

How Do We Know It's Affordable? New Tools for Measuring the Value of Urban Quality and Choice

Scott Bernstein, Center for
Neighborhood Technology
CNU XV, May 19 2007

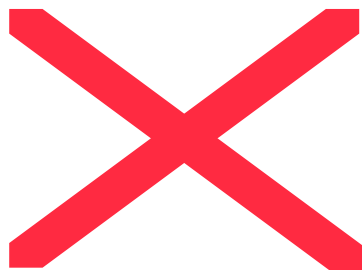
For More Information

- www.cnt.org
- www.cnt.org/resources
- www.transact.org
- www.reconnectingamerica.org

Goals for This Presentation

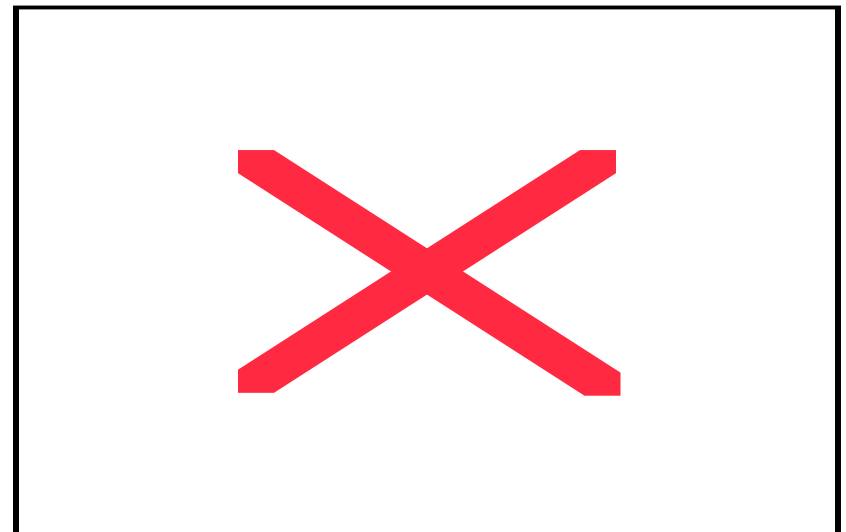
- Review history of how “affordability is calculated
- Present some alternatives—Location Efficient Value, Housing + Transportation Affordability Index, Savings Rates
- Show how these tools can help support better urban and regional outcomes

Recently Published Resources



Recent Findings

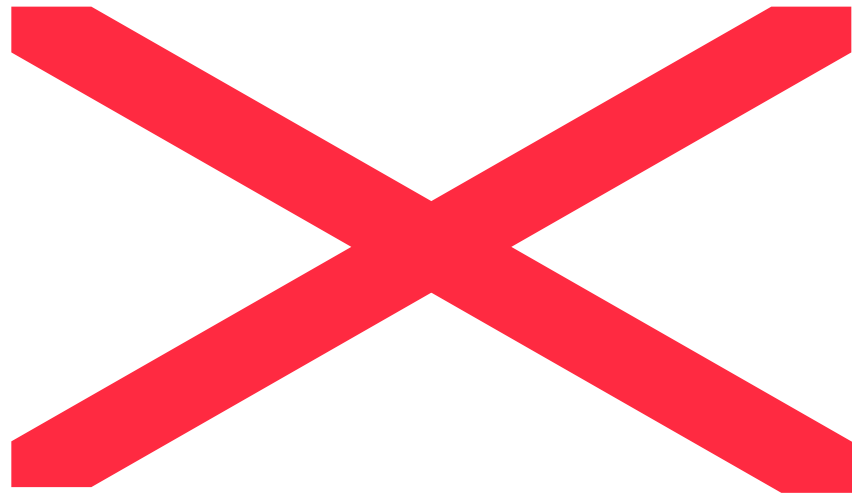
- Transportation costs working HH's as much or more than housing
- HHs in transit zones have one less car, only half drive to work
- Transit station areas and corridors can handle the growth
- Good match with demographic trends
- Best bet for mixed income communities



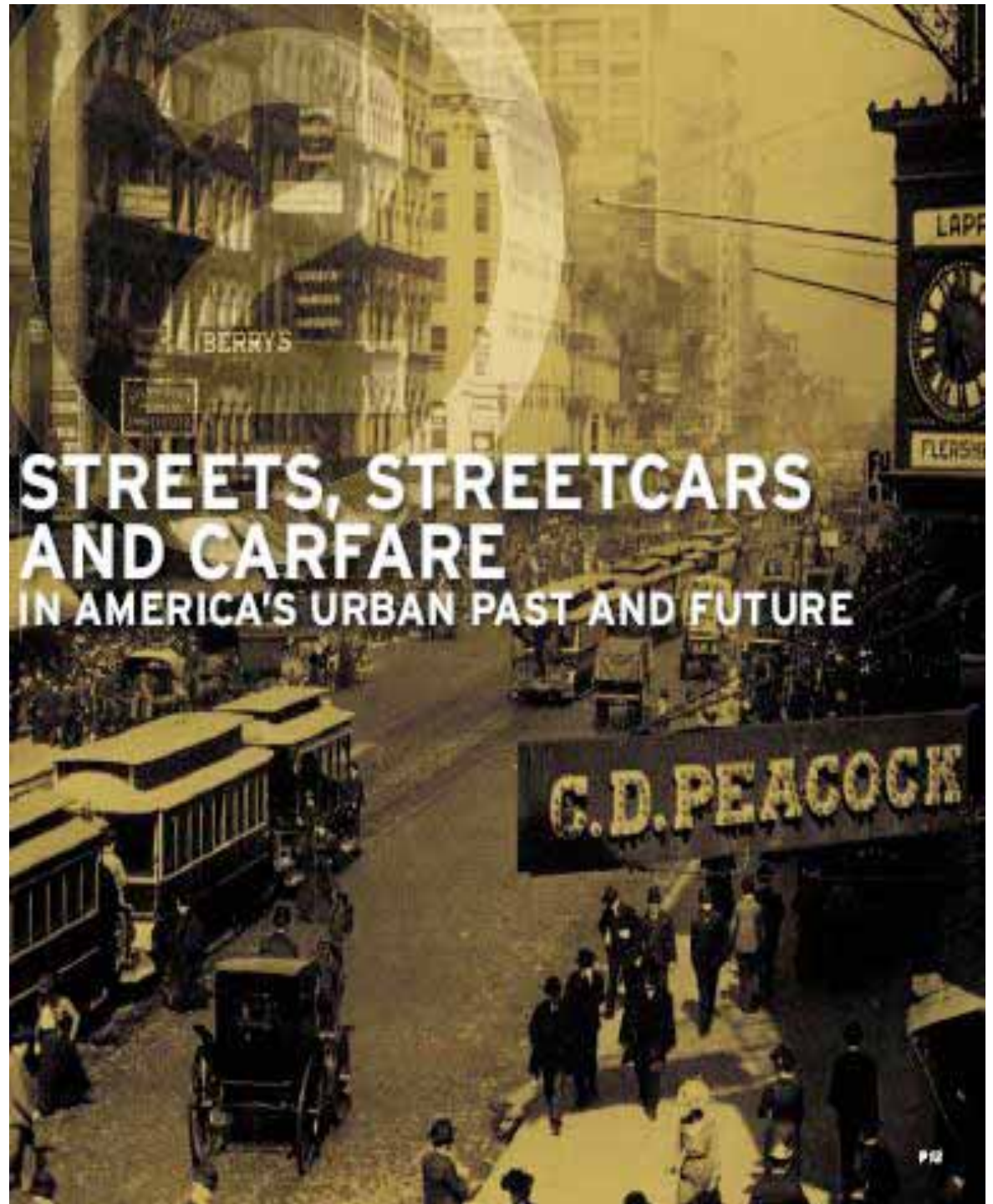
Housing and Transportation Costs Rising Faster than Income

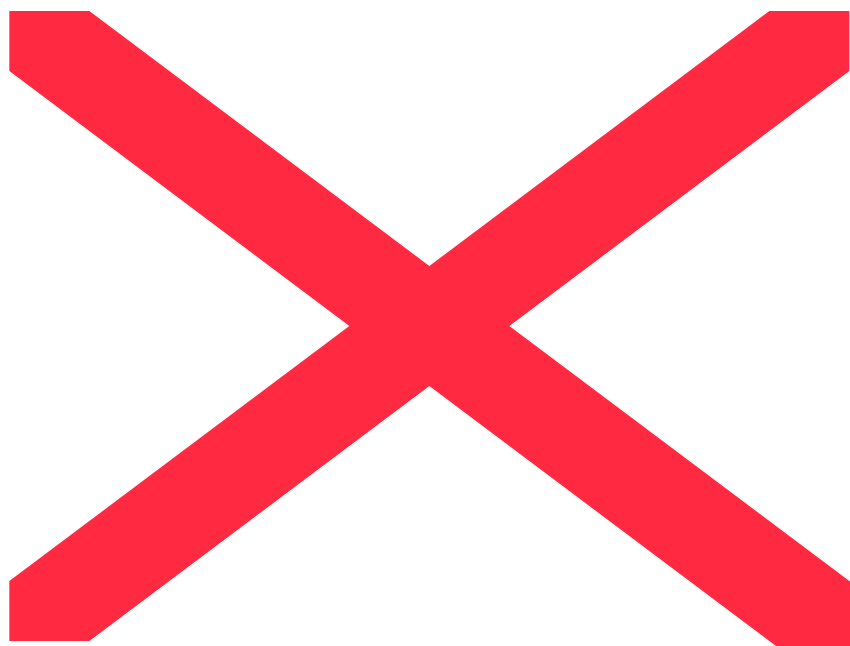


Traffic Increasing Much Faster
than Population

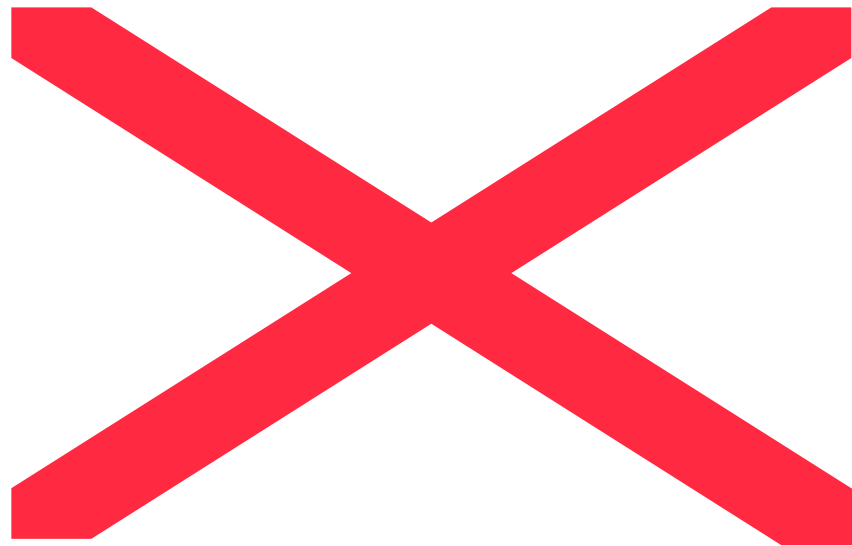


Historical Antecedents

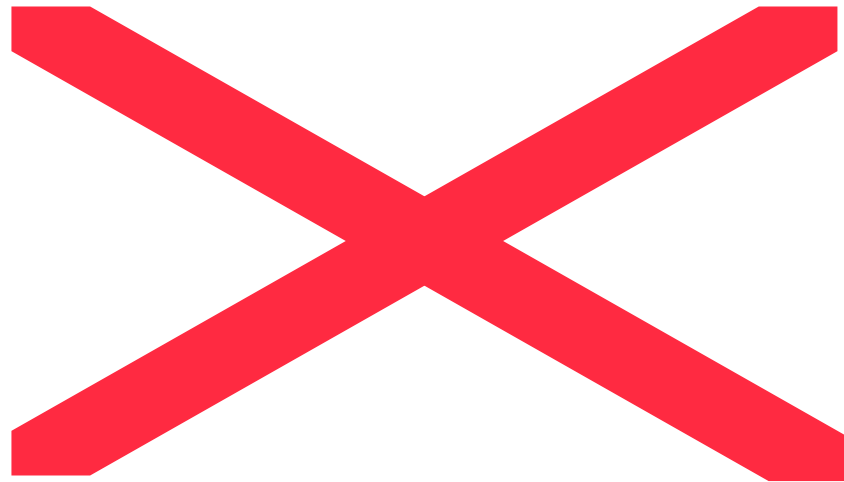




Buy Cars or Build Wealth?



**“Zero Percent Loans Drive Economy” :
Detroit Free Press, August 2002**



An Expert Opinion

- “We’ ll be the first generation in the history of the planet that drove to the poorhouse in an automobile”

Will Rogers

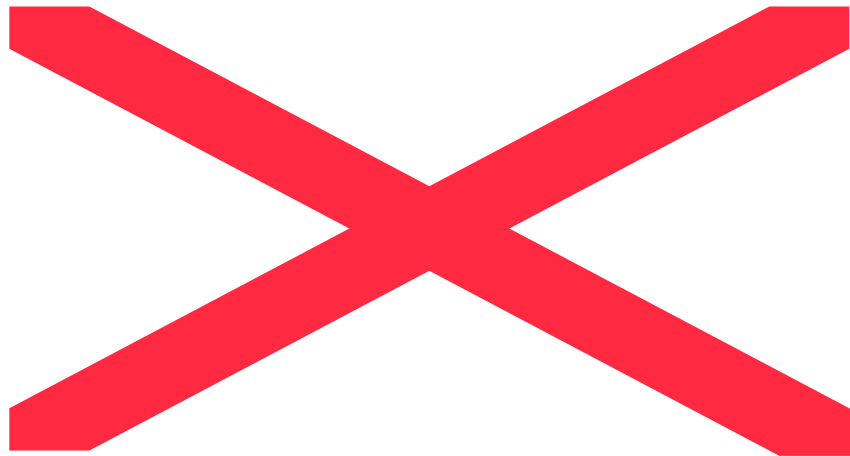
Historical changes

- 1920, Food was 41 percent of HH expenditures, housing 27, transportation 3 percent
- Today food 16, housing 35, transportation 15-25 percent respectively

Results

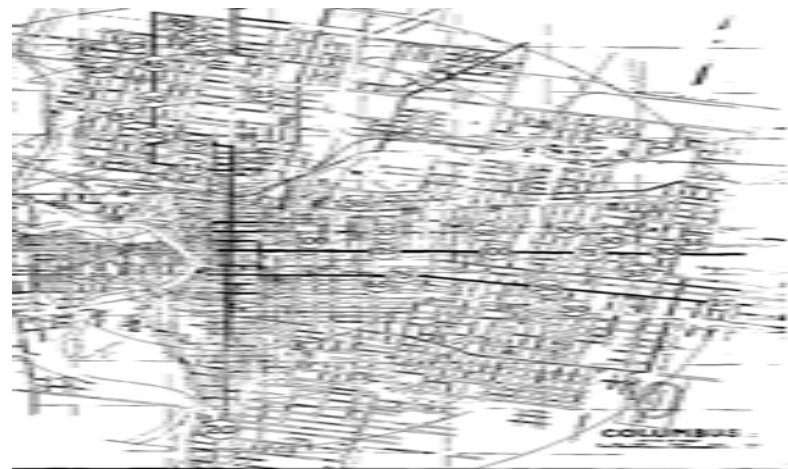
- Transportation only 3-5 percent of HH expenditures
- Every city of 5000+ had streetcars and interurban, more had steam RR service
- High household savings rate

Contemporary Budgets

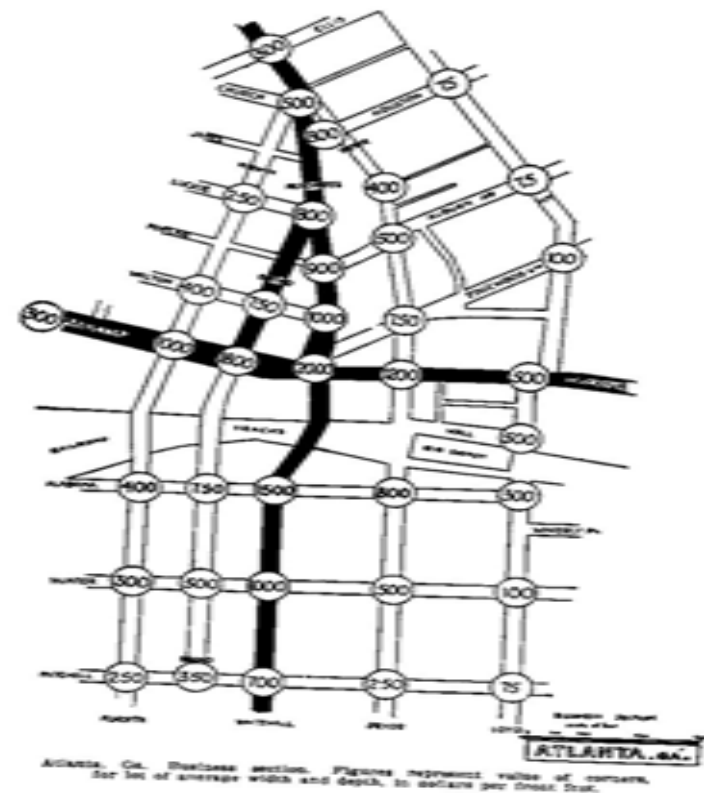


History

- America's cities were developed around township lines and railroad ROWs-1850 to 1900
- City street grids were developed in conjunction with horsecar and then streetcar lines-joint developments that accelerated urban development
- Social and economic inventions made this work—think of this as early TIF and SSA



Transparency Drove the Market Through 1930



Some Historical Antecedents

- Ellen Swallow Richards—scorekeeping and home economics
- Bion J. Arnold—leading early traction engineer sold on basis of community benefits
- All US cities—streets paved with income from private utilities
- Leading innovations all based in social and local reality—but not always recognized

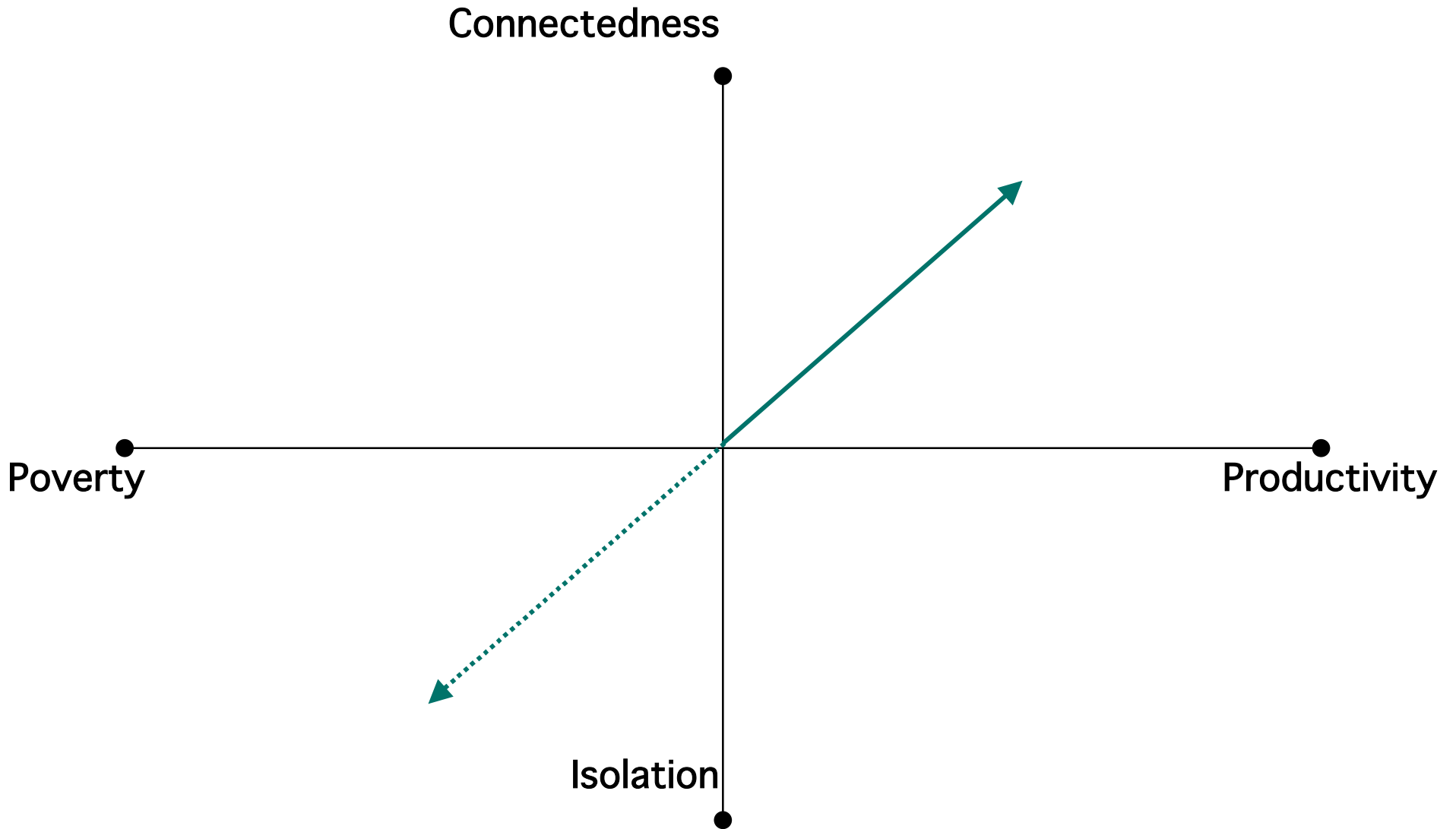
A Seminal Thought

- “Economic development derives not so much from fixed combinations of investments as in the recognition that all places have assets that are hidden, scattered or poorly utilized”
- Similar observations by Dahl (political slack), Arnstein (ladder of participation), Becker/Bolton (household productivity)

continued

- Kirkland, studied expenditures, “Verily the savings of the rich are as nothing compared with the wastings of the poor”
- Contemporary—leakage studies, information and productivity—e.g., South Shore Bank preserved through providing both community and policy makers with aggregate measures of purchasing power and wealth” (Bernstein 2003), launched CDFI industry
- Brookings Urban Markets Initiative

What a Nourishing Economy Does



Elements of a Strategy

- Rich in information
- Shifts demand not just changes supply
- Distributed resources—network economies, values and rewards a large number of small activities
- Bundles the necessary elements of the opportunities
- Reduces the cost of living
- Can result in actual asset accumulation

As the Curtain Rose on the 20th Century—



What's Wrong with this Picture?



Cars were dangerous
New York City set
and posted speed
limits

But there were no
speedometers

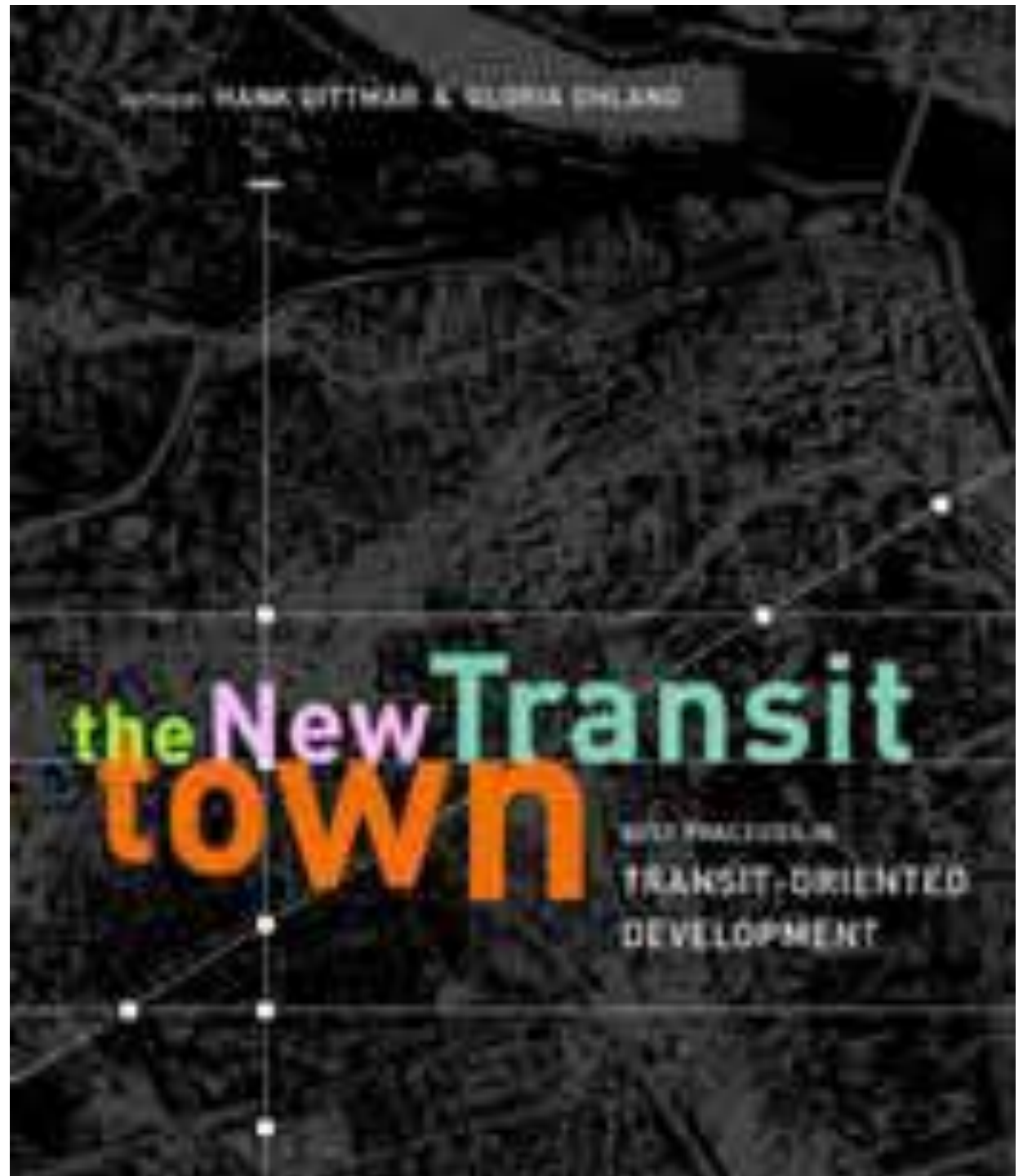
The Opportunity: Tangible Assets of Places

- Urban Purchasing Power
- Concentrated Workforce
- Mass Transit Systems
- Accessibility
- Abandoned and Under-Used Land

Tangible Assets of Places, con' t

- Underutilized Infrastructure
- Already Assembled Rights of Way
- Aggregation of Efficient Resource Use
- Surprising Biodiversity

Showing the
Value of
Location
Efficiency



Sample Asset: Accessibility

- Density, Transit Access (Proximity, Frequency, Connectivity), and Amenities Determine Transportation Demand
- Statistics Used to Estimate Likely Travel Demand

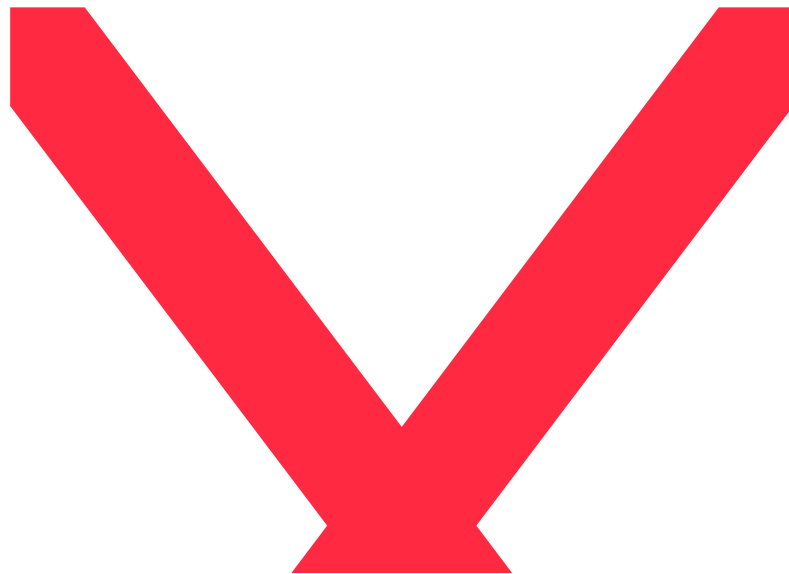
Sample Asset: Accessibility

- Density, Transit Access (Proximity, Frequency, Connectivity), and Amenities Determine Transportation Demand
- Statistics Used to Estimate Likely Travel Demand
- Demand is Verified by Measuring Vehicle Ownership and Extent of Use
- Demand is Then Valued in Dollars and Cents

Accessibility, con' t

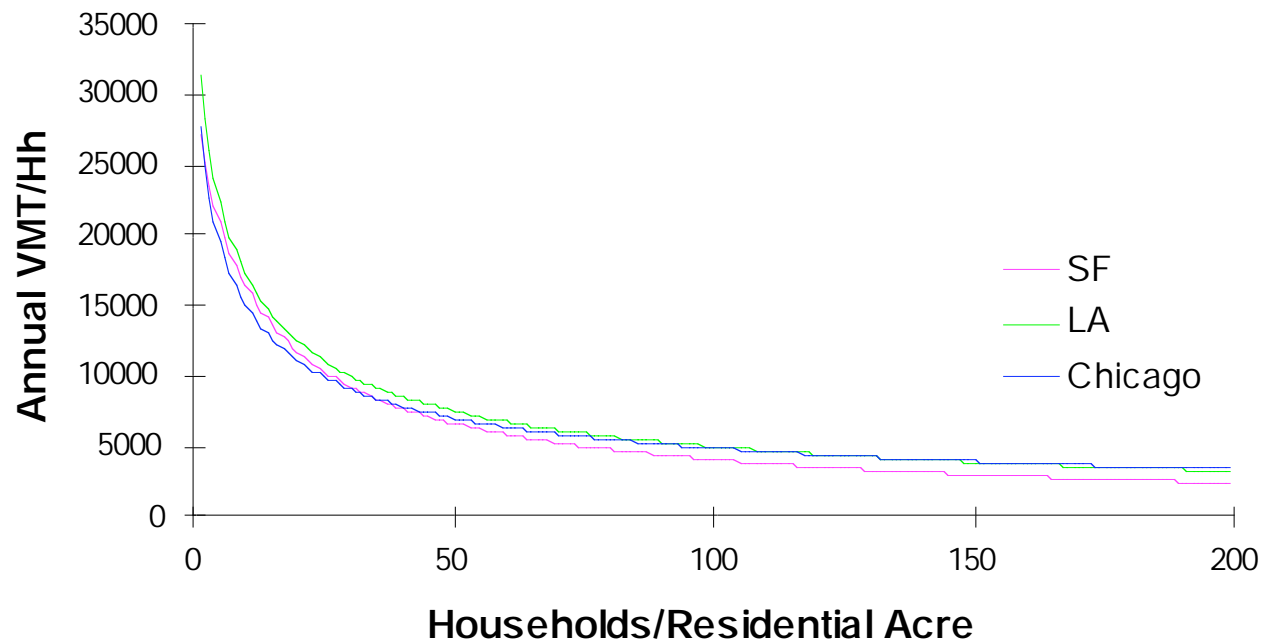
- Demand is Verified by Measuring Vehicle Ownership and Extent of Use
- Demand is Then Valued in Dollars and Cents

Explain Using Regression?

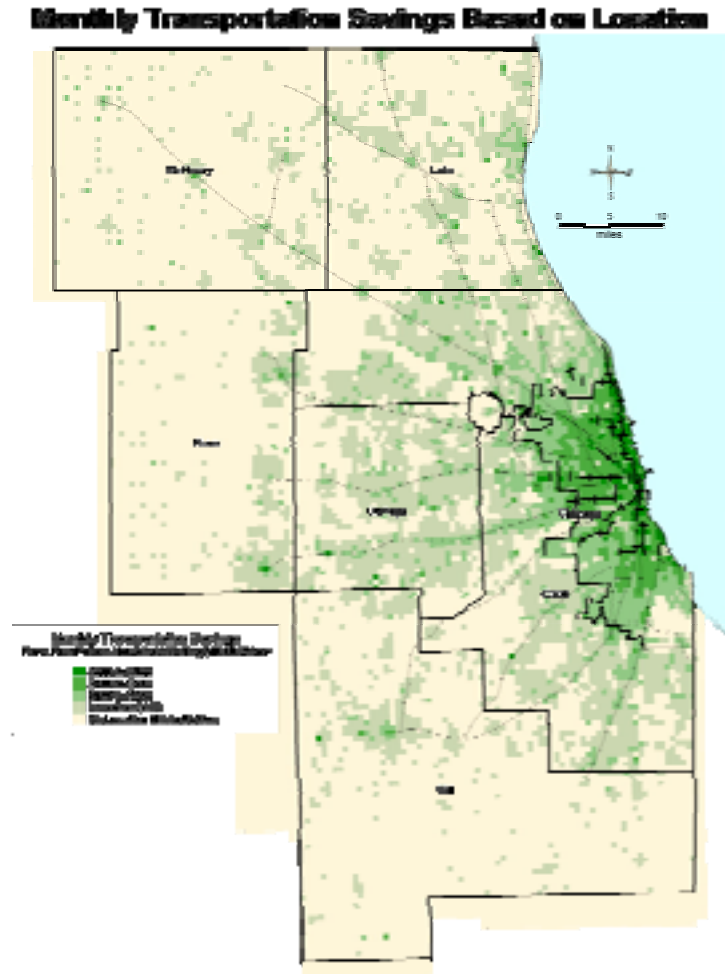


Showing the Benefit Graphically

Driving vs Residential Density

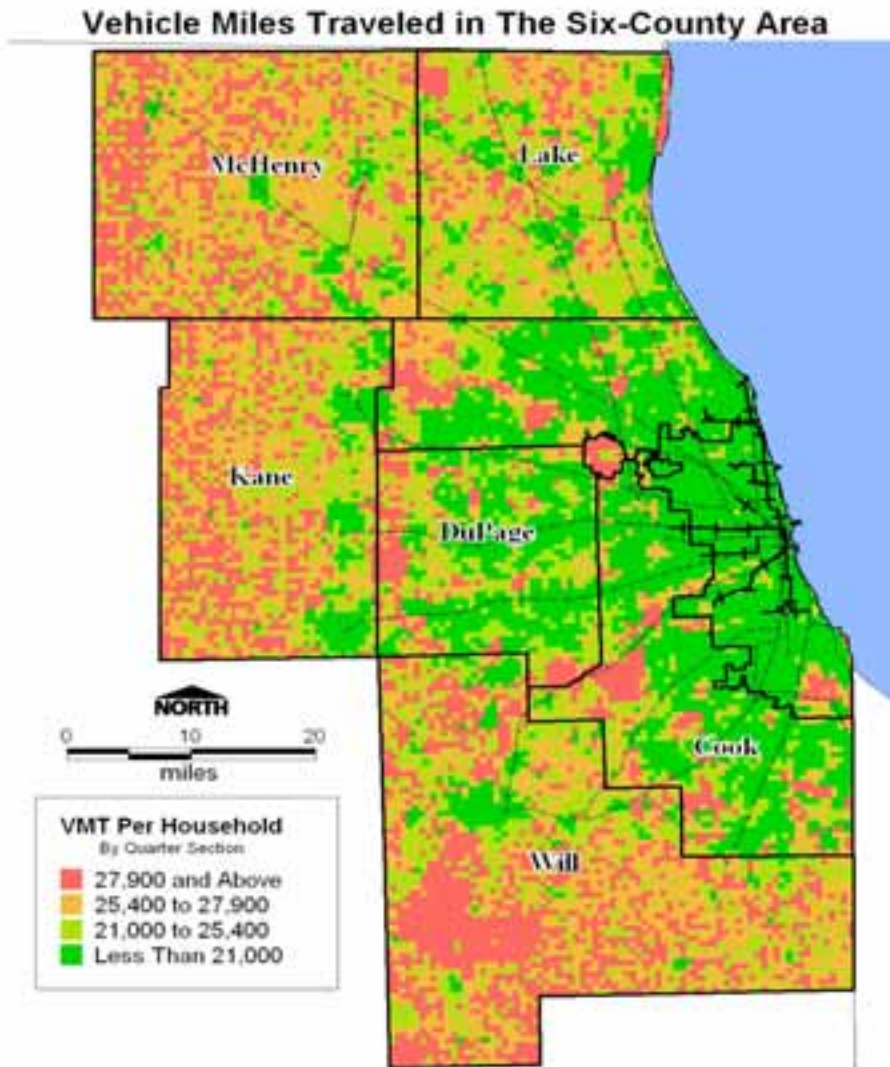


The Value of Getting It Right



- In the green areas, households own one less car than the regional average
- Saves \$400 per household per month
- Boosts disposable income 10-12 % for bottom two income quintiles

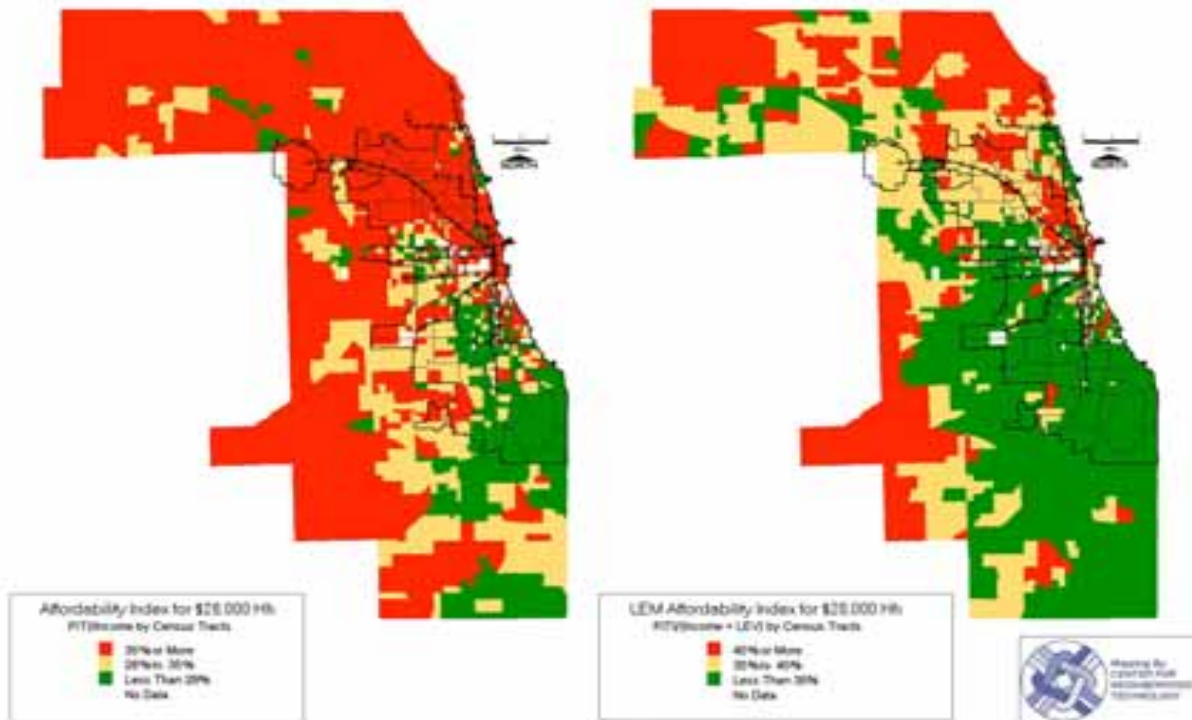
Location Efficiency Drives Demand for Gasoline



- Convenience and density reduce demand
- More miles traveled means more spent on gas, and more cars paid for per household

Showing the Benefits of Capturing the Value

How much more of Cook County is Affordable for the Working Poor when we count Transportation Savings



Status of the Idea

LEM is sponsored by:



Center for Neighborhood Technology

The Center for Neighborhood Technology is the partner and LEM contact in the Chicago Area. CNT is a not-for-profit organization committed to helping the greater Chicago area protect the environment, save energy, save money, and build sustainable, efficient communities. For over 20 years the CNT has been inventing and implementing programs that achieve these goals.

For more information on CNT visit www.cnt.org



FannieMae

Fannie Mae is the largest non-bank financial services company in the world. It operates pursuant to a federal charter and is the nation's largest source of financing for home mortgages. Over the past 30 years, Fannie Mae has provided nearly \$2.5 trillion of mortgage financing for over 30 million families.

For more information call 1.800.7FANNIE (1.800.731.6643) or visit www.fanniemae.com



The Location Efficient Mortgage™ is brought to you by The Institute for Location Efficiency and its member organizations:

Center for Neighborhood Technology, Chicago, IL
Natural Resources Defense Council, San Francisco, CA
Surface Transportation Policy Project, Washington, DC

LEM Research and Development Funders include:
US Department of Energy
Office of Transportation Technologies

US Department of Transportation
Federal Transit Administration

US Environmental Protection Agency
Transportation Air Quality Center
Urban of Economic Development Foundation

The Joyce Foundation
John D. & Catherine T. McArthur Foundation
The Sundra Foundation
And other private donors.

**LEM
LOGO
HERE**

To learn more about the LEM Convenient Community Mortgage or for a list of participating lenders, contact:

The Center for Neighborhood
Technology
2125 W. North Avenue
Chicago, IL 60647
773-278-4800 x123
www.locationefficiency.com

**NOW IT'S EASIER
TO OWN YOUR
OWN HOME!**



*Introducing the LEMSM,
the Convenient
Community mortgage.*



Location Efficient Mortgage™ is a Service Mark of the Institute for Location Efficiency, a California nonprofit organization.

© 2002 Center for Neighborhood Technology.
All rights reserved. 201-1002

Chicago Tribune

18 Section 1

Sunday, June 4, 2000

Skip the car, buy a house

There's a lot of hand-wringing nowadays about suburban sprawl and the need for "smart growth."

But like the weather, nobody's doing much about it.

Much of the home-buying public still opts for wide-open spaces along the metropolitan fringe. And despite thoughtful warnings from civic and regional groups, political realities in Illinois militate against significant governmental action.

Now comes a modest but innovative pilot program that just might make a small difference. Maybe even a big difference—if it educates the public about the true cost of living "out there."

It's called the Location Efficient Mortgage, or LEM, and it has been developed by environmental groups such as Chicago's Center for Neighborhood Technology along with Fannie Mae, the government-chartered, stockholder-owned repurchaser of home mortgages.

It works like this: Participating lenders, in evaluating applicants, take into consideration how close the dwelling is located to public transportation. If it's so close the applicant can live without a car, or a working couple can get by with just one, the estimate of dispos-

able income is increased, and with it, the size of the mortgage for which they qualify.

A couple jointly earning \$60,000 and buying into Chicago's transit-rich Edgewater neighborhood, for instance, would qualify for a home selling for \$212,218. Out in the boonies, under traditional guidelines, the limit would be \$158,364.

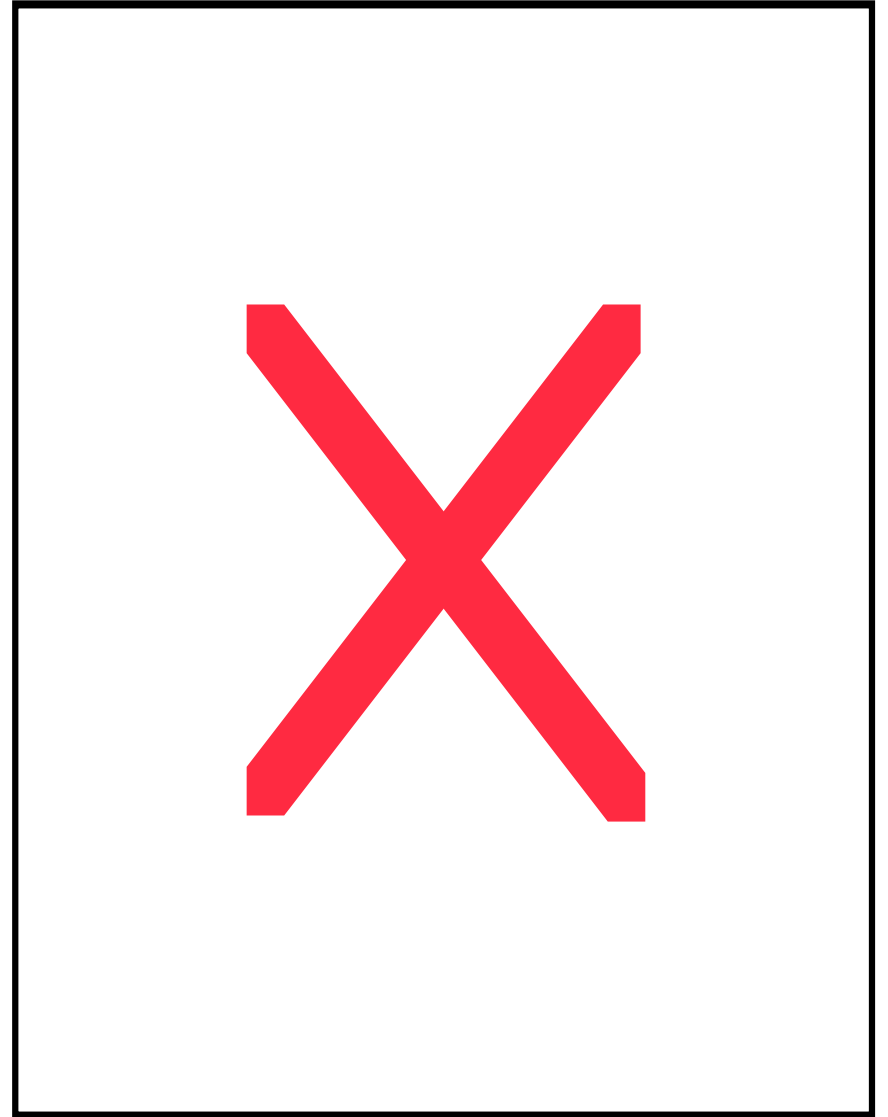
And there are sweeteners. LEMs are not subject to income limits and they offer more flexibility, including lower down payments, than conventional mortgages. The City of Chicago, moreover, is offering vouchers worth \$900 toward the purchase of energy-efficient appliances to the first 100 LEM borrowers.

Downsides? There's mandatory counseling. And for now it's limited to Chicago and three West Coast cities.

The ultimate value of LEM, however, may be to show, in ways people readily understand, that sprawl does impose costs. Some of that cost is paid, knowingly and gladly, by those who choose to live "out there." Much of it, however, is hidden, and paid indirectly by those who live "back here."

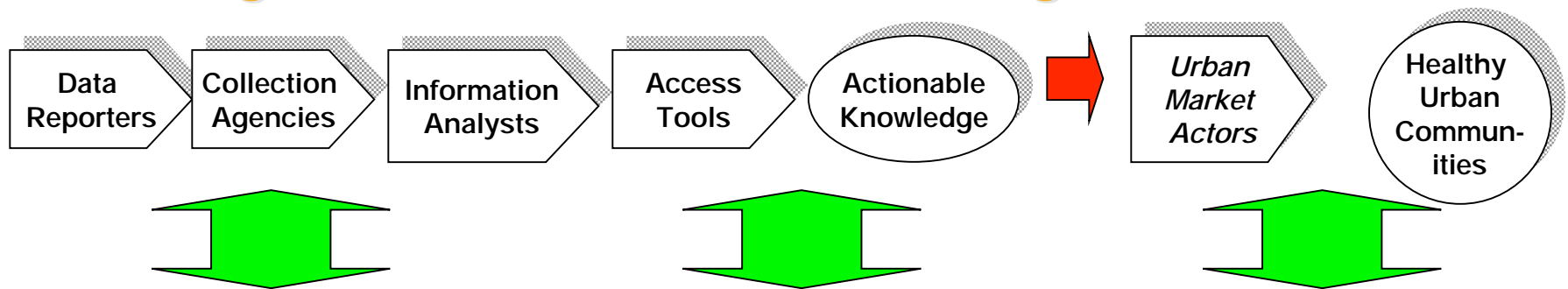
For more information about LEMs call 1-800-732-6643.

Indexing
Truer
Affordability



Why: The Power of Information

Brookings Urban Markets and Living Cities Initiatives



UMI Program Areas/Activities

Federal/State Urban Information Policy

- NICS: Infrastructure for Community Statistics
- Specific data issues of interest to urban markets:
- ACS, GMP, LED
- Monitor surveys and data collection activities
- Scan federal urban data/information issues

Pilot Projects: Information Innovations to Spur Markets at Local Level

- **Housing/Transportation Affordability Index**
- PAID-Using Utility Payments to Bolster Credit Scores
- Map/Analysis/Action on Correlates of Neighborhood Decline and Resurgence
- Intelligent Middleware to Understand Urban Markets
- Dec Support Tools for Urban Real Estate Markets
- PPND: Pittsburgh Community Info System

Urban Market Decisions: Industry Roundtables

- Commercial Retail Development (ICSC)
- Credit Scoring for Small Business (ICIC)
- LMI Online Consumer Preferences (One Econ)

How Housing Affordability is Usually Calculated

- A target population is specified, such as 80 percent of Average Regional Median Income
- Benchmark affordability is defined as $(\text{Contract Rent} + \text{Utilities}) / \text{Income}$ less than or equal to 30 Percent of target population AMI

Problems with Standard Approach

- Ignores the need to travel
- Ignores the cost of transportation
- Low income housing is sited in places that are inconvenient and expensive to get to and from
- Working families and fixed income HHs seek “affordable housing” but transportation costs wipe out the savings

What is the Housing + Transportation Affordability Index?

A tool to measure the 2 largest household costs – *housing and transportation* – by neighborhood.

H+T Affordability Index Equation

$$\text{H+T Index} = \frac{(\text{Housing Costs} + \text{Transportation Costs})}{\text{Income}}$$

By measuring these costs, the H+T Affordability Index is also measuring the quality, attractiveness, and convenience, of the neighborhood.

Modeling the "T" of the H&T Index

We analyze the Urban Form and the Household Characteristics of neighborhoods to predict the three major components of total household transportation costs.

7 Neighborhood Variables:

1. HHS/residential acre (**net density**)
2. HHS/total acre (**gross density**)
3. Avg. **block size** in acres
4. **Transit** Connectivity Index
5. Distance to **employment centers**
6. **Job** density
7. Access to **amenities**

2 Household Variables

1. Household income
2. Household size

Autos Owned
+
Auto Use
+
Transit Use

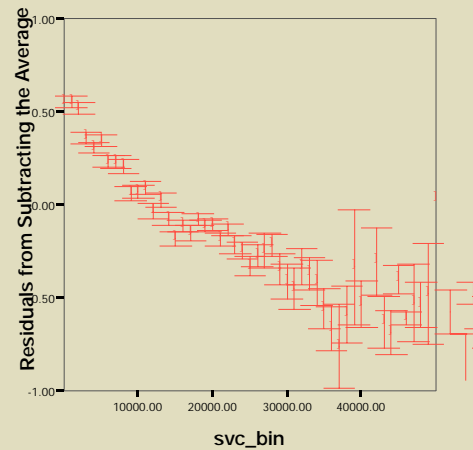
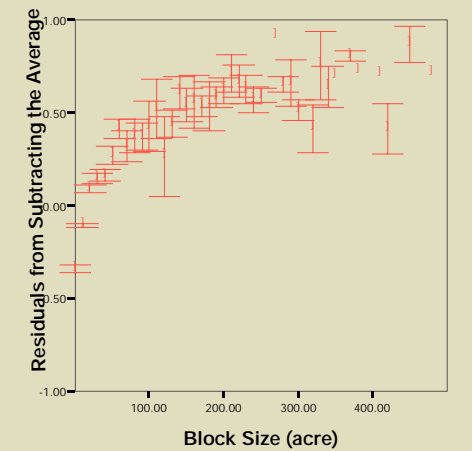
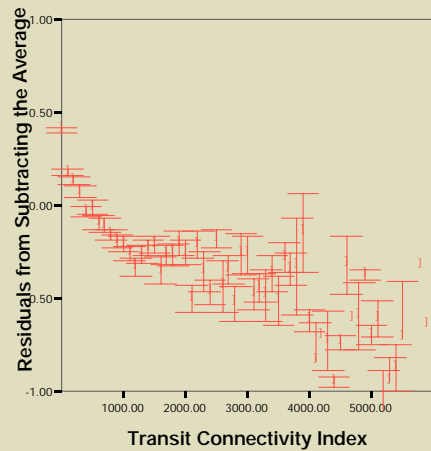
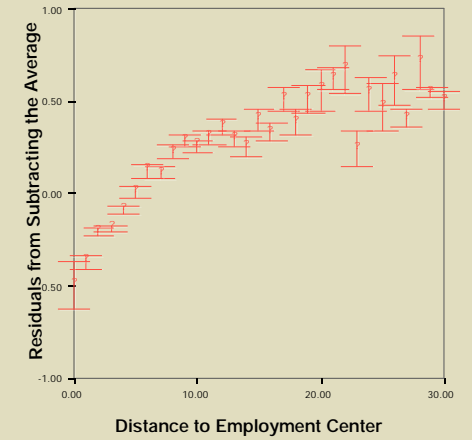
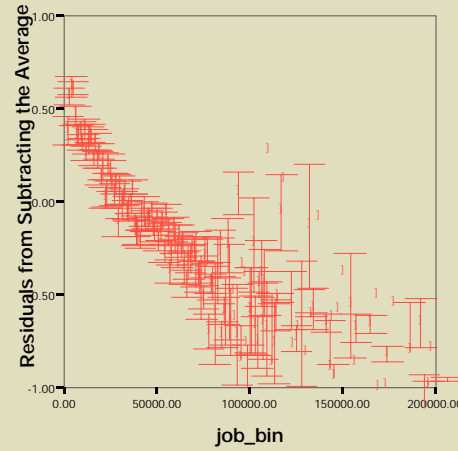
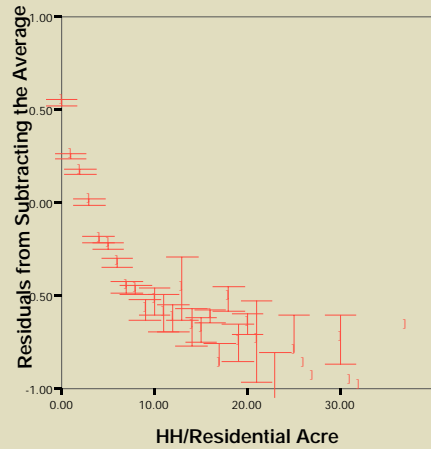
x price =
/unit

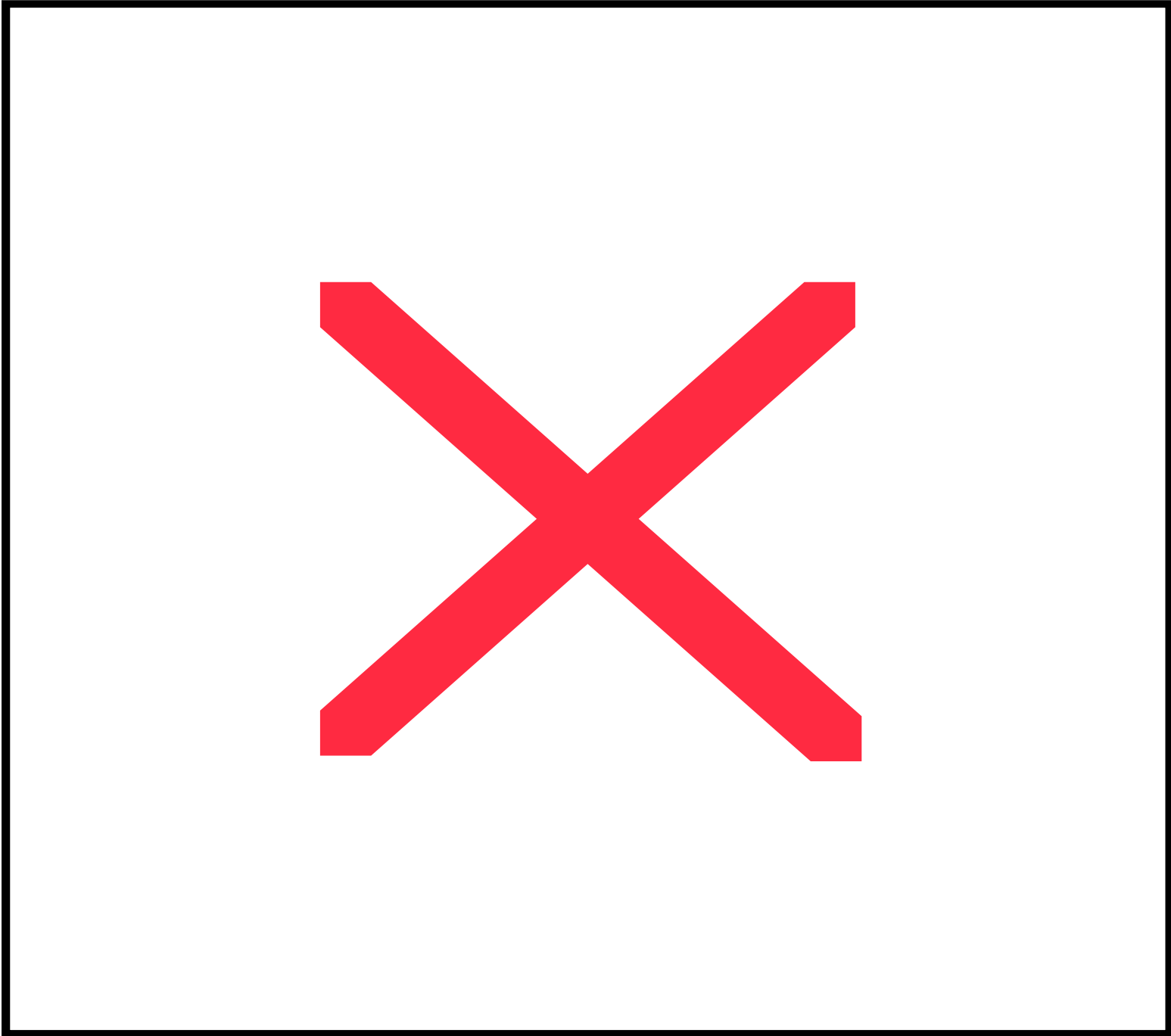
Total
Transport
Cost

*Can be adjusted
to current prices,
fares, auto types*

Seven Urban Form Variables

VS. Auto Ownership

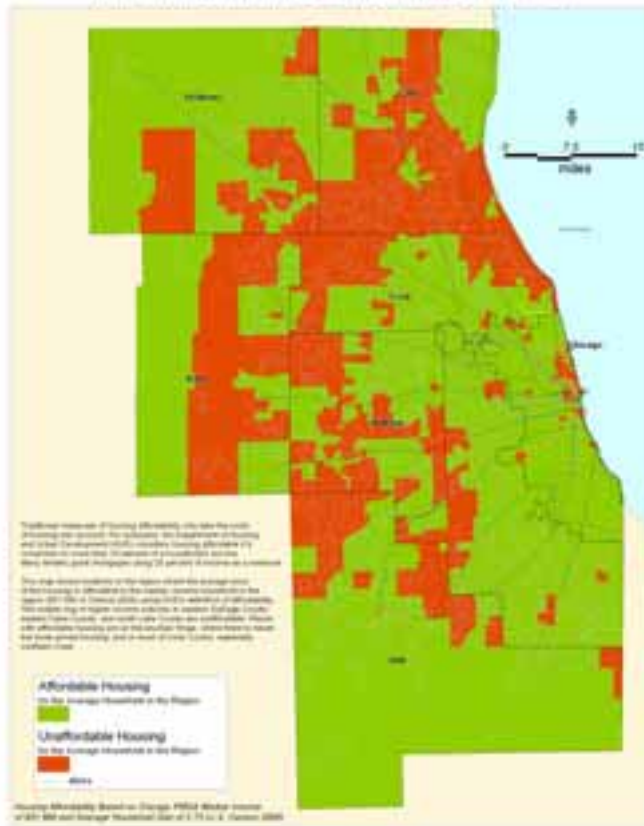




Where Is the Affordable Housing Really??

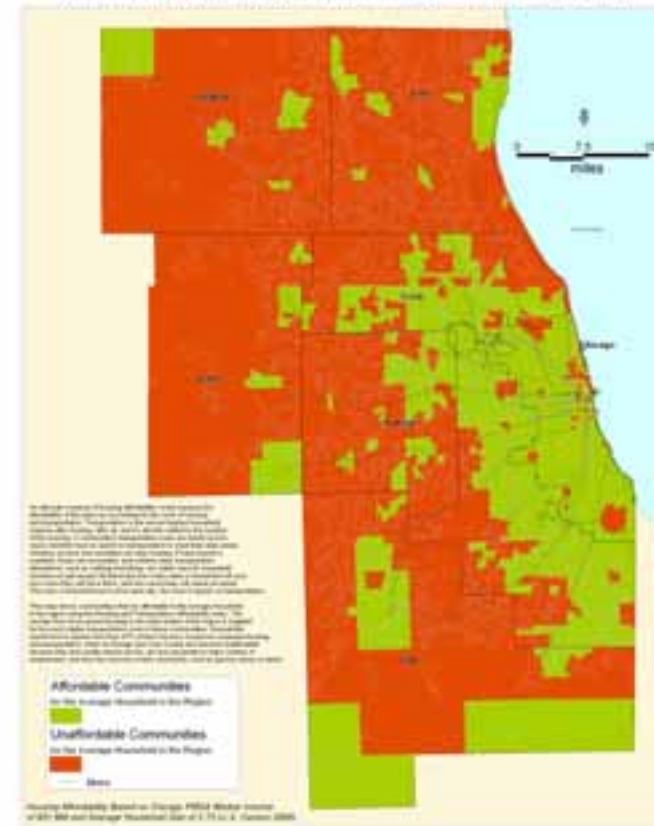
Traditional View of Housing Affordability

(Housing Costs Only as a percentage of Household Income)



The New View of Housing Affordability

(Housing & Transportation Costs as a percentage of Household Income)

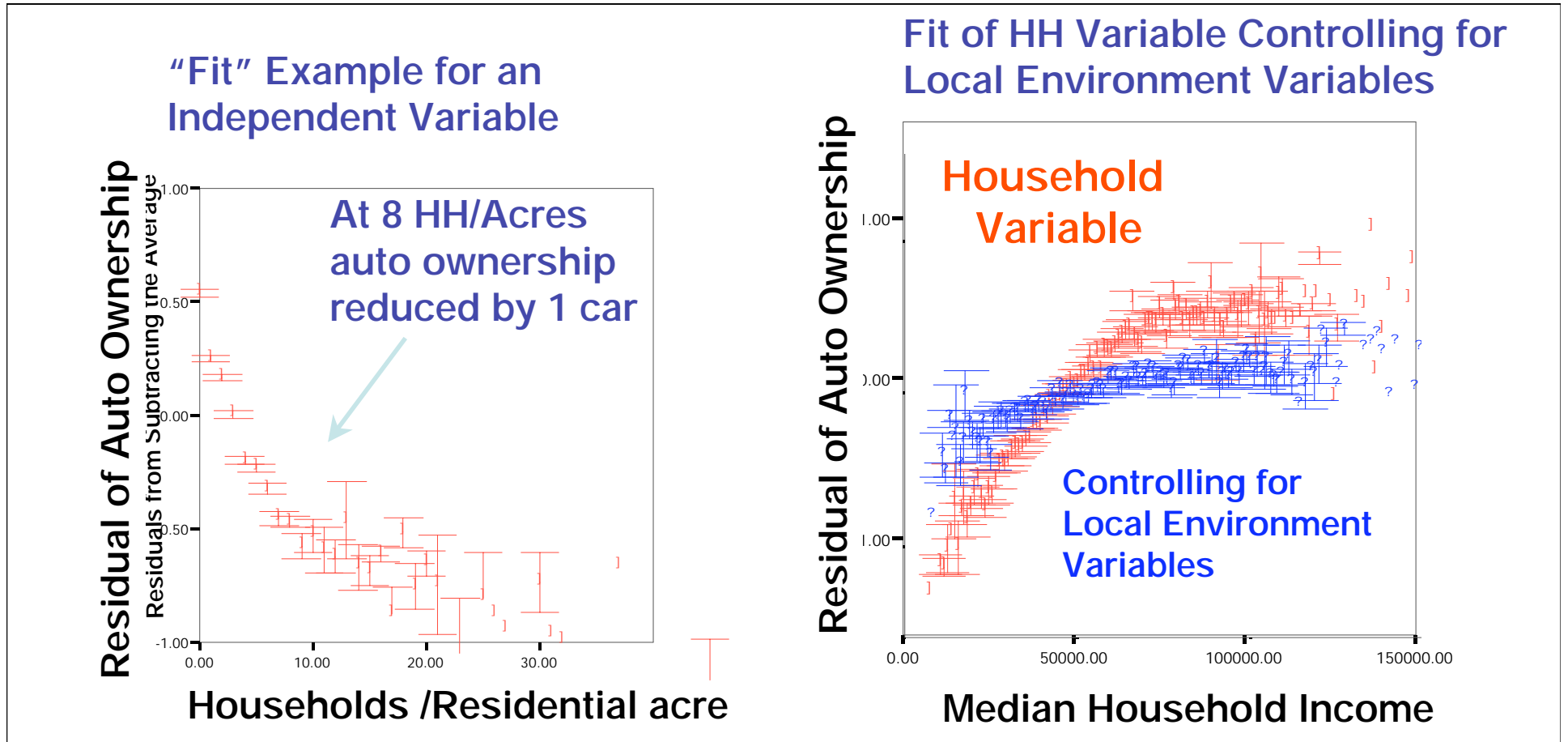


What It's Worth

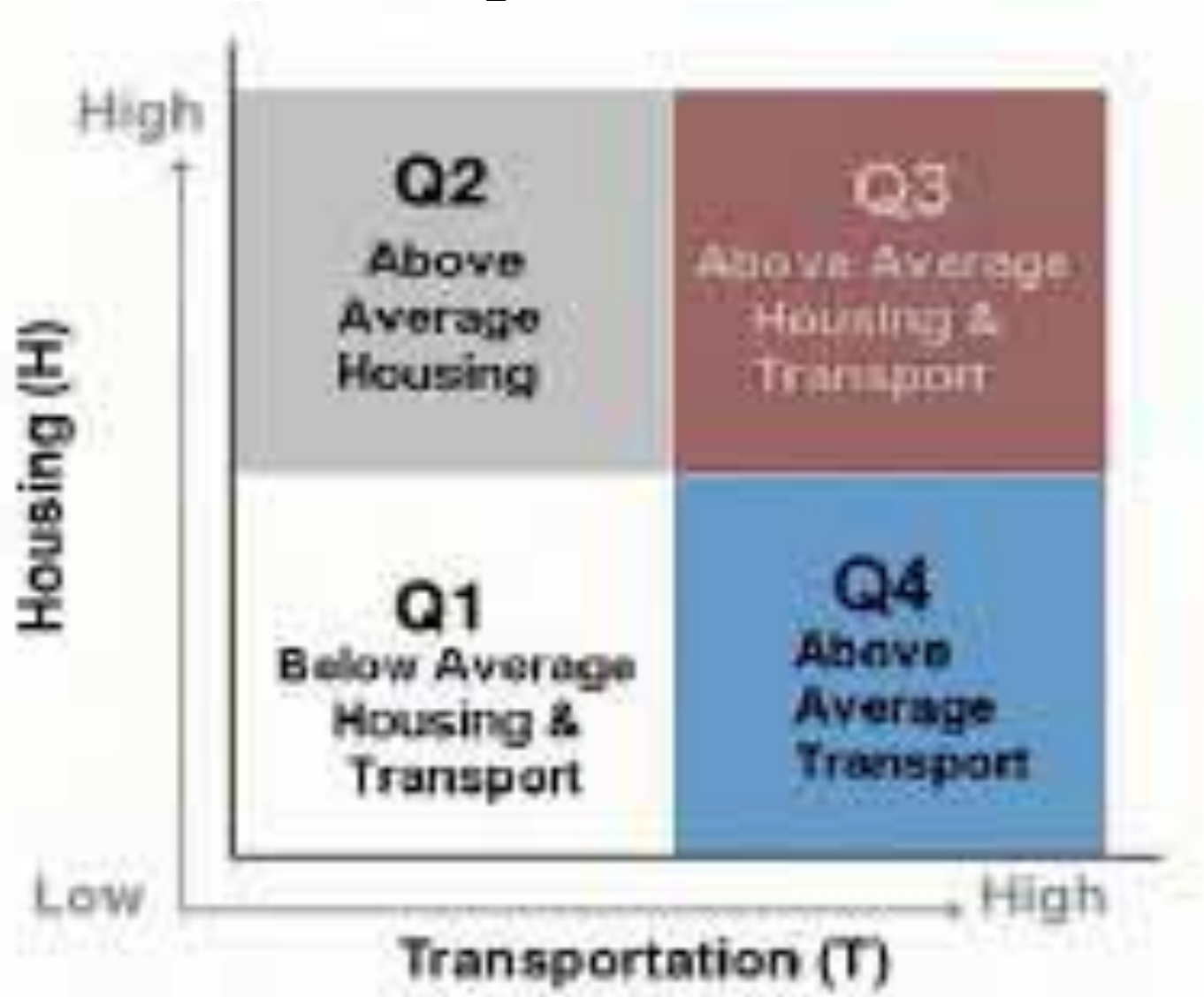
- Milwaukee households spend \$11,064/year on transportation
- Spend \$15,011 on housing
- Sum equals \$26,075 = 62% of income for HH earning 80 % of AMI
- One less car per HH could save \$5,000/yr
- Reduces H + T cost to 52%, a 10 point drop in the cost of living

Model Mechanics

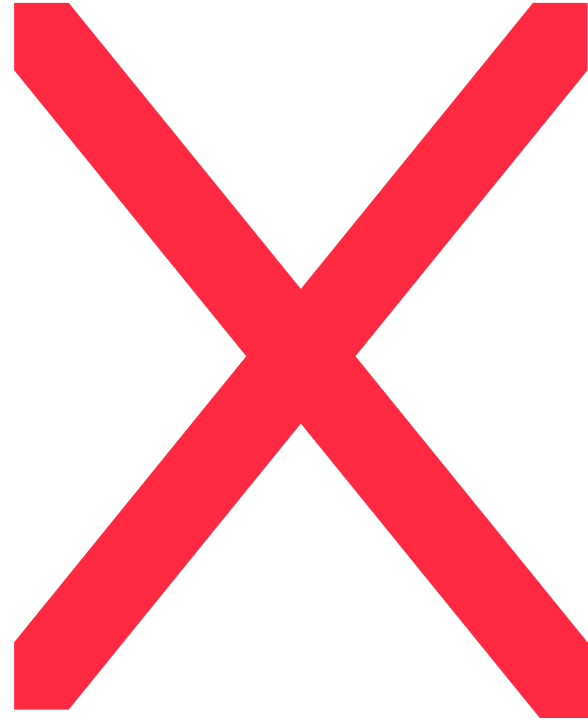
- Example of fit for Auto Ownership:



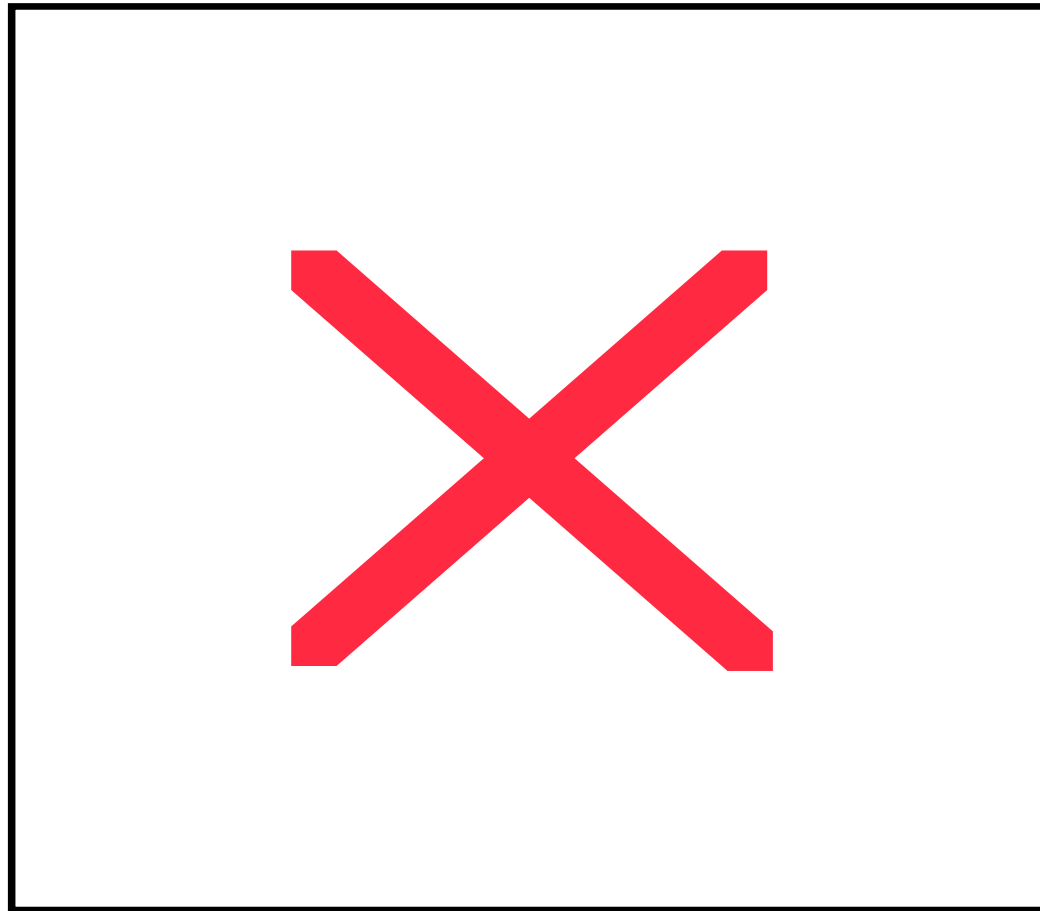
One Way to Sort Neighborhoods by Costs



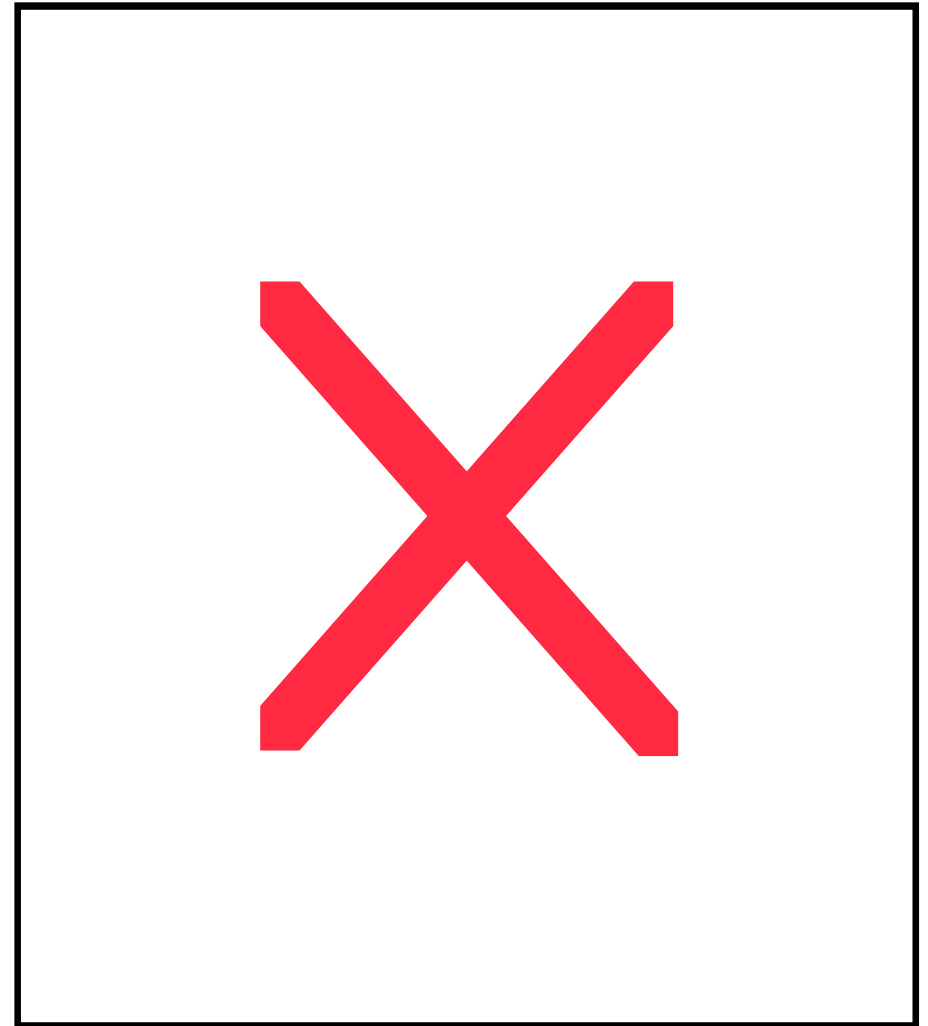
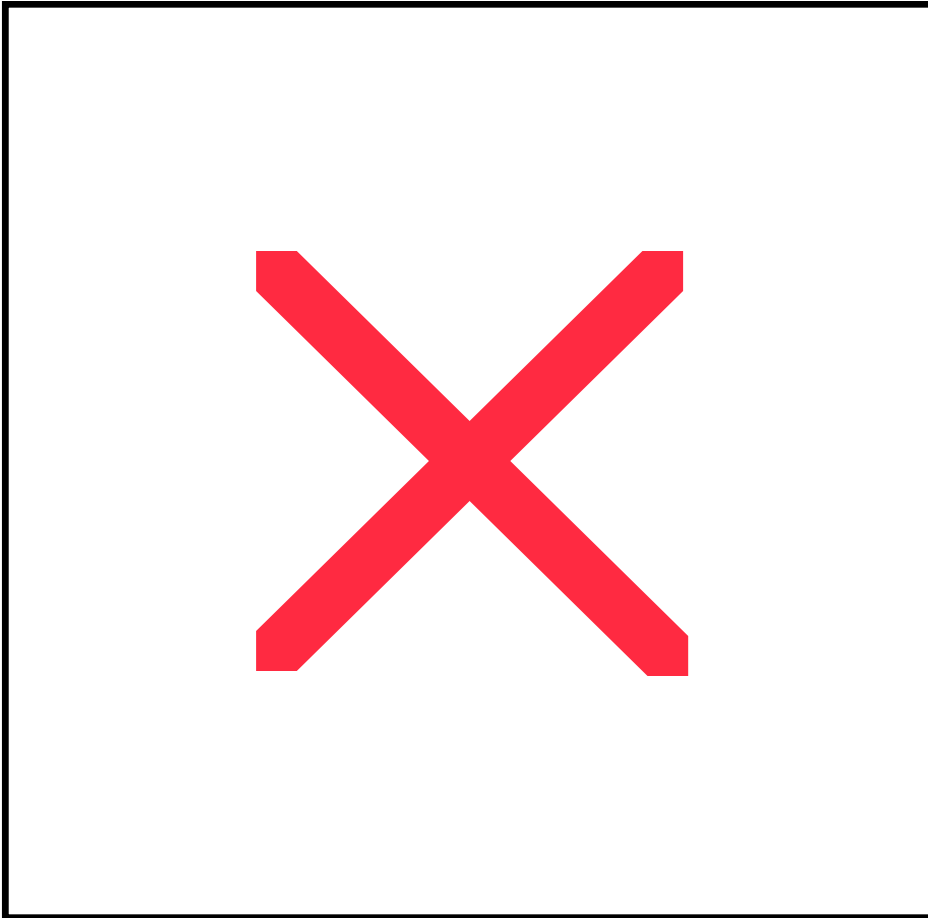
- Chicago Average Household Expenditures on Housing and Transportation a Percentage of Average Tract Income 2000

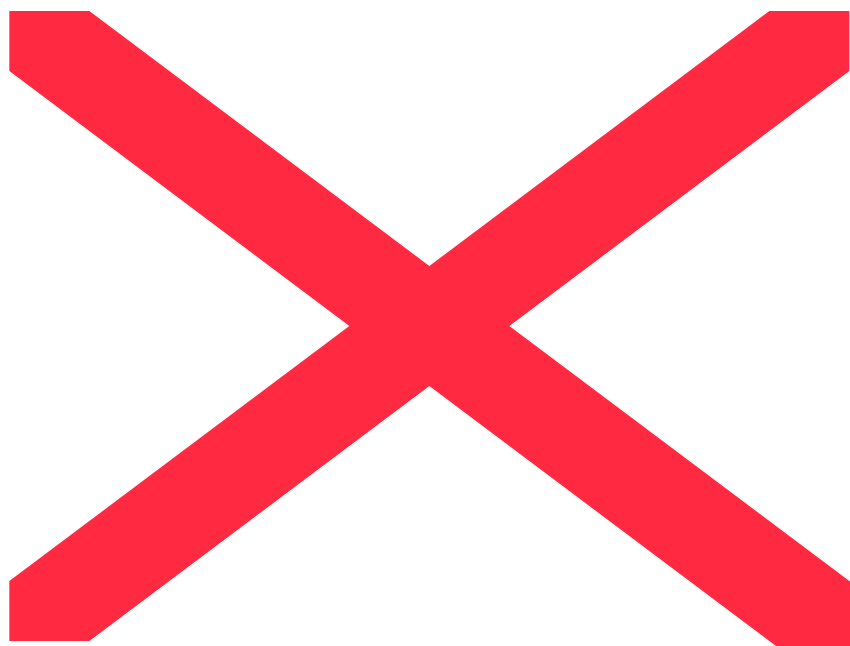


The Big Tradeoff: Housing and Transportation Expenditures

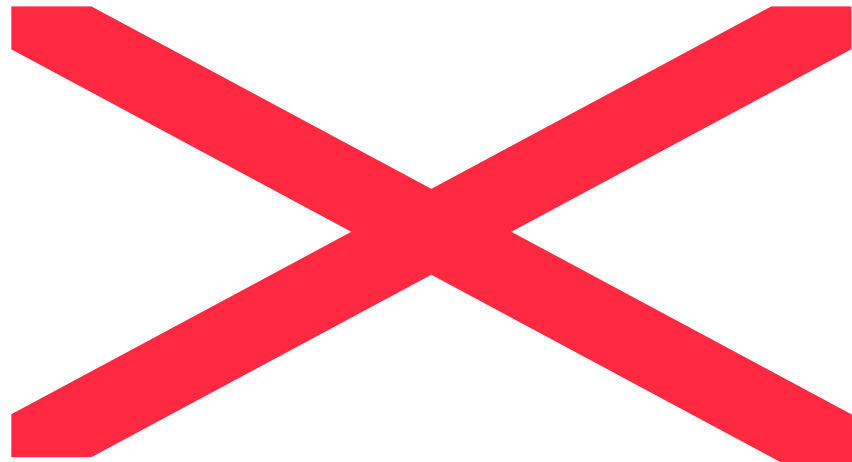


What Working Families Spend on Housing and Transportation—Approaching Two- Thirds

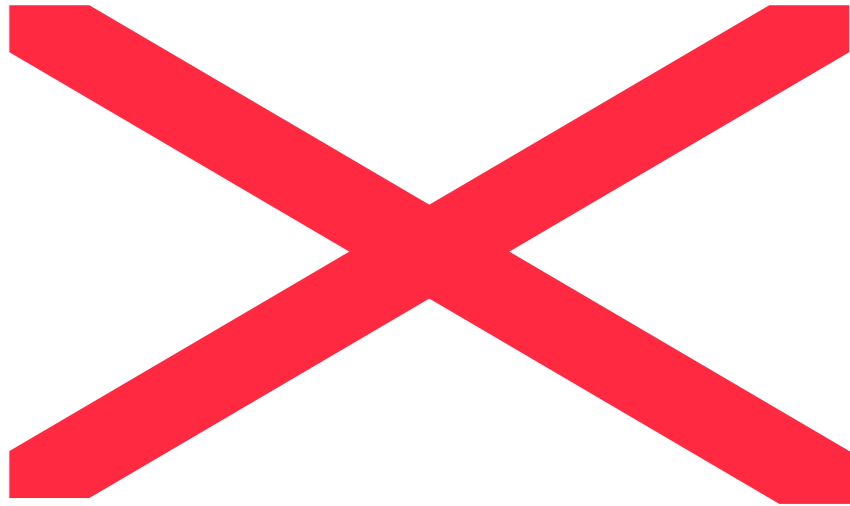




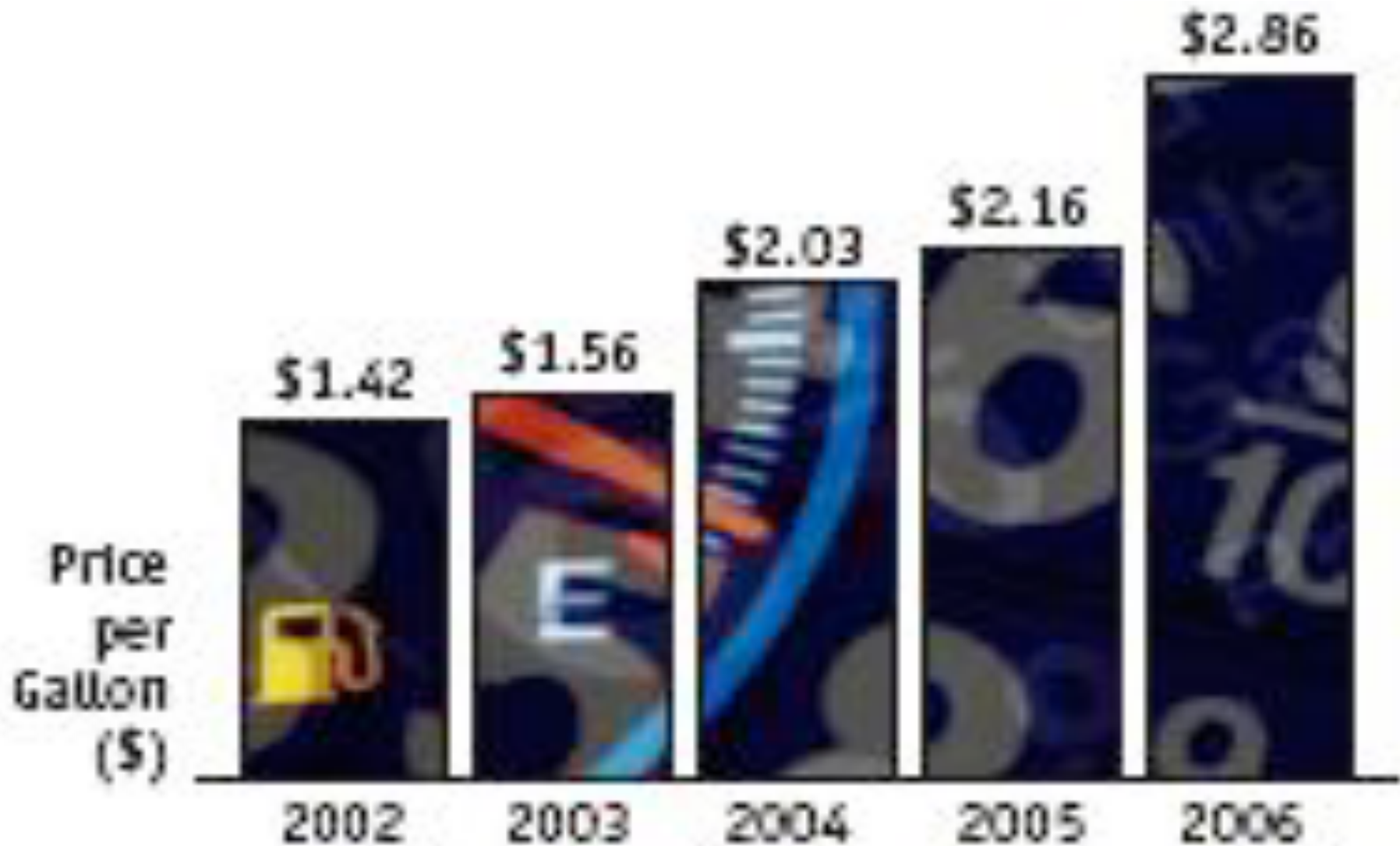
Jobs Growing 4 Times Faster in Suburbs



Metro Population is Suburbanizing

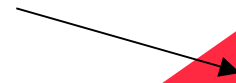


Gas Prices up \$1 since 2006, Will be \$4 this Summer, Possibly \$5 this Winter



Bigger Homes, Smaller Households

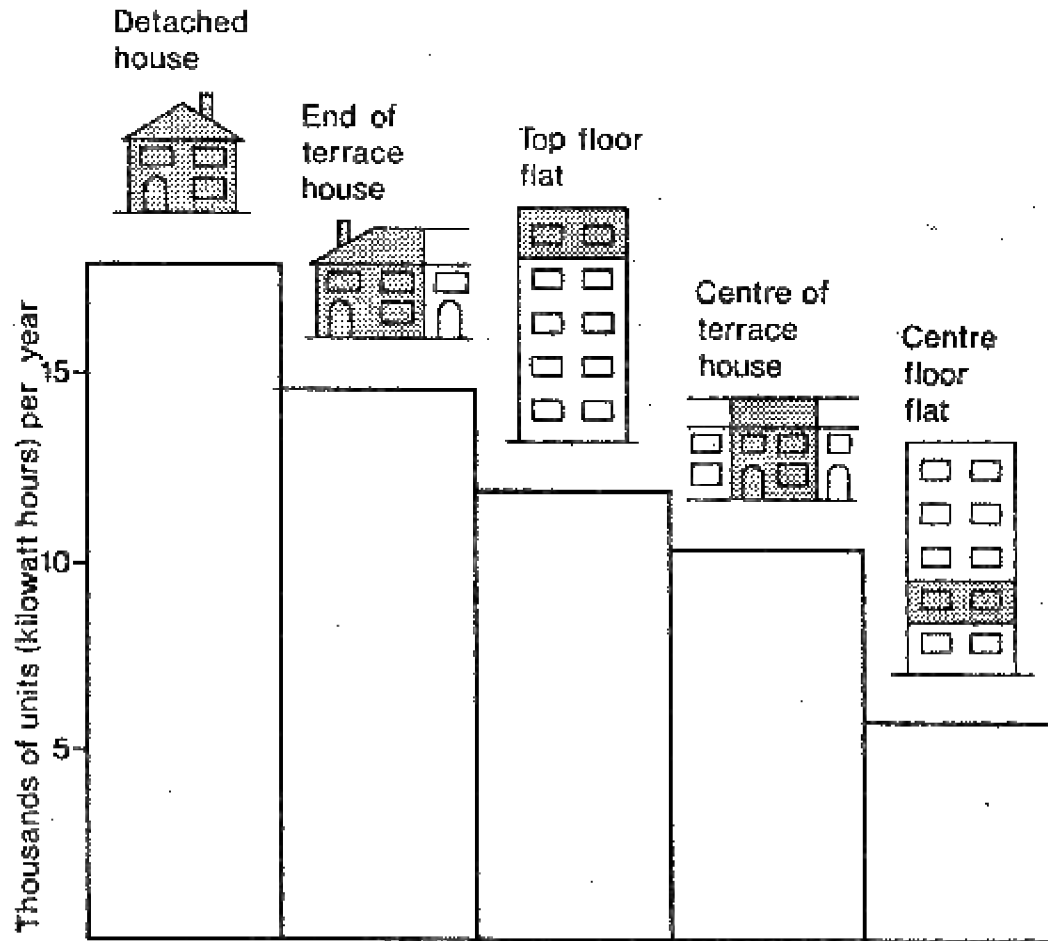
Home size increases by 41%



Household size shrinks by 20%

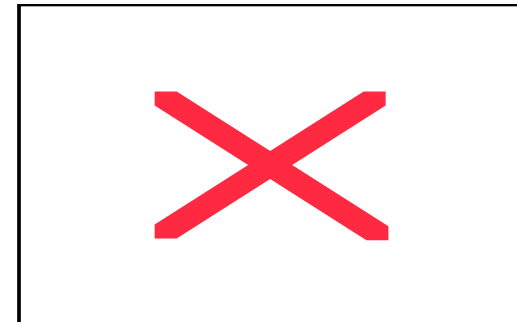


Detached Homes Least Efficient

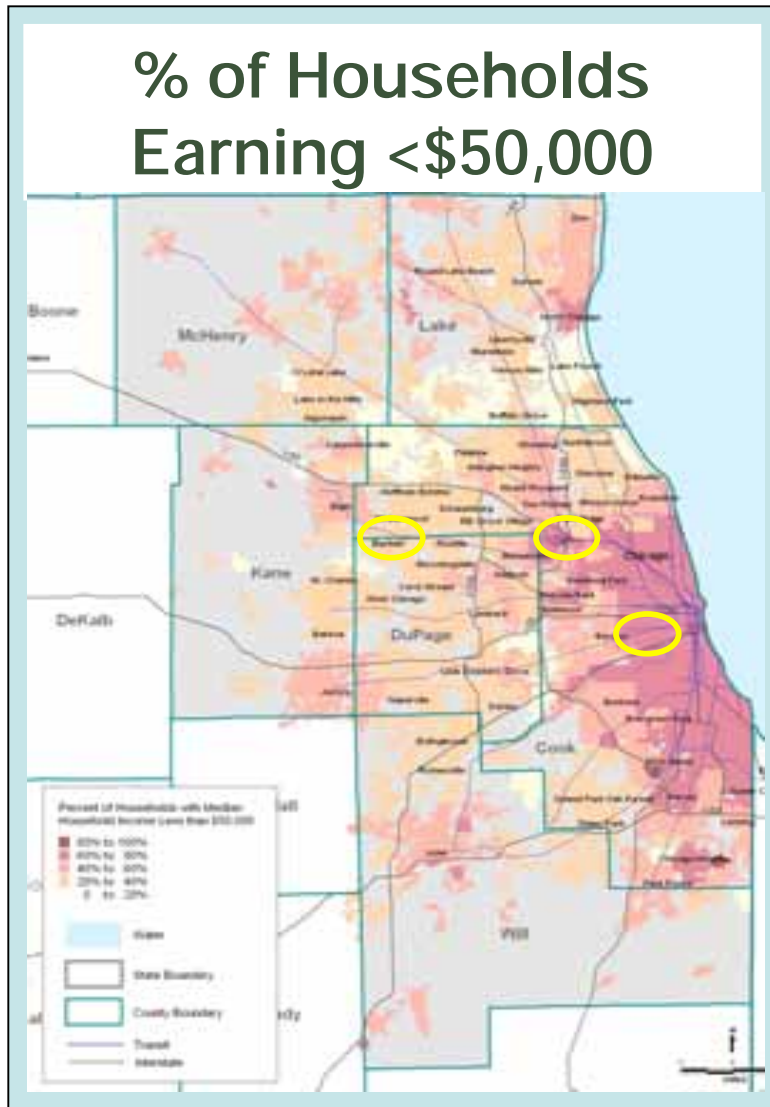


All the houses and flats in the diagram are the same size and have the same proportion of window to outside wall

- Detached homes use about 3 times as much energy as a middle unit of a multi-family building



Total Household Energy Cost Burden



- Compare the energy costs for a 2-worker family of 3 earning \$50,000 (80% AMI) in:
 - Maywood
 - Chicago
 - Carol Stream

Different Burdens in Different Places

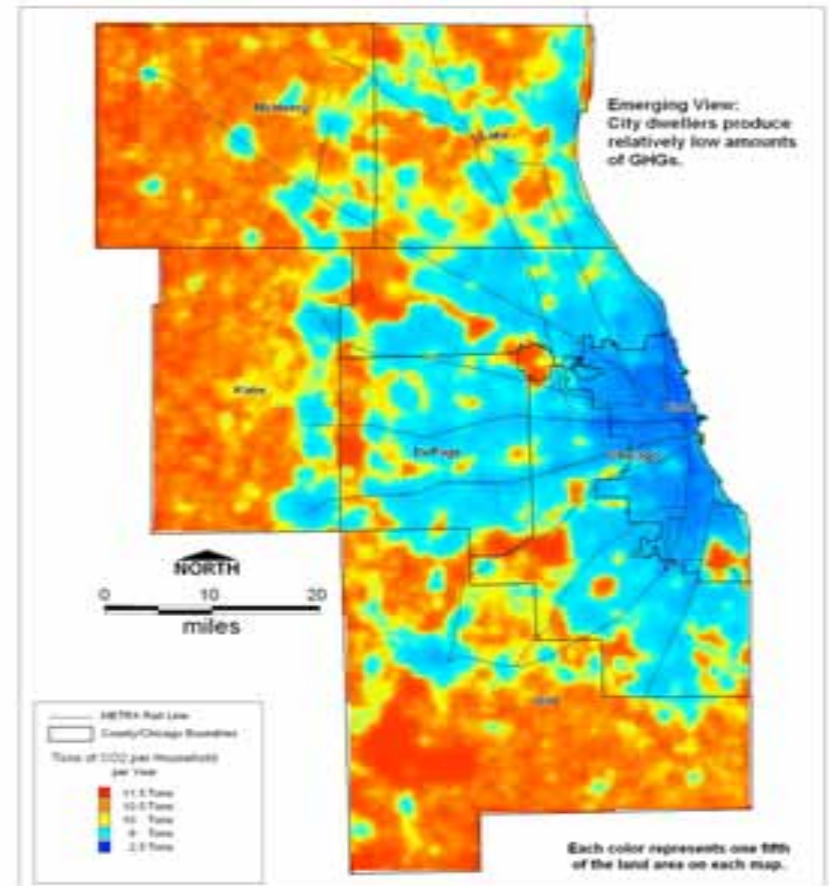
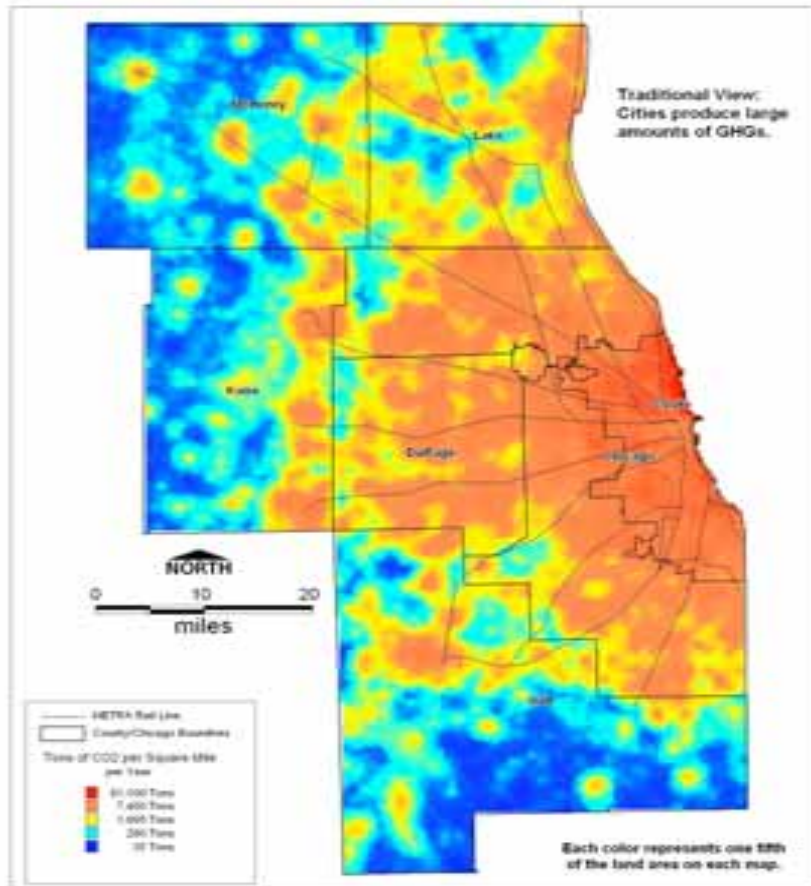
~~38% of income~~

25% of income

18% of income



Showing the Benefits: Two Views of Emissions



Equity Expresssm: Individual and Community Equity Savings Accounts

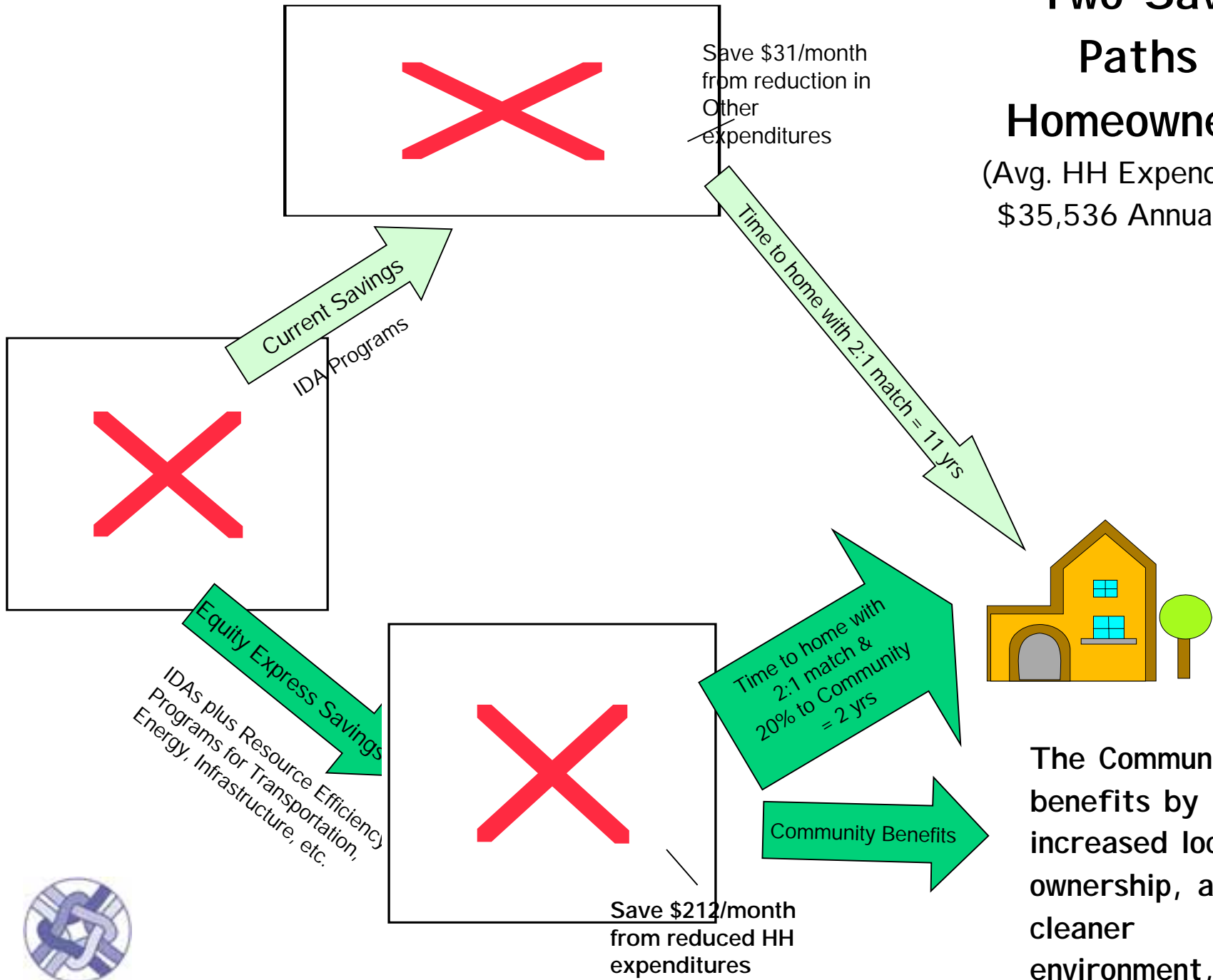
- Place based efficiencies produce big revenues.
- Value can be captured.
- Captured value is applied to wealth creation.
- Wealth creation becomes the key performance measure for regional equity achievement.

What This Means for One Family

- CNT studied 4 relatively mixed income communities in Chicago.
- Used a set of incentives and programs to achieve resource efficiencies (car sharing, location efficient mortgages, home energy efficiency, real time electricity pricing).
- Assumed availability of an IDA with a 2:1 match.

Two Savings Paths to Homeownership

(Avg. HH Expenditures for \$35,536 Annual Income)



The Community benefits by increased local ownership, a cleaner environment, and



Example:

How This Works for Maria

- Single parent.
- \$30,000 annual income, lives by O'Hare.
- Starts an Equity Express Savings Account.
- Sells car and joins car sharing program.
- With \$ from car sale, joins co-op.
- Buys A/C with money from car sale and gets free light bulbs.
- Saves \$192-202/month; \$2304-\$2404/year.
- Buys a house in 9 months with 2:1 match.

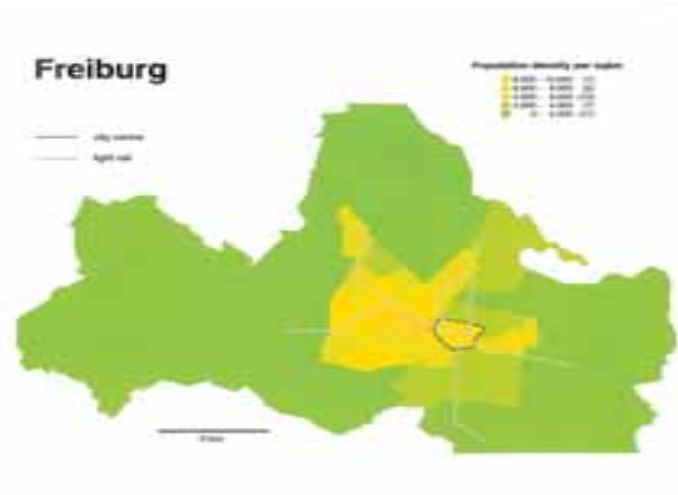
Estimated Potential Community Benefits

- Each new homeowner contributes 20 percent of their savings to a community benefits fund.
- Each community sets a goal to increase homeownership by 10 percent or by 1,000 households.
- Each household makes a down payment of \$5,000.
- Each first time homebuyer therefore contributes \$1,000 to the community benefits fund.

Estimated Potential Regional Benefits

- Each community contributes \$1,000,000 to capitalize a local fund and sets goals to get these funds matched.
- Each fund joins a cooperative that pools its purchasing, leveraging & borrowing power.
- Example: In 10 years, with a 1:1 match, 50 communities capitalize a \$1 billion equity fund.

Freiburg Germany—Modest Density + Good Coverage + Ease of Use =Low Car Use + Affordability



The Economic Advantage

- Americans pay 15-30 percent of income for transportation, twice what it should be, 2-3 times what it costs Europeans
- Regions' communities earn too little return on their major public investments
- Carrying costs are not sustainable

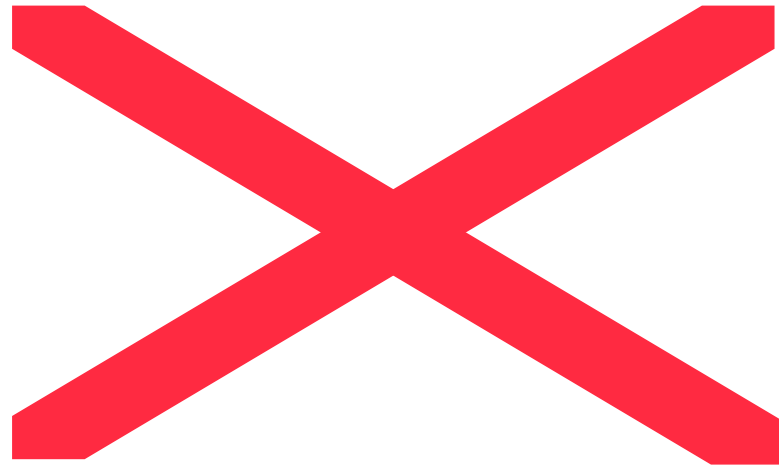
What's It Worth

- 3 Million corridor households paying over \$30 Billion/year for transportation, another \$1 Trillion by 2040
- Potential to significantly reduce this
- Similar potential in increased tax base
- Attraction to multi-trillion dollar investment market
- Attract and retain emerging workforce
- Better asset management
- Better address congestion and air quality

Our Basic Messages

- Good community design and amenities pay
- Bad design and lack of amenities constrains wealth
- This is a must-have performance measure for planned development
- Don't let the American Dream stop the American Dream

A Possible Generic Policy



Proposed Users and Uses

- **Community Groups**

- Campaigns for transit, community reinvestment, affordable housing, and smart growth
 - *Transportation for Livable Communities, Twin Cities*
 - *Red Line Coalition, Roseland Community in Chicago*

- **Business Groups**

- Common ground for community, government, and business on choices about development, housing, and public investment
 - *Atlanta Quality Growth Task Force*

- **Development and Real Estate Community**

- New tool for realtors, developers, and bankers to understand, market and capitalize on relative affordability of different neighborhoods
 - *Realtor.com*

- **Support Academic Research**

- EJ, Effects of Sprawl, Poverty, Economic Development
 - *Temple University Metropolitan Philadelphia Indicators Project*

Proposed Users and Uses

- **Transit Agencies**
 - Estimate benefit or cost to households from service and system changes
 - Promote transit ridership with savings campaigns
- **State**
 - “Cost of living” as criteria for state housing & transportation plans, funds
 - Legislate alignment across jurisdictions to improve cost of living
- **MPO and County planning**
 - Reduce Transportation Costs as a Goal in long range plans
 - Target funding programs for TOD, livable communities, etc.
 - Transportation impacts of fair housing plans, (King County H&CD)
- **Municipalities**
 - Support changes to ordinances that would better support transit use, and H&T affordability e.g., parking, height, density, inclusionary zoning, etc.
 - Goal in comprehensive plans

Project Timeline

Fall 2006

- Creating 6 versions of the model by metro “type”
- Applying new models to 49 metro areas
- Adjusting prices for autos and gasoline
- Study on 28 metros for NHC released 10/11/06

Winter 2006-2007

- Developing website
- Reviewing new results with advisory committee
- Operations plan to maintain model and website
- Use in studies and plans for regions, cities, advocates

Fall 2007

- Website available by March 31
- Available on DataPlace.org
- Free and fee-based information
- Use in studies and plans for regions, cities, advocates

A Clear Choice

- Business as usual, leads to continued sprawl, lack of affordable housing
- Build out commuter network, but don't change land use, probably continues to feed sprawl and high costs
- Build out commuter network, tie to land use at 7 HH/acre or greater
- Accommodate all growth and achieve inclusive affordability

For Further Information

- scott@cnt.org
- www.cnt.org
- www.reconnectingamerica.org
- www.transact.org