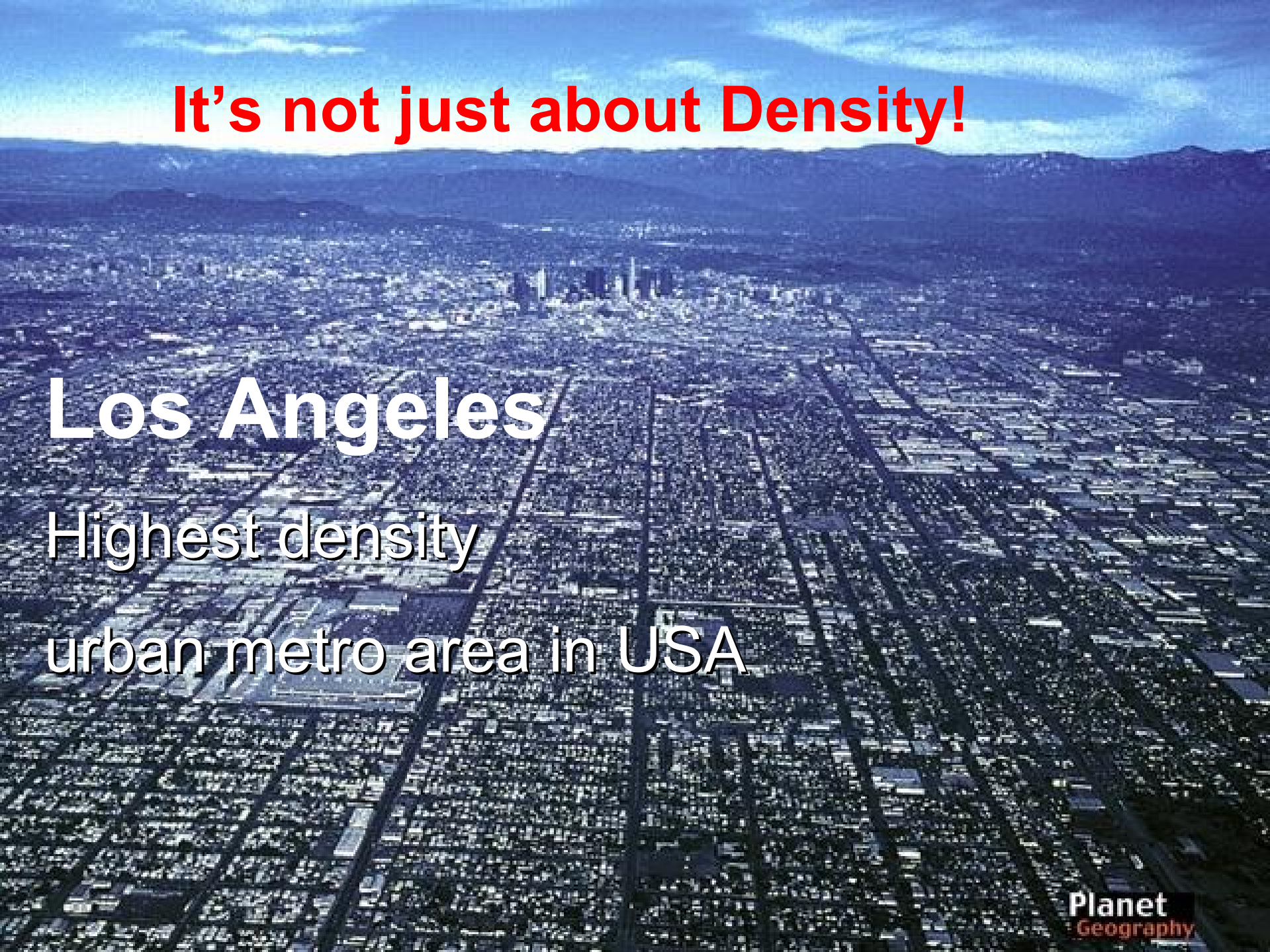
- Many cities (San Francisco, Chicago, Boston, that had been gaining population) now losing population
- Many cities now losing population at a faster rate
- Some major metropolitan regions now losing population to exurban areas

Mega Regional Growth*

2007 - 2040 metro decentralization
continues....but growth focused in 10 Mega regions

- US population + concentration these Mega regions
- Substantial density + in most Mega regions
- May be little density change in other Mega regions
- 2/3 of new development in newer suburbs/beyond

*R. Lang & A. Nelson, *America 2040*, Planning 7 Jan. 2007

An aerial photograph of Los Angeles, California, showing a vast urban area with a grid-like street pattern. The city extends to the horizon, with mountains visible in the distance under a blue sky with some clouds. The text "It's not just about Density!" is overlaid in red at the top.

It's not just about Density!

Los Angeles

Highest density

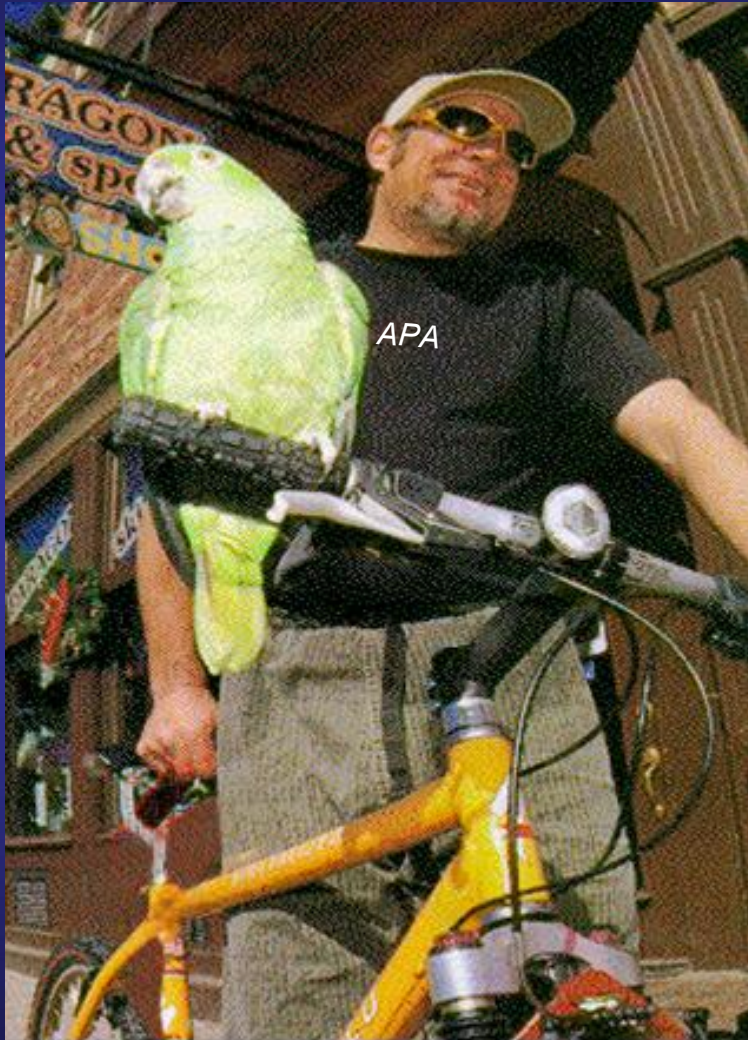
urban metro area in USA

Causes Unsustainable Low Density Sprawl

- **Private market demand for low density**
- **Public laws, policies and subsidies**
(for low density development)
- **Local low density fiscal zoning**
(taxes/spending concerns)
- **Local low density zoning & NIMBY growth management programs**

SMART GROWTH ?

Built Environment NIMBYS



“Sentimental NIMBYS”

Land use activists promoting the “public interest” by “fighting sprawl” through various “smart growth” and “environmental protection” restrictions (which enhance the aesthetic character and property values of existing neighborhoods but that actually promote more harmful and unsustainable low-density regional sprawl).

“Think globally - Exclude locally”

W E L C O M E T O

U S A

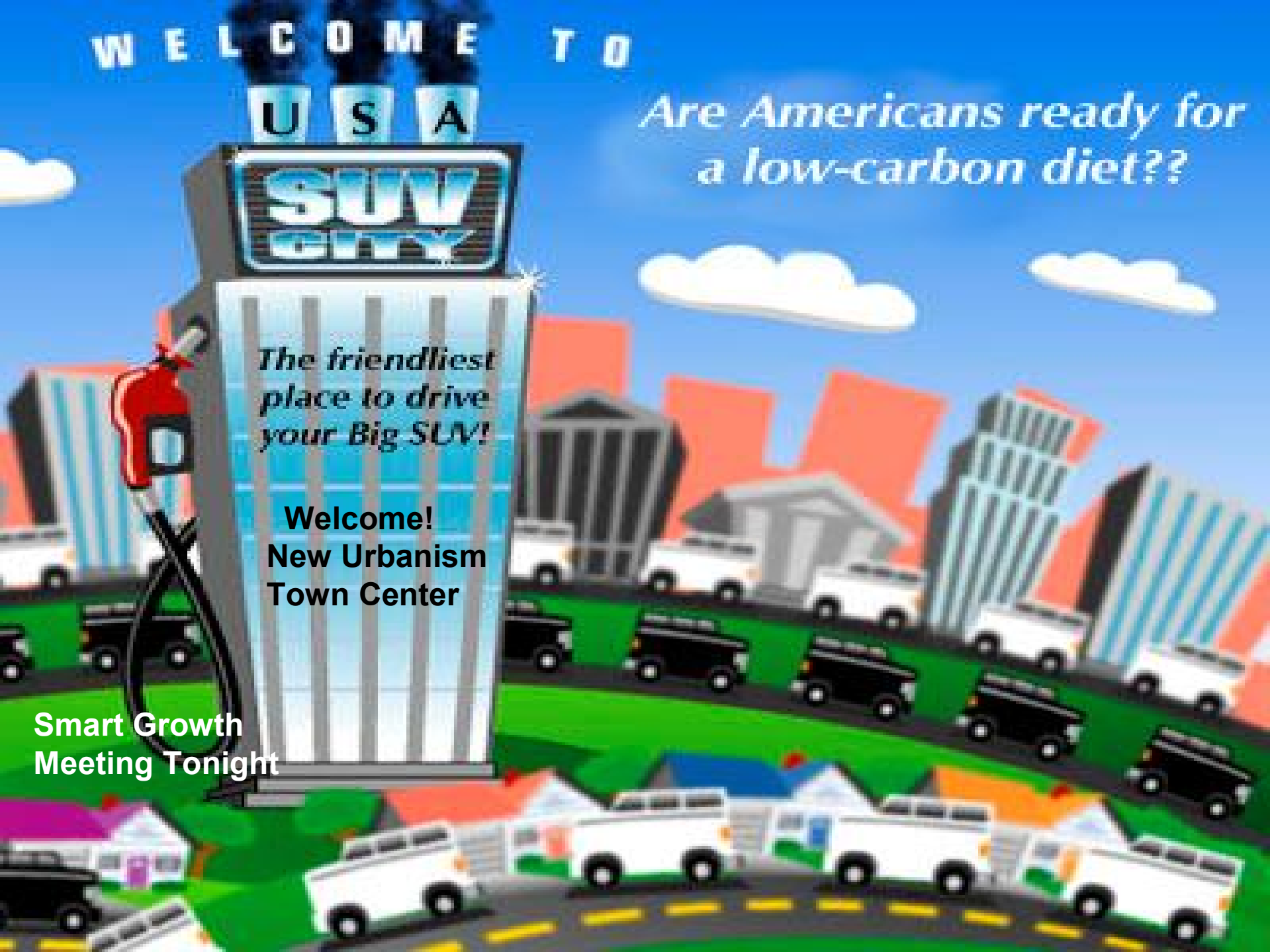
SUV
CITY

*The friendliest
place to drive
your Big SUV!*

**Welcome!
New Urbanism
Town Center**

*Are Americans ready for
a low-carbon diet??*

**Smart Growth
Meeting Tonight**



Urburbine Lowry 303-320-1989
Contact: Carol Lease
Grand Lowry Lofts 720-858-0800

Senior Communities

Aspen Village at Lowry 303-364-7149

Generations at Lowry 303-364-8500

Touchstone Duplexes by:

Touchstone Homes 720-941-7451

Tapestry Flats by:

Tapestry Flats 720-219-1186

The information depicted on this map is based on current development plans of the Lowry Redevelopment Authority as of January 13, 2004 and is subject to change. Please direct all questions about the development to the Lowry Information Center @ 303-331-1516. Visit our web site at www.lowry.org for information about Lowry's environmental program.

The Lowry Redevelopment Authority is committed to developing a vibrant and diverse community. This commitment includes the provision of a variety of housing opportunities as well as parks, schools, and services within close proximity.

**New
Urbanism
Denver**

**Still Automobile
Dependant!**

Lowry Redevelopment Map



TOD Vienna, Austria



TOD - Vienna, Austria



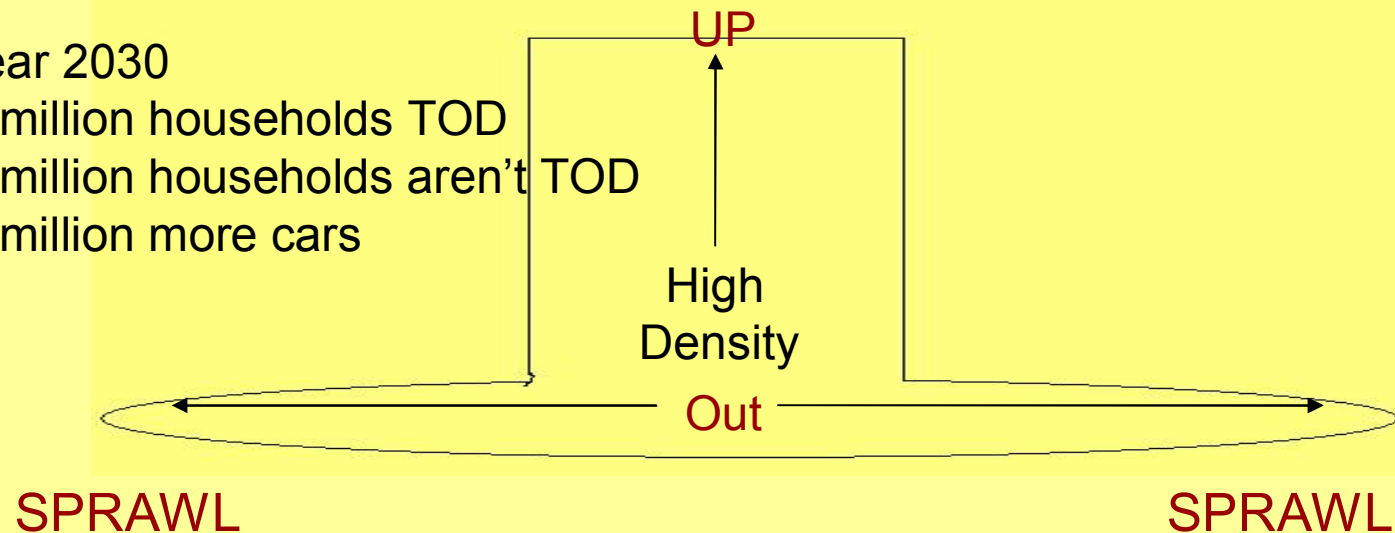
Fixed Rail Public Transit for widely dispersed population?

A Comparative Perspective

Barcelona, Spain 1.6 million pop.

By year 2030

- * 10 million households TOD
- * 40 million households aren't TOD
- * 70 million more cars



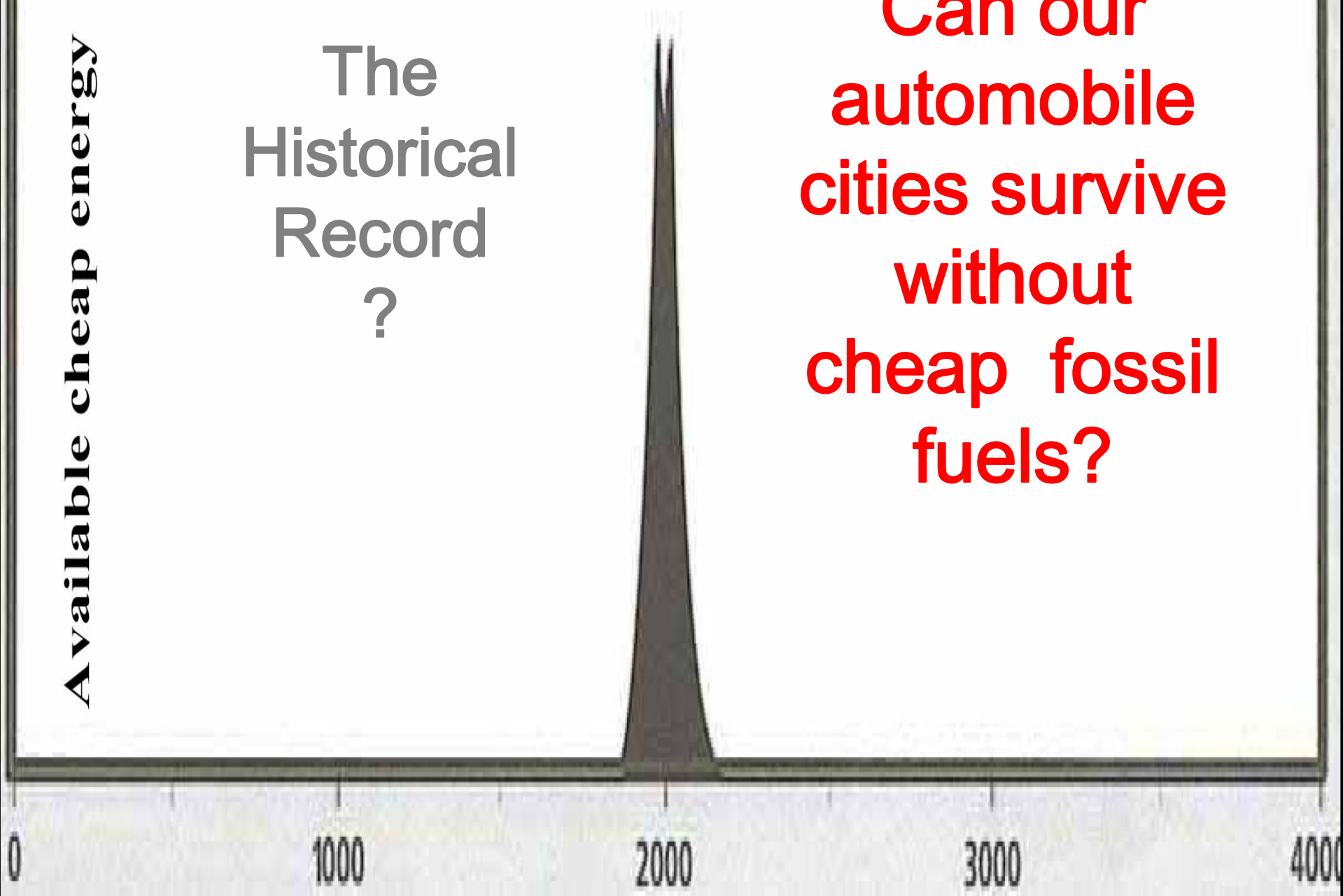
City of Denver, USA ½ million pop.

*Barcelona has 9x Denver's Residential Density

Available cheap energy

**The
Historical
Record
?**

**Can our
automobile
cities survive
without
cheap fossil
fuels?**



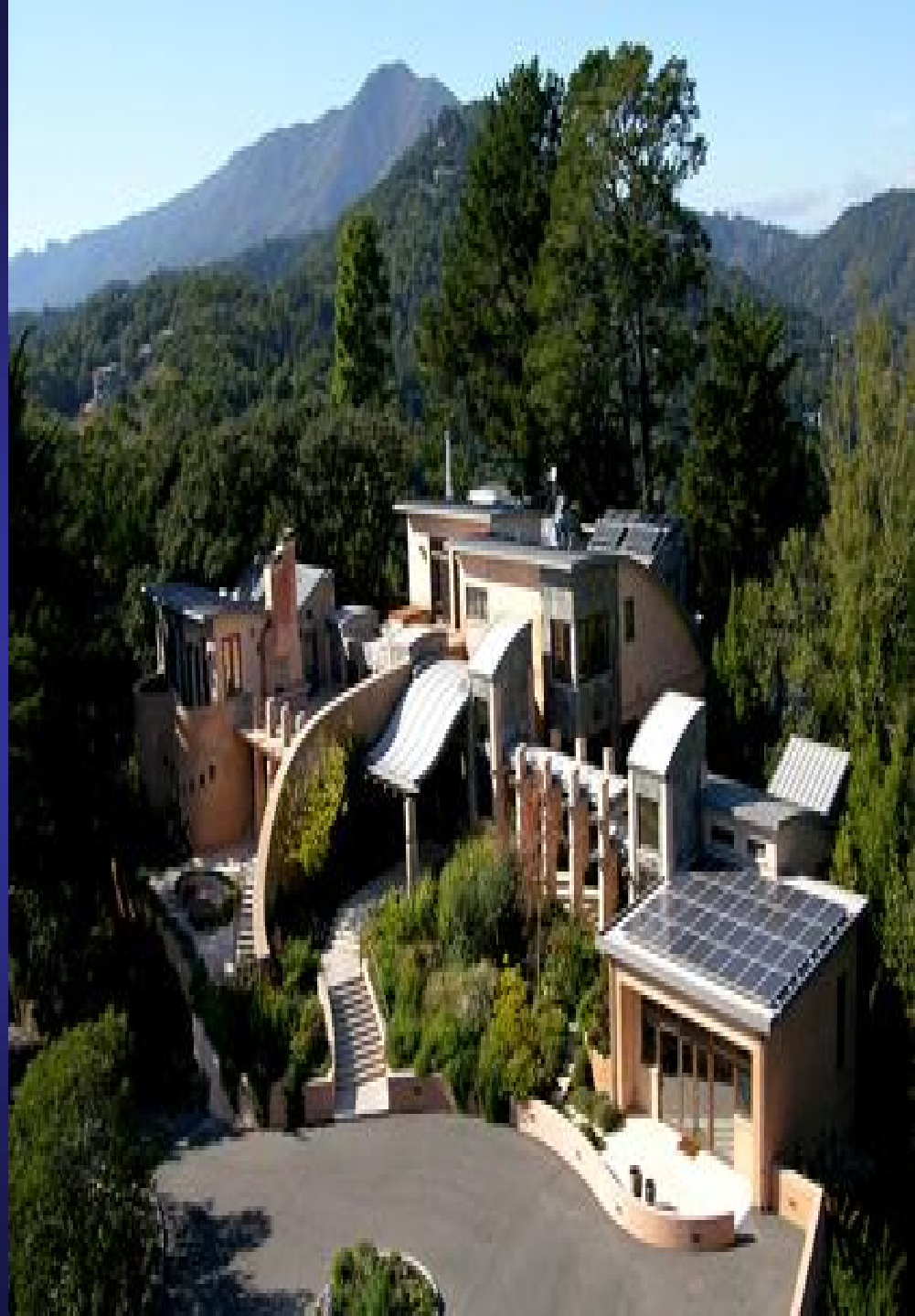
Sustainable Development

How about Green
Development codes ?

Green Development ?

Homes +7,500 sq. ft
25% Solar Energy

Building Code
Marin County,
California



Green Development ?

Solar Energy Parking
Belmar, Colorado
New Urbanism

2 megawatts
250-500 homes



Changes for High Density Sustainable Development

-beyond merely fashionable remedies-

- **Private market demand for high density**
- **Public laws, policies and subsidies**
(promoting/requiring high density & substantial exactions on low density)
- **State law preemption of local zoning & NIMBY growth management programs** (for all high density residential & energy projects)
- **Substantial + funding new energy technologies**
- **Prohibit solo driver commuting**

Our twenty-first century

2007-2050 problematic times USA

- Much oil from unstable regions of the world
- US households/a negative savings rate
- US \$ +100 billion yr global terrorism
- US \$ 8 trillion national debt
- US \$ 2 trillion state infrastructure deficit
- US \$50 trillion federal entitlement deficit by 2050
- Problem of sustaining “long term” goals in “short term” inward-thinking democracy.

Sustainable Development

The trouble is not just in the way we are thinking; it is also in the way we, or anyhow we in the affluent parts of the world, are living. And it is going to be hard to define anybody's living as a series of simple choices between irrationality and rationality. Moreover, this is supposedly an age of reason; we are encouraged to believe that the governments and corporations of the affluent parts of the world are run by rational people using rational processes to make rational decisions.

The dominant faith of the world in our time is in rationality. That in an age of reason, the human race, or the most wealthy and powerful parts of it, should be behaving with colossal irrationality ought to make us wonder if reason alone can lead us to do what is right.

Wendell Berry, *Two Minds*, **Citizenship Papers** 87 (2004)



American Cities and Sustainable Development

“Tomorrow is promised to no one”

Jared Diamond, Collapse (2004)