

Green Development: *What role for Urbanism?*

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District of Columbia Office of Planning



Can Urbanists become the New Eco-heros?

- The move to **Green** is snowballing
- Climate/Carbon is gaining currency
- Role of urbanism/settlement patterns underplayed
- Reasons to believe past behavior not a good predictor
- Urbanist communities -
 - Communities of choice(s)
 - Affinity
 - Options
 - Cachet
 - Aggregators of benefits

District of Columbia Green Building Act of 2006



" COST PREMIUMS "

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CALIFORNIA SUSTAINABLE BLDG. TASK FORCE STUDY, 2003 :

"COST PREMIUMS"

CALIFORNIA SUSTAINABLE BLDG. TASK FORCE STUDY, 2003:

↑ 0.7%

CERTIFIED

" COST PREMIUMS "

CALIFORNIA SUSTAINABLE BLDG. TASK FORCE STUDY, 2003 :

↑ 0.7%
CERTIFIED

↑ 1.9%
SILVER

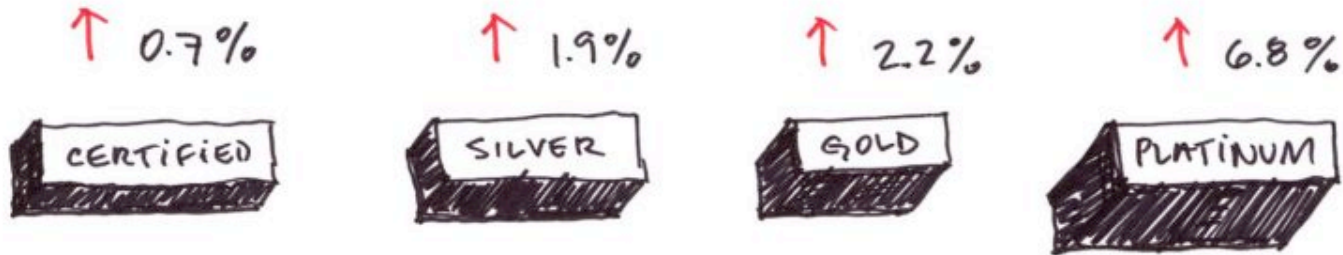
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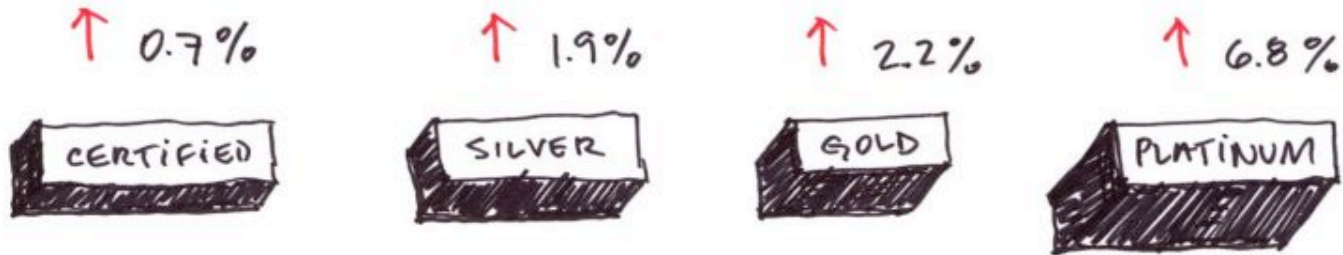
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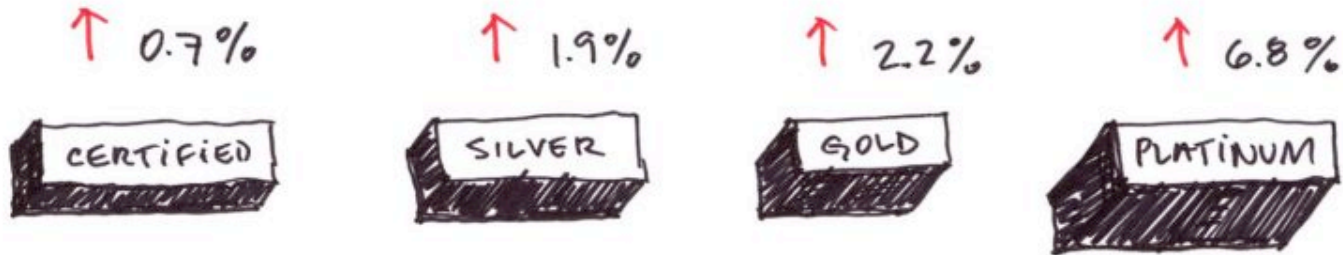
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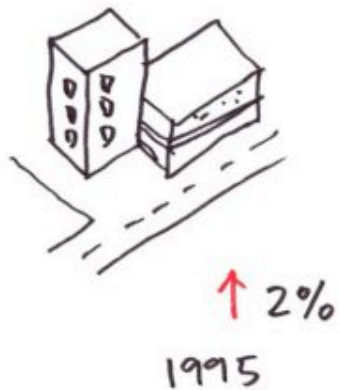
3 PORTLAND, OR. LEED-SILVER BLDGS:

"COST PREMIUMS"

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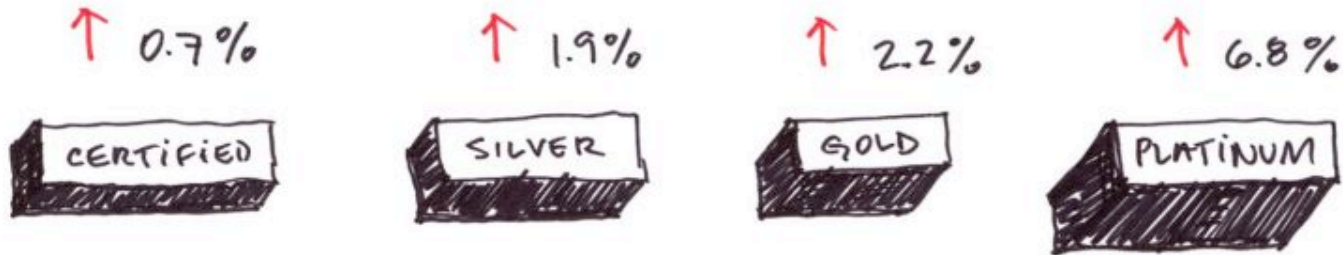


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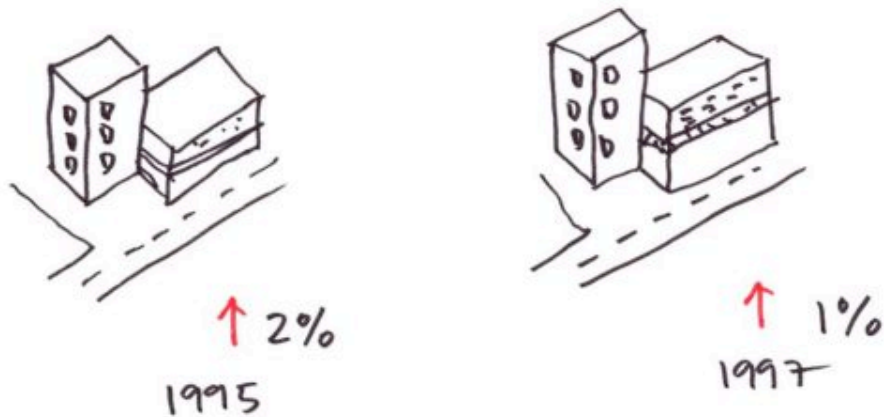


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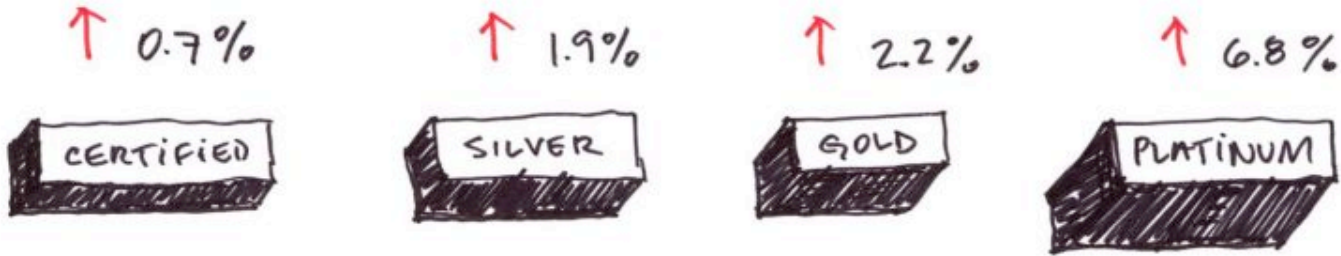


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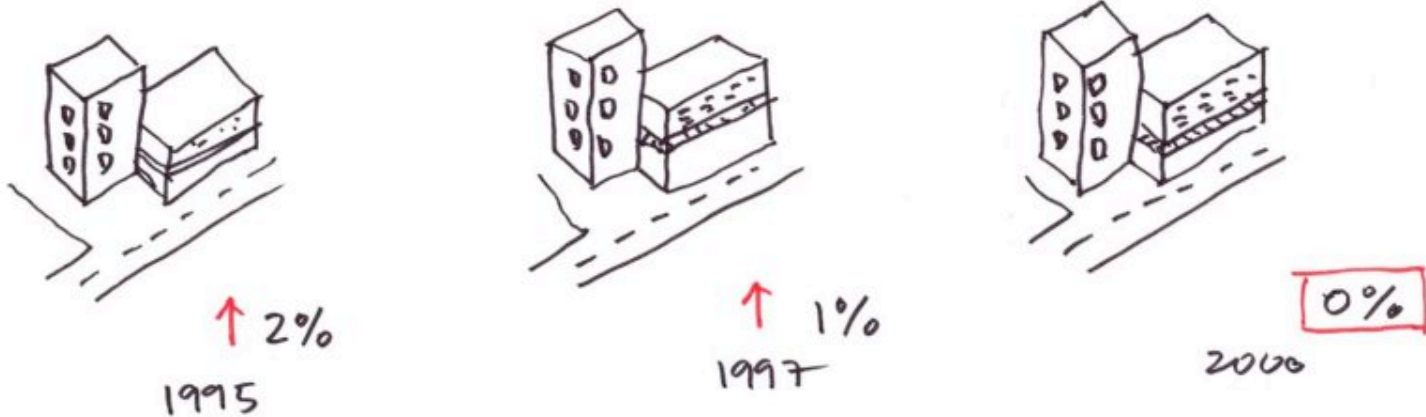


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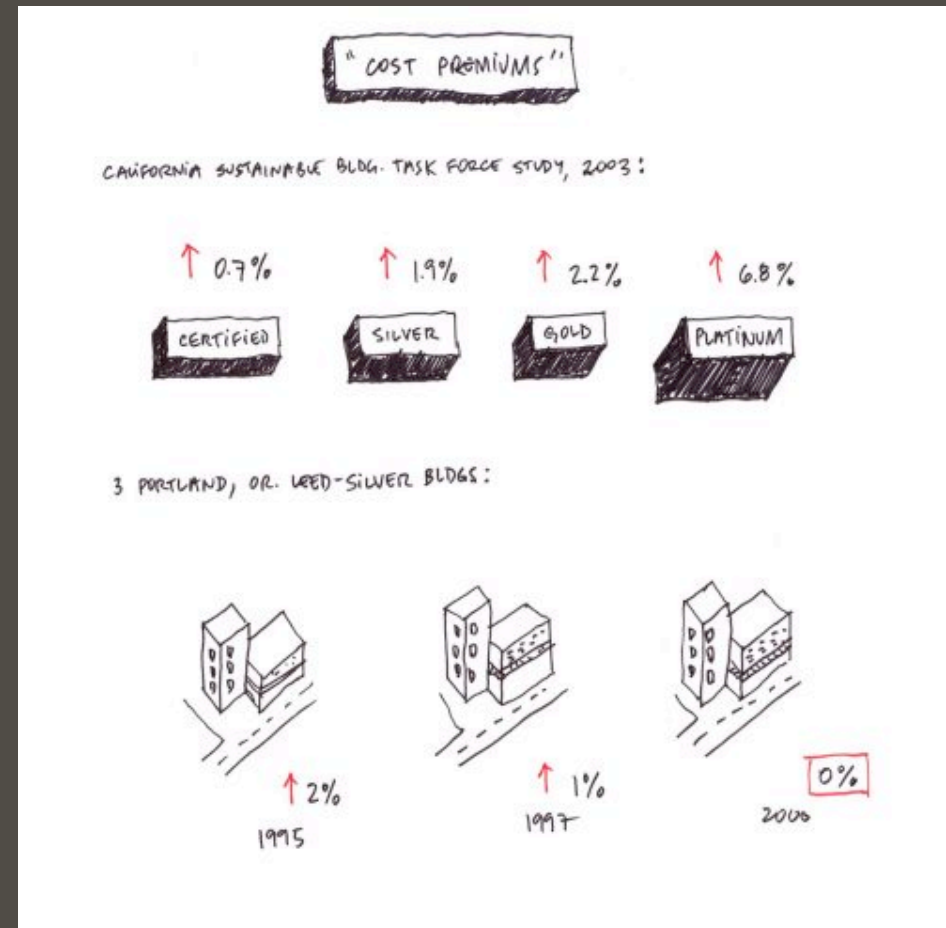
3 PORTLAND, OR. LEED-SILVER BLDGS:



New Green Building Legislation

Public Buildings

- Initially Funded in **FY'08**
 - District or Instrumentality; New Construction, Disposition by Lease
 - Meet LEED NC or CS, Silver
 - Schools
 - Residential (10,000+ sf)
 - Green Communities Standard
- Initially Funded in **FY'09**
 - Projects receiving > 15% public financing



Private Sector

- Beginning **January 1, 2009**

- Non-Residential (50,000+ sf)

- Submit LEED Checklist to DCRA (at time of any permit app.)

- First Building Permit submitted after **January 1, 2010**

- Public Property Disposed by Sale (50,000+ sf)

- Meet LEED NC or CS, Basic Certification

- Beginning **January 1, 2012**

- All Non-Residential (50,000+ sf)

- Meet LEED NC or CS, Basic Certification

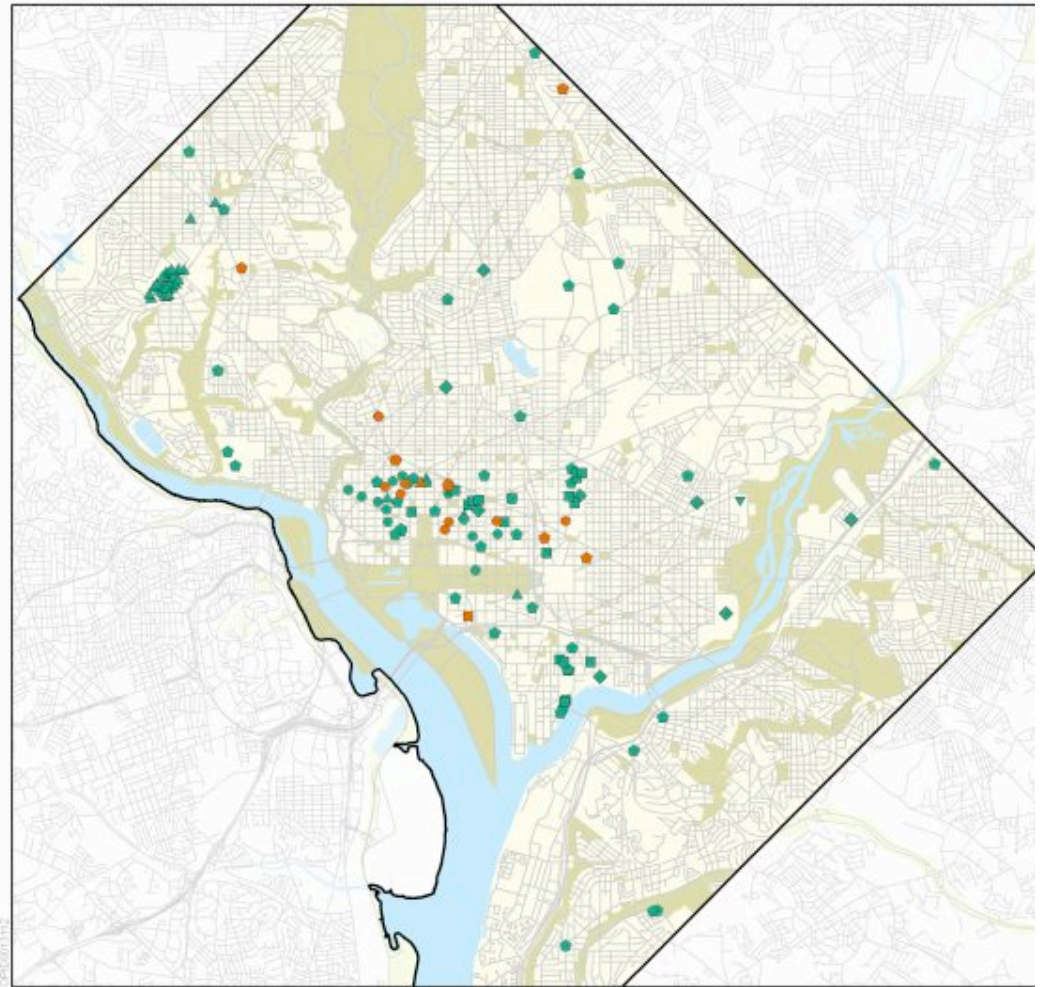
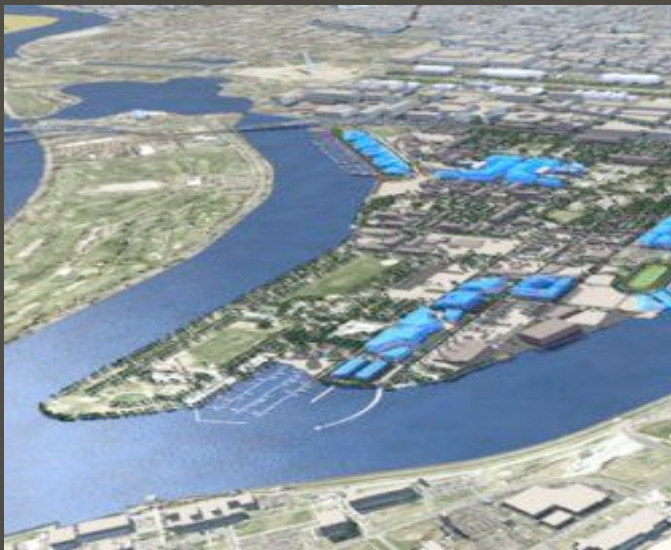
- Performance Bonds (after Jan. 1, 2012)



7th and H Street, NW – Gallery Place

LEED Projects in DC

- LEED Certified : 20 (6)
- LEED Registered: 150 (40)
- LEED ND Pilots: 8



LEED Certified & LEED Registered Buildings

SOURCE: U.S. Green Building Council



*** Government of the District of Columbia
Adrian M. Fenty, Mayor

Office of Planning - December 7, 2007

This map was created for planning purposes from a variety of sources. It is neither a survey nor a legal document. Information provided by other agencies should be verified with them where appropriate.

LEED Registered

- ◆ New Construction
- ▲ Existing Buildings
- Core and Shell
- Commercial Interiors
- ▼ Schools
- ◆ Neighborhood Development

LEED Certified

- ◆ New Construction
- ▲ Existing Buildings
- Core and Shell
- Commercial Interiors
- ▼ Schools
- ◆ Neighborhood Development

Focus on Greening Neighborhoods

- Neighborhood-level strategies to facilitate sustainable design (Neighborhood LEED) Low impact development and storm water management best practices
- Individual development projects with building design to meet or exceed LEED standards
- Energy strategies that encompass conservation and generation measures and save \$\$
- Public realm redesigns-Larger tree boxes, planting areas on public sidewalks and reduction in impervious paving
- Green roofs to insulate buildings, absorb storm water and keep it out of the sewer system



ASLA Green Roof



ASLA National Headquarters
Michael Van Valkenburgh Associates

Logan Station





Washington, DC: 2002



Washington, DC: 2025

Mount Vernon Triangle Transportation and Public Realm Project



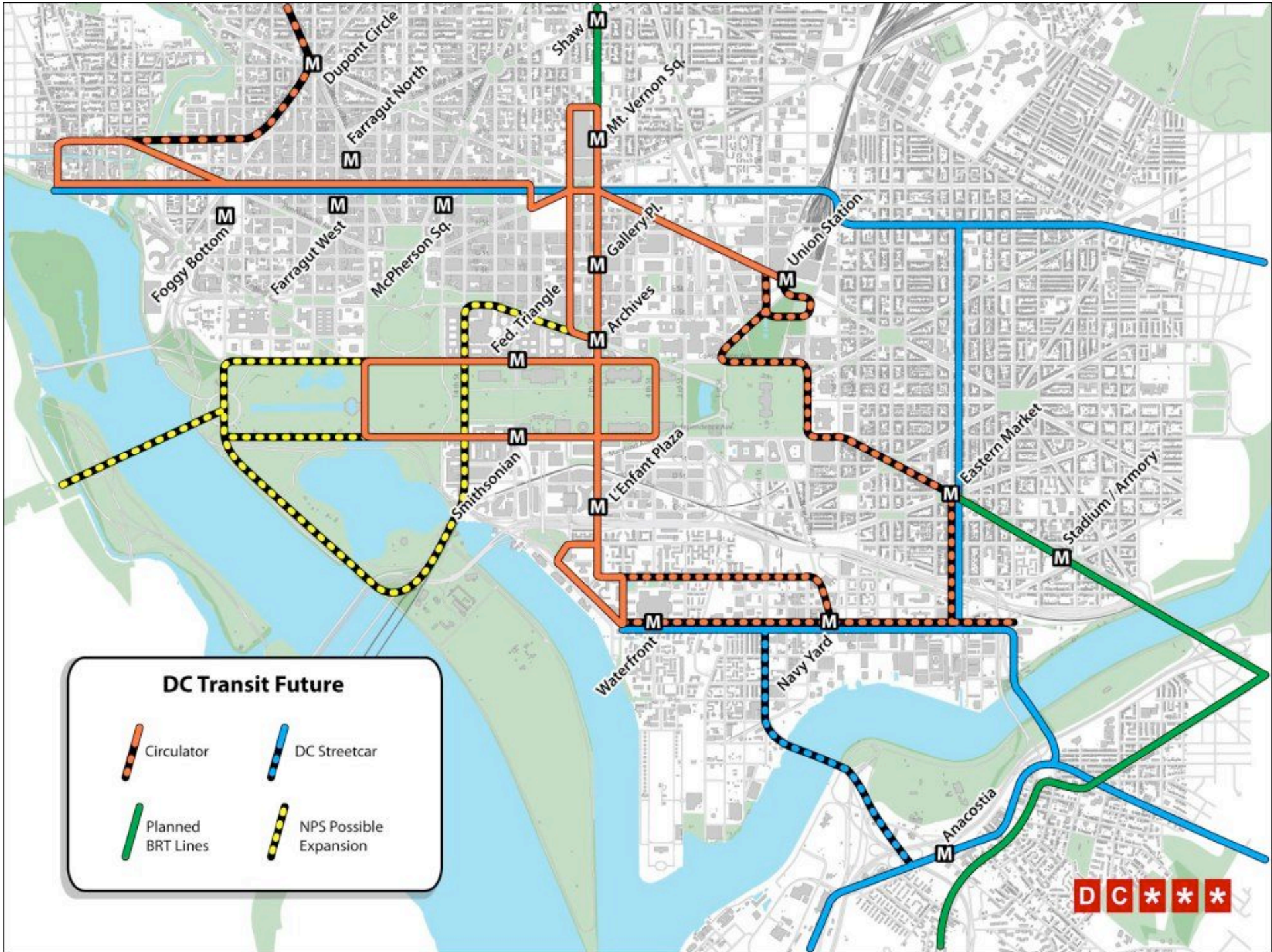
K Street Promenade

Green and Sustainable Development Practices



DC Streetcars are designed and undergoing tests in Europe





Critical Mass of Green Projects

- DCPS Energy Retrofit Program
- Green Collar Jobs
- Carbon Footprint Analysis
- Bike and Pedestrian Master Plans
- CapitalSpace
- Clean & Affordable Energy Legislation
 - Sustainable Energy Utility
- Lead Paint Abatement
- Carbon Offset Program
- Stormwater Regulations Update
- Healthy By Design
- Green Roof Pilot Program
- Car Free Day & GoLoco



Attributes of a Globally Sustainable City



Distinctive Neighborhoods and Districts

Example: Southeast / Capitol Riverfront Plan



Multiple Transportation Options, Including Transit

Example: DC Circulator and Great Streets Program



A Walkable Urbanity

Example: Proposed Eye Street, Hines development at Old Convention Center



Attributes of a Globally Sustainable City



Green and Sustainable Development Practices

Example: Hines LEED-certified development at Old Convention Center site



Shared Social and Economic Prosperity

Example: City Vista (under construction); 20% affordable housing at 20-80% AMI

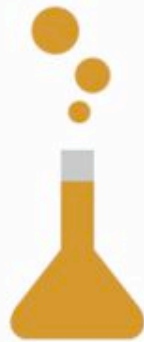


Quality Environments and Access to Nature

Example: Proposed Canal Blocks Park, Capitol Riverfront SE



THE GLOBAL WARMING GAMBLE



FUEL MIX



VEHICLE
EFFICIENCY



DEMAND

Policy Levers to Reduce
Transportation - Related CO₂ emissions



Three Policy Levers

Cleaner fuel

- Less CO₂ produced for each gallon.
- Fuel technology.

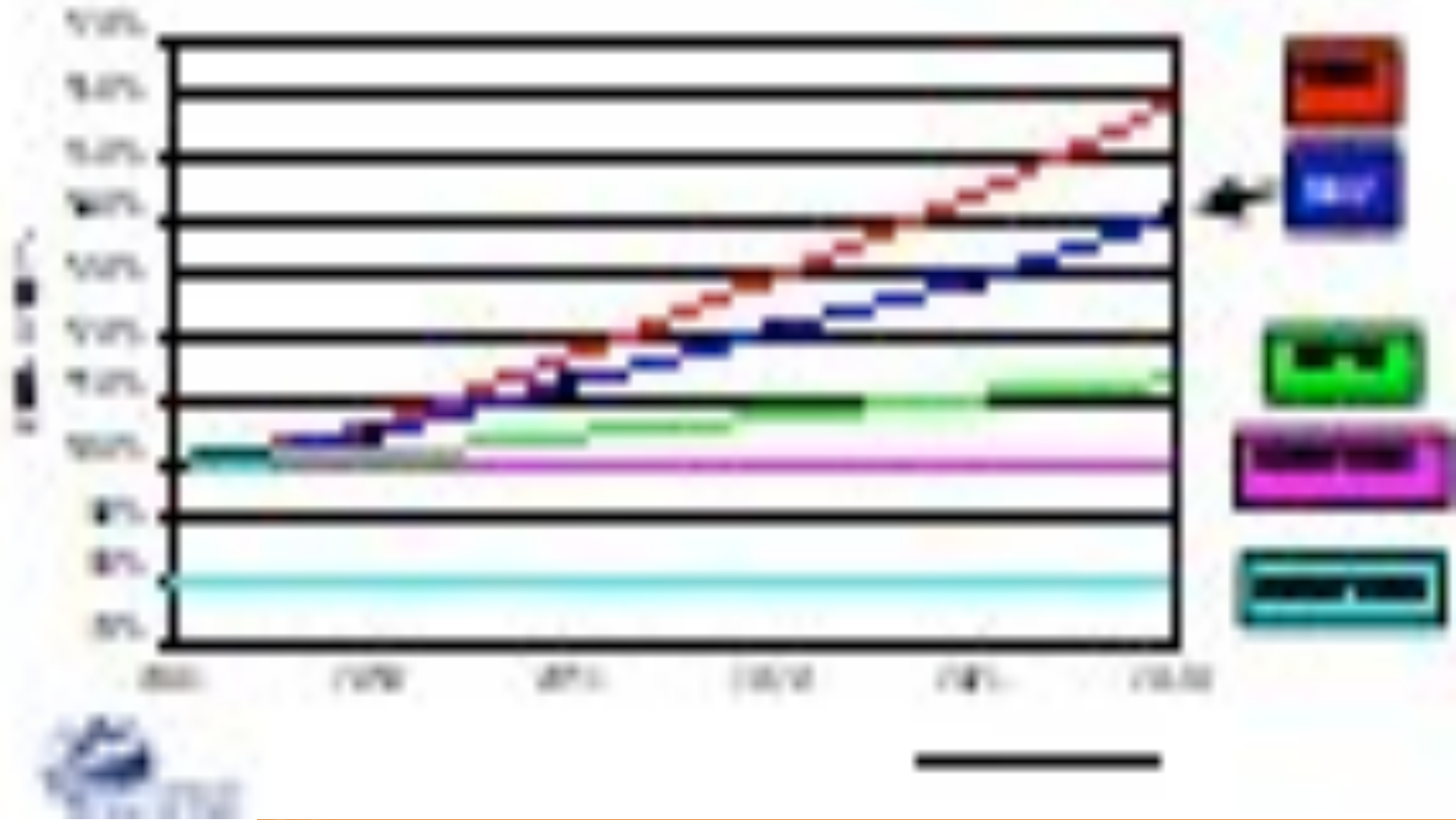
Better fuel efficiency

- More miles traveled per gallon.
- Vehicle technology.

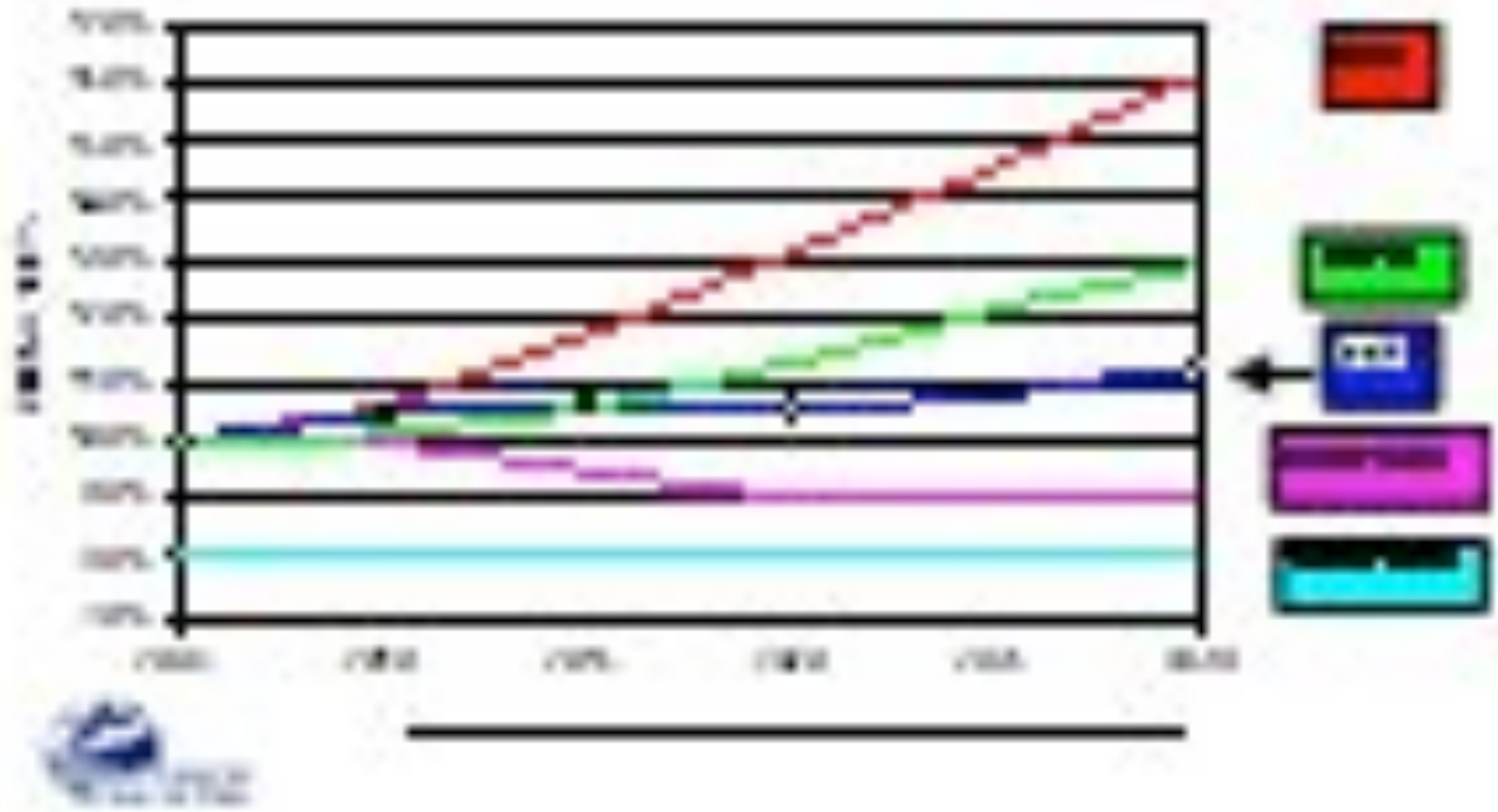
Drive less

- Fewer miles traveled.
- Reduce travel demand. Change behavior.

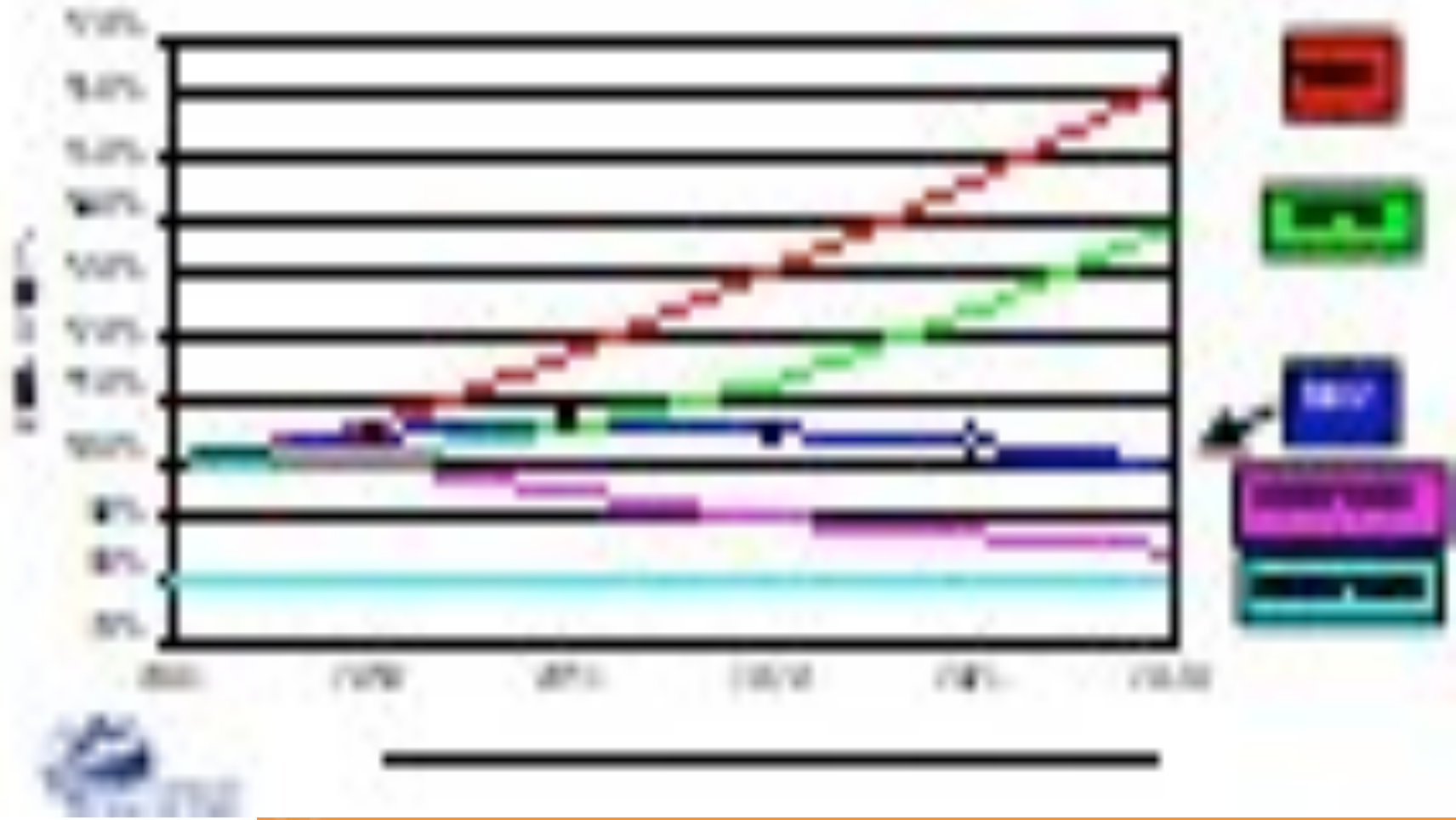
US VMT Growth Projected to Outpace Vehicle & Fuel Improvements



Senate CAFE (35 mpg) + CA Fuel Standards (-10%): 40% above 1990 Levels in 2030



45 mpg CAFE in 2030 & -15% Fuel GHGs: 24% above 1990 in 2030 (Fig 2-5)





a national coalition
working towards better
choices for our communities

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Friday, December 15, 2006



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Smart Growth at the Ballot Box

The movement for forward-looking, people-oriented planning and development is at the ballot box this fall.

Governors in at least 10 states have adopted platforms with strong commitments to investment on expanding affordable housing.

transportation investments; and protecting 30 transportation initiatives, citizens voted more than \$5.7 billion for land conservation, a 70% increase since the Trust for Public Land began its

Perhaps most encouraging, voters in three states – California, Colorado, and Idaho – rejected anti-taxpayer measures that would have restricted efforts to protect property value and make development. For more, see [SGA's post-](#)

New Transportation Resources

With anxiety over oil security mounting and concerns over traffic congestion, even as most states are facing transportation funding, the nation is reaching a decision point over transportation policy, as [points out in this excellent column.](#) ([his follow-up column.](#))

The Surface Transportation Policy Partners and local communities aren't left out of the interactive sessions with communities across

RECENT HEADLINES

[Americans drive less for](#)

Growing Cooler: The Evidence on Urban Development and Climate Change



Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters and Don Chen

with Barbara McCann and David Goldberg

Growing Cooler

- What reduction in vehicle-miles traveled (VMT) is possible in the United States with compact development rather than continuing urban sprawl?
- What reduction in CO₂ emissions will accompany such a reduction in VMT?
- What policy changes will be required to shift the dominant land development pattern from sprawl to compact development?
- AND DO COMMUNITIES WANT IT?

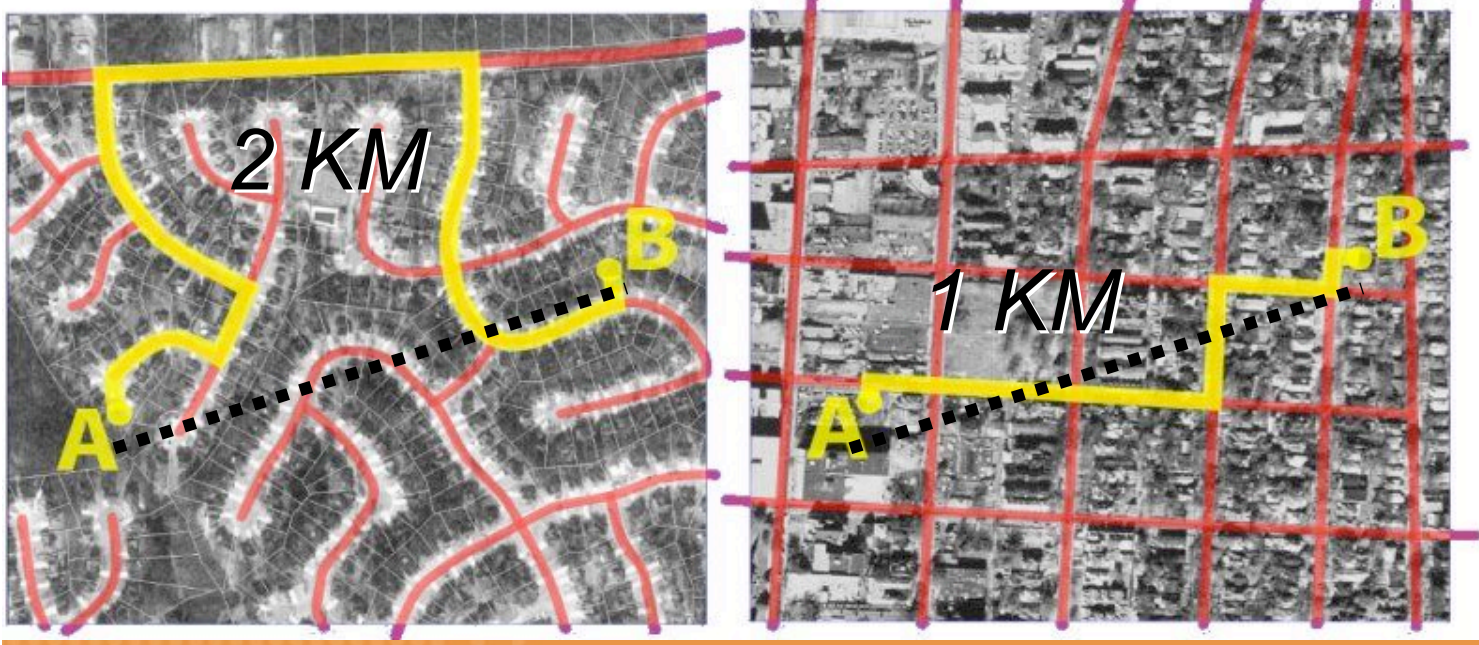
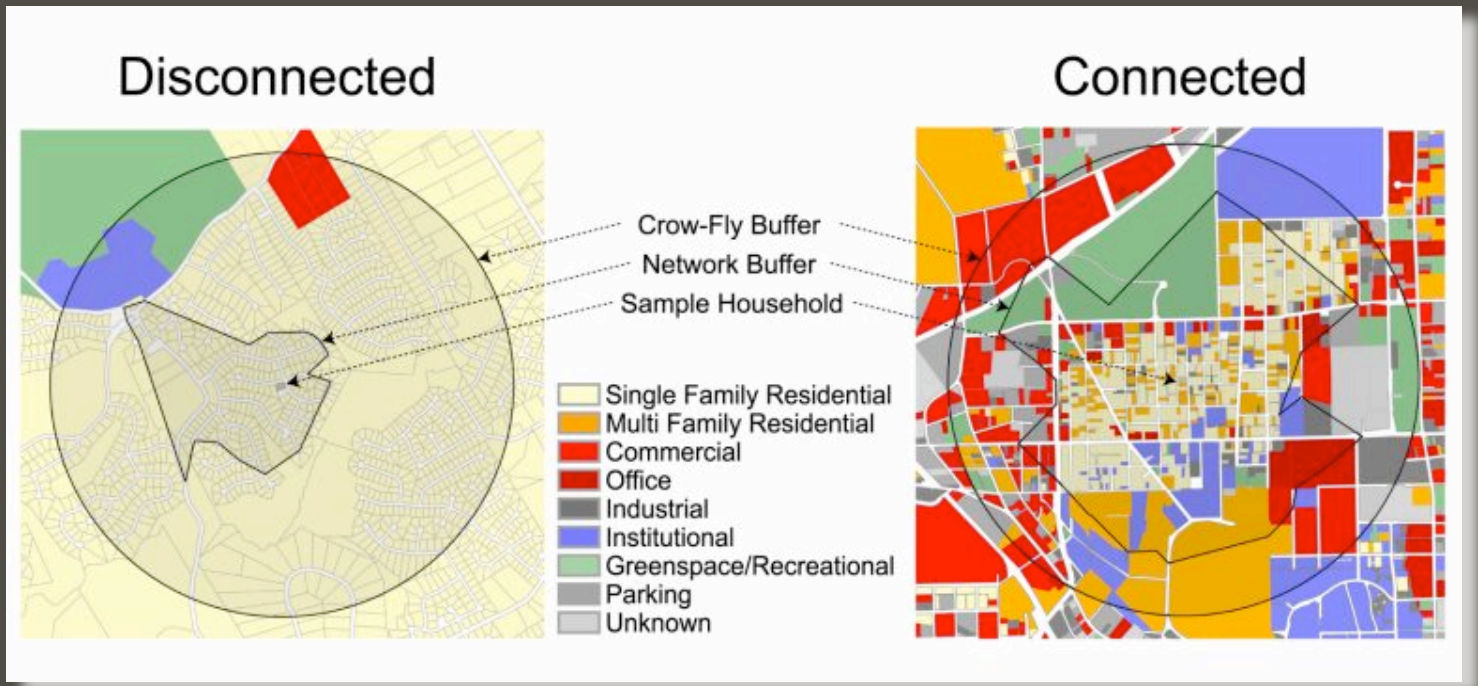
20-40% VMT Reduction for Each
Increment of Compact Development

7-10% Reduction in Total CO₂
Emissions

How do we Reduce Vehicle Travel?

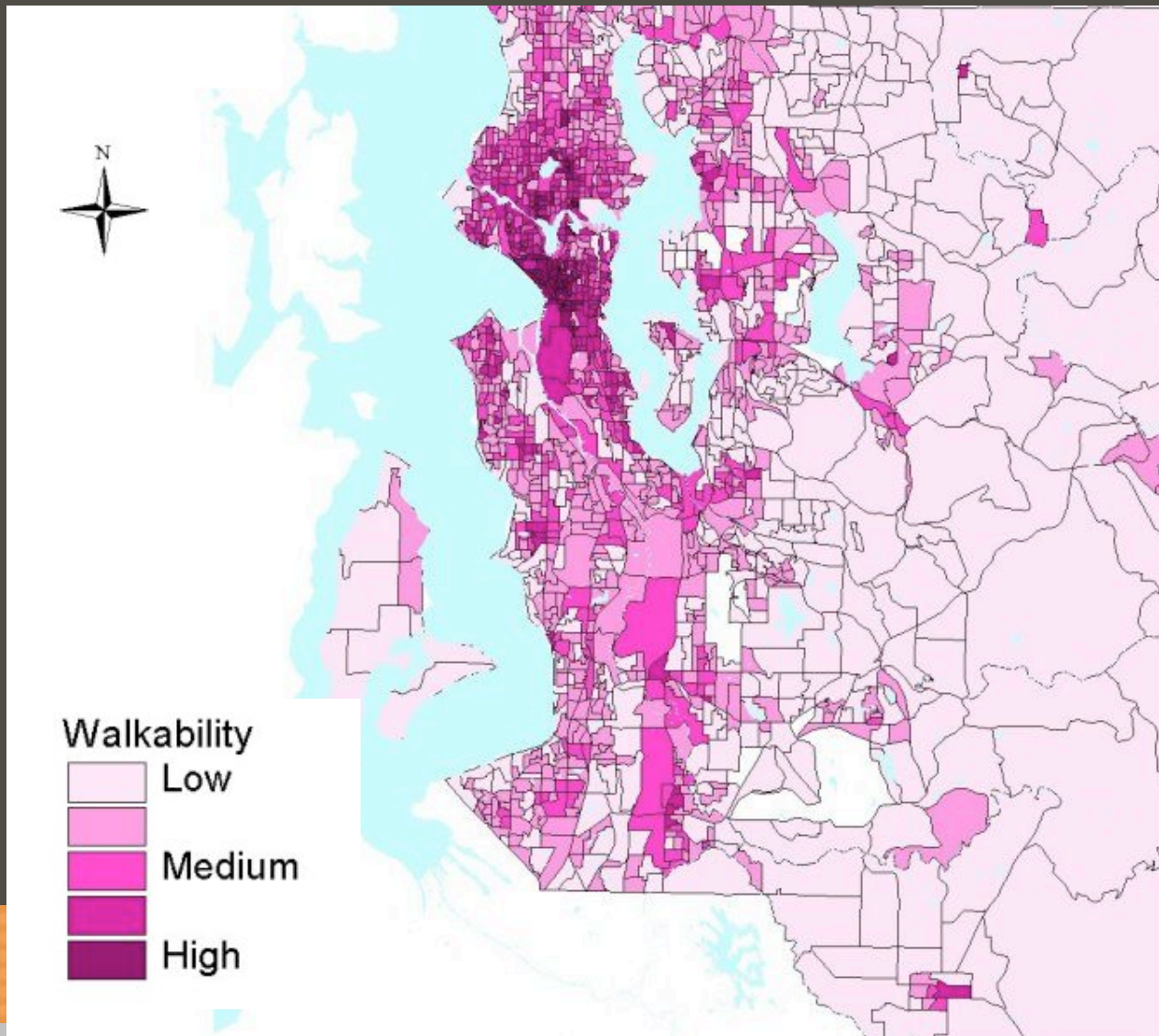
- Carrots – make options more viable
 - Increase transit service / facilities
 - Transit price incentives (passes, lower fares)
 - Investments in pedestrian and cycling facilities – bike sharing services, sidewalks, crosswalks, bicycle lanes/parking
 - ***Supportive land use changes (e.g. closer destinations, mix of uses)***
- Sticks—increase costs to drive
 - Taxes (gas, carbon, VMT, etc)
 - Cordon Charges (London, Singapore, NYC?)
 - Distance-based vehicle insurance
 - Distance-based development impact fees
 - Road pricing

Proximity



Connectivity

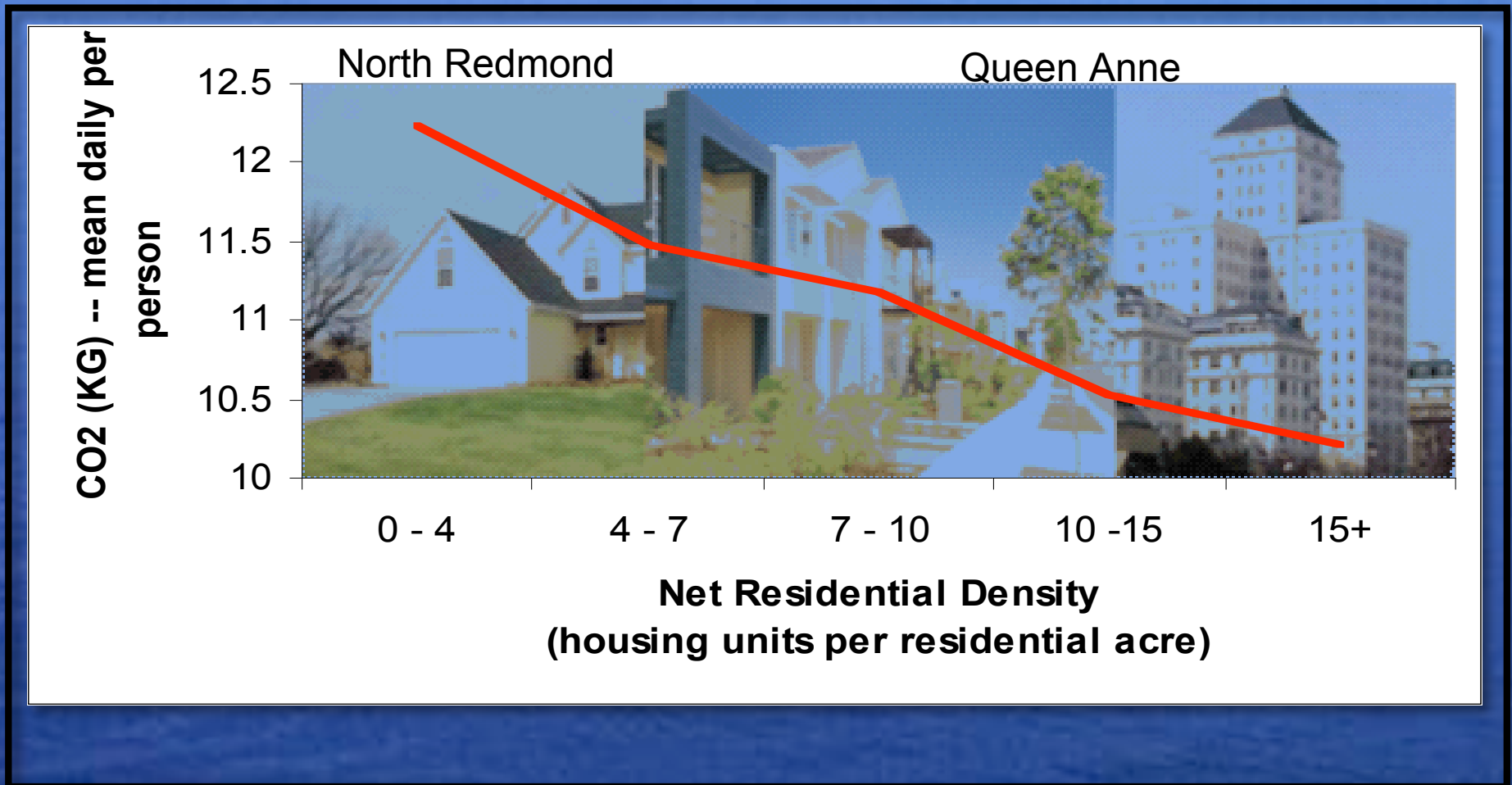
Walkability



- Mixed Use
- Density
- Street Connectivity
- Amount of Retail

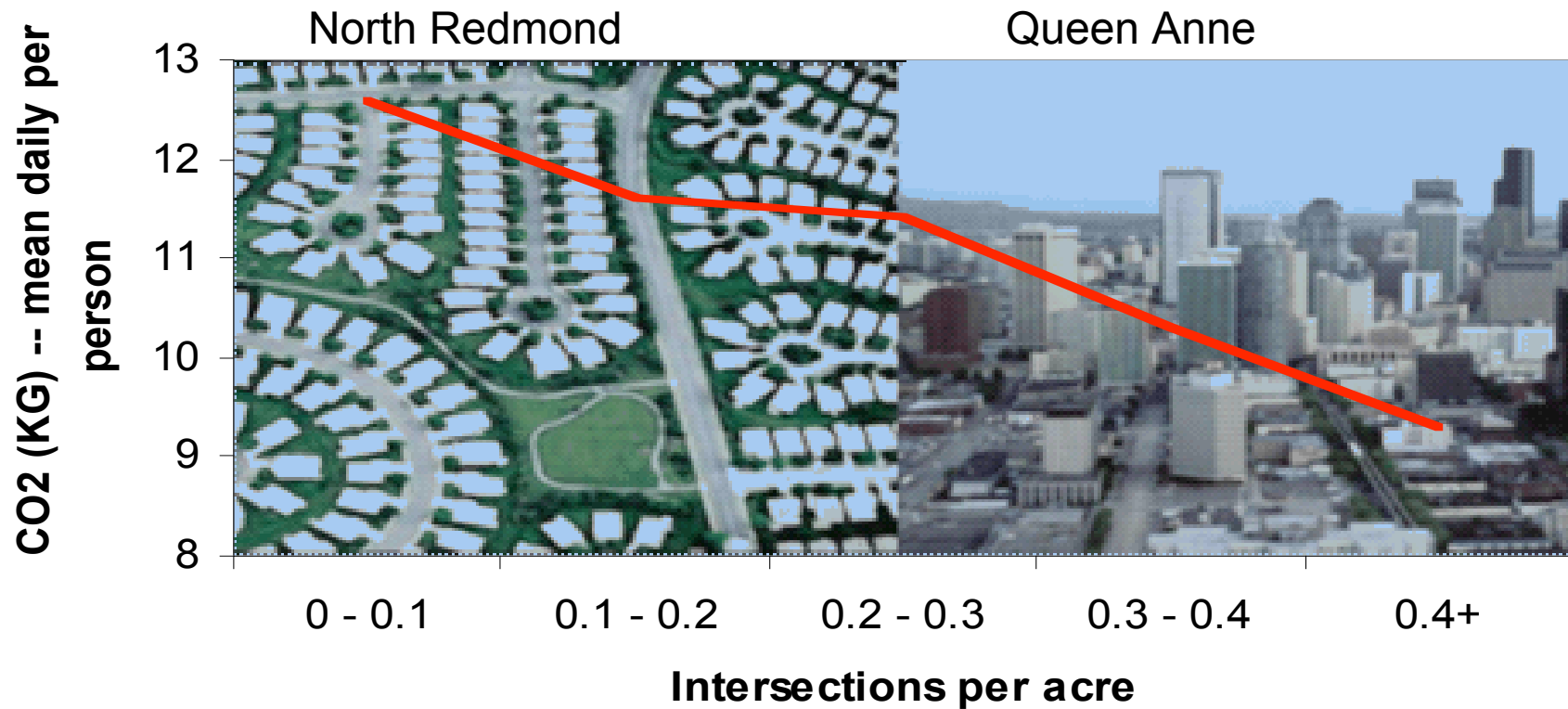
*Census
Block
Groups*

CO2 and Housing Density



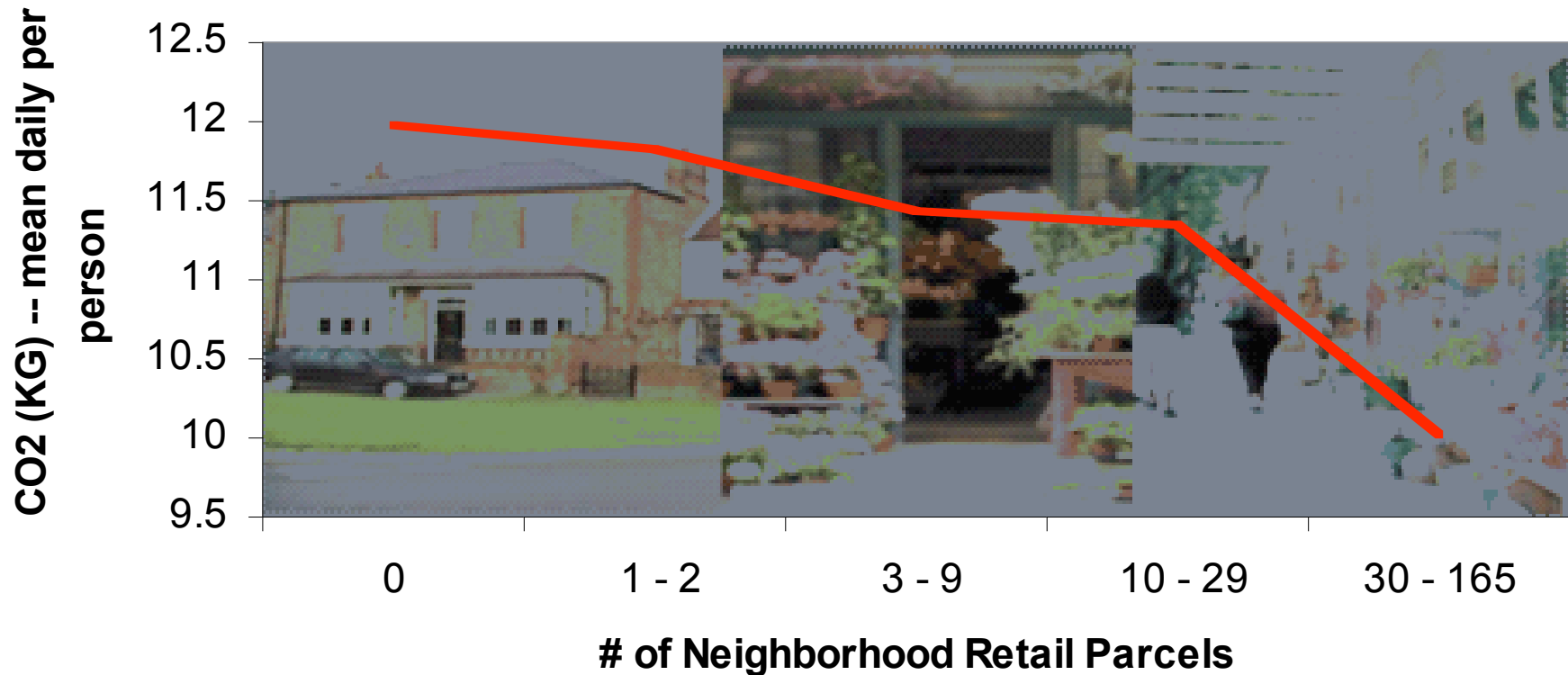
Source: LUTAQH final report, King County ORTP, 2005

CO2 & Street Connectivity



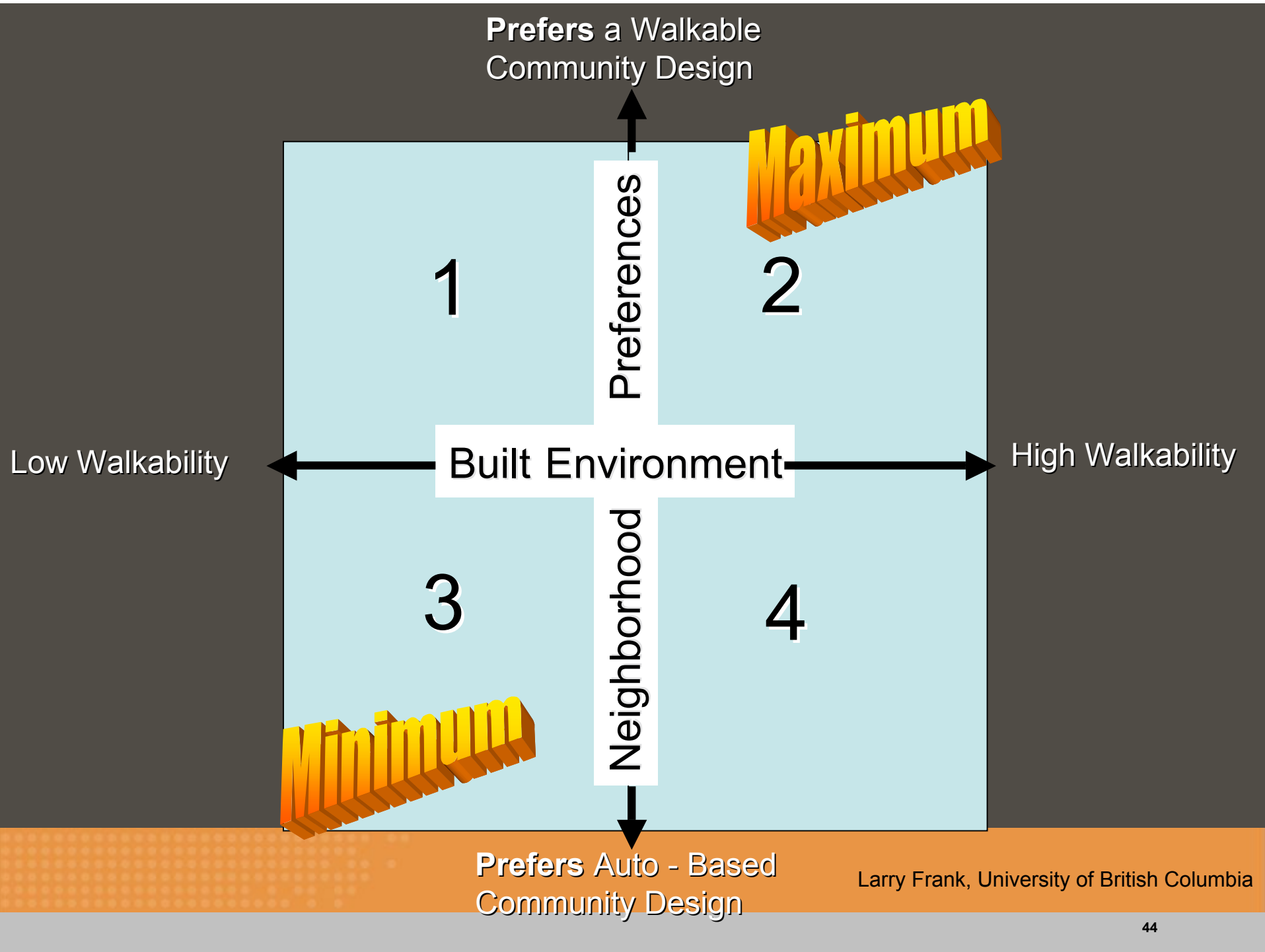
Source: LUTAQH final report, King County ORTP, 2005

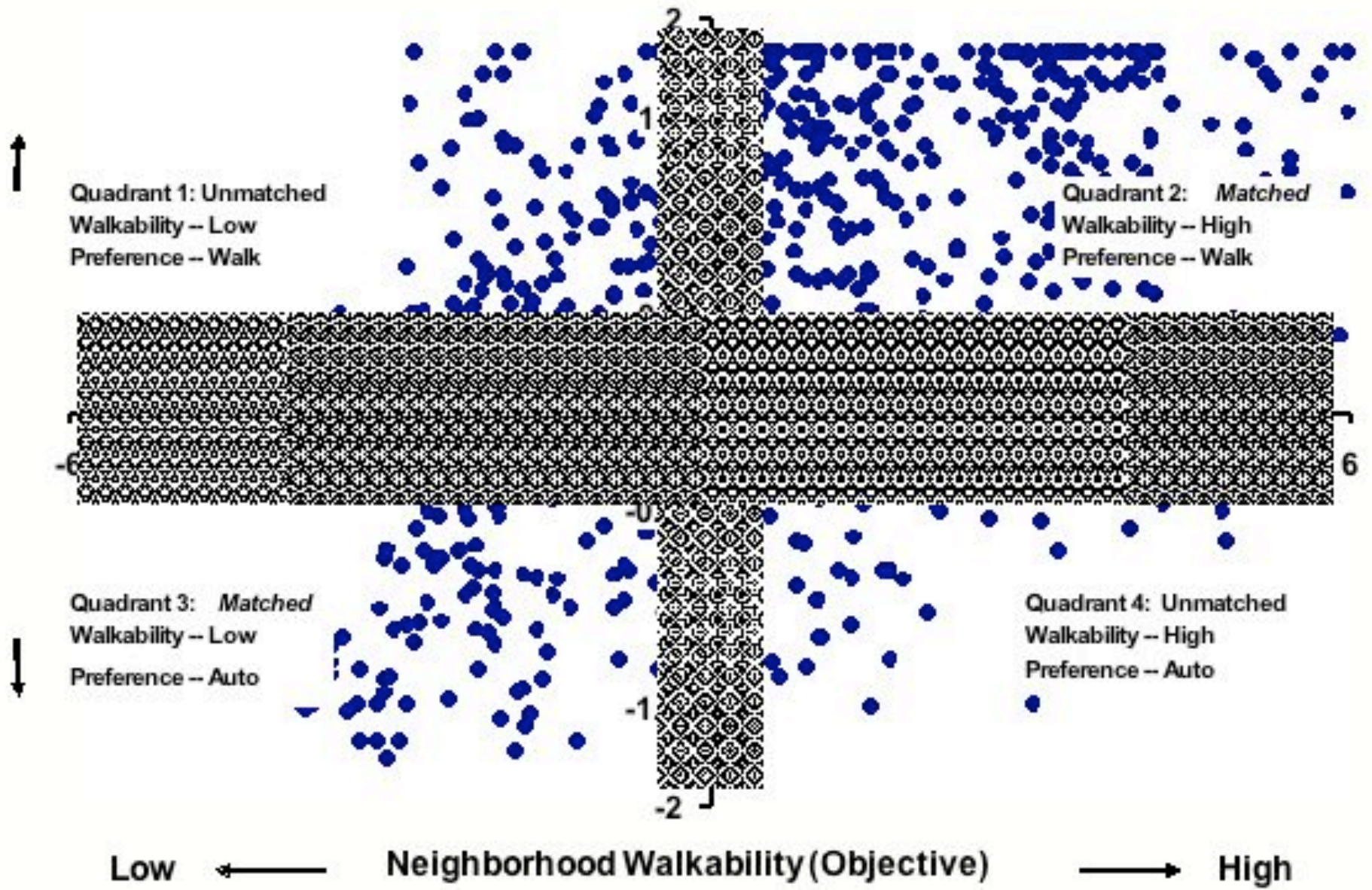
CO2 and Retail Availability



Source: LUTAQH final report, King County ORTP, 2005

Built Environment versus Individual Preferences



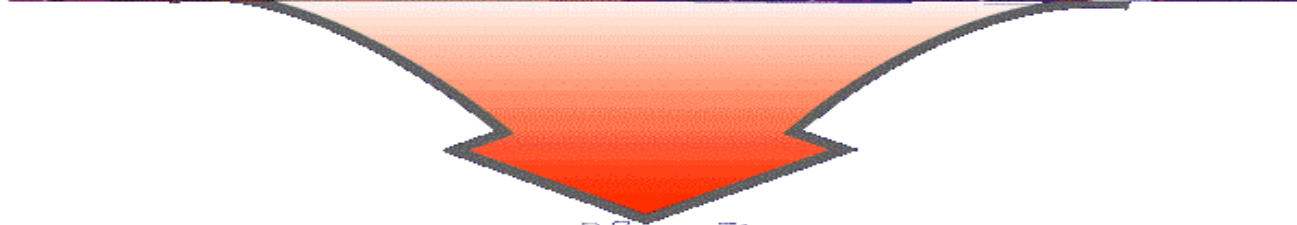


Causation and Self-Selection: SMARTRAQ Results

“Results suggest that the built environment is a stronger predictor of driving and preferences are a stronger predictor of walking.” Only those pre-disposed to being more active Showed lower levels of Body Mass Index in more walkable environments.

“Both neighborhood preferences and built environments matter.”

BUILT ENVIRONMENT



ACTIVITY PATTERNS



PUBLIC HEALTH

Obesity-related results: Driving and Walking

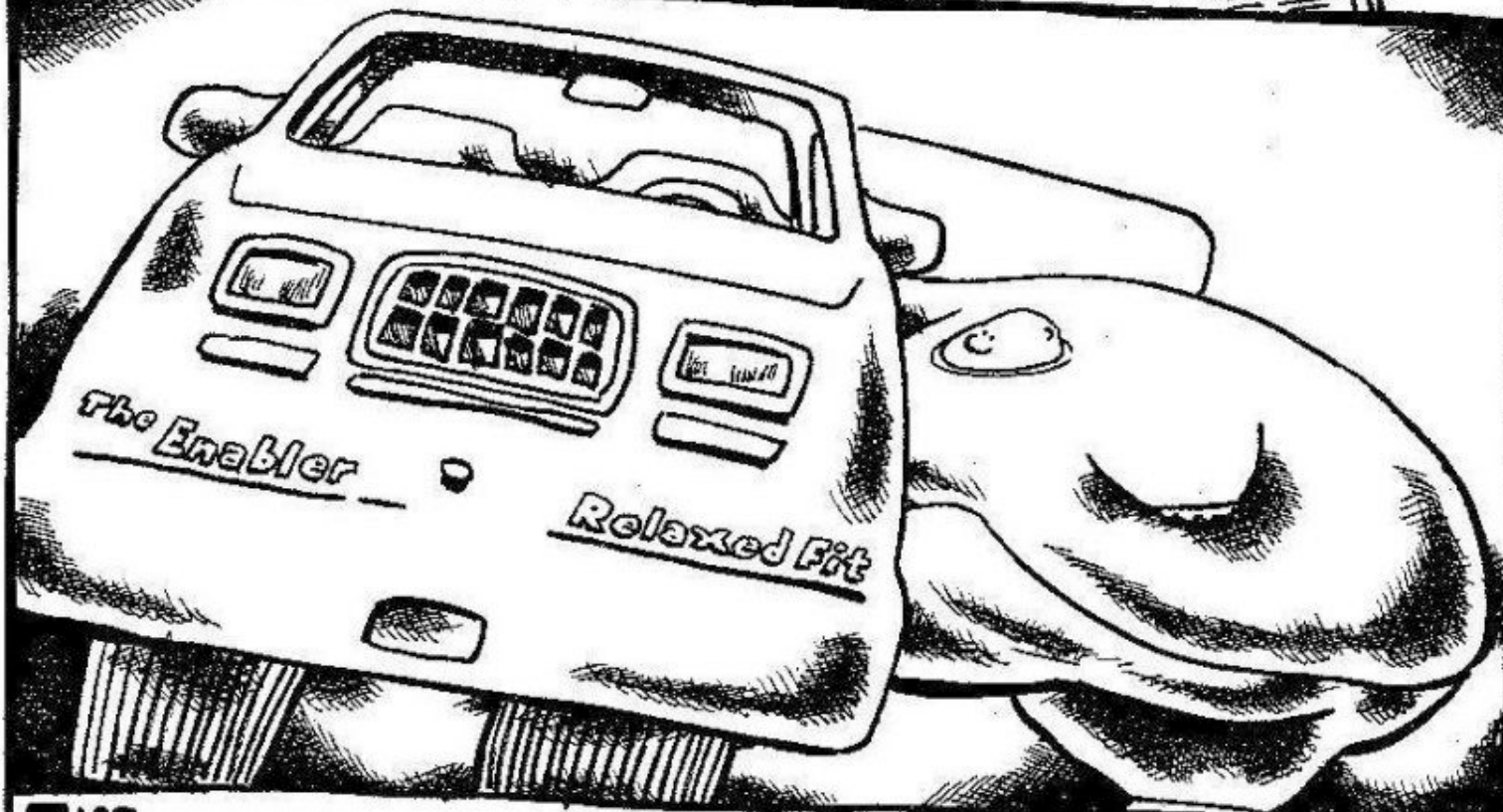
- Every additional 30 minutes spent driving per day translates into a 3 percent increase in the likelihood of obesity
 - Time spent driving increases as walkability decreases
- Every additional kilometer (.6 miles) walked translates into 4.8 percent reduction in the likelihood of being obese
 - Distances walked increases with walkability

Frank, L., Andresen, M., and Schmid, T., Obesity Relationships With Community Design, Physical Activity, and Time Spent in Cars. American Journal of Preventive Medicine. June 2004.

SUVs Explained!

DRIVING CAUSES OBESITY

THE MORE
YOU DRIVE,
THE BIGGER
YOU GET.
— STUDY



TALS

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PERHAPS IT'S TIME TO REDEFINE
FOSSIL FUELS AS A CARB.

13

Conclusions – Pull All Three Levers

- Fuels
- Vehicle Technology
- Demand Reduction
 - Pricing Strategies
 - Pay as you drive Insurance
 - Distance Based Impact Fee Systems
 - Peak Hour Congestion Pricing
 - Prioritize Funding for Energy Efficient Modes of Travel
 - Make seamless linkages between walk, bike (local) and transit
 - Put Wider Range of Housing Types and Prices Points in Market
 - Bring Residential, Commercial/Retail, Office, Institutional, and Transit Closer Together
 - Tie federal transportation dollars to projects that are consistent with an approved and enforced growth plan



But Will It Happen?

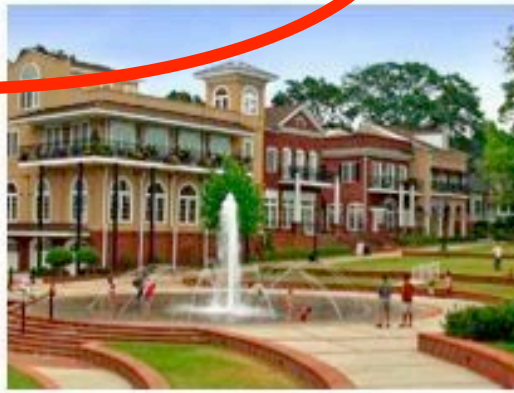
RCLCo Consumer Research

- ▶ 12 studies for builders and developers as input to planning new communities
 - Consumer surveys in Atlanta, Phoenix, Denver, Provo, Albuquerque, Boise, and Chattanooga conducted in the early part of this decade
 - More recent studies conducted in Tampa, Orlando, Phoenix, Charlotte and Savannah
 - Both urban and suburban locations
- ▶ Surveys measuring the interest in new urbanism communities
 - Indicate the market for smart growth
- ▶ Consistently find one third respondents prefer new urbanism communities and housing product



Findings: 1/3 want smart growth products

- ▶ Reviews of existing studies on consumer demand...
- ▶ Survey's conducted by Robert Charles Lesser & Co. LLC...
 - Consistently find that about a third of the market prefers smart growth products
 - Demand increases with shorter commute
- ▶ Share of the market growing due to
 - Demographic trends and
 - Changing buyer preferences (lifestage changes)



Market Acceptance of Smart Growth

Kentlands, Lakelands, and 20878 zip code

4,744 resales between 1997 - 2005

Kentlands 16.1% price premium

Lakelands 6.5% price premium

1997-2005 year-over-year:

Kentlands - sustained premium

Lakelands - sustained and growing (9.5% between 2002 - 2005)

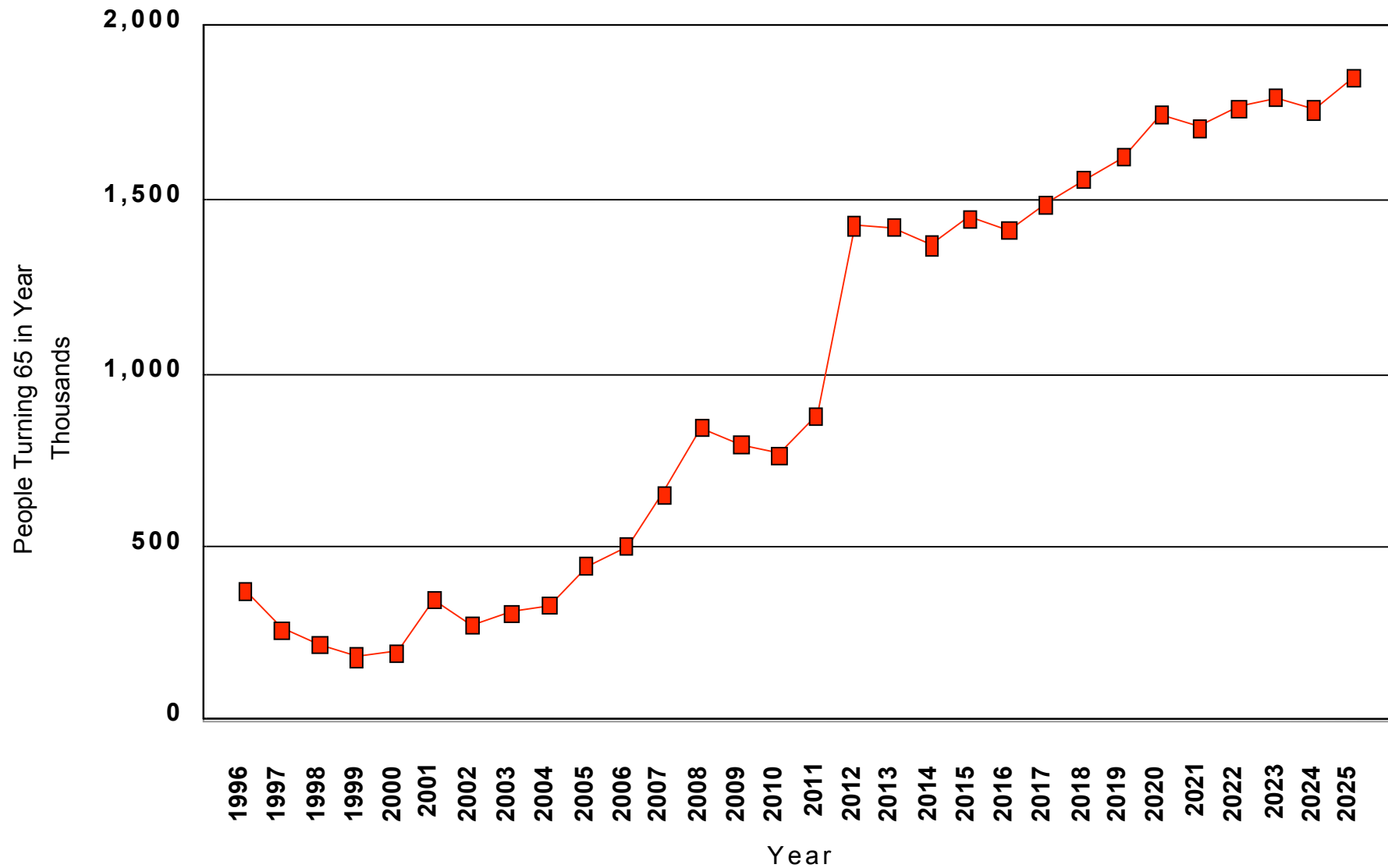
Strong Returns for Smart Growth Investment

Hi-Pros Expanding Their Urban Brands

- Centex Homes - Cityhomes
- K. Hovnanian - Metro Living
- KB Homes - KB Urban
- Toll Brothers - City Living



People Turning 65 Annually 1996-2025

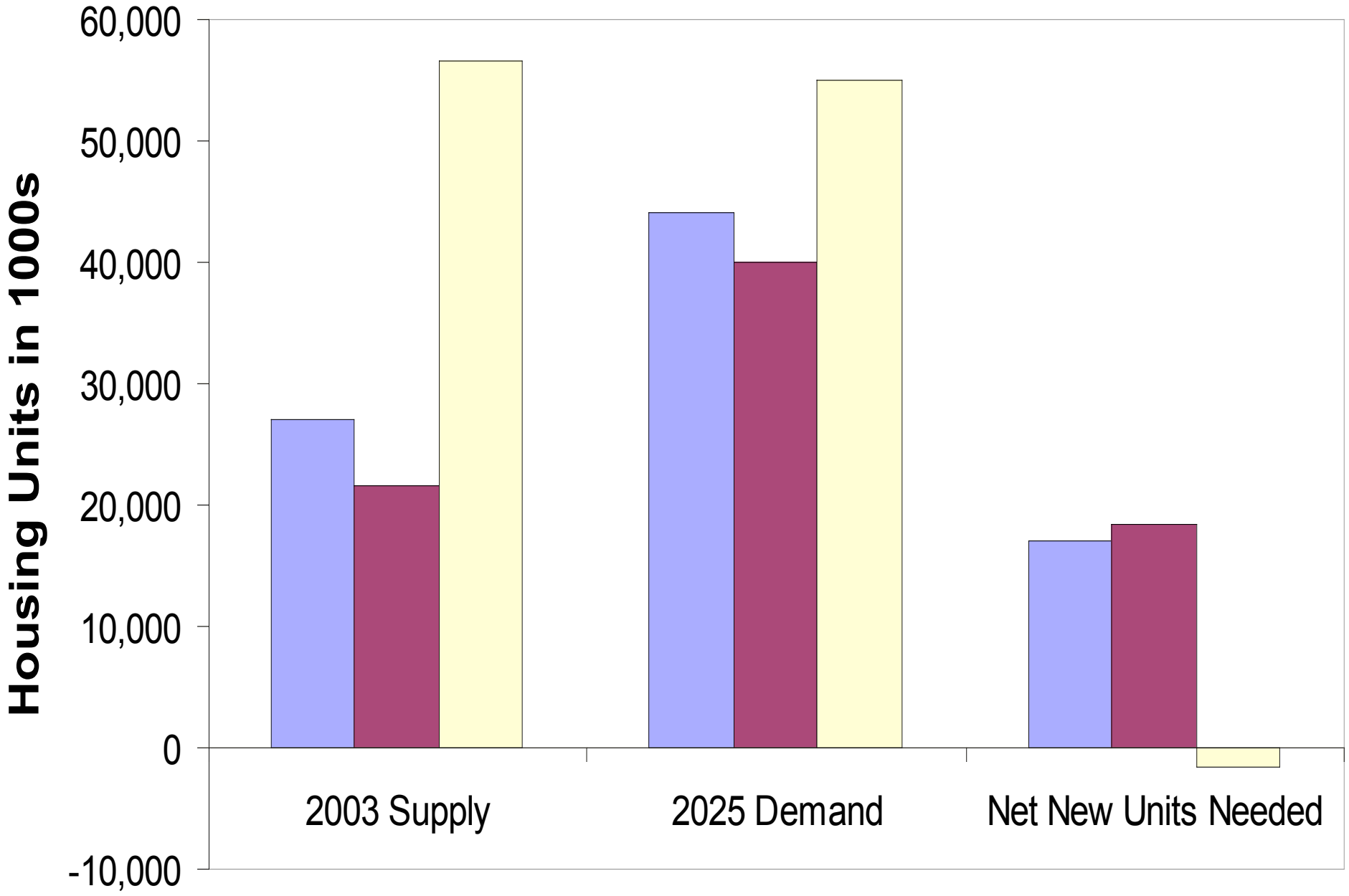


Decline in Households with Kids

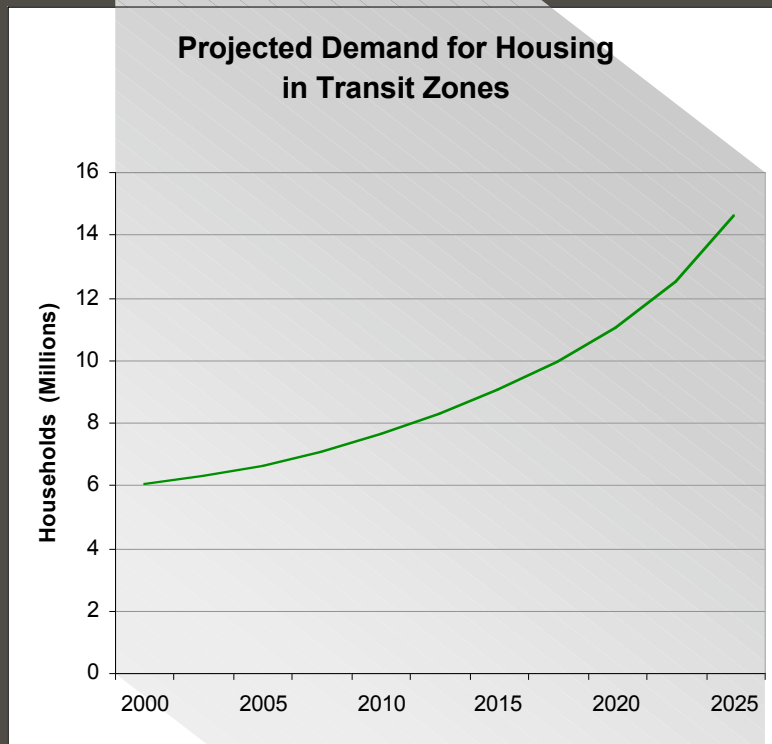
<u>Household</u>	<u>1960</u>	<u>2000</u>	<u>2025</u>
With Children	48%	33%	28%
Without Children	52%	67%	72%
<i>Single</i>	13%	26%	28%

Source: Census for 1960 and 2000, 2025 adapted from Martha Farnsworth Riche, How Changes in the Nation's Age and Household Structure Will Reshape Housing Demand in the 21st Century, HUD (2003).

Attached Small Lot Large Lot



Growing Demand for TOD



- Residential demand could grow from 6 million to 16 million households by 2030
- Regions with extensive and growing transit systems offer the greatest TOD potential.
- Growth is likely to be modest through 2010 and accelerate in later years as transit systems are constructed and expanded
- TOD Capture Rates are driven by household type and system size

Source:

Reconnecting America, *Hidden in Plain Sight*, 2005

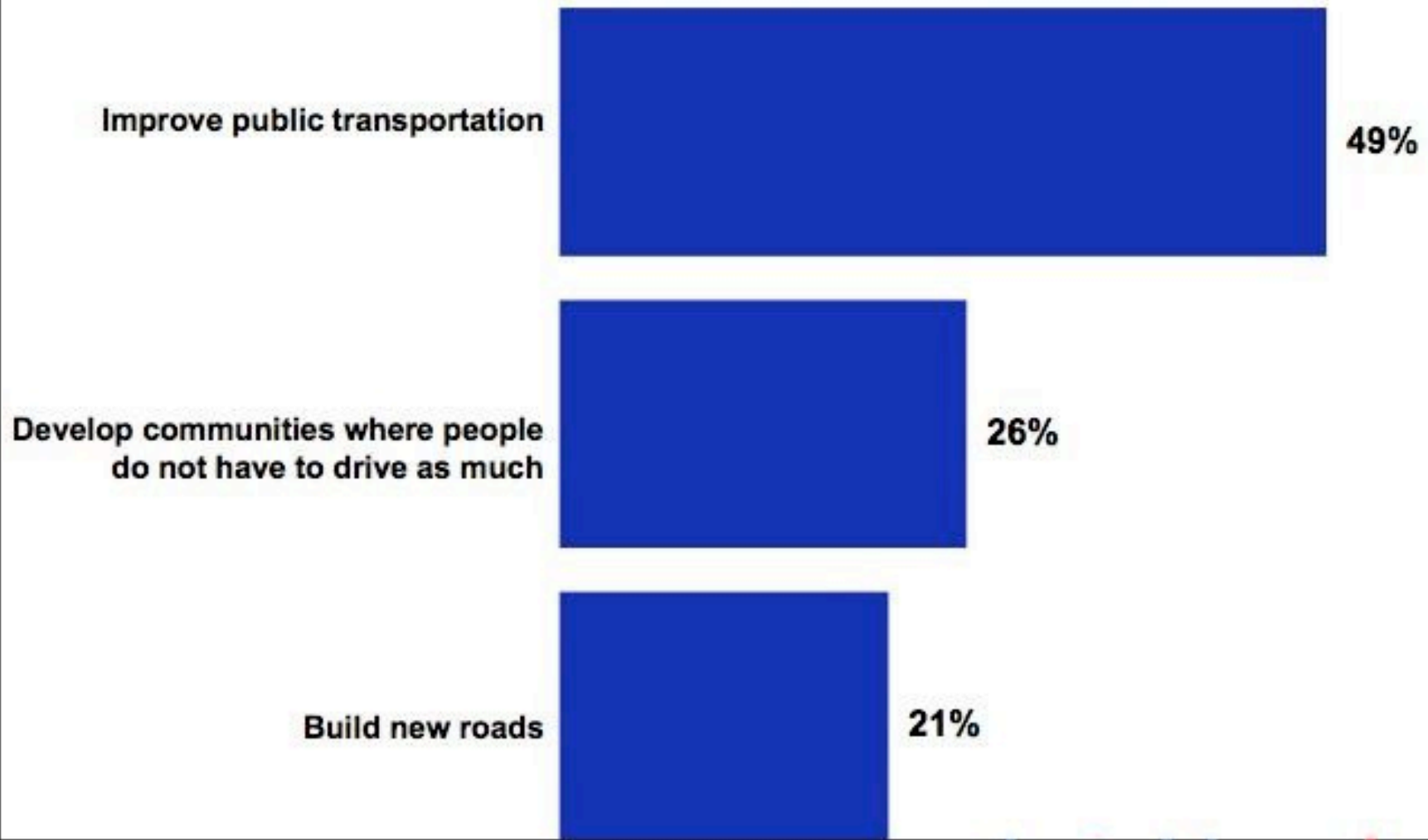
Transit Systems are Exceeding Expectations

Transit System	Ridership Estimate	Target Year	Ridership Estimate	Measurement Date
Minneapolis Hiawatha	24,800	2020	31,000	August 2006
Houston Metrorail	40,000	2020	40,000	September 2006
Salt Lake City Trax	34,600	2020	55,000	October 2006
Portland Streetcar	3,000	2001	8,800	October 2006
San Diego Green Line	10,800	2015	18,455	December 2005
St. Louis St. Clair Ext	13,502	2010	14,083	November 2003
Tacoma Link	2,000	2010	2,880	March 2006
Portland Westside Max	27,100	2005	32,700	October 2005

Source: Reconnecting America

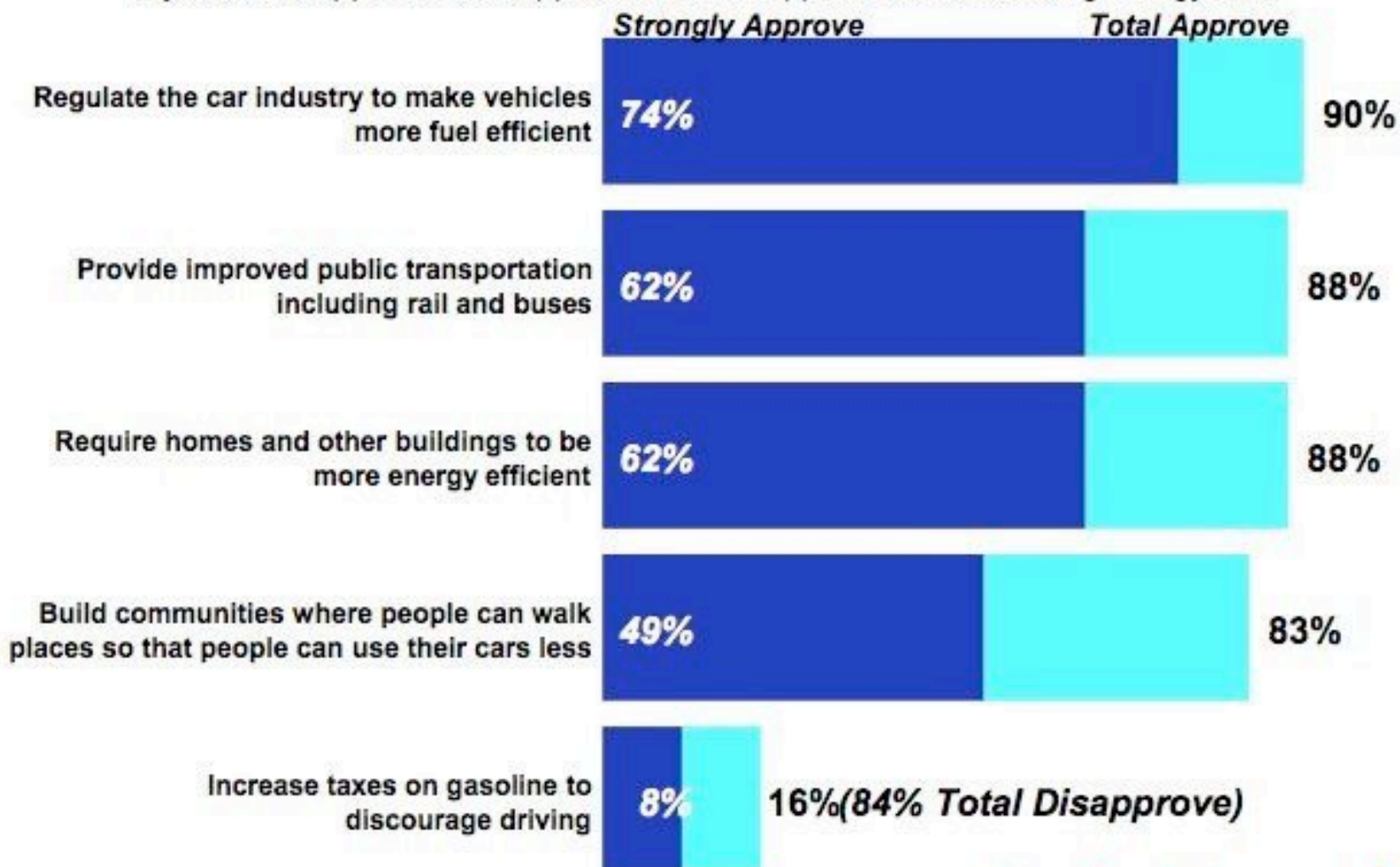
Three-fourths of Americans believe public transportation and smarter development will do more to cure traffic than building new roads.

"Which of the following proposals is the best long-term solution to reducing traffic in your area?"



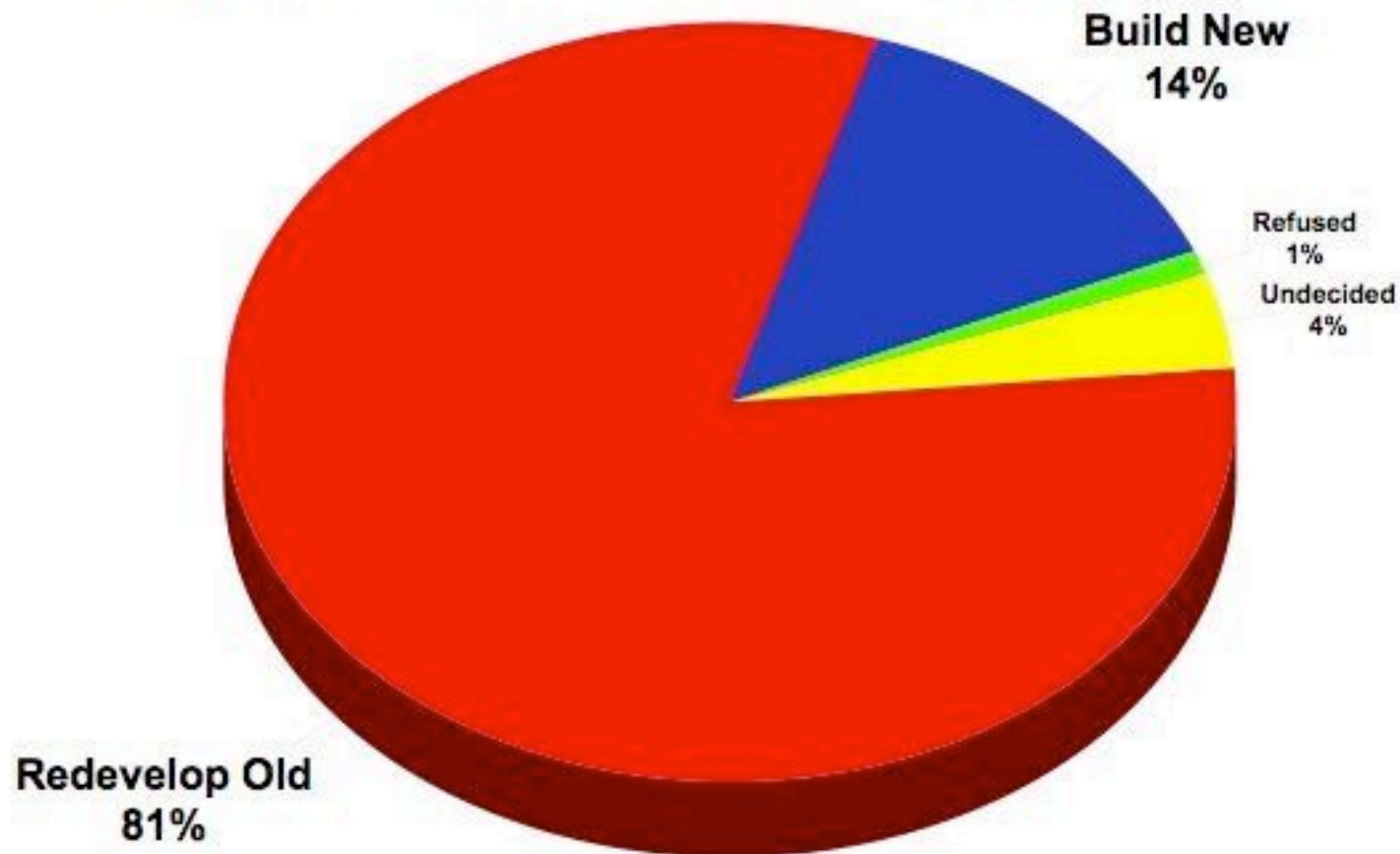
Americans embrace transit and walkable communities as solutions to climate change.

"Now thinking about the environment... Climate change and energy security are of increasing concern to many people. I will read you a list of approaches to reducing energy use. After each one please tell me if you would approve or disapprove of these approaches to reducing energy use?"



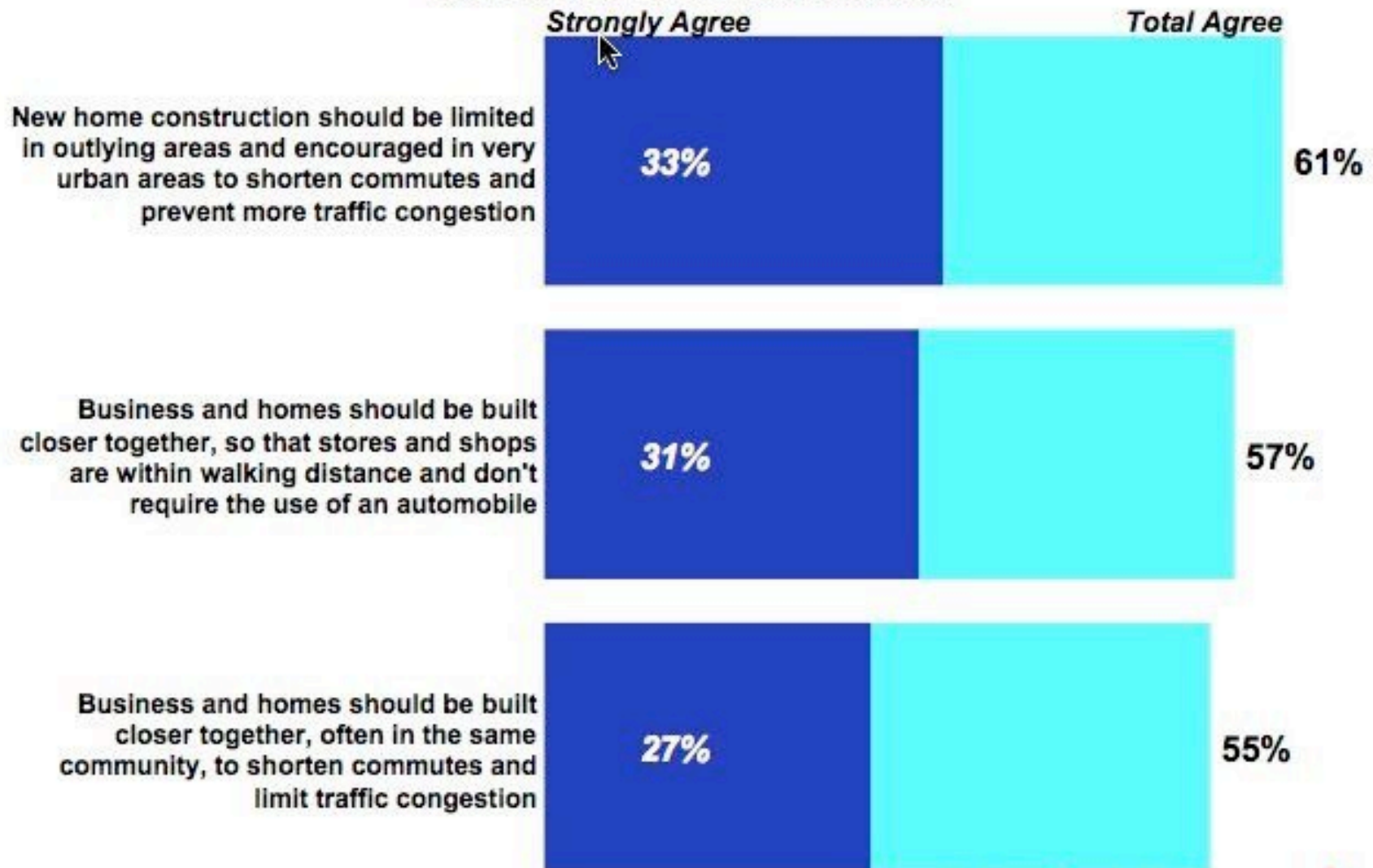
Eighty-one percent of voters want to redevelop older areas rather than building new.

"The population of the United States is expected to increase from 300 million to 400 million by 2050. I am going to read you two statements, please tell me which approach do you prefer to accommodate this growth... Continue to build new suburbs on the edge of the existing suburbs ...or... Redevelop older urban and suburban areas with additional development, that is, build new housing and commercial development in already developed areas. Which approach do you prefer?"



Americans see smarter development patterns as a viable way to reduce traffic and shorten commutes.

"I am now going to read you several about growth, and after I read each one, please tell me whether you agree or disagree with that statement."



Any reason to believe behavior will change?



1101 New York Avenue, NW

DPZ Atlantic Steel Design

