Reconnecting the Nation:

Meeting the Challenge of Rapid Ramp-up by Counting the Benefits of Livable Communities &

Regions

ACFFF Market Transformation Conference Scott Bernstein, CNT April 11, 2011 www.cntenergy.org

http:/htaindex.cnt.org

scott@cnt.org

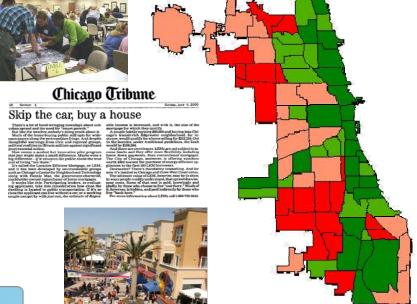




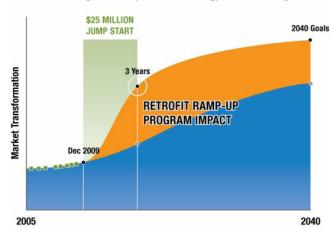








Accelerating the Marketplace to Value Energy Efficient Buildings





Outline

- Who is CNT—Title slide,
 Purpose, Who we are
- Mission and Strategy— Disclosing/mobilizing hidden assets productively
- Challenge—no time to waste: climate change, economic recovery

- Case study: from Energy Savers to BB
- Current program—onestop drives services
- Future program—
 benchmarked
 performance drives
 demand, as does linkage
 to community benefits
- Lessons for MT



Who is CNT

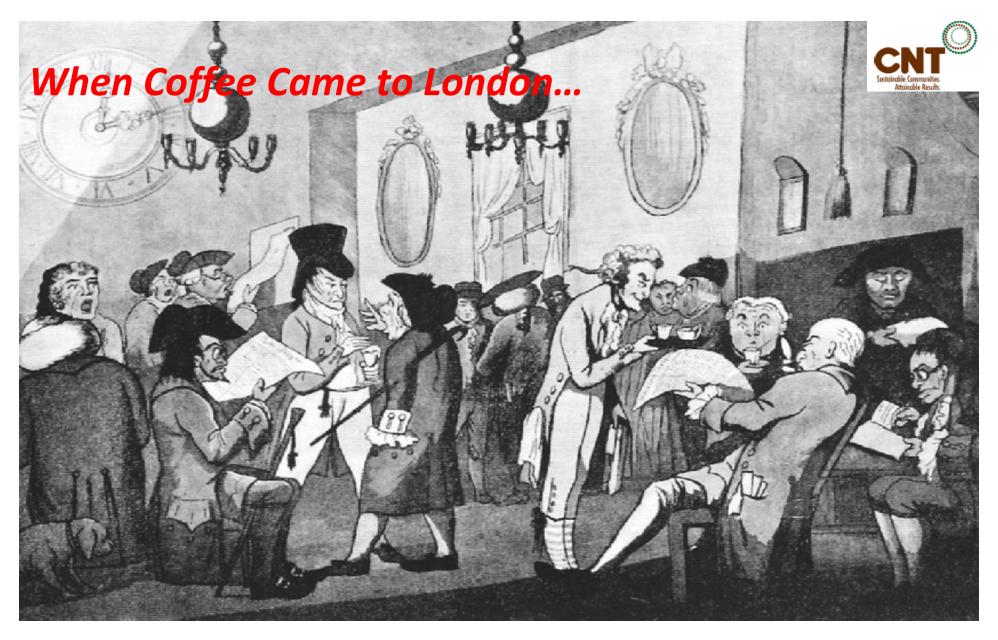
- 33 year old "think & do tank"
- Promotes healthy communities & regions
- Works to disclose and help capture the economic benefit of resource efficiency
- Energy, materials, water, transportation
- 108 people, offices in Chicago, SF & DC
- Major competencies in GIS, systems design, community planning & engineering
- Two service corporations: I-Go Car Sharing & CNT Energy







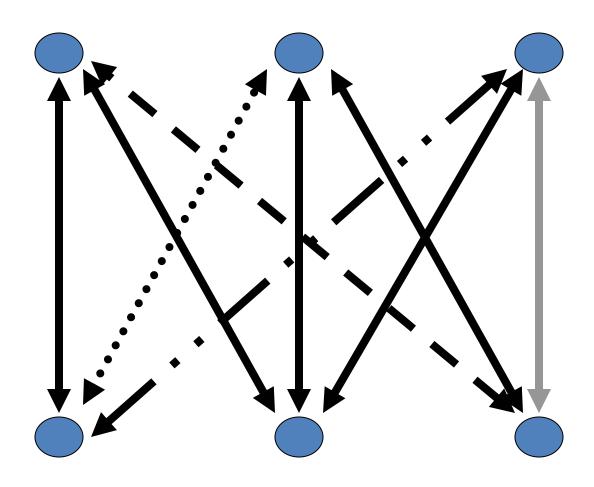
- A division of the Center for Neighborhood Technology dedicated to helping communities and consumers save energy and money
- Dynamic pricing and smart grid
 - Ameren Power Smart Pricing
 - Com Ed Residential Real-Time Pricing
- Energy efficient buildings
 - Residential
 - Commercial and municipal buildings
- Regional Energy Planning



In 1690, a new type of business, the non-alcoholic coffee house, grew popular...the smartest coffee house proprietor in London found The best markets by looking at where people hung out on the street...he built one in Exchange Alley, put slate on the walls and paper On the table for people to record wagers...every year these kinds of innovations became popular, and 75 year's later Edward Lloyd's Descendents sold shares in the enterprise, Lloyd's of London...social interaction invented the insurance industry, and in a sense, that Is what we're doing here today

The Need for One-Stop Shopping: The Current Unorganized Market





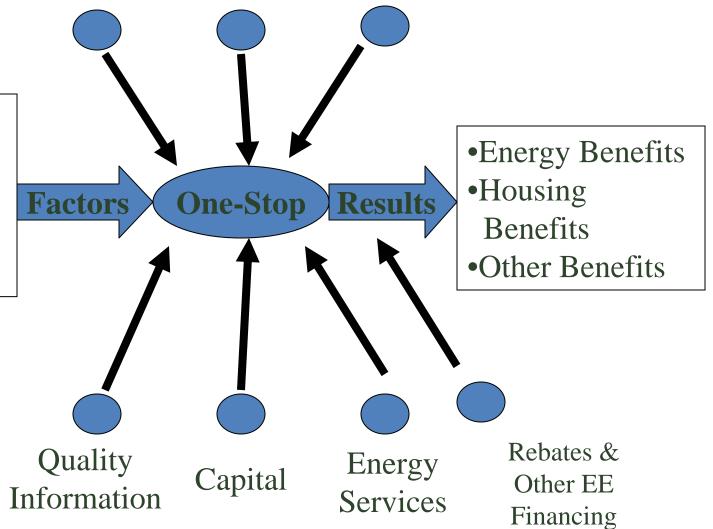
Middle Class Task Force report noted need for audits, contractors & services, and financing—but didn't call for coordinated one-stop service

The Need for One-stop Shopping: A Better Model for the Residential Sector



Demand

- •Sense of Urgency
- •Rising Prices
- Cost of Housing
- •Changing Policies
- •Changing Market Practices



Supply

Current EE Landscape is Overly Complex





ENERGY STAR







Information & Guidance





Building Owners

Finance & Rebates













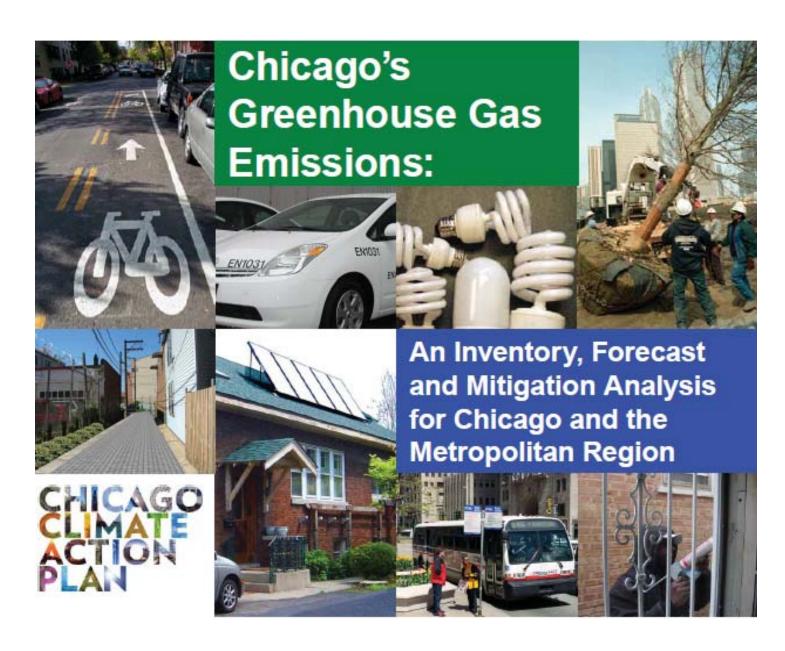
Success in the Energy Efficiency Market

CRIBB is using a comprehensive approach to transform the retrofit market.

Current Situation		Expected Market
Disorganized market		Efficient Market
	·	Understanding of what a retrofit is,
No consistent understanding of		and what it means to different
what a retrofit is		consumers
Disaggreagated information		Centralized information sources
Minimal number of service providers Little access to financing	⇒	Many suppliers in the retrofit space Financing available for all building

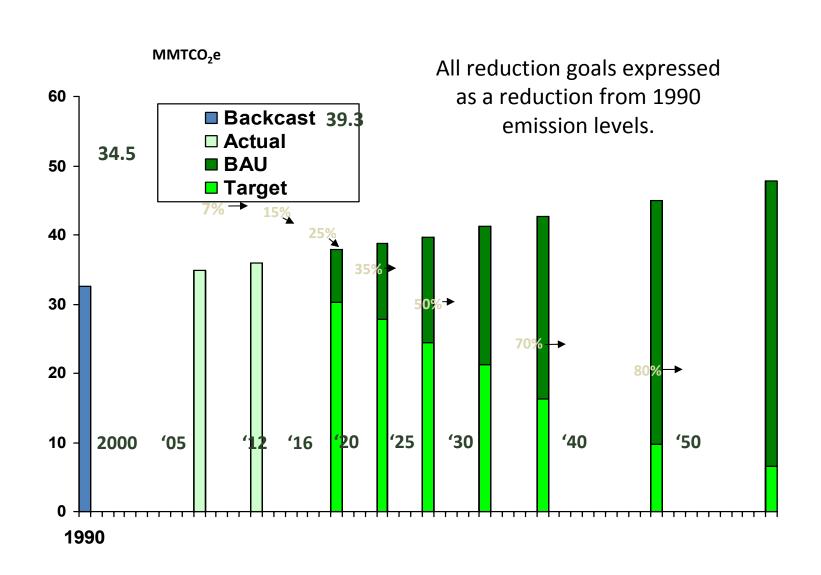
Some Observations from Local Climate Protection





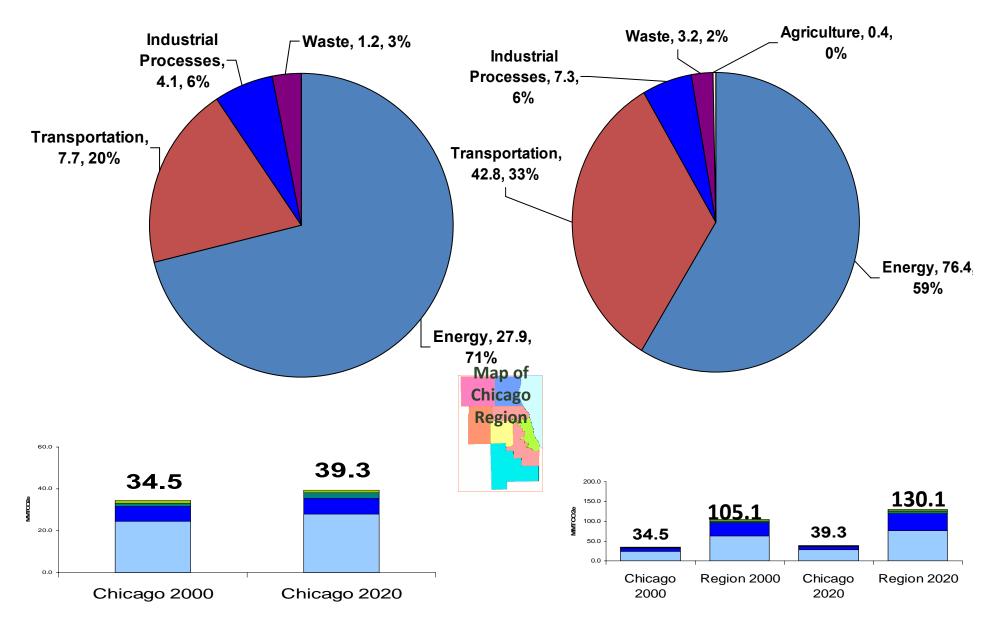


Chicago Climate Action Plan Reduction Goals



2020 Chicago vs. Metro Region Transportation GHGs Grow Twice as Fast in Suburbs





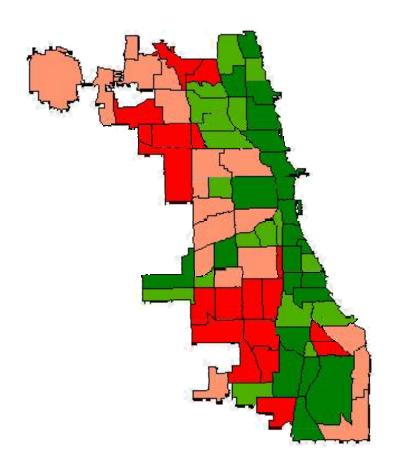
Market Sector Teams



	Small Commercial & Industrial	Large Commercial & Industrial	Municipal & Nonprofit	Multifamily Residential	Single Family Residential
Finance					
Workforce					
Information					

Understanding the Data – Residential Single Family











Bungalow

Colonial

Frame Cottage







Newer Luxury

Tudor







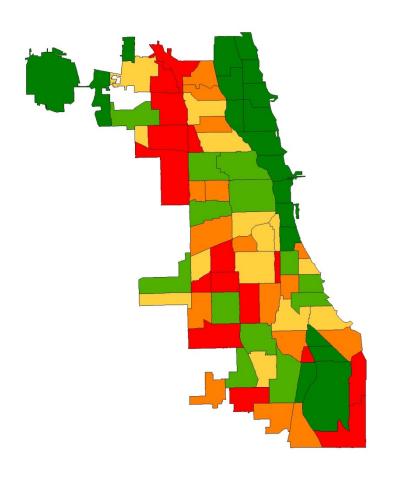
Ranch

Victorian

Townhome

Understanding the Data – Commercial and Industrial







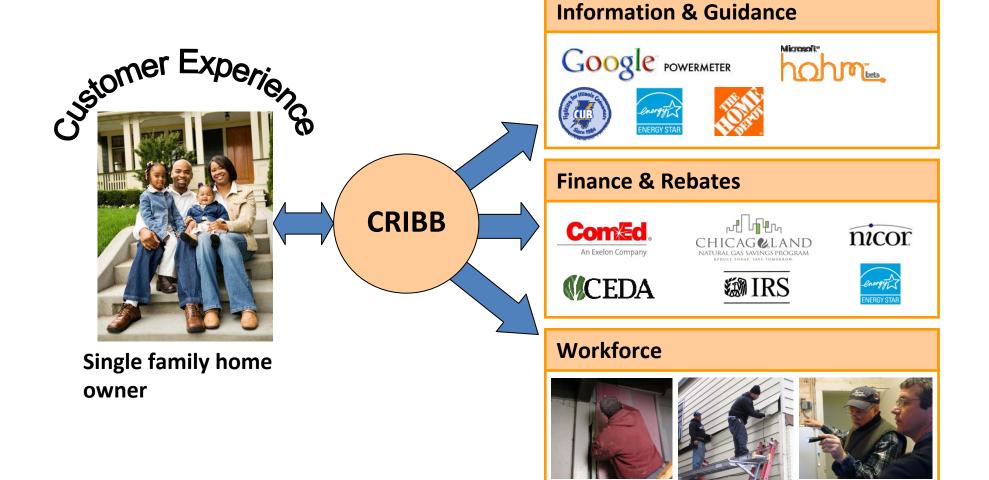






Simplicity From a Consumer POV





Background and General Information

• Building energy consumption accounts for 61% of greenhouse gas emissions in the region, and 70% in Chicago.

- Previous research, including the 2008 Chicago Climate Action Plan calls for retrofitting 400,000 residential housing units to reduce greenhouse gas emissions by 25 % by 2020
 - Current capacity can retrofit only 8,900 units a year.



Background and General Information

Chicago Region Initiative for Better Buildings (CRIBB)

- Chicago Program = \$25 million
- Goal: Build a comprehensive, sustainable energy efficiency retrofit program that aggressively targets commercial, industrial, and residential buildings across CMAP's 7-county, northeastern Illinois region, including Rockford.
- Over the three-year grant period, the project will build to an annual retrofit capacity of at least 25,000 units plus significant commercial space, leverage more than \$125 million in local investments, and create more than 2,000 jobs.
- Tie our results into national BetterBuildings goals:
 - Replicable
 - Scalable
 - Market Transformation

About the CRIBB Partnership

- CMAP is lead agency
- Policy guidance from the CRIBB Retrofit Steering Committee and the Project Partners
 - Project Partners: City of Chicago
 Department of Environment, City of Rockford
 - Retrofit Steering Committee includes:
 - IL Dept. of Commerce and Economic Opportunity (DCEO)
 - City of Chicago and Rockford
 - Peoples/Northshore Gas, ComEd, Nicor
 - Northern Illinois Energy Project
- CNT Energy hired as Implementation Agency























About CMAP

- Established in 2005 to better integrate planning for land use and transportation.
- CMAP's staff was created by merging the Northeastern Illinois Planning Commission (NIPC) and Chicago Area Transportation Study (CATS).
- New, streamlined regional agency serves seven counties that make up the third largest U.S. metropolitan region
 - 284 municipalities
 - Nearly 1,400 units of local government
- Recently released 'GOTO 2040' Strategic Plan
 - Identifies and prioritizes energy efficiency / building retrofits to reach energy goals



233 S. Wacker Drive, Suite 800, Chicago, IL 60606 | voice 312-454-0400 | fax 312-454-0411 | www.cmap.illinois.gov

Update December 11, 2008



CRIBB Program Design

Designed to directly address three key barriers to market transformation

Access to information

\$6,550,000 for 3 activities

- Communication strategy
 - Market Research/Customer Segmentation
 - Branding / Marketing
- Comprehensive Information System (CRIBB IS)
- Web-based, Building Energy Tool(s)
- Target community outreach, 6 communities

Access to finance

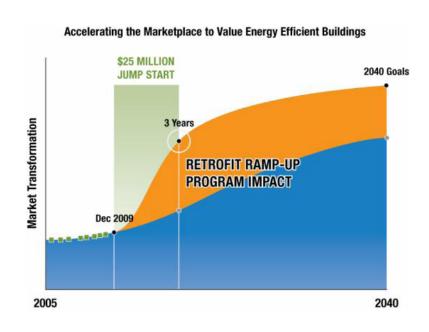
\$15,750,000; 6 financial products

- Multifamily Loan Loss Reserve Fund (Energy Savers)
- Multiunit Retrofit Improvement Loan Program (HUD Home and CDBG dollars)
- Employer Assisted Retrofit Program
- Residential Retrofit Fund
- Commercial/Industrial Retrofit Fund
- Residential EE Rating Incentive Financing (HPwES)

Access to workforce

\$400,000, 2 activities

- Launch workforce intermediary
- Contractor services and outreach





Building a Market

Drive Demand

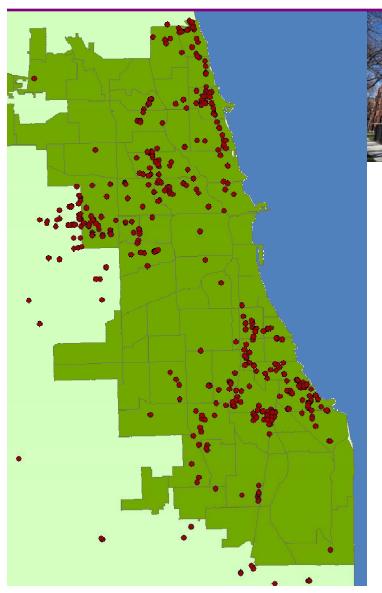
- We will integrate services from multiple partners to create a "one-stop shop" to easily match customer needs with appropriate retrofit products.
- Providing value for builders, contractors, lenders
- Existing programs will be integrated into the overall program to ensure a truly comprehensive resource for customers and ensure maximum utilization of retrofit resources.
- We are committed to creating a marketplace that will be selfsustaining.

Case Study—Chicago Energy Savers and CRIBB





CNT energy savers









Energy efficiency solutions for Chicago-area apartment buildings

- 10,000 units in audited 2010, one-half retrofitted
- 30% average energy savings
- Part of Preservation Compact devoted to preserving affordable rental housing in northern Illinois—in process of being copied in a dozen other regions



CR3 (Chicago Regional Retrofit Ramp-up) aka Better Buildings Approach

- Regional data that is integrated in EE, finance and workforce networks locally and nationally
- Program design, implementation and EM&V that draws on extensive data of regional energy consumption patterns and building stock
- Deep understanding of market sector barriers and solutions through extensive implementation experience with existing programs
- Utilizes community-based approaches and networks
- Employs a market sector approach to each product (single family, mf, C&I)

Energy Savers The 1 Stop Shop

- Combines technical services including energy audits, construction management and financing low-interest revolving loan fund (2.5%)
- Targets multi-family building owners in both the private & subsidized markets
- Measures the impact of energy efficiency on affordability and housing preservation
- Post Retrofit Performance Monitoring













Financial Institution

- Establish a revolving loan fund
- Can combine with grant sources
- Can combine with rehab
- Can combine with acquisition
- Creates a more flexible program



- Technical Assistance
 - Provides information that allows owners to make smart investments
 - Assures quality installation
 - Monitors the building post retrofit to assure savings, and encourage additional investment and/or maintenance

Financing Package



- 50% of owners self-finance
- 50% take advantage of low-interest loan
- Standard second mortgage, underwriting takes energy savings into account
- Loan at ½ of prime rate, variable term, average of 7 years.



Energy Audit

- Analyze fuel bills-Patterns and Energy Use Intensity (EUI): energy usage/square footage
- Interview occupants/operators
- Visual inspection
- Instrumented Analysis: infrared thermography, thermometer, blower door
- Modeling/common sense
- Final report w/ recommendations

The Owner's Point of View





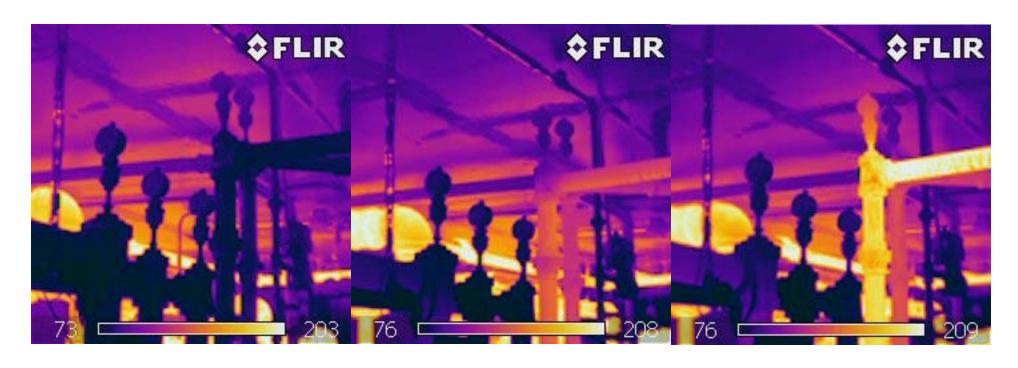




Boiler turns on

8 minutes later

30 minutes later





Construction Management



High quality installation makes a difference

Table 1 Recommended retrofits

Recommendation	Cost (\$)	Savings (therms/yr)	Savings* (\$/yr)	Simple payback (yr)	Retrofit lifetime (yr)	SIR
 Air-seal basement exterior walls, windows, doors, plumbing chases 	36,000	22,000	29,000	1.7	10	6.0
Air-seal apartment exterior walls, windows, doors, chases, chimneys	12,000	22,000	29,000			5.0
3. Air-seal, insulate roof to R-49	31,000	6,300	8,200	3.8	20	5.2
4. New boiler controls, sensors	10,000	3,400	4,400	2.3	10	4.4
5. Replace single-pane windows with double-pane windows	480,000	23,000	31,000	1 6	20	1.3
TOTAL"	570,000	55,000	72,000	7.9	19*	2.4

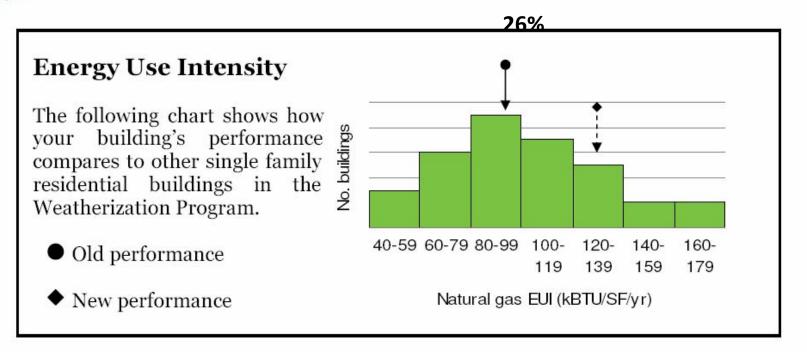
^{*} Assumes \$1.30 per them of extend gas and \$0.10 per blow att-boar of electricity

[&]quot;Totals may not match due to recoding "Melighted average









Which measures save most?



Air-seal and insulate roof: $29 \pm 3\%$
--

Upgrade windows:
$$18 \pm 4\%$$
 (6)

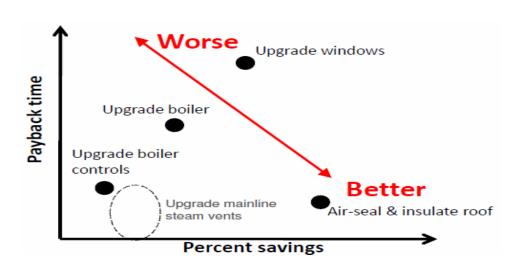
Upgrade boiler:
$$13 \pm 3\%$$
 (11)

Upgrade mainline steam vents:
$$8 \pm 3\%$$
 (4)

Upgrade boiler controls:
$$5 \pm 4\%$$
 (11)

savings as % of heating load

Sample size





Results

- Energy Savers
- 10,000 audited
- 3,000 retrofitted
- \$3,000 per unit
- 30 percent energy savings
- Very popular with owners
- No defaults or foreclosures

- CRIBB+ Energy Savers
- 18,000 audited, 600 buildings
- 4,145 retrofitted, 118 buildings
- 30 percent energy savings
- 75 jobs created
- 165 jobs over next two years
- 13.3 direct jobs per million dollars invested
- High skill; e.g. program helped grow air-sealing from 1 to 12 contractors in region in under two years

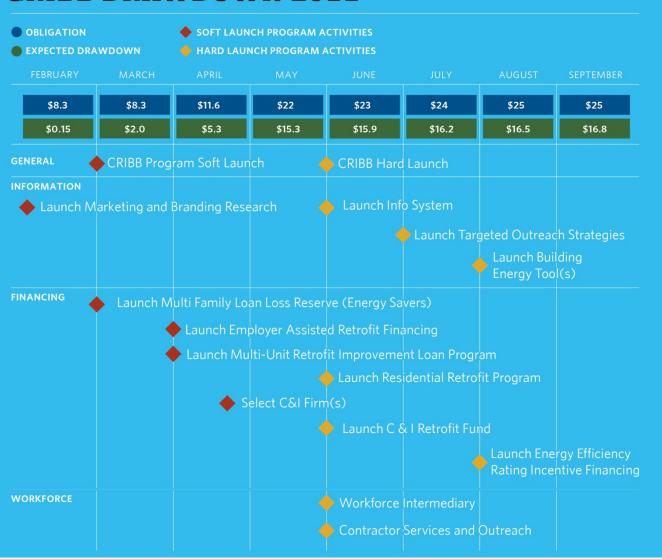


GREAT THINGS JUST AHEAD

- Website and Information System launch two months away
- Program brand name/identity in April
- Signing contracts with municipal multi-family and employer assisted retrofit programs in April
- Signing contracts and expending funds for Residential (\$2MM) and Commercial & Industrial (\$10MM) financing products in May
- Expenditure will be approximately \$15.9 million by end of Q2



CRIBB DRAWDOWN 2011





Increasing Access to Capital

• \$15,750,000 for 6 financial products

- Multifamily Loan Fund for multi-unit all income
- Multifamily Loan Pool for multi-unit low income
- Loan Loss Reserve for commercial and industrial
- Employer Assisted Retrofit Financing for residential all income
- Green Loan Program for single family, mod/high income
- Energy Efficiency Rating Incentive Financing for residential all income

Increasing Access to Information



- \$6,550,000 for 5 activities
 - Develop targeted communication strategies
 - Implement outreach strategies to whole communities, residents, and businesses
 - Implement marketing and branding strategies
 - Develop Regional Information System
 - Develop energy audit tools



My Home Epilmproving the Value, Comfort and Energy Savings of Your Home









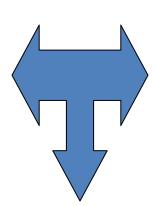


Project Partners





 deep expertise in energy efficiency retrofits and energy research



deep expertise in real estate data and sophisticated statistical modeling



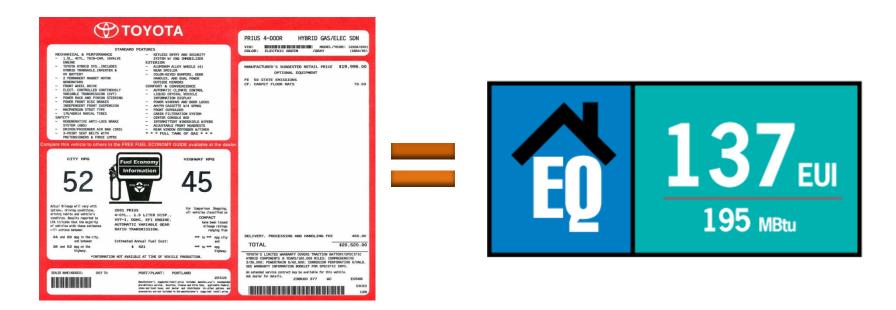


Energy Efficiency in the Market

- Energy costs are not understood by home buyers.
 - Vary by a home's age, type, and condition
 - Utility bills are a growing portion of buyers monthly budgets
- No comparison mechanism for the gas and electricity usage of individual homes (ie – how do I compare to similar homes and how much can I improve)
- No equity gain from energy efficiency improvements
 - Improvements are not currently assessed for value
 - Hard to find data points for comparison
 - As a result, even with attractive ROI's, homeowners are choosing improvements with higher equity gain (countertops, stainless appliances, etc.)



My Home's EQ



- Home EQ increases the transparency of energy costs
- Encourages energy efficiency improvements
- Drives up value of efficient homes in the market
- Creates measures to validate value



What data goes into a Home EQ?

- Data on actual usage and home characteristics
 - Gas and Electricity
 Utilities
 - Tax Assessor
 - Weather
- Complete dataset for entire region allows for multiple comparisons
 - 1.1 million homes in Cook County













How does MyHomeEQ Work?

- Easy to Use Web Platform, Opt-in, Free for Homeowners
- Provides Reliable, Actionable Information to Drive Demand
 - Provides functionality that enables comparisons across similar homes, tracking over time, etc.
 - Prioritizes custom retrofit strategies and savings estimates
 - Score will, over time, be reflected in a home's market value
- Connects to Resources to Get the Retrofit Done
 - Connects homeowners to recommended contractors
 - Connects homeowners to grant, rebate and financial service providers
 - Integrates with field practitioners, stakeholders, and off-line organizational retrofit expertise



What is an EQ?



- EQ = Energy Quotient, a customized energy efficiency rating.
- Like an MPG rating, EQ tells you how much energy your home uses per square foot.
- A lower score means a more efficient home.



EUI = 137 KBTU per SF per Year And 195 MMBTU Gas + Elec







- Log in with your address and Nicor account number.
- Get your home's EQ based on Nicor and ComEd usage data and publicly available Assessor data.
- Review upgrade recommendations and energy efficiency contractor links.
- Information about financial incentives.





Pilot Launched!

- Riverside, suburban community of 3,000 single family home owners
- Target community of sponsoring local utilities
- Goal is to drive demand for retrofits
- Achieving good initial results
- Will expand and still plan to work with Historic Chicago Bungalow Association

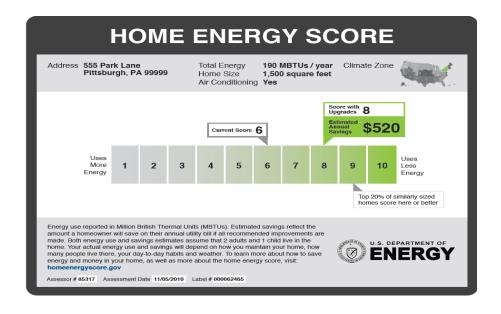


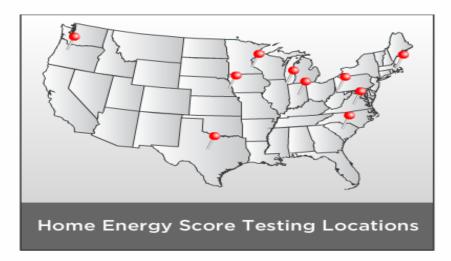




Working with USDOE

- Chicago testing site
- Regional calibration
- Generating scores automatically
- Increasing market penetration

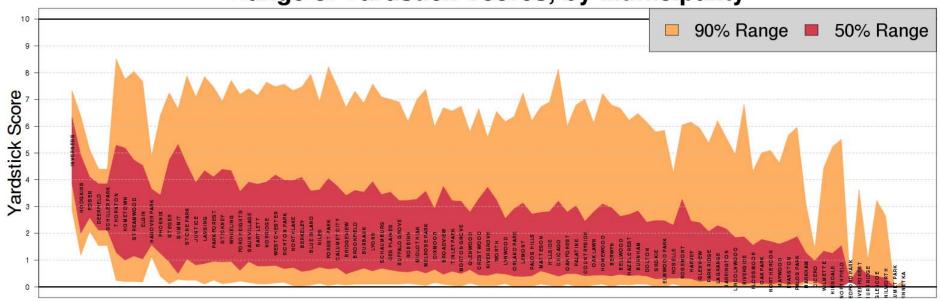




Working with USEPA







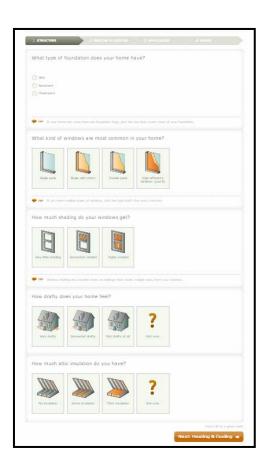
We queried the Yardstick tool using actual data for 127,359 single family homes in 95 municipalities across Cook County (roughly 10% of total housing stock).





How is MyHomeEQ different?

- MyHomeEQ does not require homeowner input
- Other sites use models that require homeowner to enter extensive data
- Or the other sites guess at recommendations that are not tailored to the home
- Other sites lack data about surrounding homes
- Some sites screen scrape utility data
- Can only scrape with permission of homeowner
- No data about surrounding homes
- No assessor data for comparisons





Working with Real Estate Partners





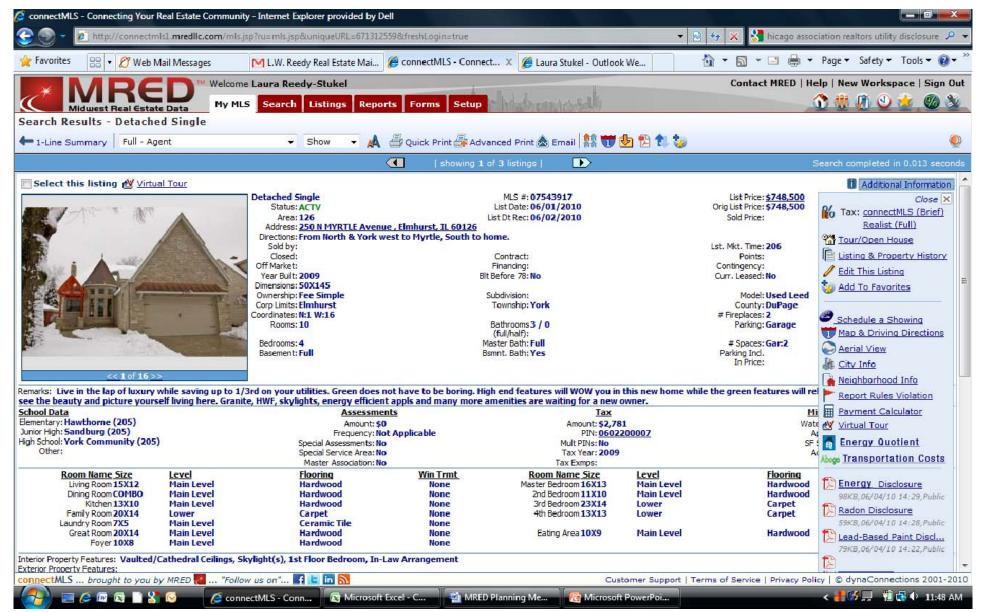
- Midwest Real Estate Data, LLC
 - Reach:
 - Data aggregator and distributor for northern Illinois, southern Wisconsin and northwest Indiana
 - Largest multiple listing service (MLS) by number of listing
 - 90% of listings in Illinois
 - 39,000 users; 8,000 offices

Data

- Information on home characteristics and sales data
- Full listing data back to November, 2005; Partial listings (excluding Chicago) back to 1998

MyHomeEQ can easily fit into existing MLS/MRED toolbox





MyHomeEQ fits in to MLS toolbox



- > Links
- Share My Listing
- Energy Disclosure for Chicago
- Total Cost of Ownership Calculator with APIs



Home

Find a Contractor Financing Options

Local Information

Success Stories

Dashboard

Home > Parent Page > Current Page



14324140140000 04/21/2008



1843 N Dayton St Chicago, IL 60614

Size (Sq Ft): 3500 Year Built: 1988 Occupants: 2

Basement: Unconditioned Basement Conditioned (finished) Heating: Central Gas Furnace

EDIT HOME DETAILS



Energy Usage Compared to Surrounding Area *

143 Chicago 126 Cook County 71 1843 N Dayton St Chicago, IL 60614

Review Improvements

* A lower score indicates better energy efficiency. A higher score indicates it's time for improvements.

Review Improvements



Rebates and Tax Credits



It's simple. A more energy efficient home means a lower MyHomeEQ and bill. That also means a cozier home with better.

LEARN MORE

Choose Improvements that are right for You.

There are many home improvements that can help you reduce the energy usage of your home. The recommendations below were chosen because they are both effective at lowering your usage and have quick payback. You can select improvements based upon our order, or choose ones that that work better for you. It's up to you.



Find a Contractor

Improvement 🕶	Payback	Savings 🗸	Cost 🕶	
☑ Install Energy Efficient Light Bulbs Rebate Info	1 - 2 years	\$36	\$30 - \$60	More info 🔨

Compact Fluorescent Lamps (CFLs) use about one-fifth as much energy as incandescent bulbs, and last up to 10 times longer when used correctly. The best places to use CFLs are where they won't be turned "off" and "on" many times per day.

✓ Use and Turn Off Power Strips Rebate Info
1 - 1 years
\$72 \$75 - \$75 More info

This is one of the easiest ways to save energy in your home. Plug appliances into a power strip that's easy to reach. Turn the entire power strip off when appliances are not in use.

✓ Test & Repair Leaky Ducts Rehate Info
5 - 13 years
\$58
\$300 - \$750
More info △

Leaky ducts can account for a surprising amount of heat loss, but only when ducts run through unconditioned spaces like attics, garages or exterior walls. It can be hard to figure out where there is a duct leak. Start with rooms where you consistently notice poor air flow from the vents.

✓ Air-Seal the Building Envelope Rebate Info 9 - 12 years \$147 \$1,300 - \$1,700 More info △

Air sealing can include everything from installing weather stripping and door sweeps to plugging gaps around your window frames, door frames, behind baseboards and moldings, and around the rim & band joists where floors meet walls.

Potential Annual Savings/Year

\$313

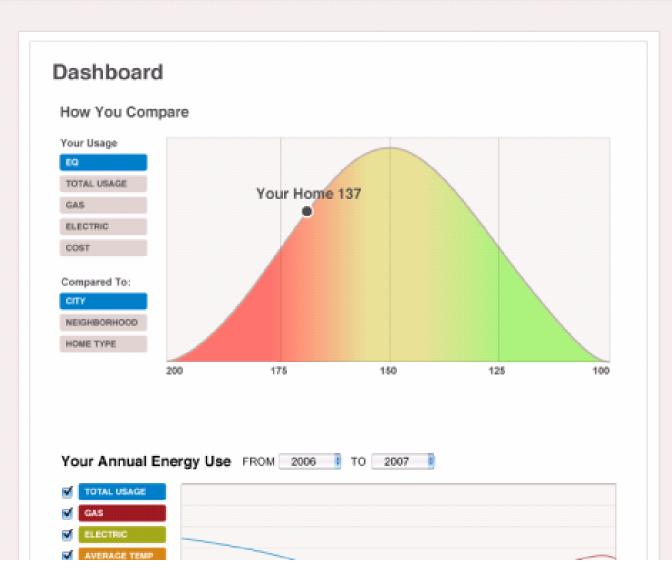
Find a Contractor

How much energy does my home use?



Home Find a Contractor | Financing Options | Local Information | Success Stories | Dashboard

Home > My Account > Breadcrumb



Recommendations

SEE ALL COMPLETION CHART

Recommendation 1 In Progress

Recommendation 2

Completed

Recommendation 3 Email Sent

Recommendation 4

Recommendation 5

Recommendation 6

Related Topics

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QuickLinks

Update My Account Info Edit Home Details View Recommendations



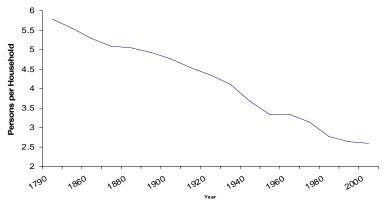
Economic Risk— Sprawl is Slowing in Chicago MSA—But Still Happening

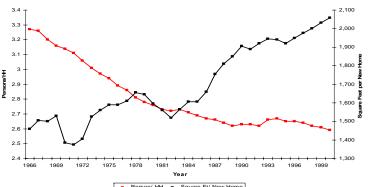
- 1970-1990, land consumption up 55% vs population increase 4%; 14 to 1
- 1982-1997, land consumption up 25.5% vs population increase 9.6%; 2.7 to 1
- 1990-2001, land consumption up 11% vs population increase of 33 %; 0.33 to 1

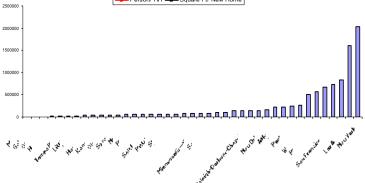
Demographic & Price Trends Promote Urbanism and Demand Reduction –At Least 25% of New HHs by 2030 will Demand Housing Near Transit

- Continuous drop in household size since 1790
- Aging in place
- "Married w/kids" only 23% of total, HHs w/kids 30%



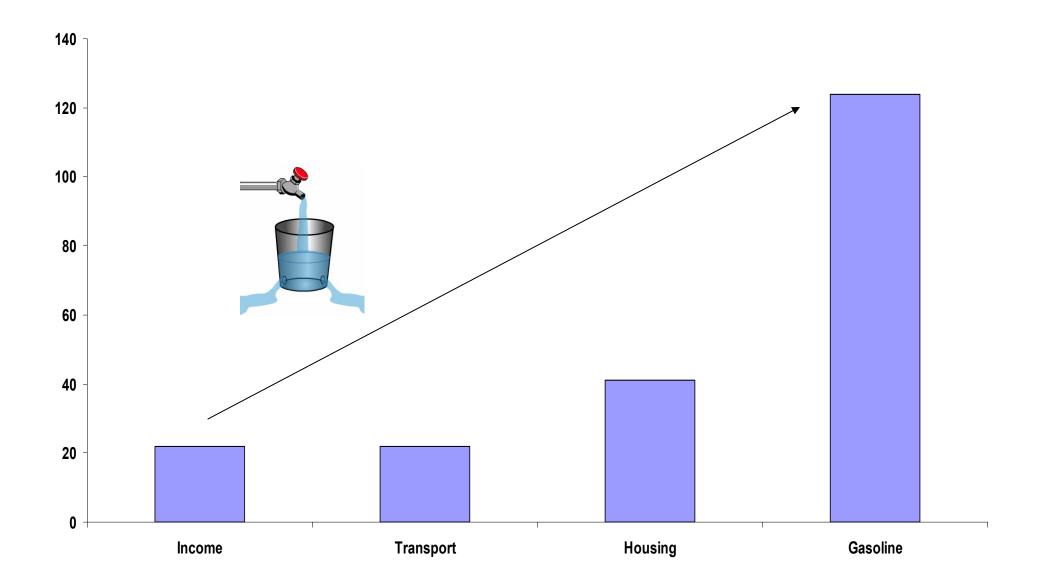






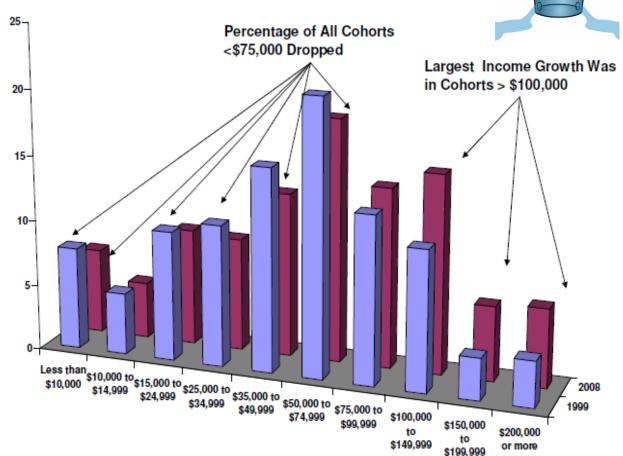
From April 2000 to 2008 Gas Prices Grew 3 Times Faster Than Housing and 6 Times Faster Than Income



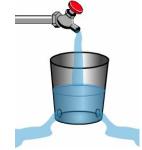


Chicago MSA 1999-2008 Median Grew from \$51046 to \$61295 Mean Grew from \$67768 to \$82623

- Growth in median income was \$854/month
- Growth in H+T costs was \$803
- Left just \$51/month for all other expense increases, e.g., food, medical, mortgage resets
- Better in places with more transport choice, worse in the exurbs

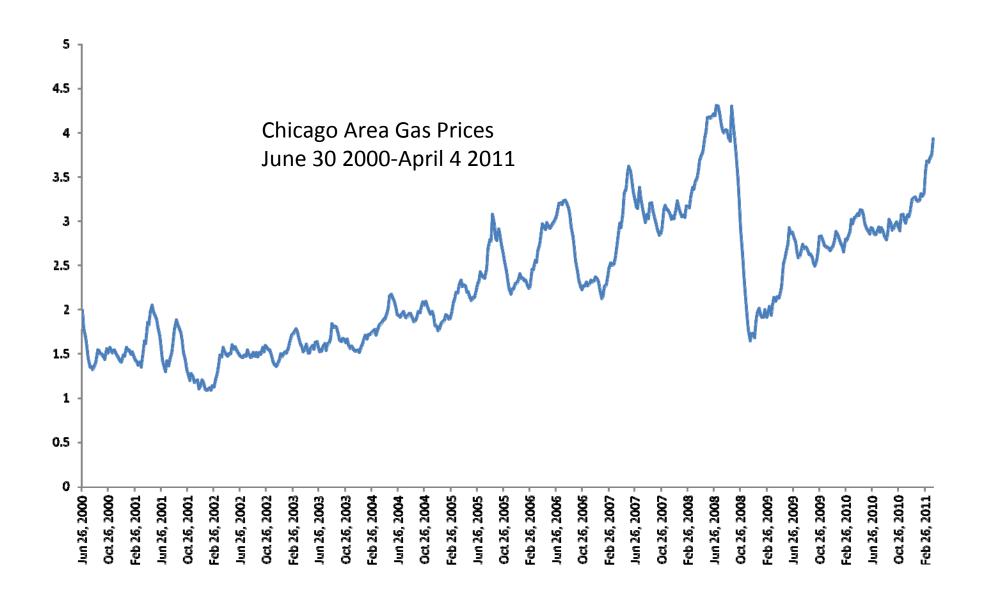






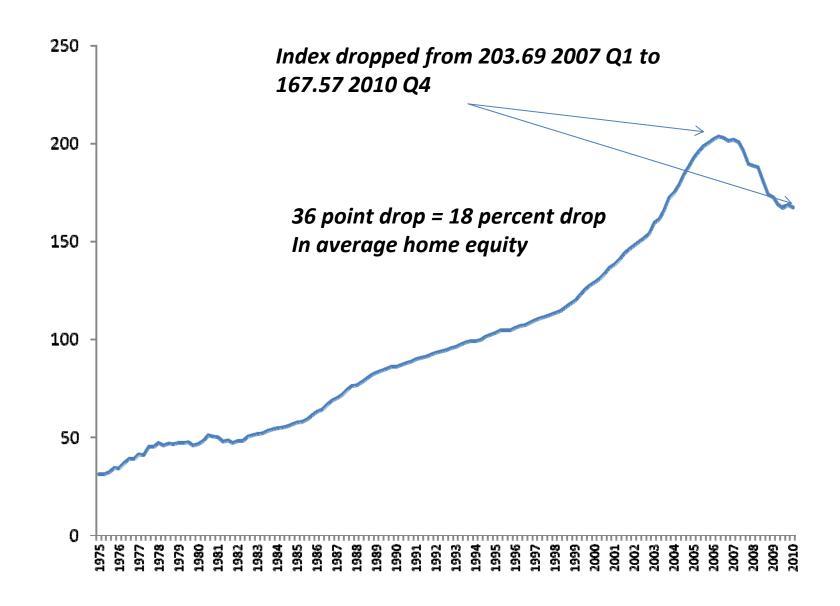
Repeat of 2008 Run-up, But Reaching Prices Six Weeks Earlier





Chicago MSA Showing Average Drop in Home Value Using Repeat Sales Index





Thinking About Both Ownership and Rental Housing



- From 2005-2009
- Owner households increased vehicle ownership from 1.89 to 2.02
- Renter households stayed almost even, increasing from 1.20 to 1.22
- Homeownership rate actually dropped

Another Approach— Indexing Truer Affordability and



Relating it to Climate Change

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
- Problem—Doesn't include cost of transportation

https://htaindex.org



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 Urhan Merkets Initiative to questify for the first time, the impact of transportation costs on the affordability of bouncing choices. This brief explains the background, creation, and purpose of this new tool. The first nection provides a project overview and a short numerary of the method wast to create the Affordability Index. The next section highlights the results from testing the index in a serve-county area in and around Minneapolis-St. Plant, MN. To demonstrate the unifoliness of this tool at a neighborhood level, the third section projects the effect of the suglatiness of this tool at a maghinomood level, the third section projects the effect of transportation and housing obscience on threat hypothetical loss- and moderate-income families in each of four different neighborhoods in the Turin Cities. The brief concludes with a greated policy recommendations and applications of the new tool for various actors in the housing market, and for regulators, planners, and funders in the transports tion and lead 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 bousing and transportation costs and the swings that derive from living in communities that are near shopping. schools, and work, and that boast a transit-rich environment. Built using data sate that are available for every transit-served community in the nation, the tool can be applied in neighborhoods in more than 42 cities in the United States. It provides communes, policymakers, londers, and investors with the information needed to make better deci-sions about which neighborhoods are truly effordable, and illuminate the implication of their volicy and investment choices.

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

he cost of living for an American family consists of many components. The two largest are because 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, while not currently factored in to the affordabil-

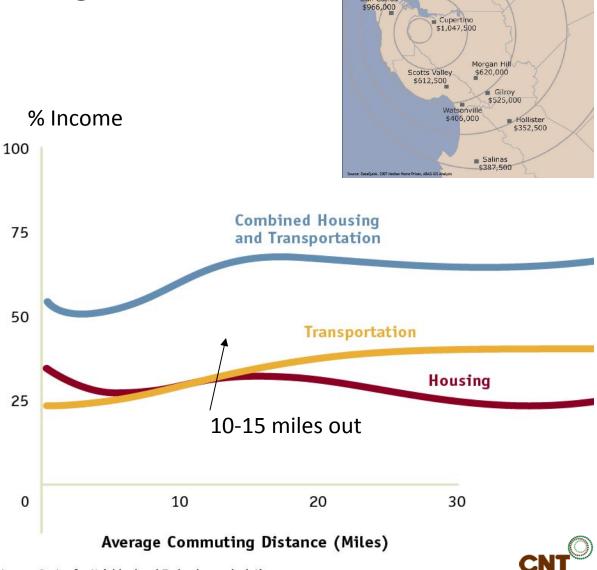


Jrban Markets Initiative

ity equation, has become increasingly central to family budgets, given their choices to live

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

- Transportation
 emissions can also
 equal or exceed
 emissions from
 residential energy
- Creates "driving to green buildings" challenge



Drive 'til You Qualify!

\$314,500 Pleasant Hill \$470,000

\$545,000

\$750,000

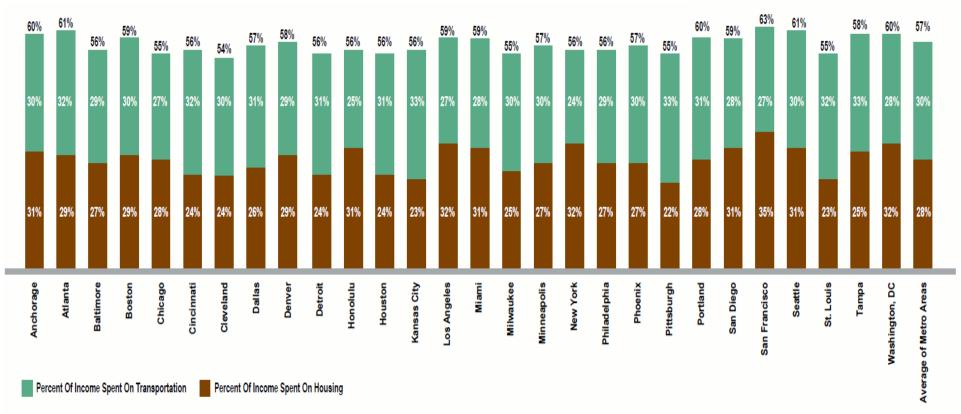
\$288,000

Source: Center for Neighborhood Technology calculations.

Housing + Transportation Costs Vary by Place Across the US







Percentages for working families with incomes between \$20k - \$50k



Typical US Household Energy Use



- 100 Million BTUs per Year for Lighting, Heating, A/C, Equipment
- 22,000 Vehicle Miles per Household Per Year
- At 25 MPG, 17,600 VMT = 100 Million BTUs
- At 20 MPG, 15,000 VMT = 100 Million BTUs
- Household Transportation Energy as least as important as Home Energy purposes
- Without counting transportation energy, creates a "driving to green buildings" challenge

http://htaindex.org



True Affordability and Location Efficiency

H+T[™]Affordability Index

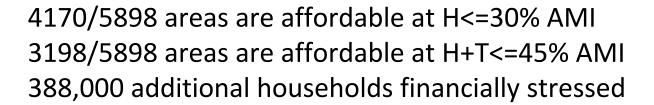
Maps About Press Method Mailing List



The Housing + Transportation Affordability Index is an innovative tool that measures the true affordability of housing based on its location.

Americans traditionally consider housing affordable if it costs 30 percent or less of their income. The Housing + Transportation Affordability Index, in contrast, offers the true cost of housing based on its location by measuring the transportation costs associated with place.

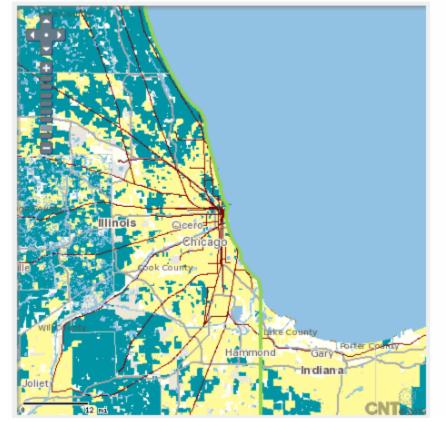


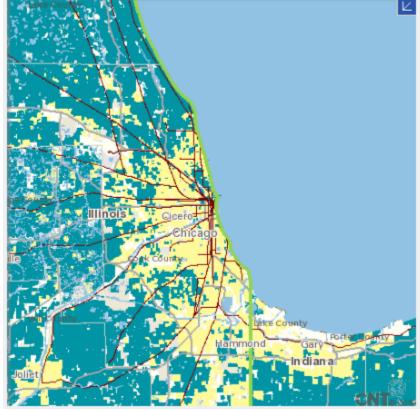




Housing Costs	- % Income Change	
Total Housing Cos	sts - % Income	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,906 with data)	5,463 (5,399 with data)
Minimum	3 %	2 %
Average	28 %	28 %
Maximum	104 %	104 %
Households	2,971,638	2,645,872

Total Housing and	Transportation Costs - % Income	2
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,895 with data)	5,463 (5,388 with data)
Minimum	14 %	14 %
Average	48 %	46 %
Maximum	129 %	129 %
Households	2,971,500	2,645,734







In most efficient areas, cost of living increase from spike kept to 2%, in least efficient areas increased 9%

2,645,762

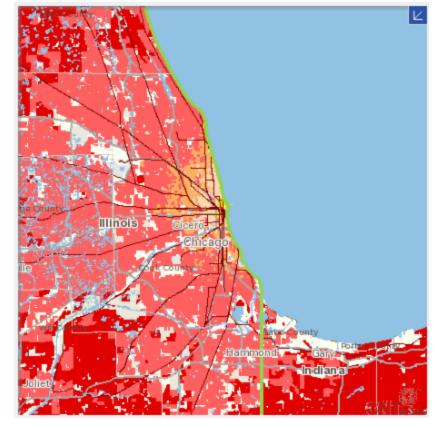
Monthly Transportation Expenses % Income - 2000 gas **▼** Change Monthly Transportation Expenses % Income - 2000 gas Fuel Efficiency of 20.3 mpg Statistics Viewable Area on Map Below Region Block Groups 5,970 (5,898 with data) 5,463 (5,391 with data) Minimum 9.7 % 9.7 % 18.7 % Average 19.1 % 27.9 % 28.0 % Maximum.

2,971,528

Households

Illinois Cicero	
Chicago Illo Willia tunty Lette County	
Jollet 12 rd	03010

Monthly Transportation Expenses % Income - 2008 gas **▼** Change Monthly Transportation Expenses % Income - 2008 gas Fuel Efficiency of 20.3 mpg Statistics Viewable Area on Map Below Region Block Groups 5,970 (5,898 with data) 5,463 (5,391 with data) Minimum 12.6 % 12.6 % 23.4 % 22.8 % Awerage 35.8 % 35.6 % Maximum Households 2,971,528 2,645,762



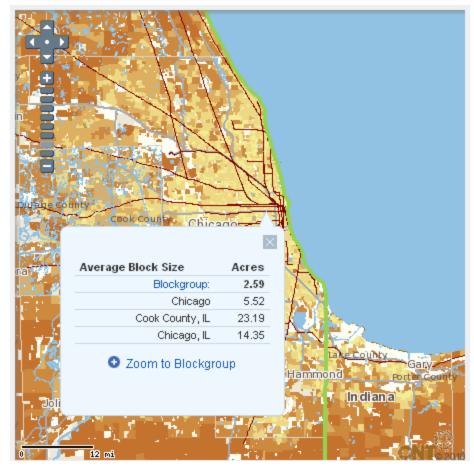
Website Feature—

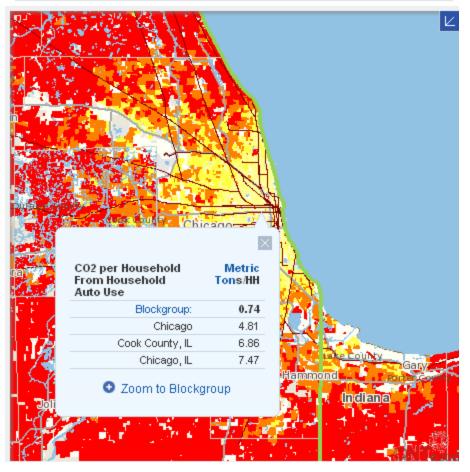


Comparing Urban Form Variable Such as Block Size with CO2 per HH from Driving

Average Block Size		
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,970 with data)	5,584 (5,584 with data)
Minimum	0 Acres	0 Acres
Average	14 Acres	11 Acres
Maximum	630 Acres	387 Acres
Households	2,971,690	2,739,575

CO2 per Household From Household Auto Use			
Statistics	Region	Viewable Area on Map Below	
Block Groups	5,970 (5,898 with data)	5,584 (5,512 with data)	
Minimum	0.7 Metric Tons/HH	0.7 Metric Tons/HH	
Average	7.5 Metric Tons/HH	7.1 Metric Tons/HH	
Maximum	15.9 Metric Tons/HH	15.9 Metric Tons/HH	
Households	2,971,528	2,739,413	





Http://abogo.cnt.org or abogo.cnt.org yields Neighborhood average cost and GHG/hh



transportation costs made transparent



What is Abogo?

Abogo is a tool that lets you discover how transportation impacts the affordability and sustainability of where you live.

Sign up for Updates

Blog

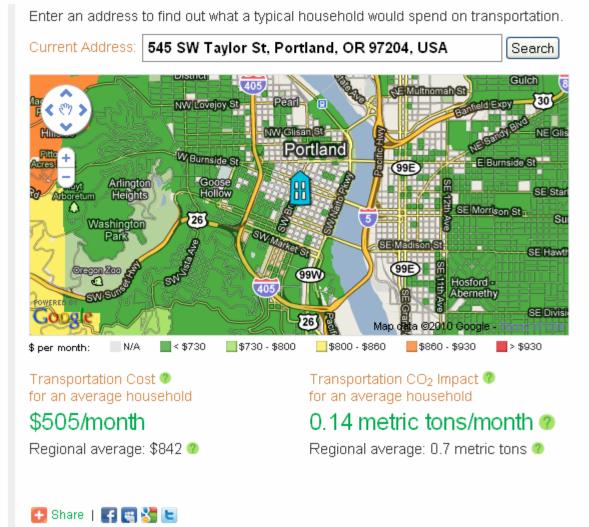
Sprawl in the red

Over on Huffington Post, Jeff Speck uses CNT's H+T® Affordablity Index, which powers Abogo, to illustrate the #10 thing he hates about sprawl: the carbon footprint that comes from living a car-dependent life:

Use Abogo to see how greenhouse gas emissions from driving vary in your region.

If you think Abogo is innovative, vote here!

CNT's H+T Index ®, which powers Abogo, is up for a Chicago Innovation Award, which celebrates the creative spirit of the Chicago region by recognizing and honoring the city's most innovative new products and services. The Index is revolutionizing how planners, advocates, policy makers and consumers think





What is Abogo?

How it Works

Lower Your Costs

FAQ

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Blog

How to spend less:

Carpool: If you share the driving with just one other person, you'll reduce your fuel costs by half. And you can use the carpool lane!

Click for more tips »



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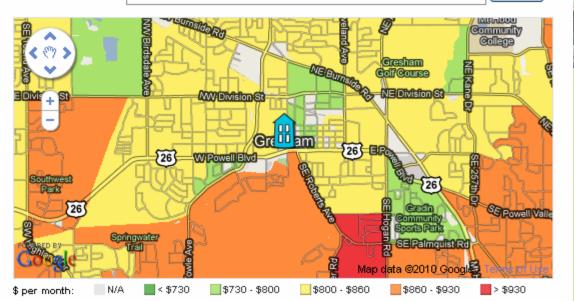
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Enter an address to find out what a typical household would spend on transportation.

Current Address:

Gresham, OR, USA





Transportation Cost 9 for an average household

\$849/month

Regional average: \$842 🎱

🚹 Share | 🗗 🚾 💥 📘

Transportation CO₂ Impact **?** for an average household

0.71 metric tons/month @

Regional average: 0.7 metric tons @



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Enter an address to find out what a typical household would spend on transportation.

Current Address:

Washington, Oregon, USA

Search



Transportation Cost @ for an average household

\$1101/month

Regional average: \$842 @

for an average household

1.18 metric tons/month @

Regional average: 0.7 metric tons @



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How to spend less:

Click for more tips »











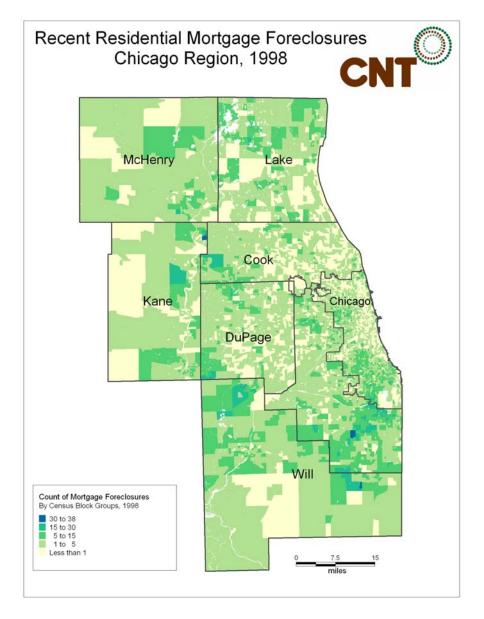
We Can Use This Knowledge To—

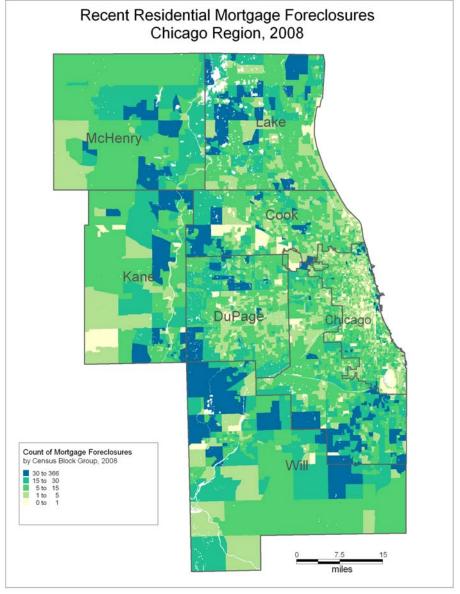


- Protect consumers against "hidden" costs by providing better information
- Analyze trends & compare across HH types
- Define housing needs for public policy purposes
- Encourage coordination of housing and transportation policies
- Inform sub-Federal planning efforts
- Predict the ability of a household to pay rent or mortgage
- Improve financial / housing counseling

Ten Years of Foreclosures in Metro Chicago

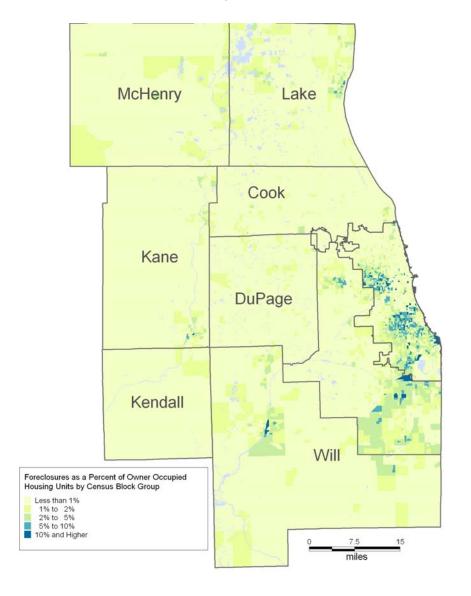


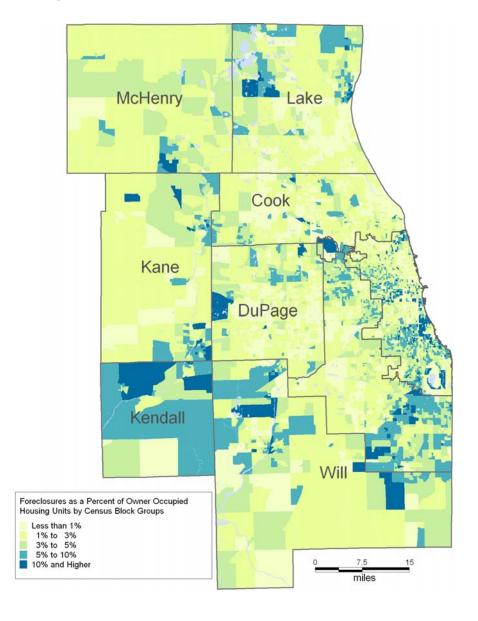






Foreclosure Rates in Chicago 2000 and 2008 Highest in Areas of High T-Cost and Extensive Use of Variable Rate Financing

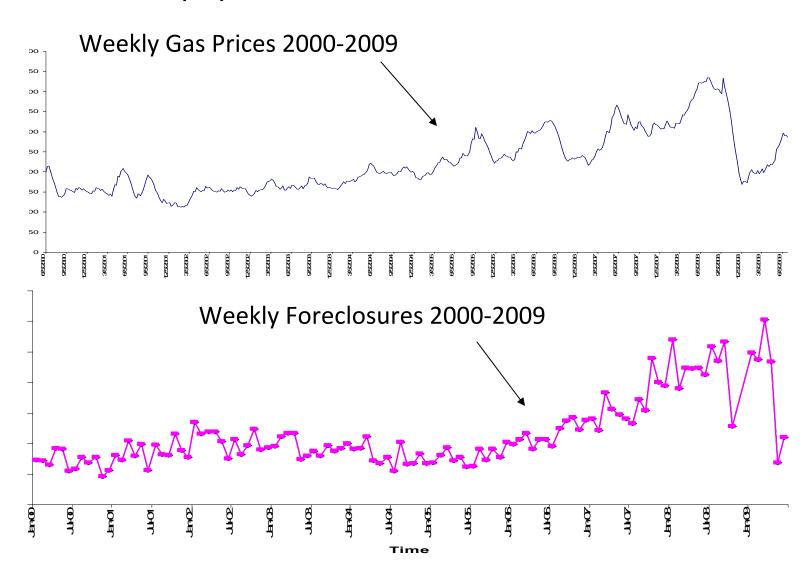




CNT Sustainable Communities Attoinable Results

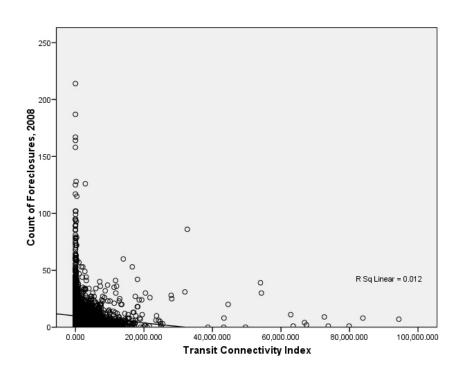
Can Gas Price Spikes Help Provide Early Warning of Defaults and Foreclosures?

-Foreclosures followed price spikes with 6-9 month lag...& grew 4.2 times faster in suburbs than in city by 2009

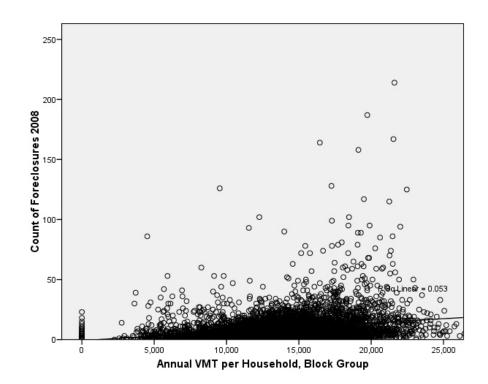


The lower the TCI, the greater the number of foreclosed properties by Census Block Group



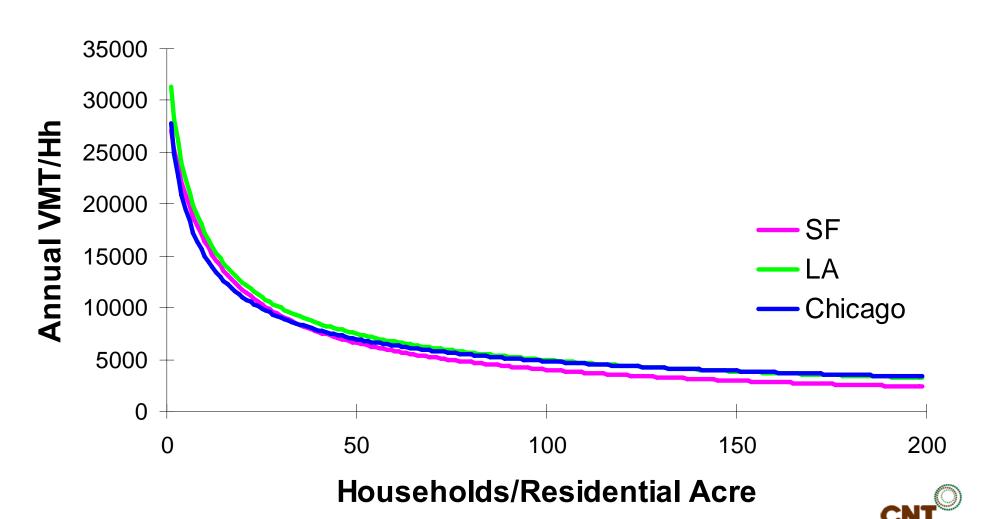


Foreclosures increase once the average annual VMT per Block Group exceeds 15,000



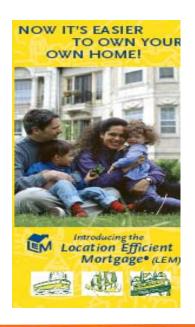
Easily Visualized Graphically— Location Efficiency:

As Density + Transit Choice Increase, VMT Goes Down. Curve Works for 337 US Regions, London, Paris, & and 37 Japanese Cities





Location Efficient Mortgages: Idea Was Well Received, Outperformed Market— No Foreclosures



Improve your commute — buy a house. Your dream of home ownership can become reality. Announcing the reliation the Lexico Efficient Merigage in your neighbortoot. I you be not work in Sette, you may be not all the minimality in the Placer program. You'll book at consuming in a whole new light. Make a move into your future. Call (800) 719-8080 today. www.homestreethank.com

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 disposable 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.



Similar Choices Comprise a Vision:

 Bottling Rainstorms and "Treating" Them

Catching Raindrops Where They Fall

 Streets to Maximize Traffic & Speed Streets to Connect People and What They Do Routinely

 Bypass Communities with Long-Distance Highways & Aviation Reconnect Communities with Inter-City Rail

Expand Electric Utility Capacity

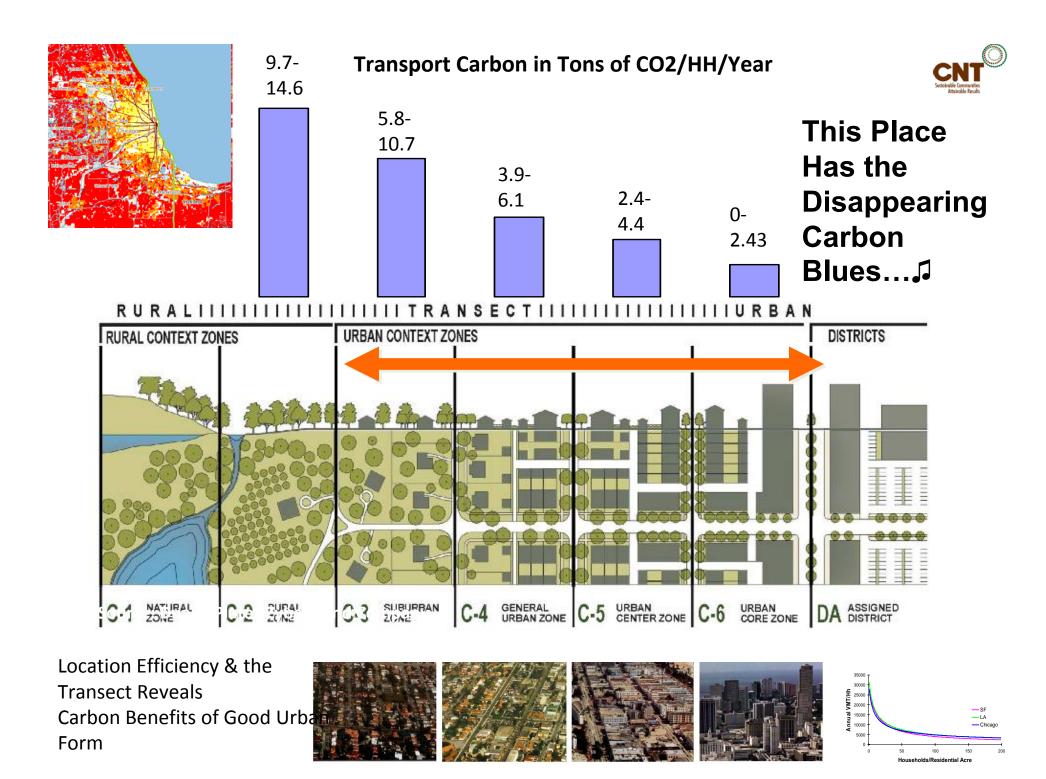
Increase Buildings & Community Efficiency

Expand Car Ownership

Communities that Come with Local Amenities and Shared Vehicles

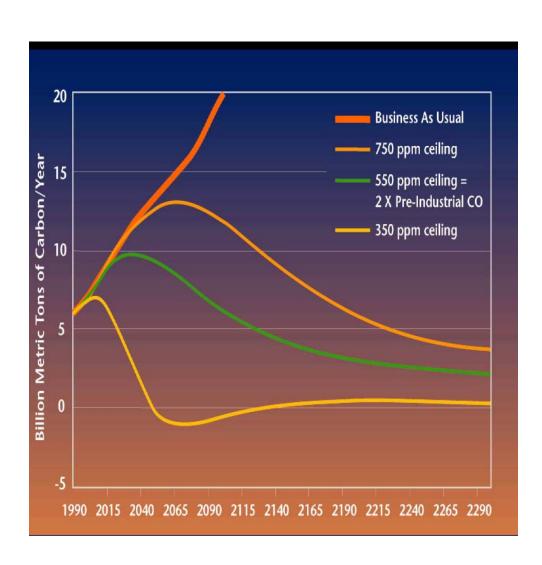
Invest to Promote Consumption

Invest to Increase Productivity and Reduce Cost of Living



Time is Running Out





- Every ton counts
- Learning rates and deployment at least as important as invention
- A leaner world where "nothing and no one is wasted"
- Where we build and live is as important as what we build
- "No ton left behind"

It is Possible to Ramp-up Quickly

Historical Examples

- Street railway history: 1 in 1885 to all cities over 10,000 in 1902
- Home economics classes: onethird of adult Americans trained in budgeting and setting savings targets in 12 years
- Community development corporations-grew from 90 in 1982 to 2,000 in 1992 and 4,000 by 2002

What We Can Learn + Apply

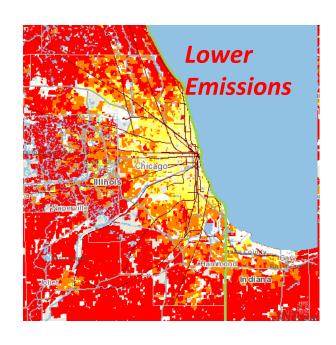
- Keys to these and others are informational
- Sense of relative deprivation + rising expectations can trigger collective demand for change
- Examples range from community reinvestment to recent Middle East
- Market transformation in EE is similar

Recommendation— Translate and Align to Get to Scale

- Country needs to perform better economically
- Economic performance includes cost of living reduction, job support & creation, property value enhancement, increased household wealth, and network/agglomeration effects
- Lenders need a more secure market
- Communities and households need a way to grow their wealth securely
- Utilities need to grow their business reliably
- Government's role is to bridge the information gap and invest to help reveal the opportunity at hand
- Larger opportunities at hand from program integration



What if the City is the Answer? Meeting the Challenge of a Resource-Constrained World by Counting the Benefits of Urbanism







Thank you!

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- www.cntenergy.org