

Flying Blind: Transportation Costs vs. Family Economic Success

Introducing the new H+T
Affordability Index

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Goals for this Presentation

- Review new knowledge on what's stressing household budgets, especially transportation & energy
- Show how a new tool that models affordability including both housing + transportation expense helps identify new strategies
- Suggest an agenda for further action



Urban Markets Initiative

METROPOLITAN POLICY PROGRAM

The Affordability Index: A New Tool for Measuring the True Affordability of a Housing Choice

By Center for Transit-Oriented Development and Center for Neighborhood Technology

This brief describes a new information tool developed by the Urban Markets Initiative to quantify, for the first time, the impact of transportation costs on the affordability of housing choices. This brief explains the background, creation, and purpose of this new tool. The first section provides a project overview and a short summary of the method used to create the Affordability Index. The next section highlights the results from testing the index in a seven-county area in and around Minneapolis-St. Paul, MN. To demonstrate the usefulness of this tool at a neighborhood level, the third section projects the effect of transportation and housing choices on three hypothetical low- and moderate-income families in each of four different neighborhoods in the Twin Cities. The brief concludes with suggested policy recommendations and applications of the new tool for various actors in the housing market, and for regulators, planners, and funders in the transportation and land use areas at all levels of government.

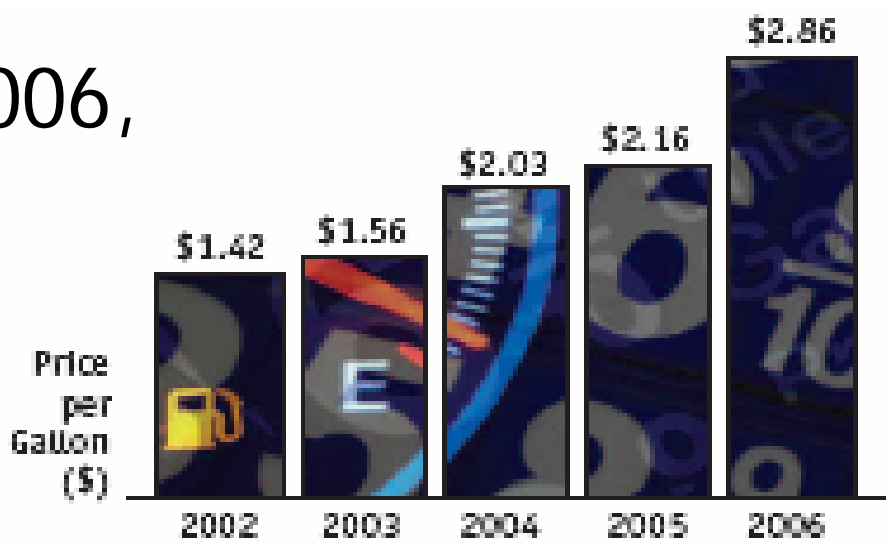
The Housing and Transportation Affordability Index is a groundbreaking innovation because it prices the trade-offs that households make between housing and transportation costs and the savings that derive from living in communities that are near shopping, schools, and work, and that boast a transit-oriented environment. Built using data sets that are available for every transit-oriented community in the nation, the tool can be applied in neighborhoods in more than 42 cities in the United States. It provides consumers, policymakers, lenders, and investors with the information needed to make better decisions about which neighborhoods are truly affordable, and illustrates the implications of their policy and investment choices.

I. Housing and Transportation: Key Elements of the Cost of Living

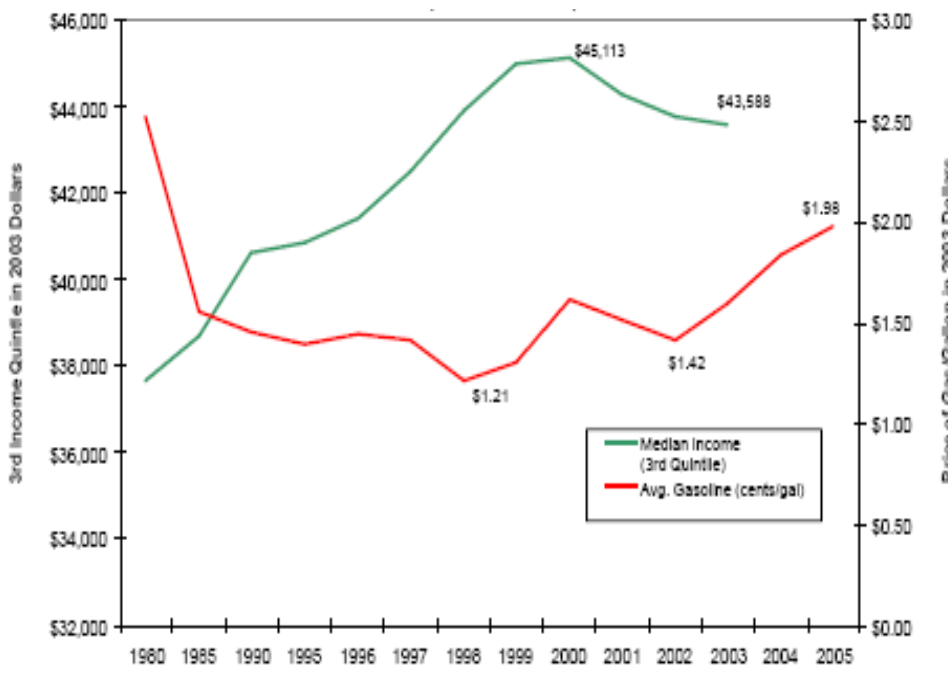
The cost of living for an American family consists of many components. The two largest are housing and transportation. Housing affordability is most commonly understood as the extent to which a household's income can cover the purchase price of a home. However, the traditional definition of housing affordability may be too limited. The cost of transportation, which not currently factored into the affordability equation, has become increasingly central to family budgets, given their choices to live



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

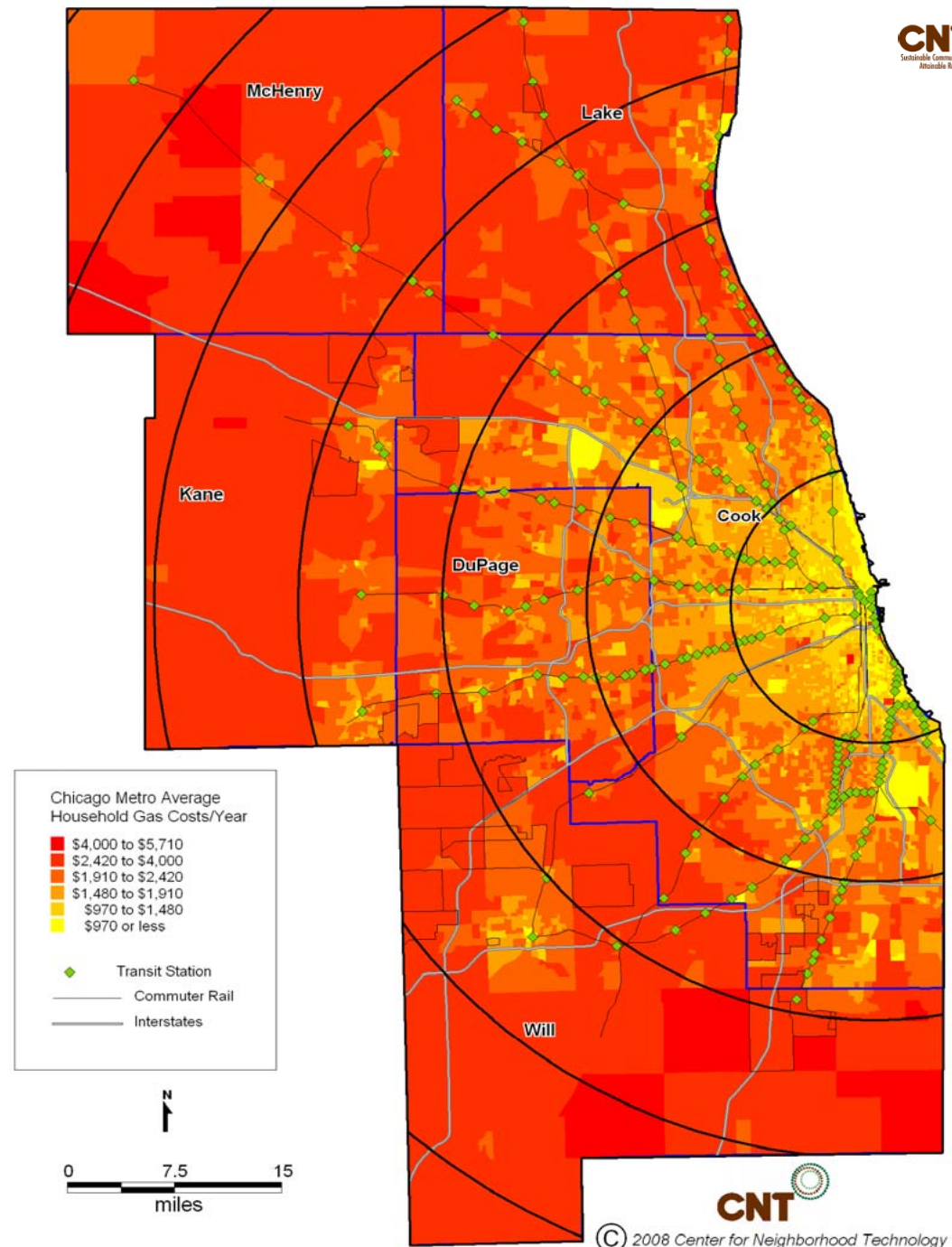


Housing and Transportation Costs
Rising Faster than Income

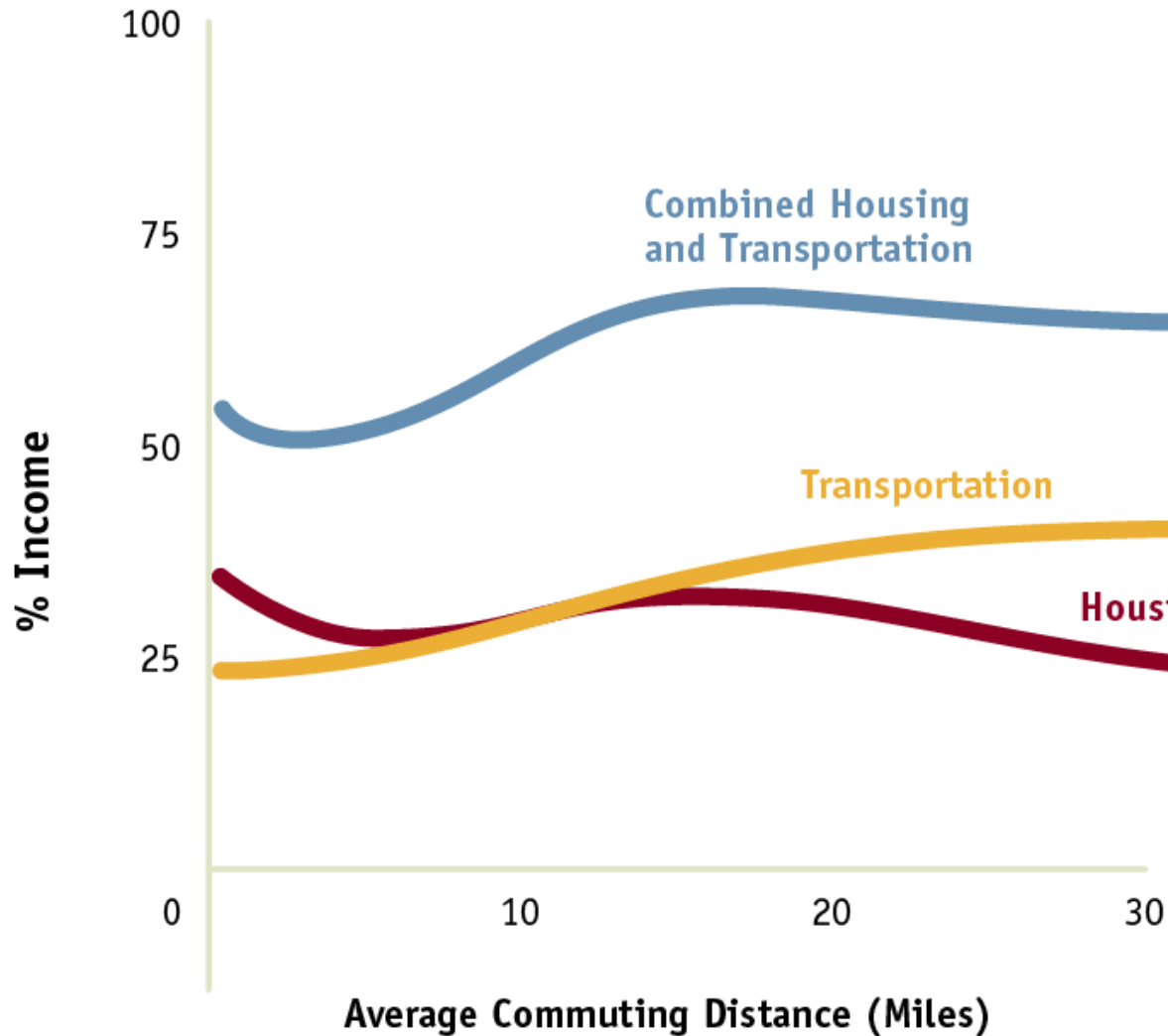


Location Efficiency Determines Gasoline Bills

- HHs in yellow paying \$1,000-1,500/year
- HHs in red paying \$4,000-\$6,000
- Map prepared two weeks ago using \$3.30 per gallon and 25 MPG
- Shown at the census block group level



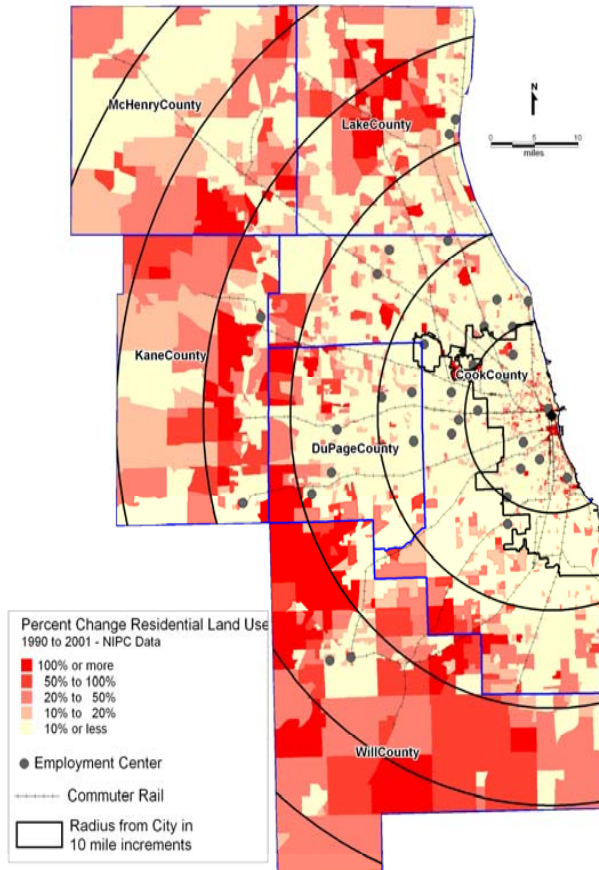
Effect of 'Drive 'til You Qualify': Transportation Costs Exceeding Housing Costs for HHs Earning \$20-\$50,000



Source: Center for Neighborhood Technology calculations.

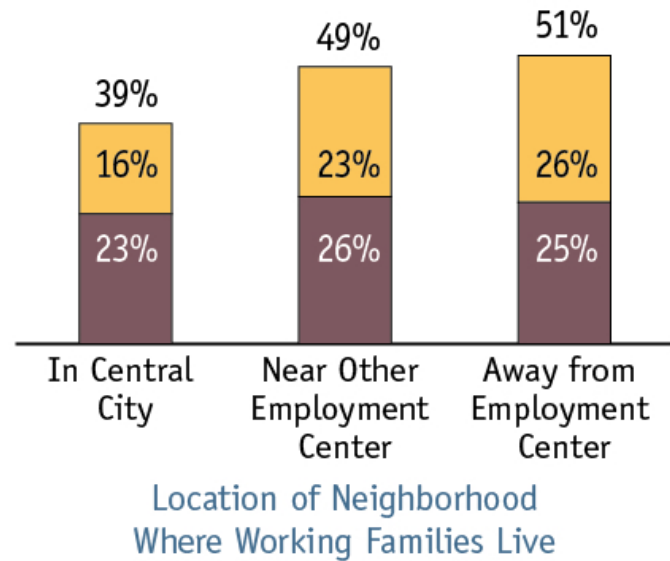
For Working Families, Transportation Doubles Housing Costs, A Truly Heavy Load and Sprawl Near Job Centers Only Helps Modestly

Residential Land Use Growth 1990 to 2001



Housing

Households \$35,000 – \$50,000



Source: Center for Neighborhood Technology calculations.

NOTE: Employment centers are job locations with a minimum of 5,000 employees.

We Had It Right Once

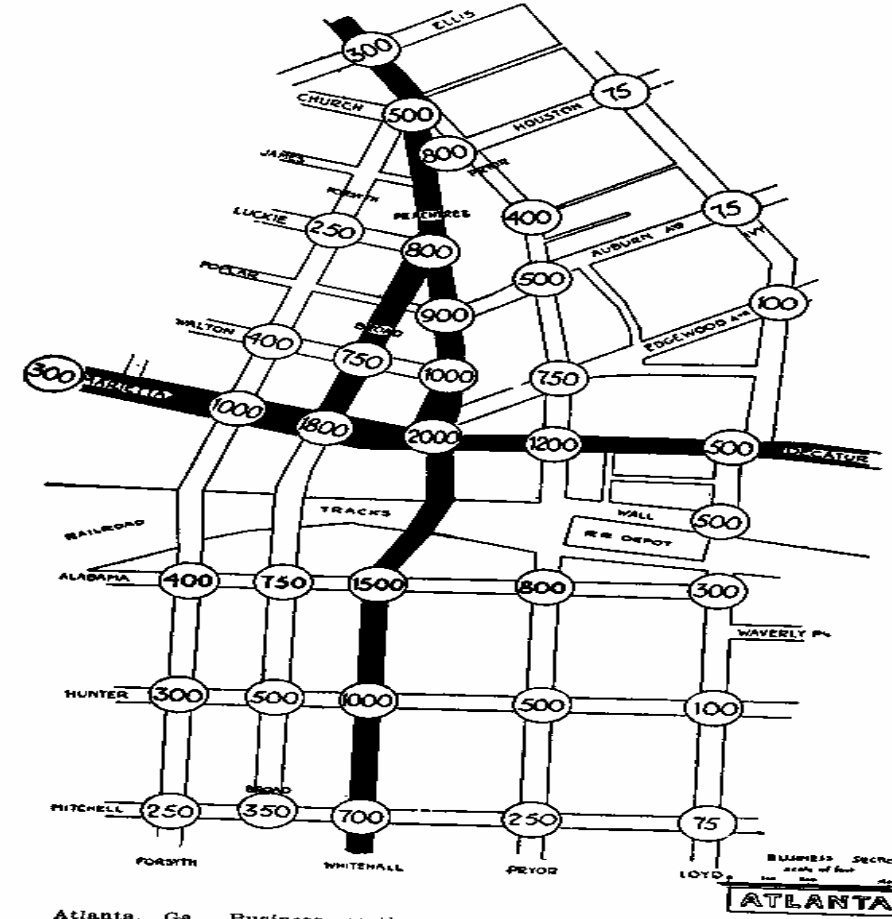
- Transportation only 3-5 percent of HH expenditures
- Every city of 5000+ had streetcars and interurban, more had steam RR service
- High household savings rate



Transparency Drove the Market Through 1930

Note Peak-Value at Peachtree, Marietta & Decatur

- Transit-Oriented Atlanta
- Economically Legible Atlanta



Atlanta, Ga. Business section. Figures represent value of corners for lot of average width and depth, in dollars per front foot.

Historical Changes

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

Measuring Location Efficiency Research Conducted 1992-Present

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

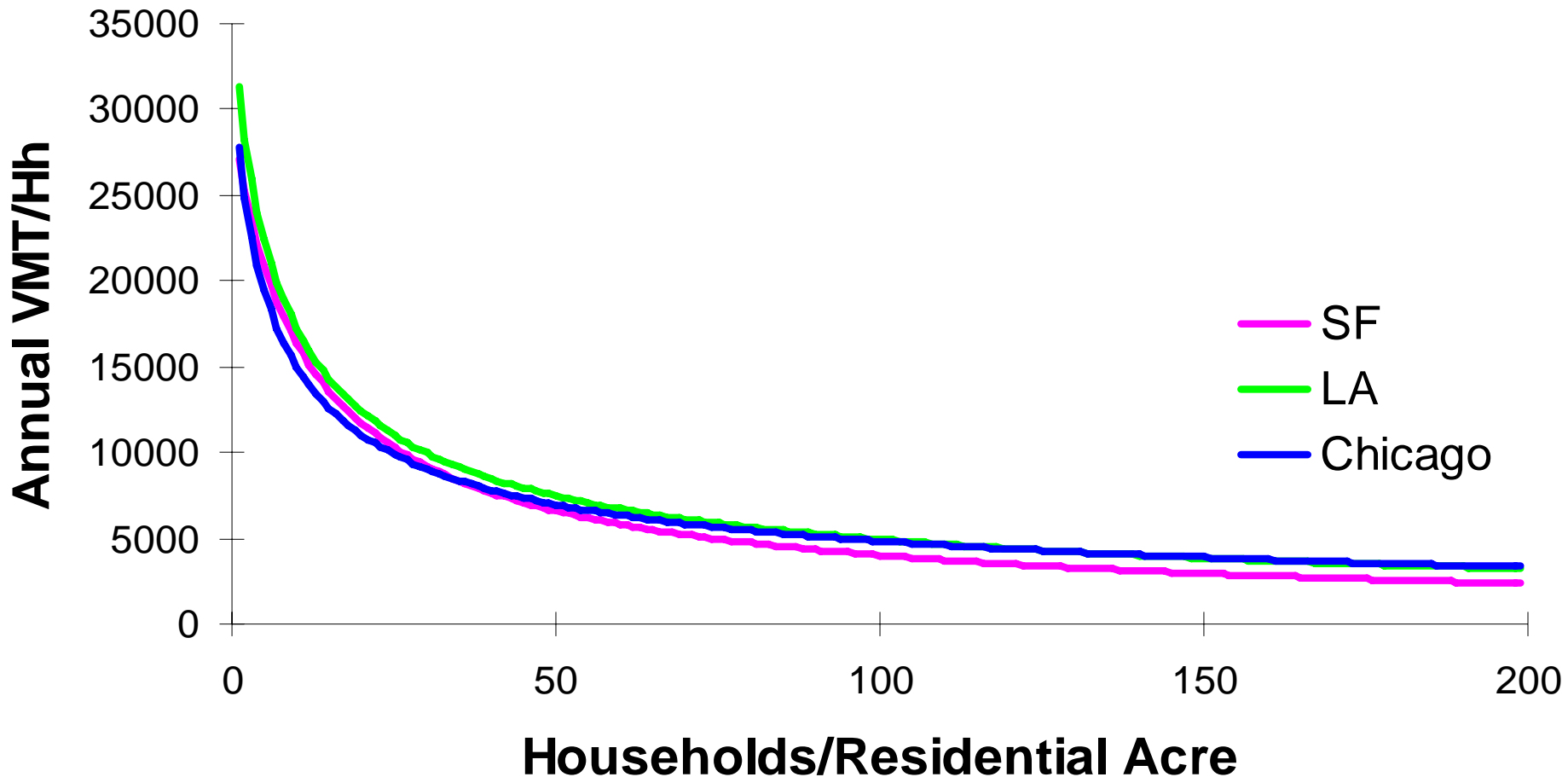
Explain Using Regression? Or.....

$$\frac{Veh}{Hh} = 4.722 \left(22520 + \frac{H}{RA} \right)^{-0.3471} \left(1 - e^{-\left(0.000112 \frac{\$}{P} \right)^{1.2386}} \right) \left(1 + 1.0519 \frac{P}{H} \right) (Tr + 60.312)^{-0.2336}$$

$$\frac{VMT}{Veh} = 1038 \left(60.5041 + \frac{H}{TA} \right)^{-0.0419} \left(1 + 0.02759 \frac{P}{H} \right) \left(1 - 0.0704 \sqrt{Ped} \right) - 0.0174 \left(\frac{\$}{P} - 22136 \right)$$

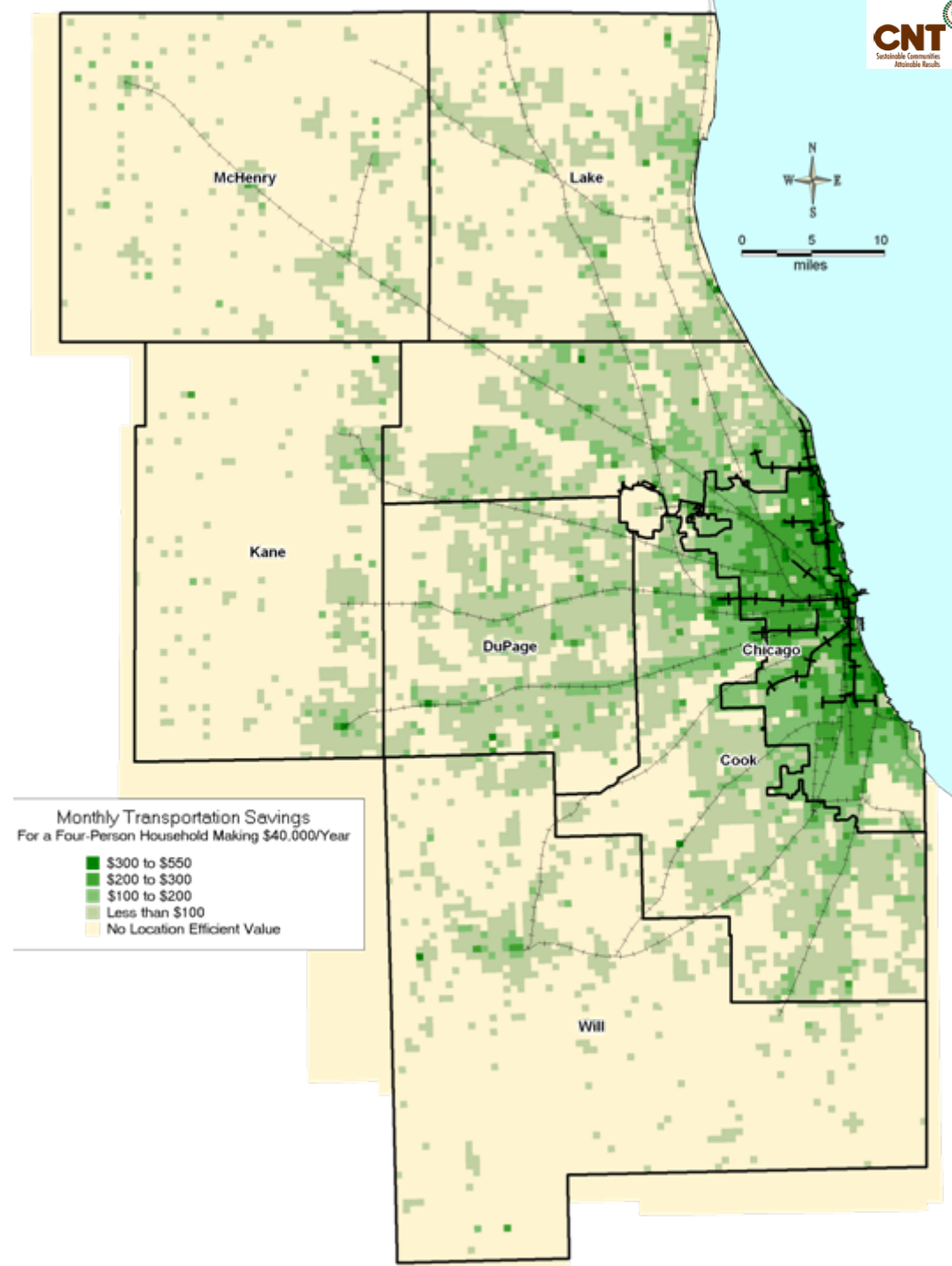
$$\frac{VMT}{Hh} = \frac{Veh}{Hh} \times \frac{VMT}{Veh}$$

As Density and Transit Choice Increase, Travel Demand Drops-- Curve works for 52 US Regions, London, Paris, and 37 Japanese Cities



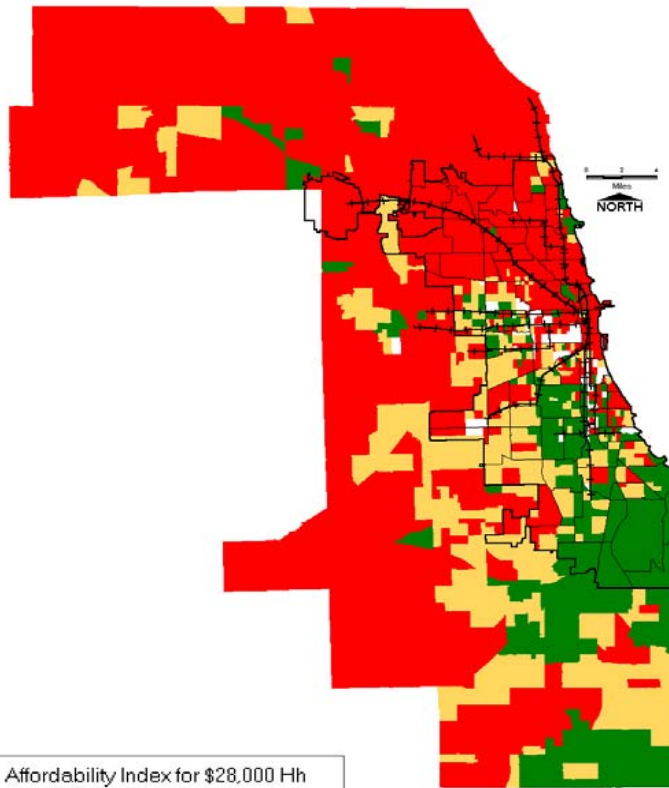
Mapping the Benefit

- Good transit access yields one less car per household
- Lowers cost of living by \$5-6,000
- Equivalent of increasing income 10-15 percent tax free



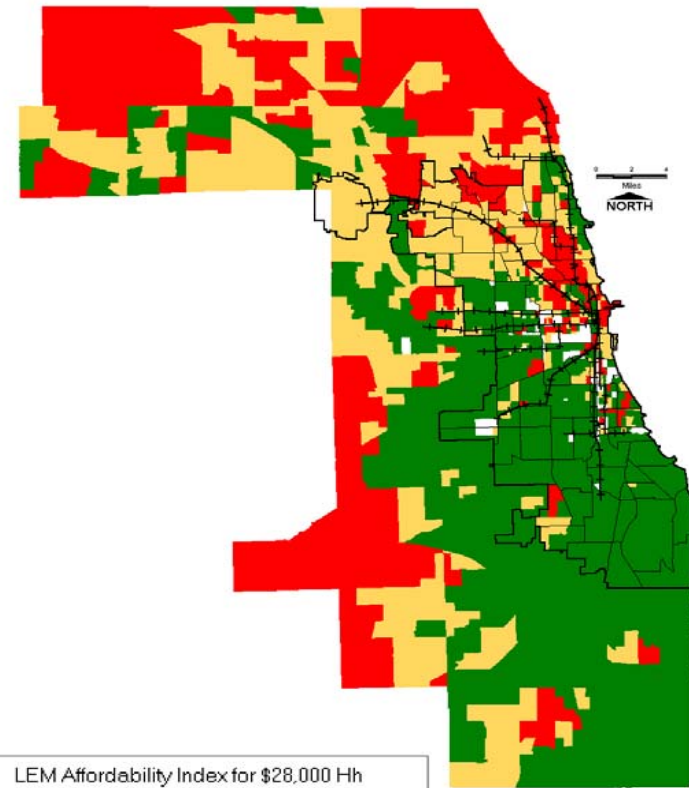
Showing the Benefits of Capturing the Value--2000

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



Affordability Index for \$28,000 Hh
 PIT/Income by Census Tracts

- 35% or More
- 28% to 35%
- Less Than 28%
- No Data



LEM Affordability Index for \$28,000 Hh
 PIT/(Income + LEV) by Census Tracts

- 45% or More
- 35% to 45%
- Less Than 35%
- No Data



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.

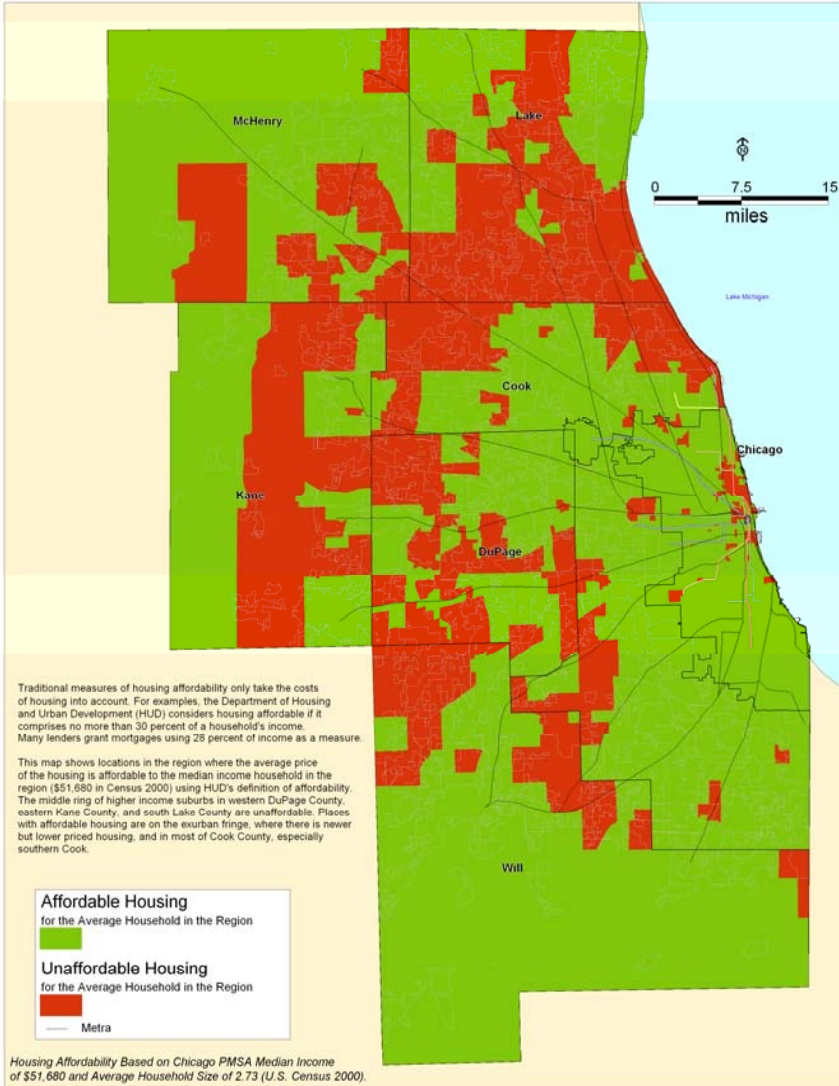
The ultimate value of LEM, however, may be to show, in ways people readily understand, that sprawl does impose costs. Some of that cost is paid, knowingly and gladly, by those who choose to live "out there." Much of it, however, is hidden, and paid indirectly by those who live "back here."

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

Where Is the Affordable Housing Really??

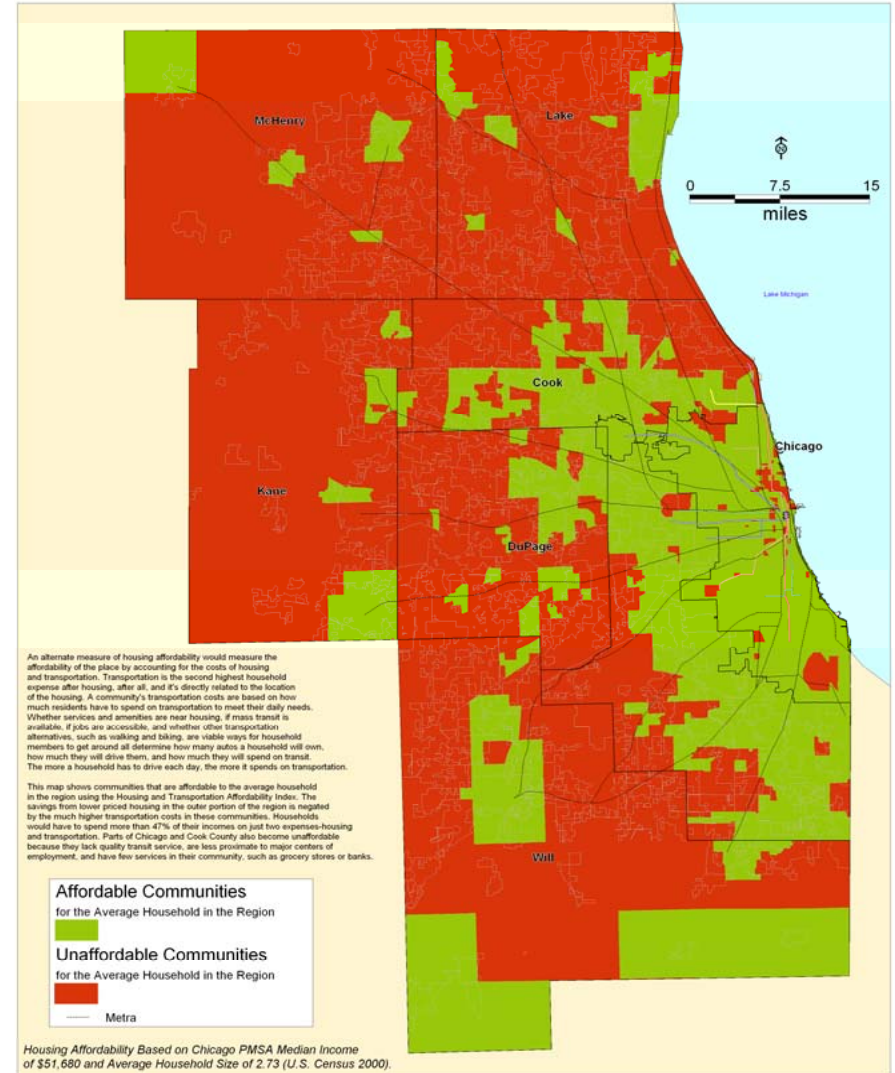
Traditional View of Housing Affordability

(Housing Costs Only as a percentage of Household Income)



The New View of Housing Affordability

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



Indexing Truer Affordability



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How Housing Affordability is Usually Calculated— Then and Now

- Historically: Traced to 19th Century ideal—
'A Week's Pay for a Month's Rent'
- Today benchmark affordability is defined
as housing costs/Income less than or equal
to 30 Percent of target population AMI

How the Standard Index is Used

- Describe a typical household's housing expense
- Analyze trends & compare different HH types
- Administer rules defining who can have subsidies
- Define housing needs for public policy purposes
- Predict the ability of a HH to pay rent or mortgage
- Select HHs for a rental unit or mortgage

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

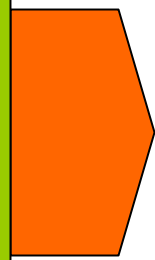
We analyze the Urban Form and the Household Characteristics of neighborhoods to predict the three major components of total household transportation costs.

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



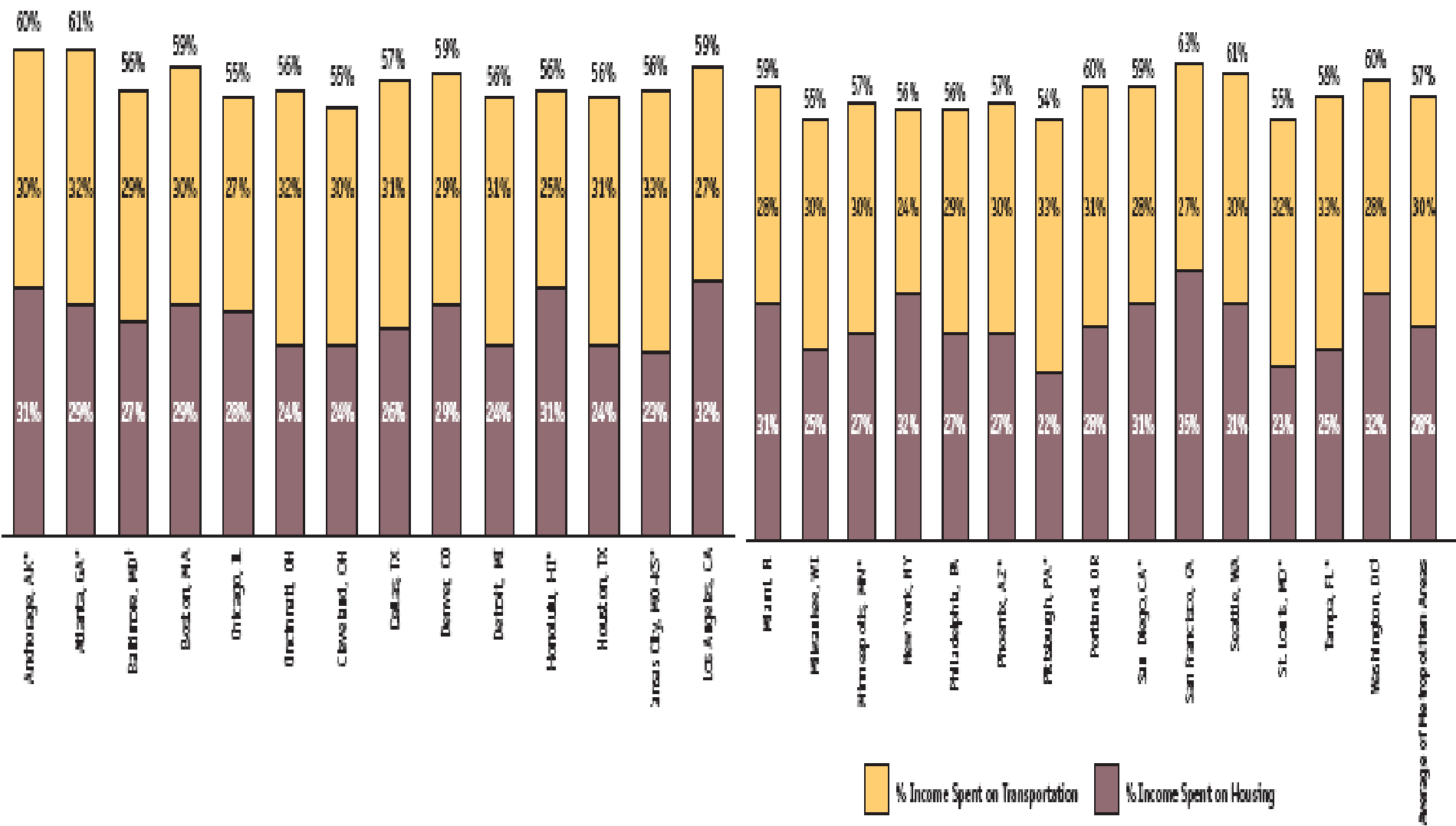
**Autos Owned
+
Auto Use
+
Transit Use**

**x price =
/unit**

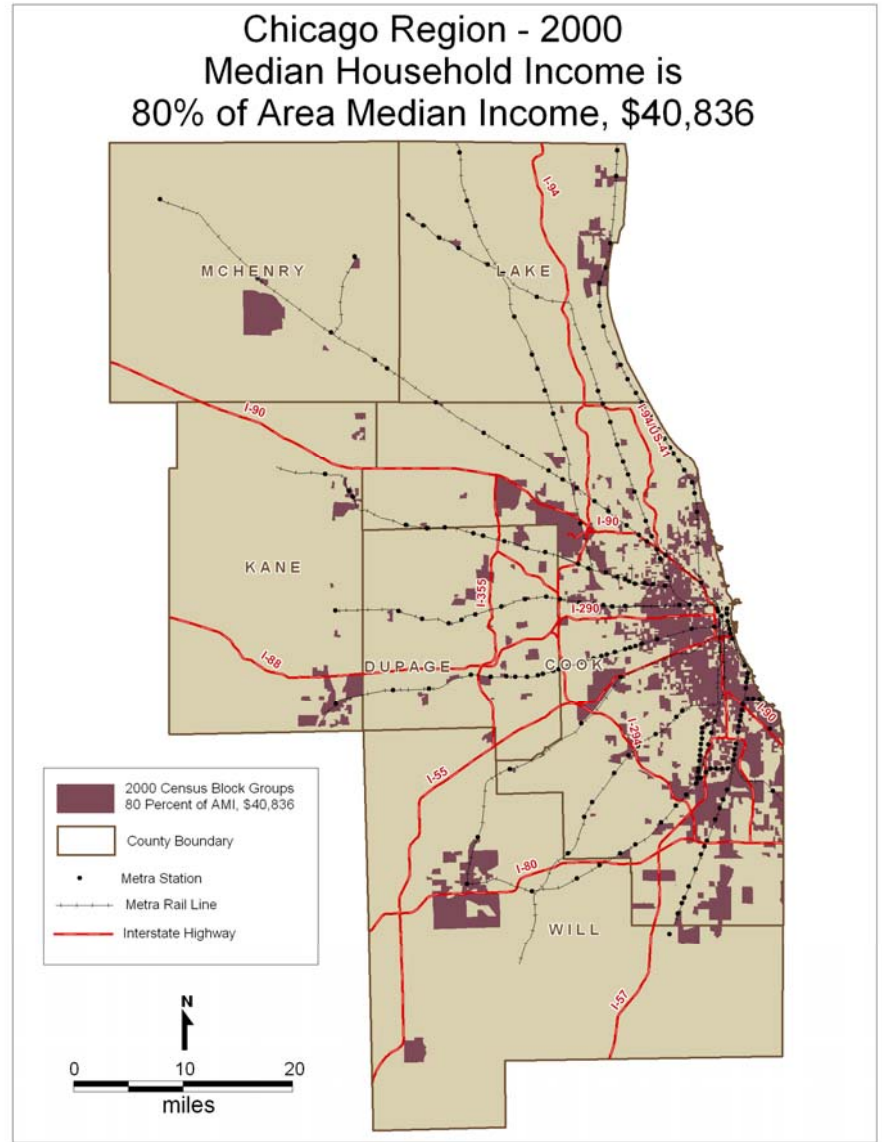
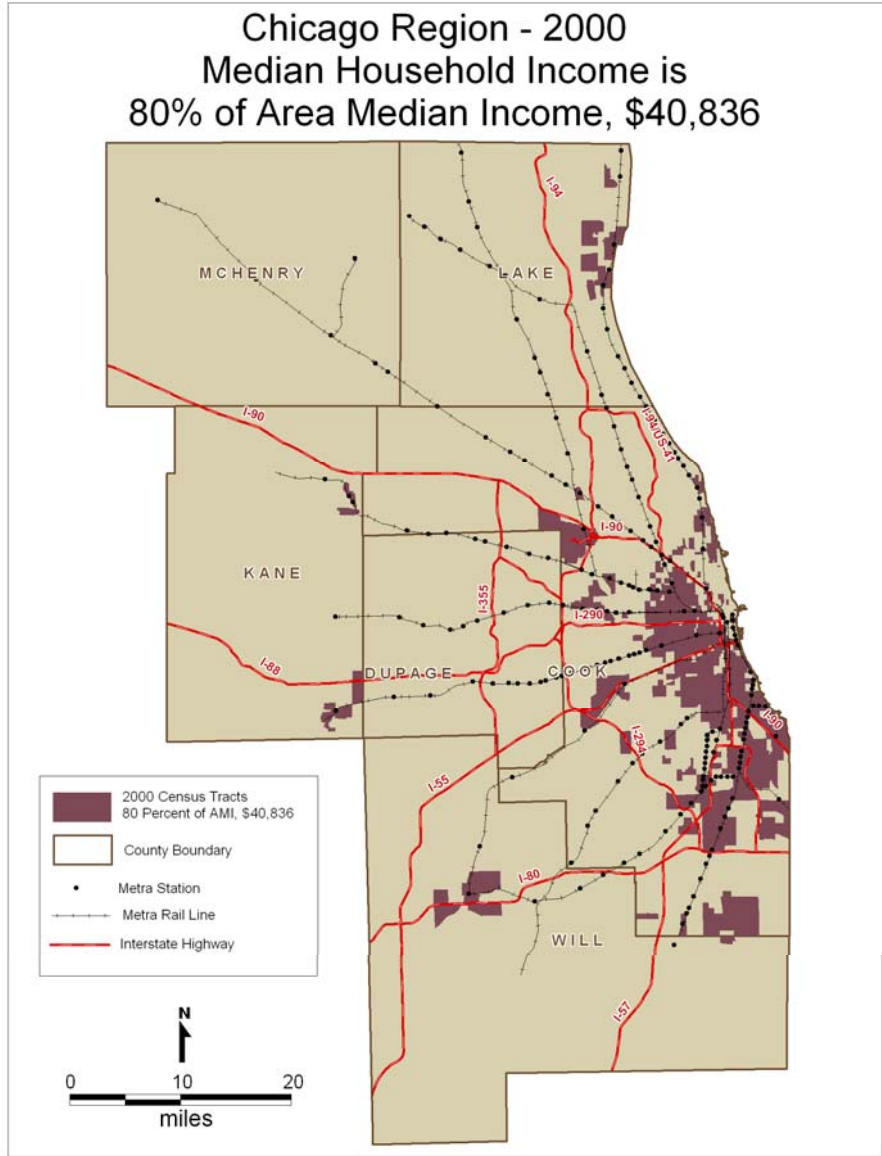
**Total
Transport
Cost**

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

What Working Families Spend on Housing and Transportation in 28 Metro Areas - Approaching Two-Thirds of Income

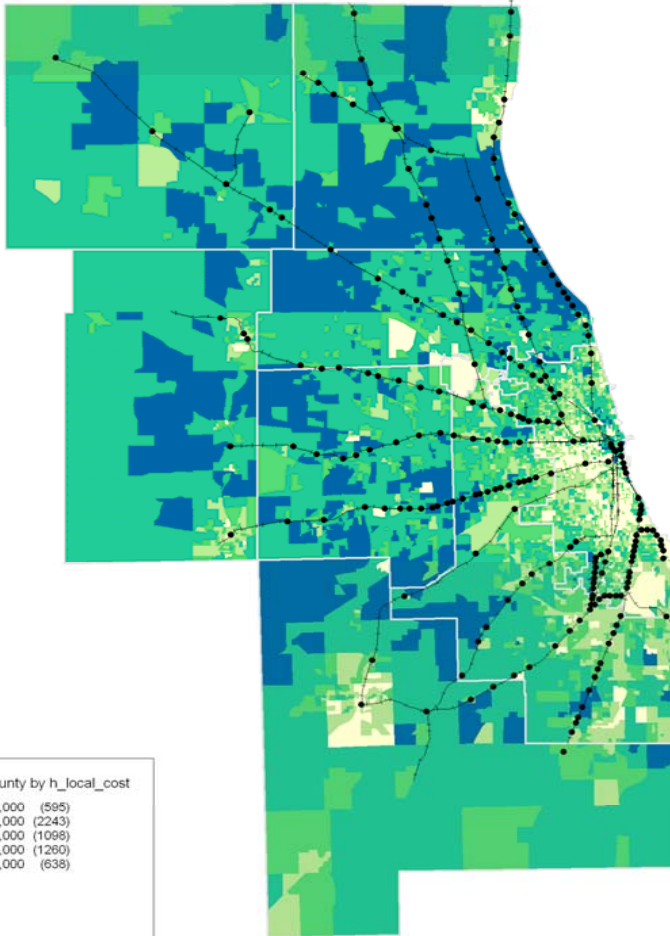


A Closer Look in 2000—Again, Block Group Resolution Shows Working Family Migration to Exurbs

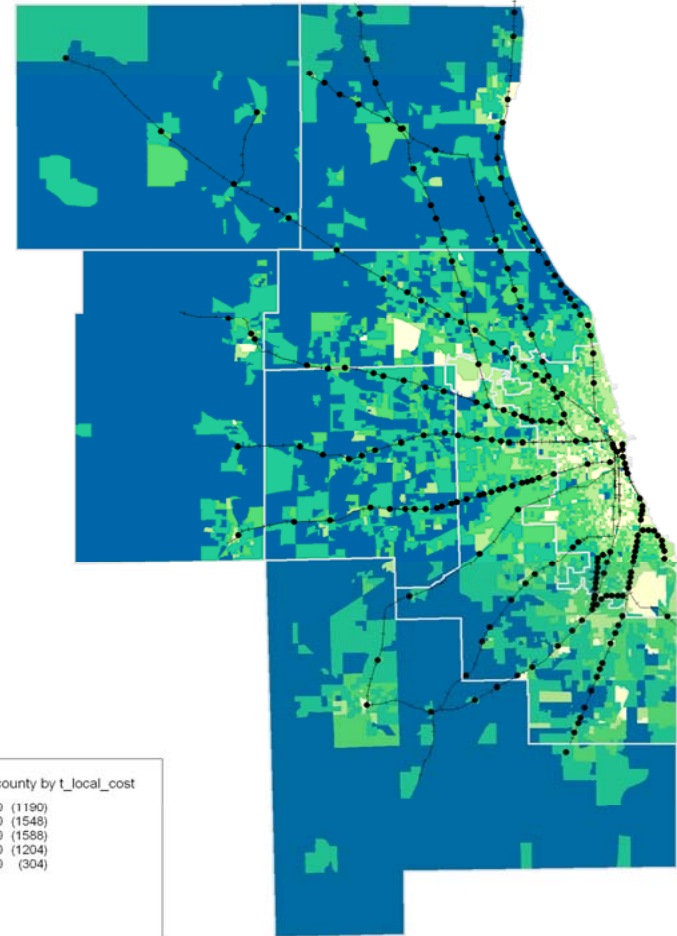


The Effect of 'Drive 'til You Qualify': High T Costs with Distance

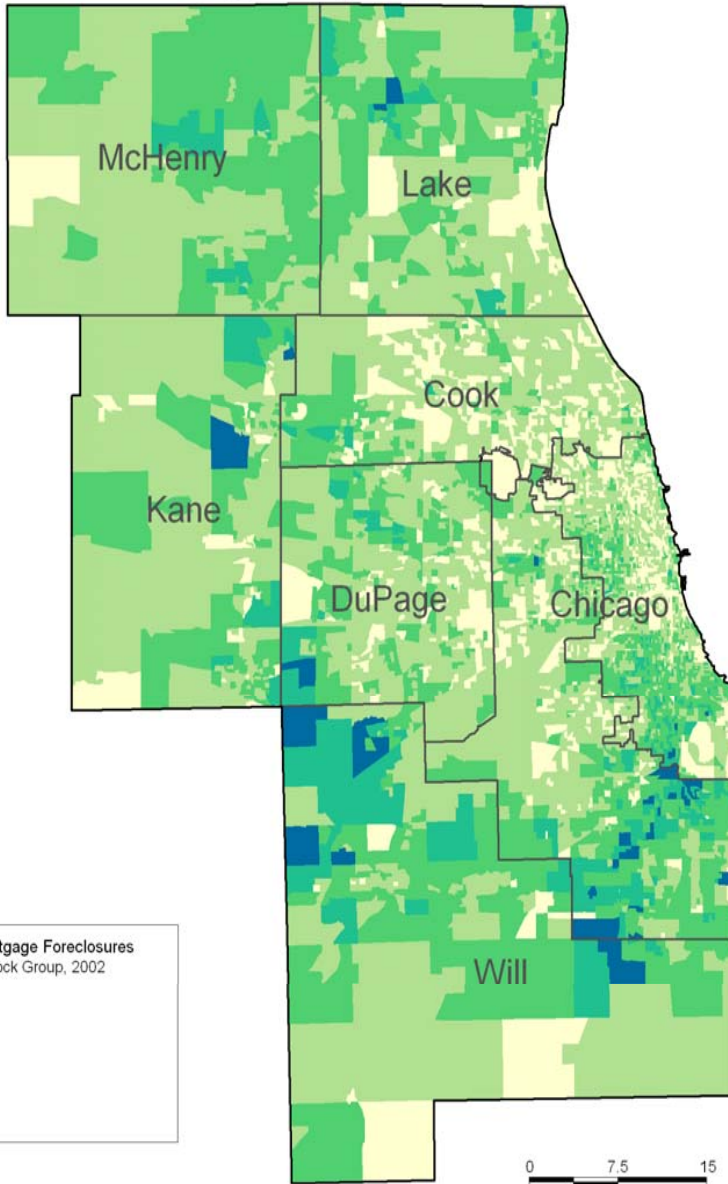
Monthly Household H Cost
(In Dollars - for all Block Groups)



Monthly Household T Cost
(in dollars - for all blk grps)



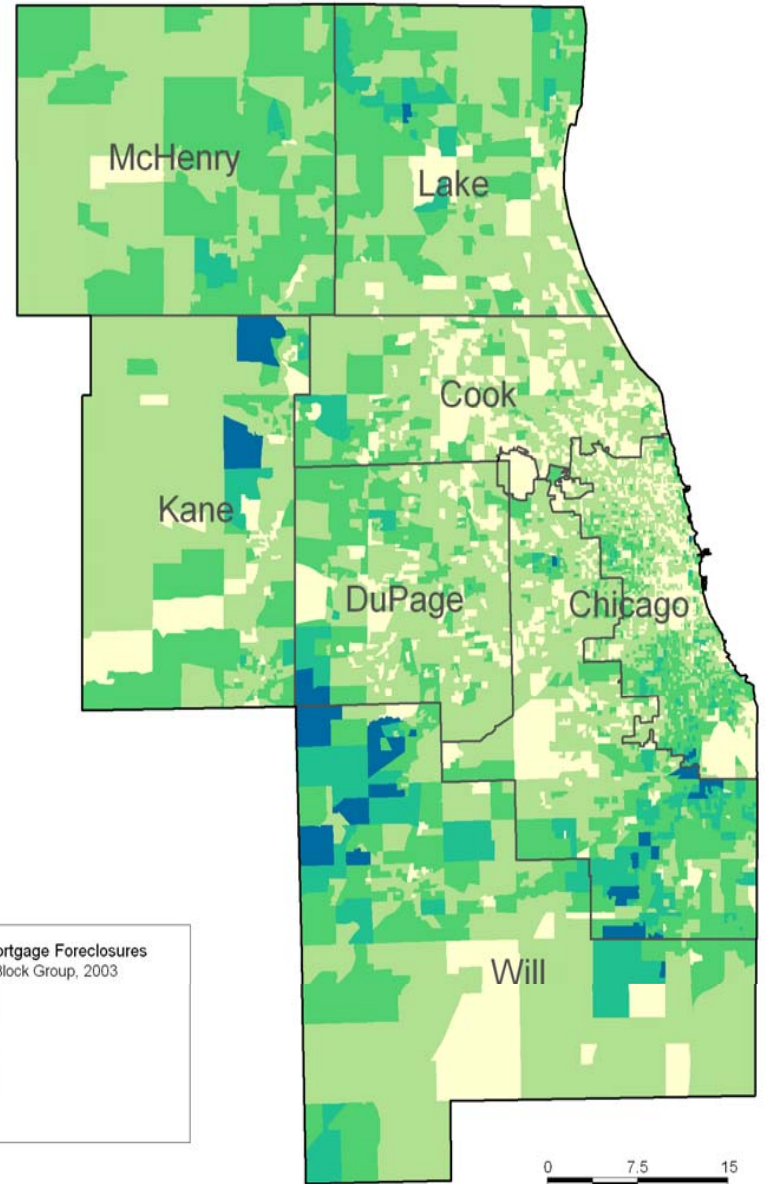
Recent Residential Mortgage Foreclosures Chicago Region, 2002



Count of Mortgage Foreclosures
 By Census Block Group, 2002

- 30 to 69
- 15 to 30
- 5 to 15
- 1 to 5
- 0 to 1

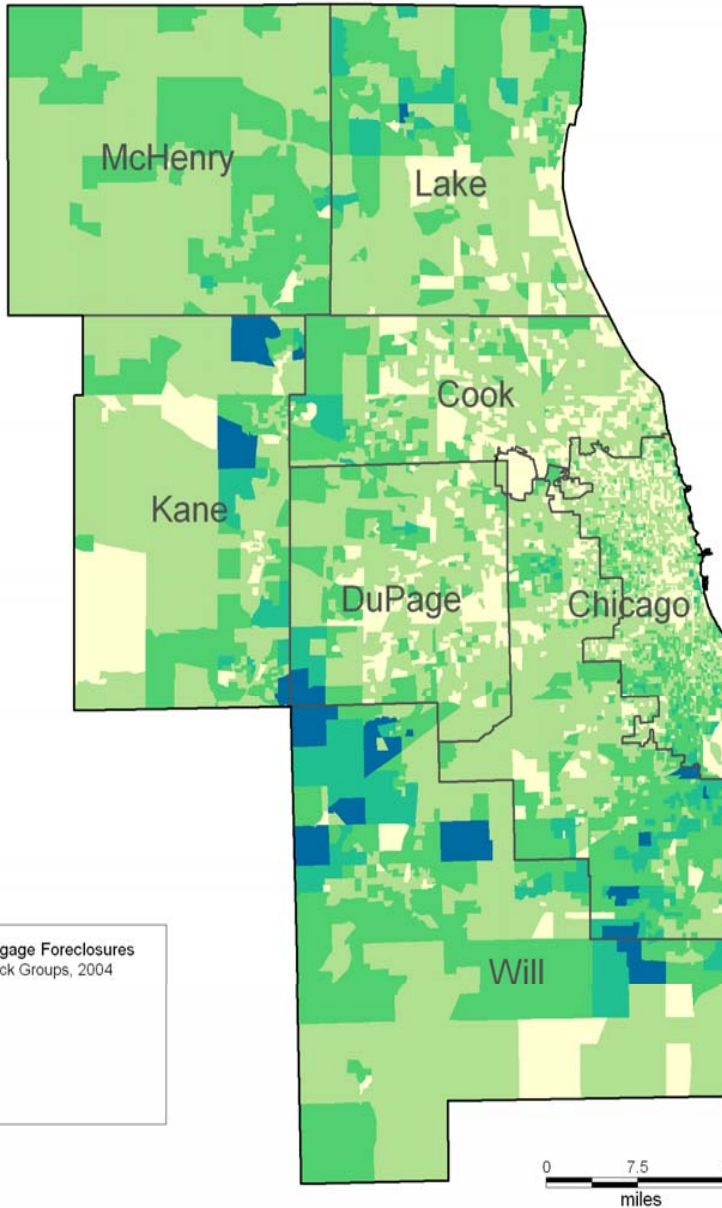
Recent Residential Mortgage Foreclosures Chicago Region, 2003



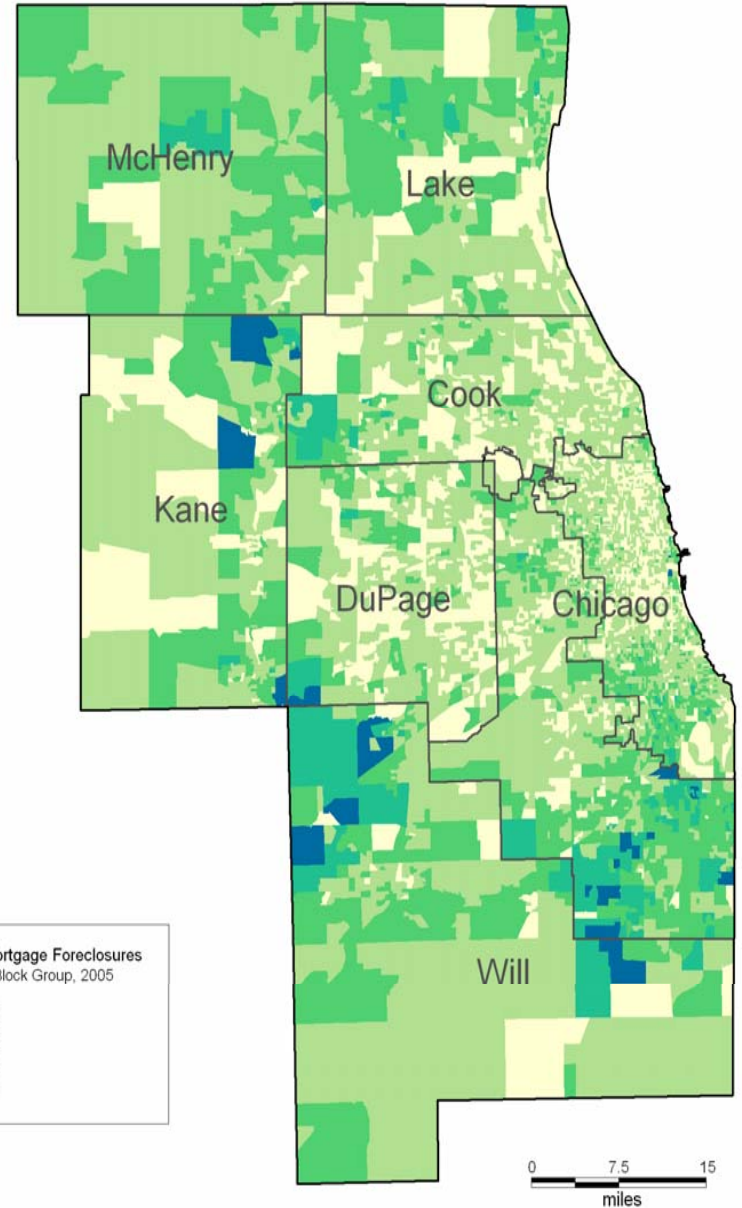
Count of Mortgage Foreclosures
 by Census Block Group, 2003

- 30 to 75
- 15 to 30
- 5 to 15
- 1 to 5
- 0 to 1

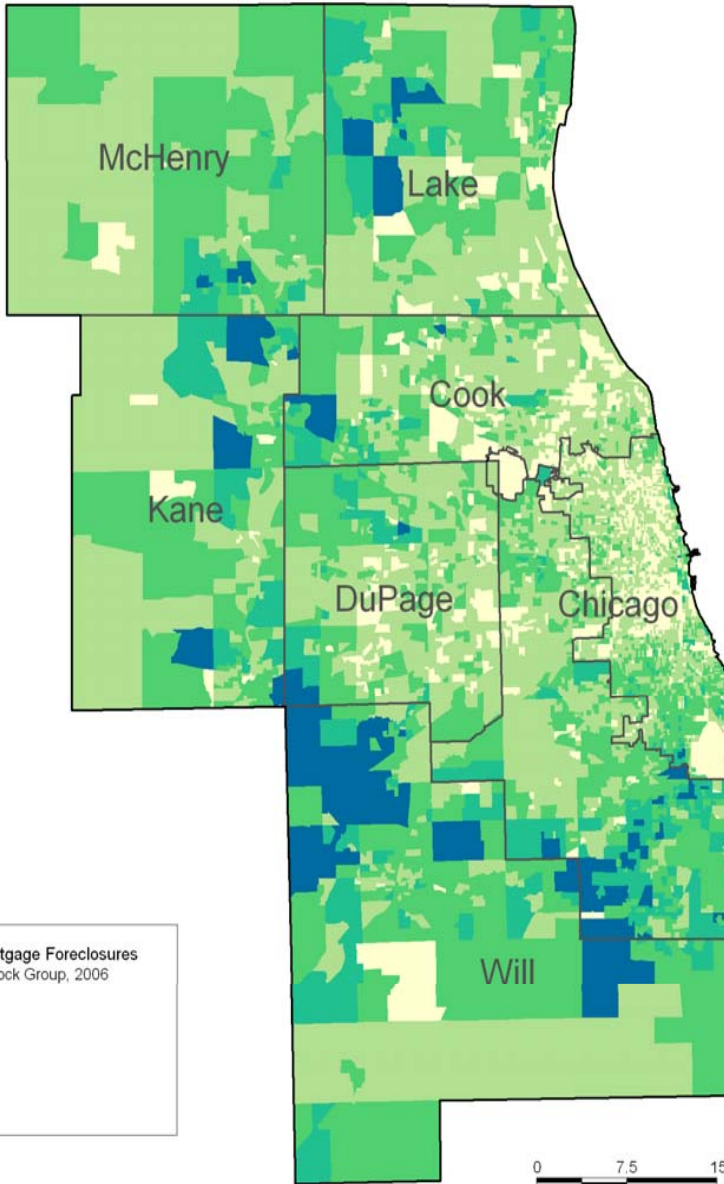
Recent Residential Mortgage Foreclosures Chicago Region, 2004



Recent Residential Mortgage Foreclosures Chicago Region, 2005



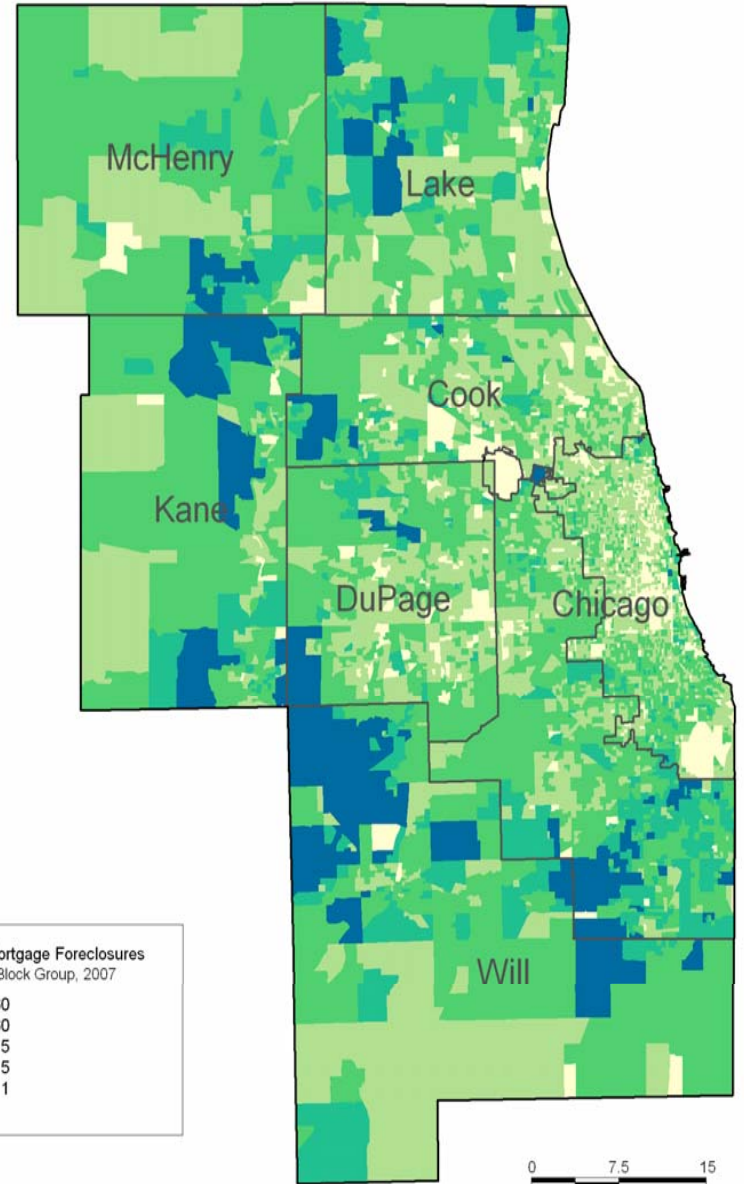
Recent Residential Mortgage Foreclosures Chicago Region, 2006



Count of Mortgage Foreclosures
 By Census Block Group, 2006

Dark Blue	23 to 176
Medium Blue	15 to 30
Light Blue	5 to 15
Light Green	1 to 5
Yellow	0 to 1

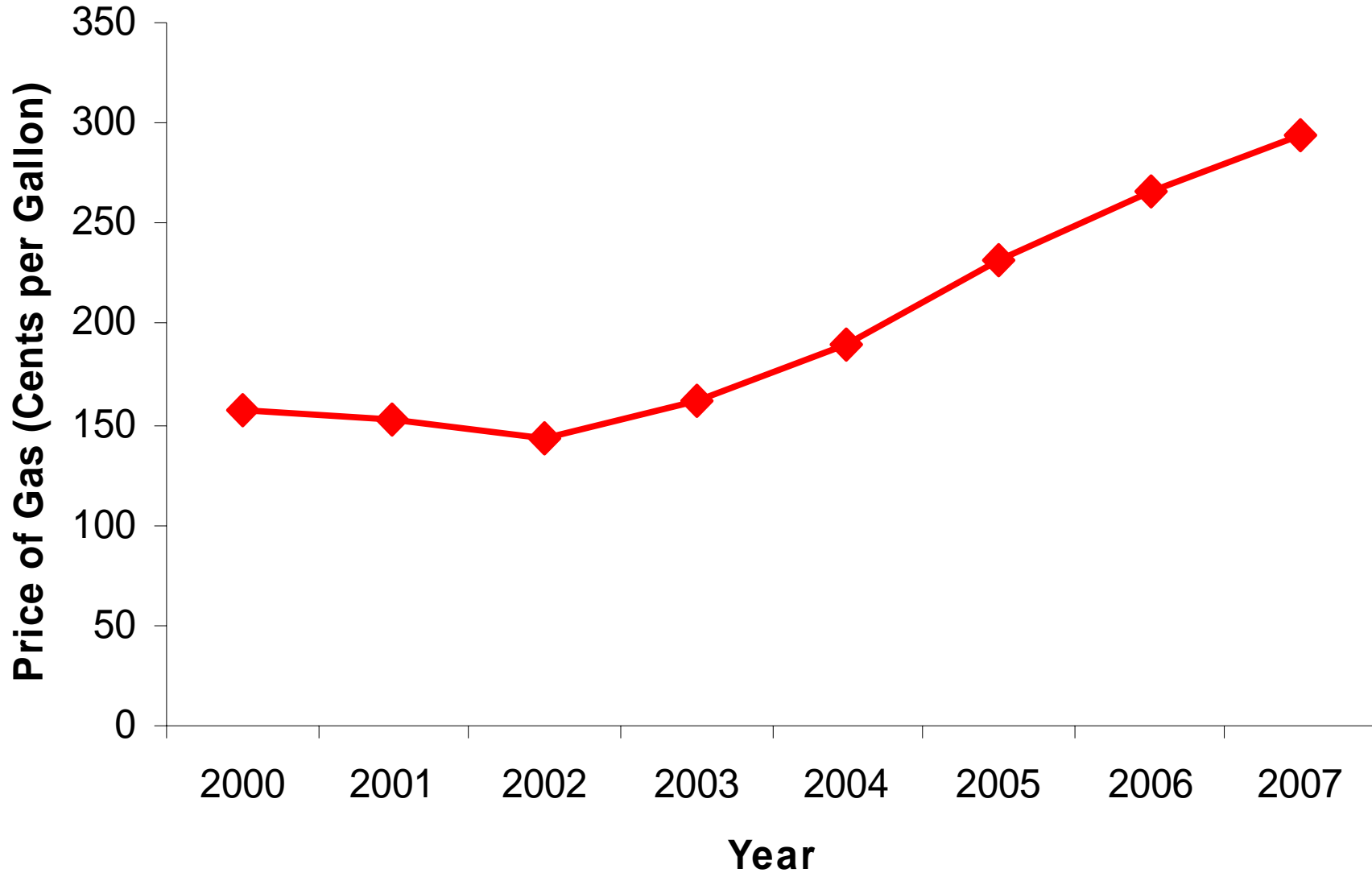
Recent Residential Mortgage Foreclosures Chicago Region, 2007



Count of Mortgage Foreclosures
 By Census Block Group, 2007

Dark Blue	30 to 230
Medium Blue	15 to 30
Light Blue	5 to 15
Light Green	1 to 5
Yellow	0 to 1

It's Not Over Yet— Gas Costs Keep Climbing



Observations

- Transportation costs families about as much as housing
- This cost is excluded from everyday decisions and public policies
- Compounds financial stress
- Current proposals to mitigate mortgage crisis don't take transportation costs into account
- Crisis isn't over yet, gas prices are rising, and drive 'til you qualify seems part of the landscape

Current Uses

- *Bay Area*—MTC set goal of reducing H+T by 10% in 2035, FHLB uses in AHP screen
- *Atlanta*—Mixed Income Communities Initiative reframed affordability goals
- *Illinois*—Legislature created Business Location Efficiency Act to screen tax credits and CMAP using to help suburbs meet goals
- *Oakland & Chicago*—Experimental counseling program uses data to help lower COL
- *Chicago* and nationally—used to support climate mitigation plans

The H+T Index Can be Used to

- Re-score GSE geographically underserved markets indicator at block group level
- Adopt new H+T affordability index and get HUD and DOT to use it
- Support enhanced counseling and information tools
- Create a HMDA-like disclosure system on household transportation and energy costs—link to MLS, Google, etc.
- Add cost of living screening in upcoming transportation bill

Thank You!

For more information please access

<http://htaindex.cnt.org>