How Do We Know it's
Affordable & Healthy?
Helping Households Succeed
by Counting Location Efficiency
and H+ T Costs

Vancouver B.C, UBC/Surrey Scott Bernstein, CNT March 31, 2011

http:/htaindex.org scott@cnt.org



Chicago Tribune

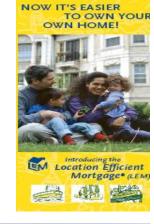
Skip the car, buy a house

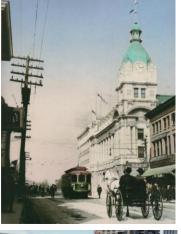
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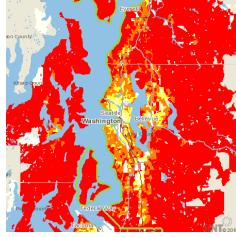




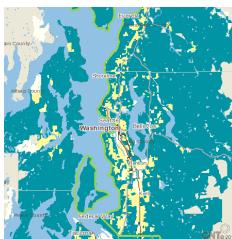












Purpose













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

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Housing and Transportation: Key Elements of the Cast of Living

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WINDFALL FOR ALL

How Connected, Convenient Neighborhoods Can Protect Our Climate and Safeguard California's Economy

Report Highlights





Driving: A Hard Bargain

TRANSPORTATION

ESEARCH RECORD

The Combined Cost of Housing & Transportation in the Chicago Metropolitan Region

NewTransit

- Help think about the city of the future by understanding how we got where we are today
- Review recent research on the combined cost of Housing + Transportation Recommend some priority areas for innovation and deployment
- Introduce the H+T Index, Abogo and TOD Data sites
 - Key themes of reconnection, inclusion and acceleration
- Recommend some next steps for Vancouver



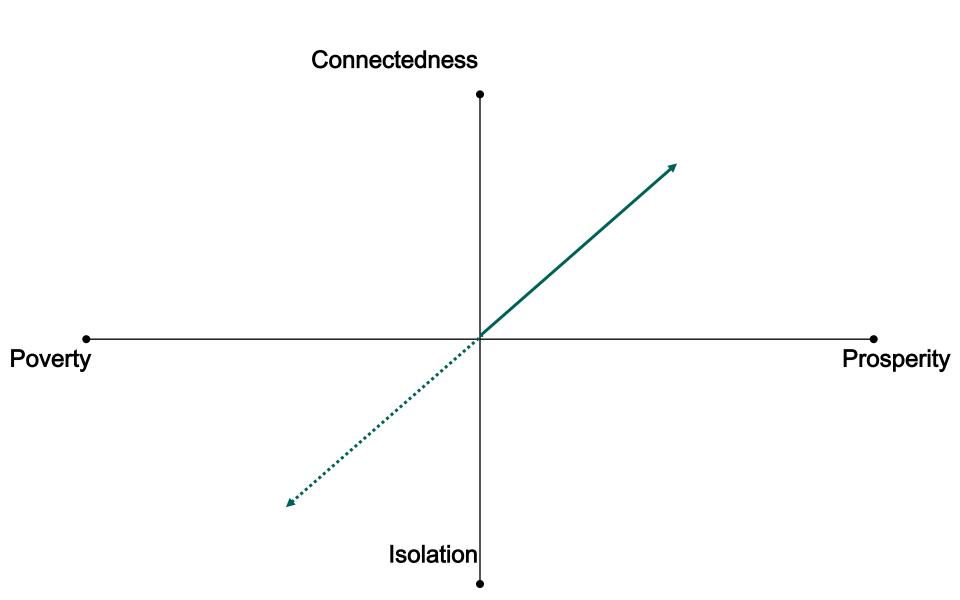
When Coffee Came to London...





What a Nourishing Economy Does—Reduces Risk, Increases Gain



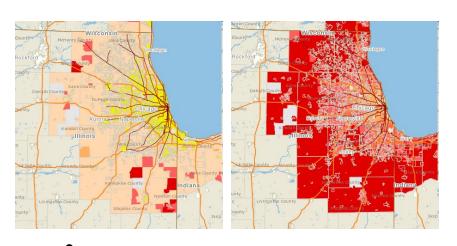


What a Nourishing Economy Does, Reduces Risk, Increases Gain, Offers Both Higher Wage Opportunities



AND Lowers Waste, Inclusively

Connectedness



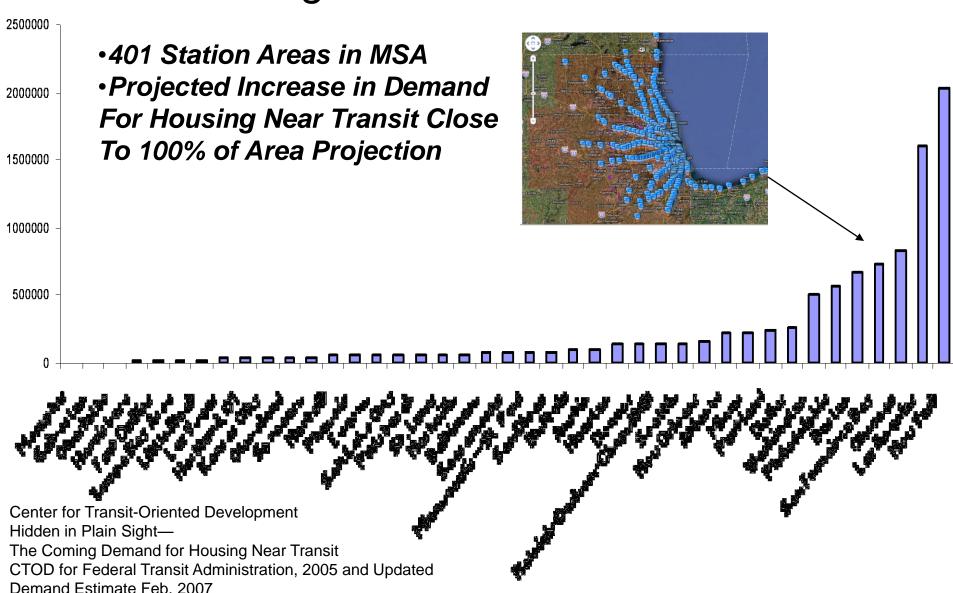






25% of net new American HHs will demand housing near transit in 2030—

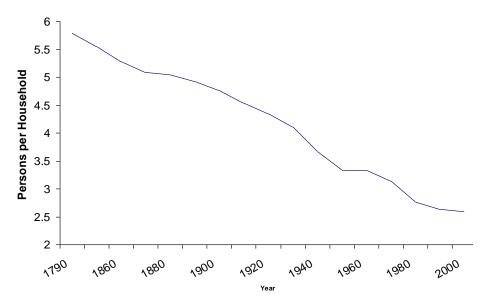


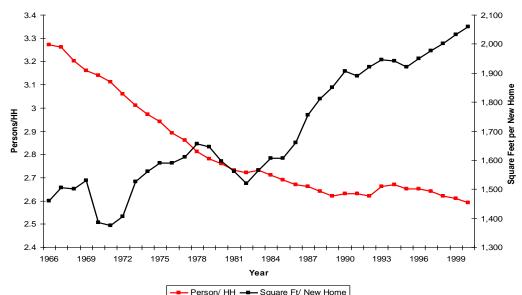


Demographic & Price Trends Promote Urbanism and Demand Reduction



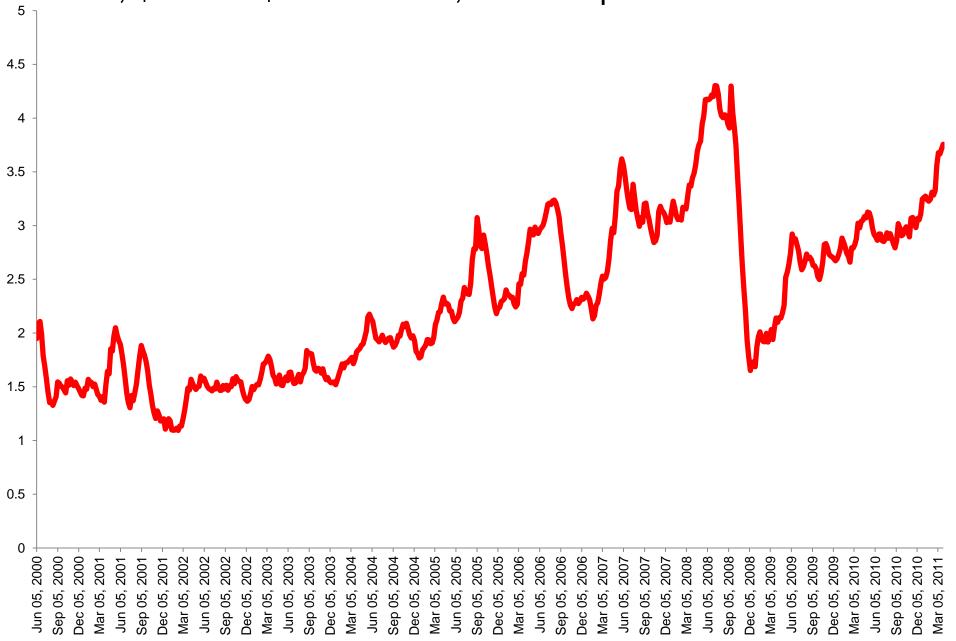
- Continuous drop in household size since 1790
- HH Size dropped from 3.3 to 2.6 1960-2000 while home size built increased 1400-2100 square feet
- Aging in place
- "Married w/kids" only 23% of total, HHs w/Kids 30%
- Rising energy and gas prices
- Limited public funds to keep sprawling



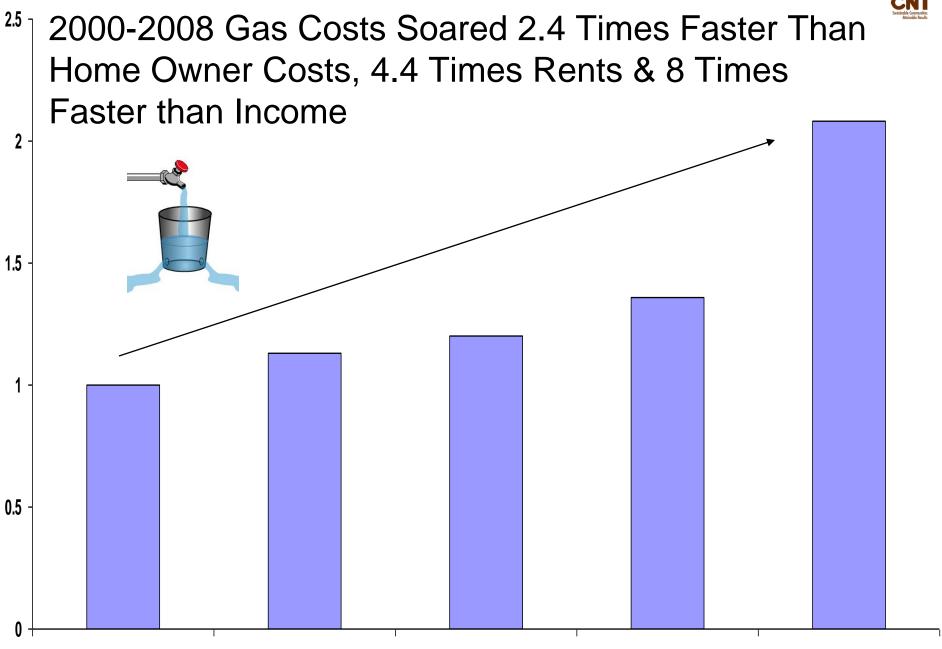


Change in Chicago Area Gas Prices from June 2000 to Present, \$1.50 to \$4.30 in 2008, Note Drop and Rebound









Driving

Owner Hsg

Gasoline

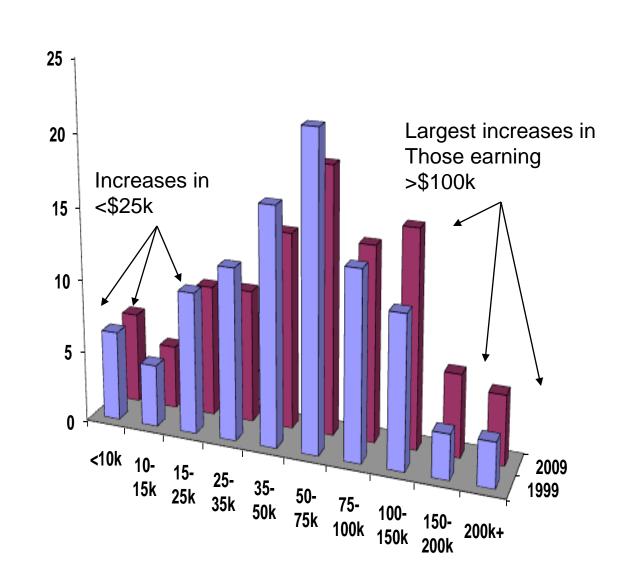
Rental Hsg

Income

Distribution and Uses of Household Income in Metro Denver 1999-2009

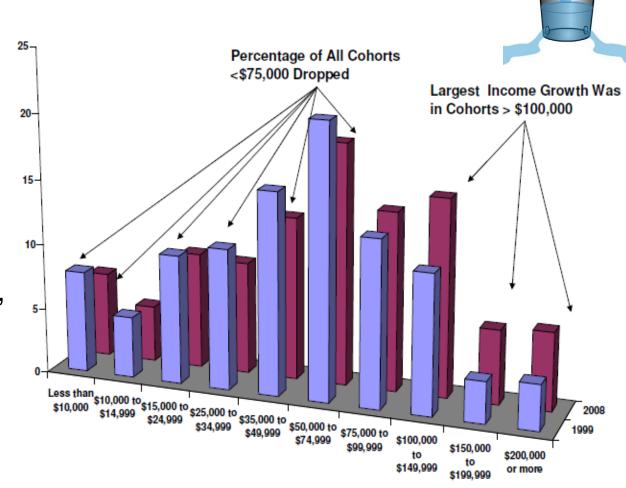


- Median HH Income grew by \$660 per month
- Housing costs grew by \$429 and transportation by \$299, wiping out income gains
- Had no money available to pay for other cost of living increases including food, medical and mortgage reset expenses



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



How the Market Views Your Region: Moody's Economy.com Jan. 2011



Strengths

- Market access-Asia & Americas
- Diversified industry
- Population growth
- Educated workforce
- Strong recovery, 2.1%/yr 2009-2011, rank 12/40 GC

Weaknesses

- High poverty rate
- Low affordability
- Limited space for critical infrastructure

Upside Potential

- Competitive Canadian dollar boosts exports & tourism
- House price gains fuel consumer spending

Downside Risk

- Port develops shipping bottlenecks
- Low affordability slows inmigration & investment
- Growth slows to avg. 1.2% 2009-2014, rank 26/40 GC

Emerging Trends in Real Estate 2011— PWC & ULI Rate Vancouver & Toronto with Top 10 US—Note Recovery to "Fair"

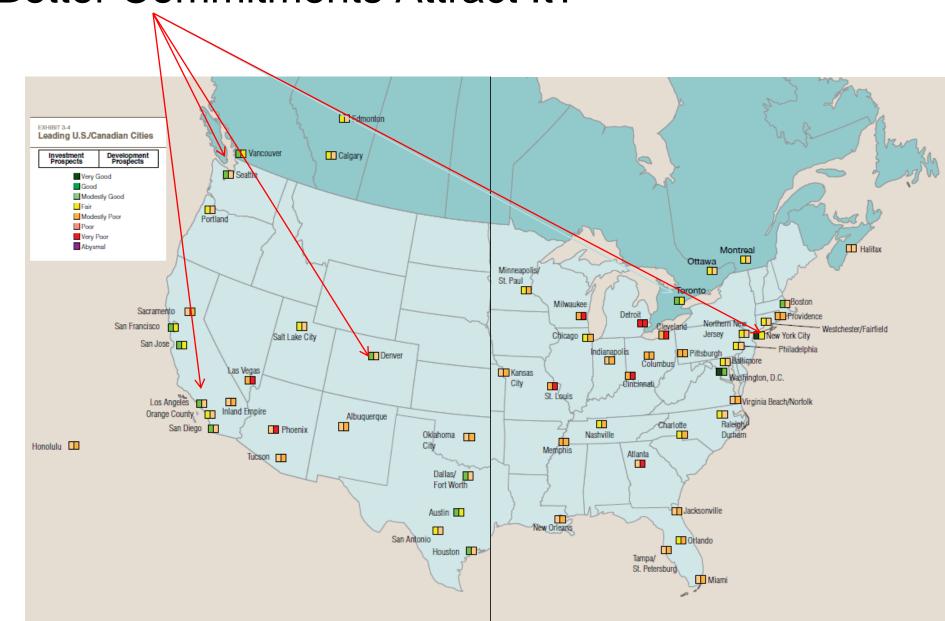


U.S. Markets to Watch: Commercial/Multifamily Development



Your Region Needs Investment—How Can Better Commitments Attract It?

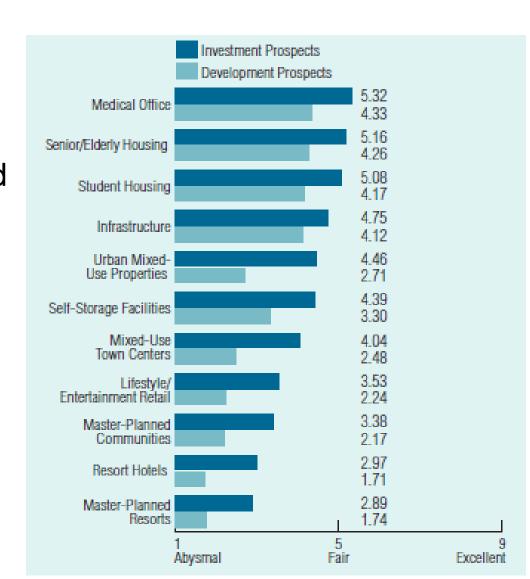




Investor/Developer Recommendations for Improving Regional Outlook & Profile



- Promote higher density infill markets near mass transit
- Underserved markets could pick up by 2011-2012
- Multi-family still best residential bet
- Focus on 24-hour markets
- Strong niches in medical office, elderly housing, student housing, infrastructure, urban mixed use



Birds-Eye View of Vancouver 1890—Note shipping, boulevards, grid, small blocks

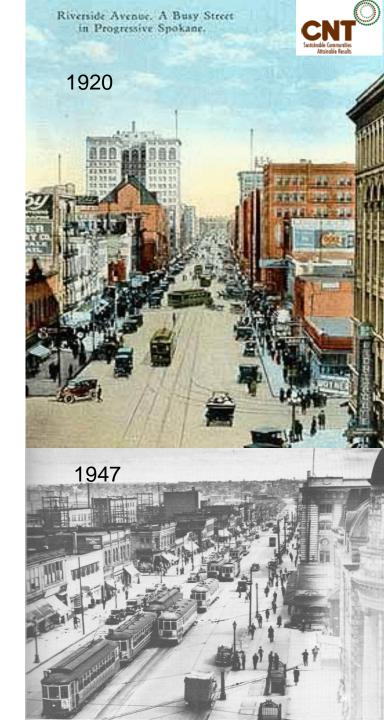




Historical Precedent for Rapid Change— From 1885 to 1902

- America went from 1 electric street railway to 1 in every city of 10,000
- Rate of growth =to the Internet
- Demand boosted by important social movements—e.g. home economics
- Thousands of miles of streets + local and inter-urban statewide connecting in turn to the national inter-city rail networks
- BC Electric Railway 311 miles connecting Vancouver/suburbs to Fraser Valley & New Westminster; connections south to Everett/Seattle
- Approx. 300 cars in service

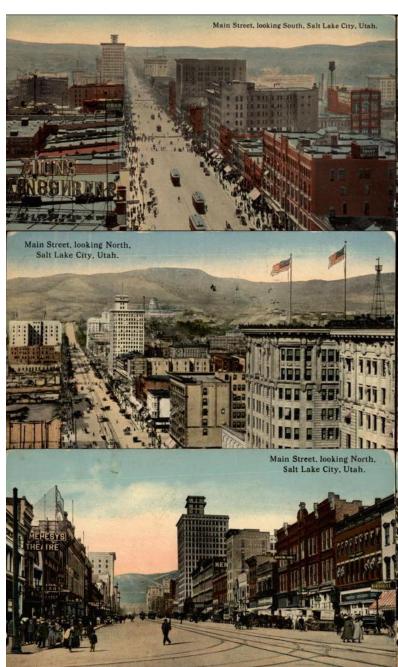
Getting to scale through network economies—when a large Number of connected small Investments are worth more than a few big ones



Similar Story in Salt Lake City—

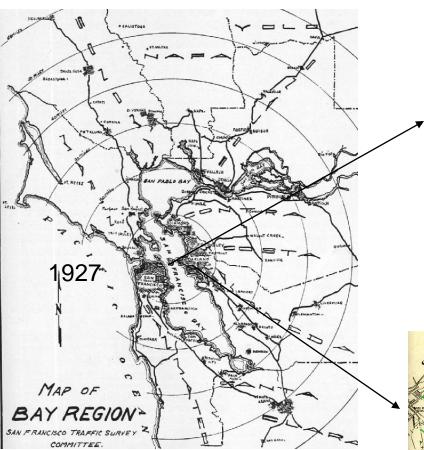
CNT
Sustainable Communities
Attainable Results

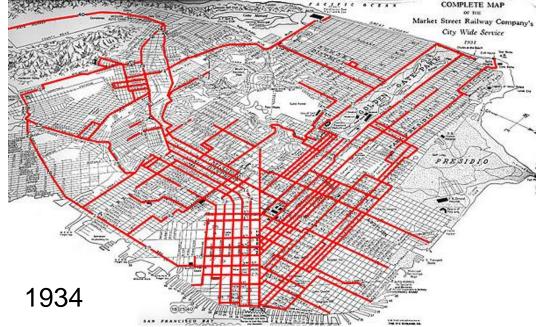
- Transportation only 3-5 percent of HH expenditures
- Every city of 5000+ had streetcars and interurban, more had steam RR service
- High household savings rate
- Note the high density, mixed use, relatively uncongested scene
- SLC region had 272 miles of local street railway & interurban electric service (1924 McGraw Directory)
- 245 passenger and 247 freight cars
- High patronage— 166 revenue rides/capita per year (1920 Federal Electric Railway Commission)
- Provided economy of scope—unit costs were lowered the more the number of network routes connected
- Small blocks & streets that came with transit attracted investment from around the US and around the world

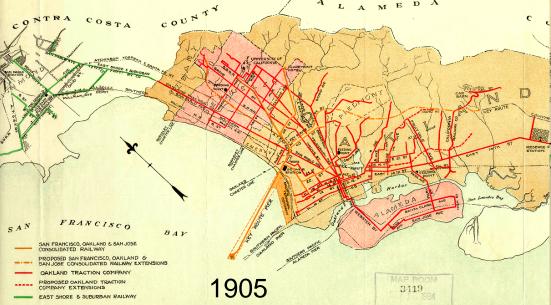




...and in SF Bay

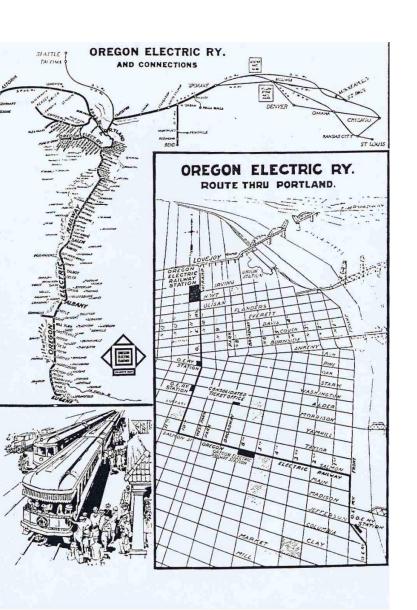


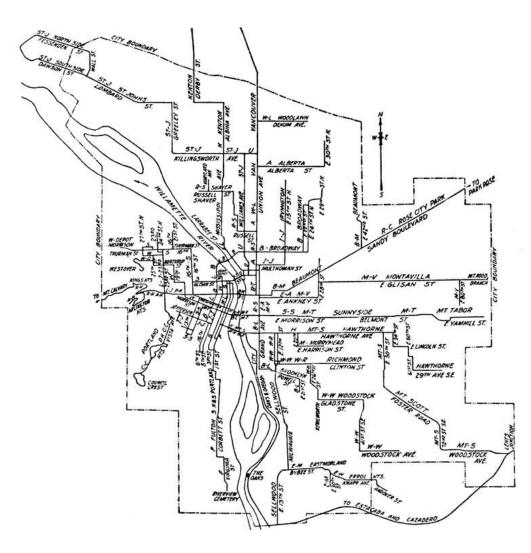






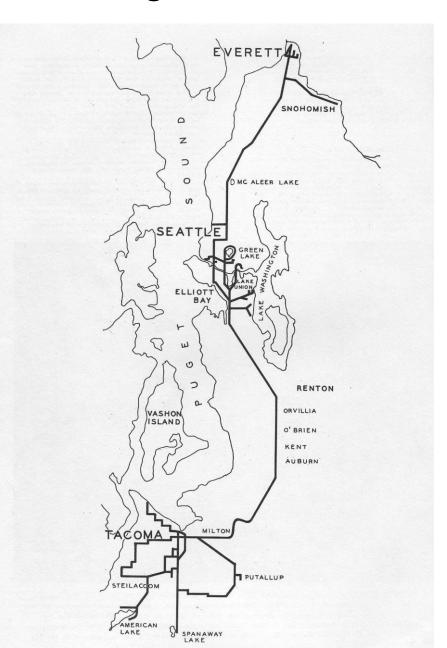
...in greater Portland Oregon1924

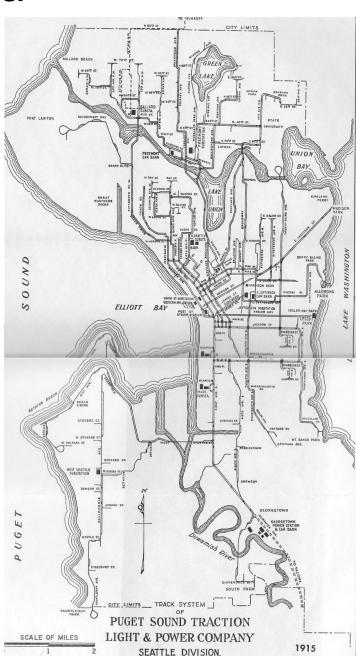




And in greater Seattle & Tacoma

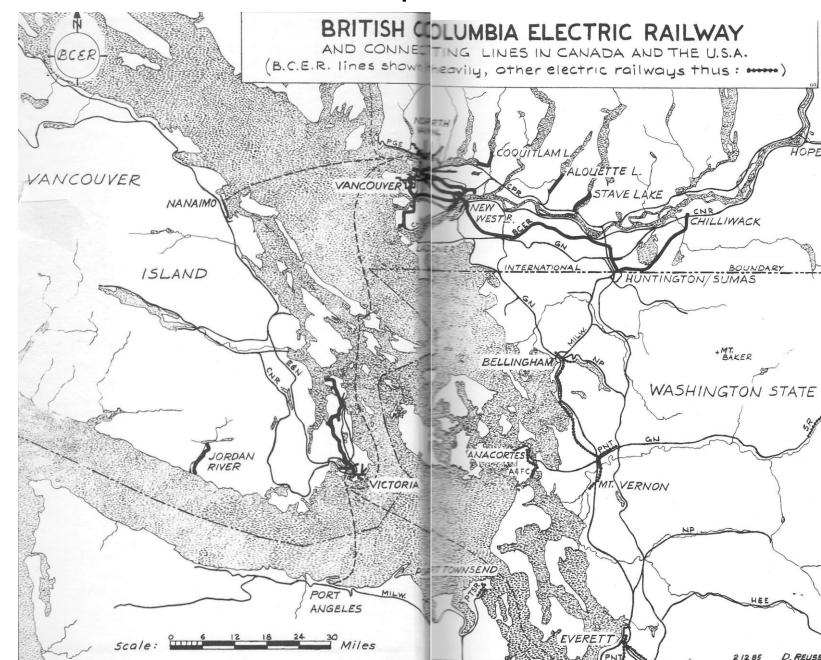


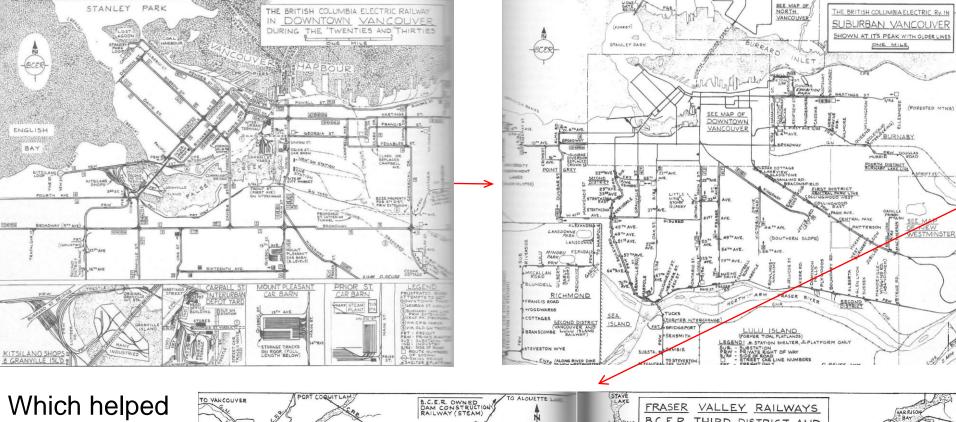




And here in what became metropolitan Vancouver



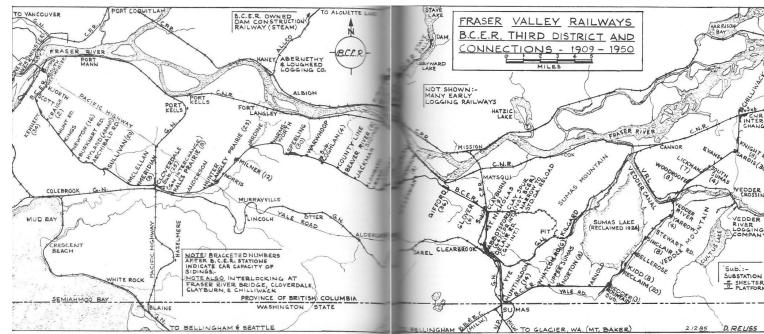




Build—

- Vancouver & suburbs
- North Vancouver
- •Westminster
- & Surry
- Greater

Fraser Valley



Columbus, Ohio Broad & High Peak-Value at Streetcar Intersection

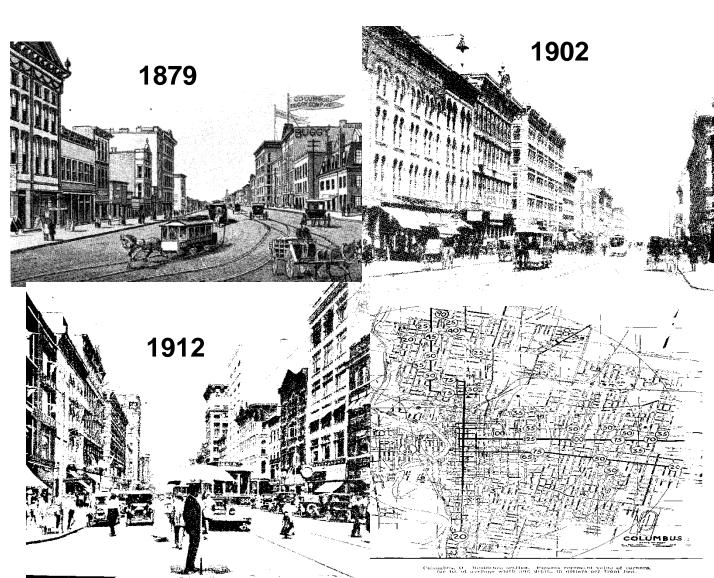


Note

- Increasing Density,
- Mixed-Use Development,

and

Human TrafficControlUmbrella

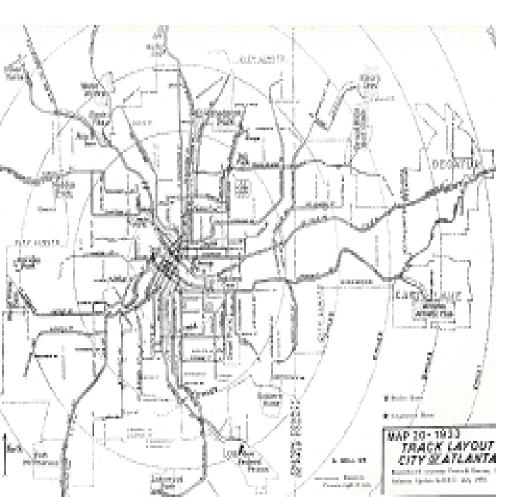


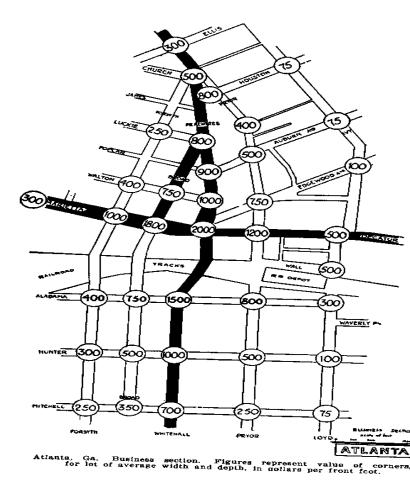
Transparency Drove the Market Through 1930, Note Peak-Value at Peachtree, Marietta & Decatur



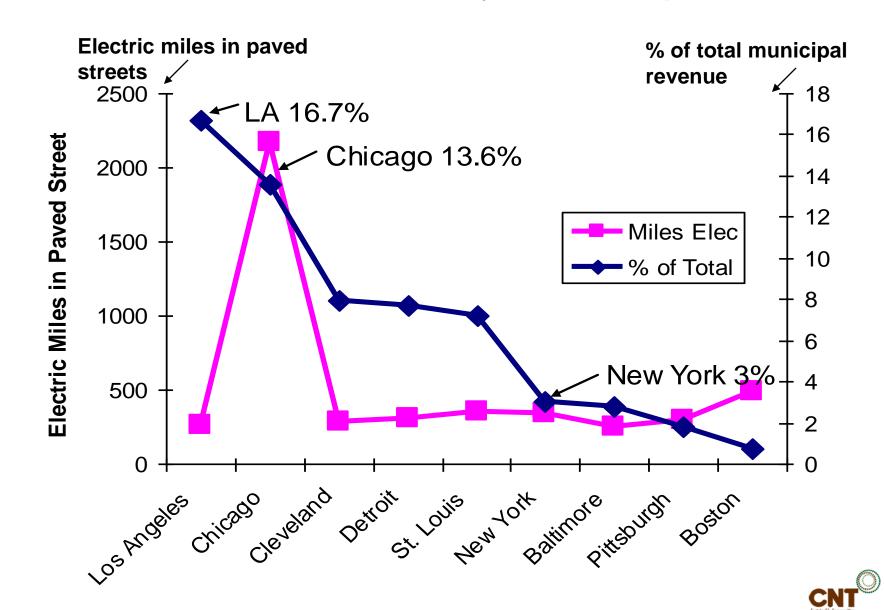
Transit-Oriented Atlanta

Economically Legible Atlanta





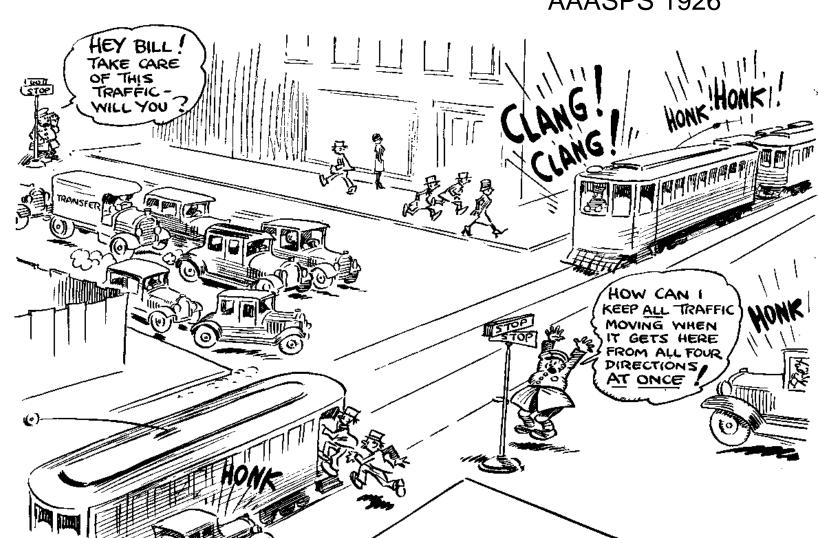
Street Benefit Districts Helped Cities Pay the Tab: "A Machine to Mine the Land"—Early Value Capture



There Was Competition for Public Space



AAASPS 1926



Most Places Abandoned Their Transit Systems





And Public Policy Favored a Different Vision





What Is Location Efficiency and How Can It Help Address the Perfect Storm of Climate Change and Economic Recession?



An Urban Asset: Location Efficiency = CNT A Measure of Accessibility & Convenience & a Spatial Analogue to Thermodynamic Efficiency

- 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

How is Location Efficiency Determined-Explain Using Regression? (Memorize This...Or....)

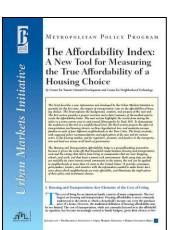


$$\frac{Veh}{Hh} = 4.722 \left(22520 + \frac{H}{RA}\right)^{-0.3471} \left(1 - e^{-\left(0.00011\frac{\$}{P}\right)^{1.2386}}\right) \left(1 + 1.0519\frac{P}{H}\right) (r + 60312)^{0.2336}$$

$$\frac{VMT}{Veh} = 1038 \left(0.5041 + \frac{H}{TA} \right)^{-0.0419} \left(1 + 0.02759 \frac{P}{H} \right) \left(-0.0704 \sqrt{Ped} \right) - 0.0174 \left(\frac{\$}{P} - 22136 \right)$$

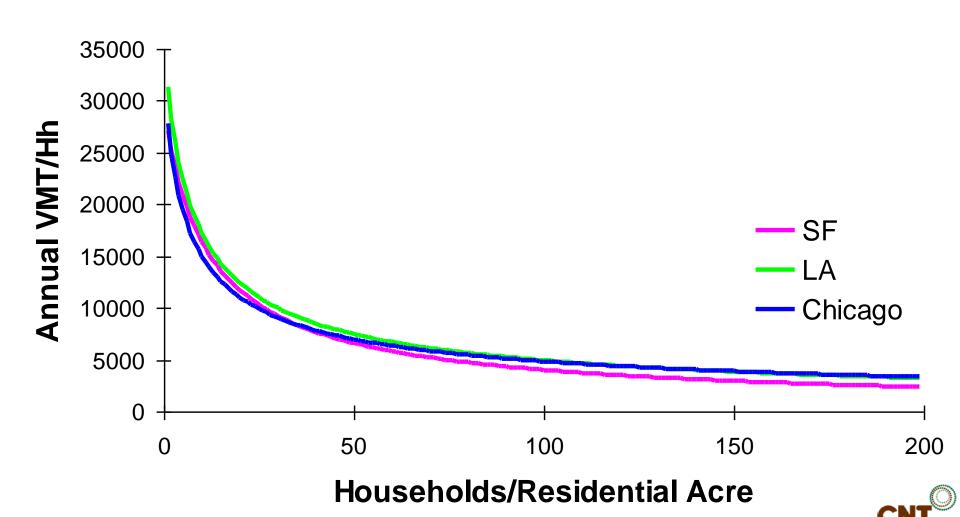


Peer-reviewed by Brookings and National Academy of Sciences 2008



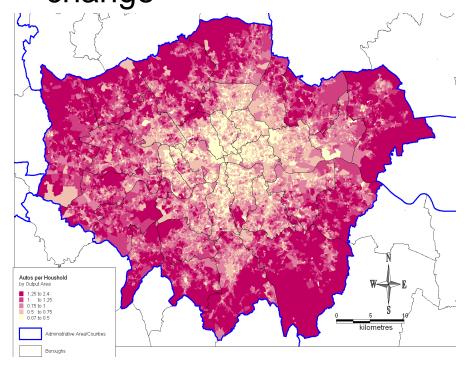
Easily Visualized Graphically— Location Efficiency:

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

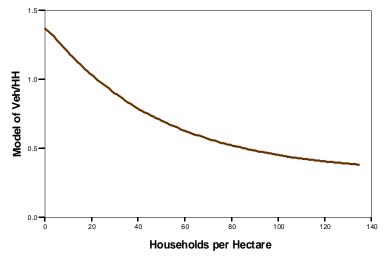


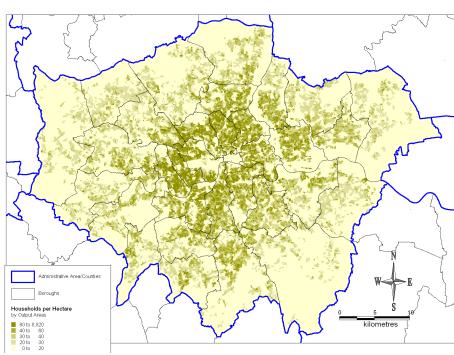
- London Location Efficiency 2007
- 2007Similar curve to US and
- Japanese cities

 Produced by CNT for P
- Produced by CNT for Prince's Foundation EbD in Borough of Waltham Forest
- Shows LE an asset for both urban quality and climate change



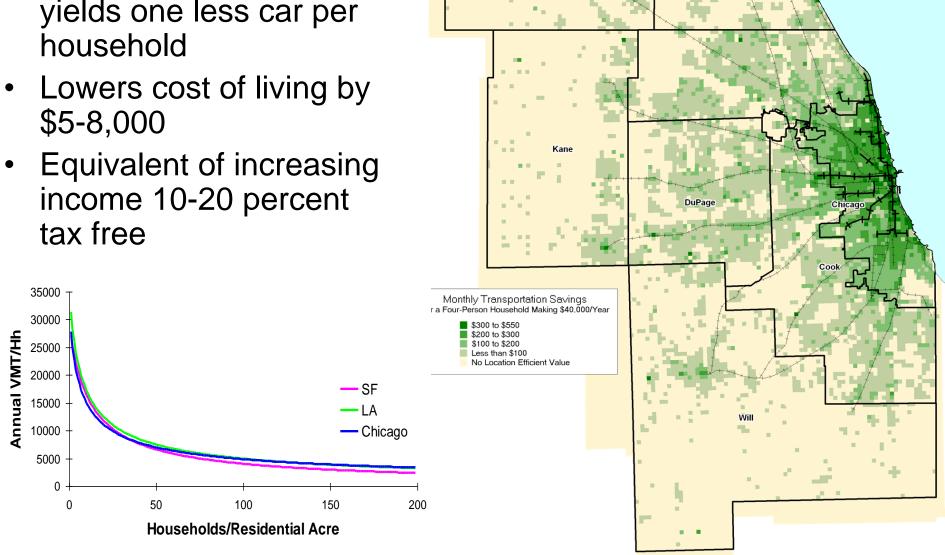






Even Easier to See: Mapping the Benefit

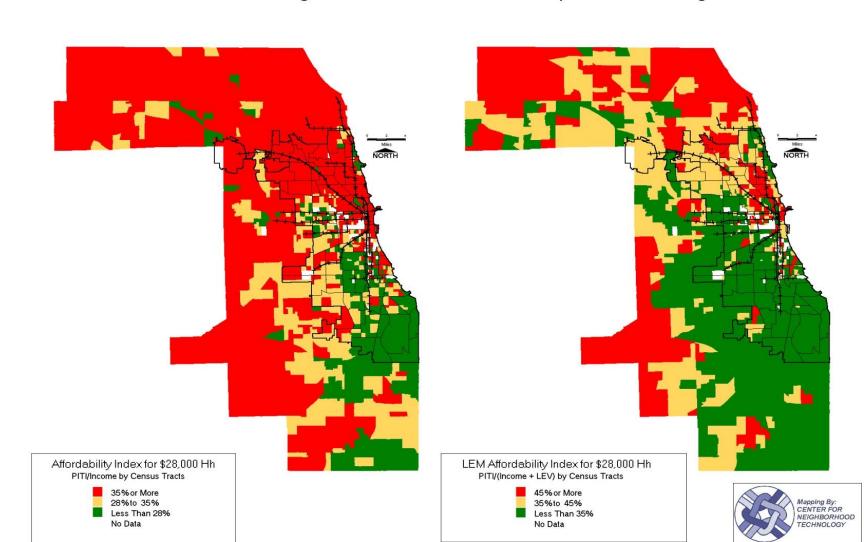
Good transit access yields one less car per household

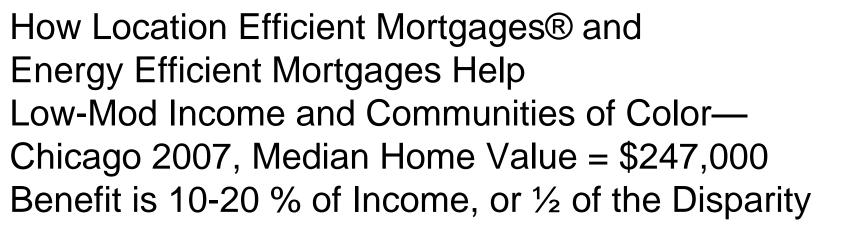


Showing the Benefits of Capturing the Value

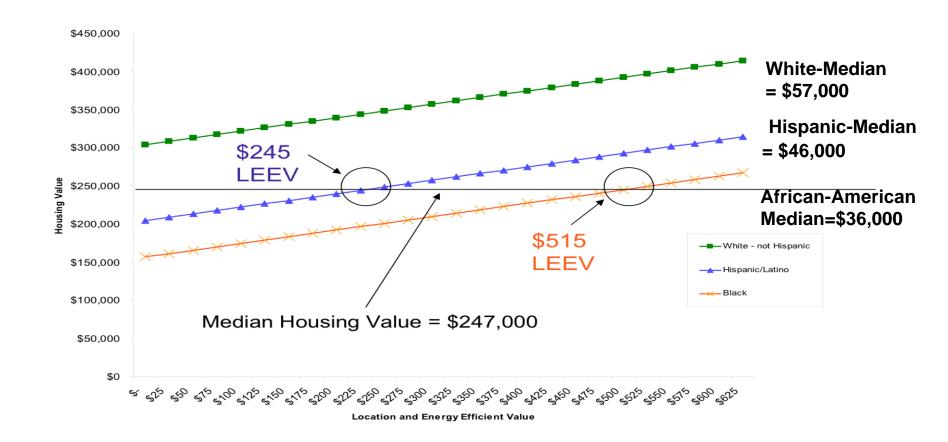


How much more of Cook County is Affordable for the Working Poor when we count Transportation Savings





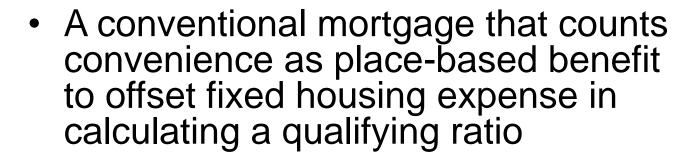




Definition of a Location Efficient Mortgage®









- A trademark of the Institute for Location Efficiency, a non-profit sponsored by CNT, NRDC, STPP and Smart Growth America
- An underwriting experiment sponsored by Fannie Mae 2000-2005

Surface Transportation Policy Partnership

Where Has it Been Tried





NOW IT'S EASIER
TO OWN YOUR
OWN HOME!

Introducing the
Location Efficient
Mortgage* (LEM)

- LEM's in Seattle, Chicago, San Francisco, and Los Angeles (Fannie Mae and local lenders)
- Take the T Home Mortgage in Boston (Fannie Mae and state housing finance)
- Smart Commute Mortgages in several dozen cities (Fannie Mae plus local lenders)

Improve your commute — buy a house.



Your dream of home ownership can become reality.

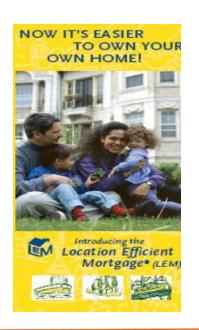
Announcing the arrival of the Location Efficient Mortgage in your neighborhood. If you live and work in Seattle, you may qualify for a lower down payment, a discounted amoust Metro Transit pass and a free membership to the Flexcar program. You'll look at commuting in a whole new light.

Make a move into your future.

Call (800) 719-8080 today.

Idea Was Well Received, Outperformed Market— No Foreclosures





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 wideopen 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.

Improve your commute — buy a house.



Your dream of home ownership can become reality.

Announcing the arrival of the Laction Efficient Mortgage is your neighborhood. If you live and work in Seattle, you may qualify he short down general, addicounted around Metro Transt gass and a free membership to the Pleasar program. You'll obtait consusting in a while now fight.

Make a move into your future.

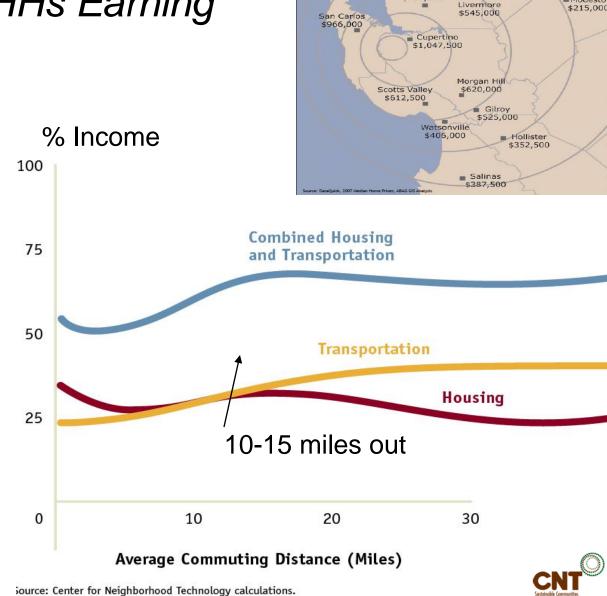
Thinking About Both Ownership and Rental Housing



- 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
- Financial market restructuring will require innovative approaches to both homeownership and to increased rental housing

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!

Pleasant Hill

Pleasanton

\$750,000

Stockton

\$356,000

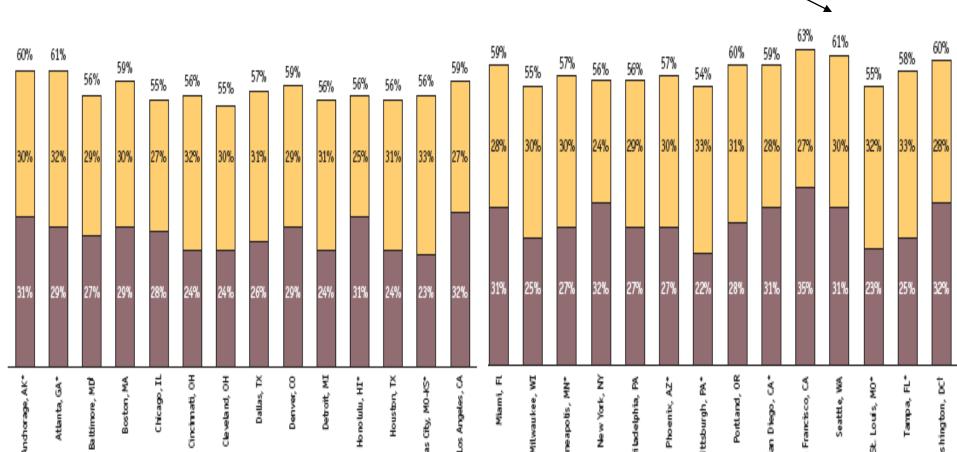
Manteca \$288,000

■ Modesto

What All Households in 28 Metro Areas Earning Between \$20 and \$50,000 Spend on Housing and Transportation as a Percentage of Income



Average = 30% for Housing And 27 % for Transportation =57% for H+T Seattle MSA = 31% for Housing And 30% for Transportation = 61% for H+T



Source: Center for Najabborhood Technology calculations

Percent of Income Spent by Households Earning \$20,000 to \$35,000 on Housing + Transportation in 28 Metro Areas ■ Percent of Income Spent on Transportation ■ Percent of Income Spent on Housing Seattle MSA = 69% for H+T-71% 71% 63% 32% 32% 33% 35% 34% 35% 35% 37% 35% 36% 35% 36% 33% 33% 31% 33% 31% 32% 30% 29% 27% 25% Denver, CO CMSA Miami, FL CMSA Saltimore, MD PMSA **CMSA** Detroit, MI CMSA Portland, OR CMSA CMSA Honolulu, HI MSA Minneapolis, MN MSA Washington, DC PMSA **CMSA CMSA** Houston, TX CMSA Kansas City, MO-KS MSA Tampa, FL MSA Milwaukee, WI CMSA Philadelphia, PA CMSA St. Louis, MO MSA Pittsburgh, PA MSA San Diego, CA MSA Francisco, CA CMSA Boston, MA CMSA Seatte, WA CMSA CMSA New York, NY CMSA Phoenix, AZ MSA Atlanta, GA MSA Average of 28 Metros Anchorage, AK MSA Cleveland, OH Chicago, IL Angeles, CA Dallas, Cincinnati,

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.



Another Approach Indexing Truer Affordability and Also 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.cnt.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 Urban Merkets Initiative to quentify, for the first time, the impact of transportation costs on the affordebility of housing closices. This brief explains the background, creation, and purpose of this new tool. The first tection provides a project overview and a host number of the weekled wast to create the Affordebility Index. The next section highlights the results from testing the index in a sew-consety area in and around Minneapoils-52. Beal, MN. To demonstrate the weightness of this tool at a neighborhood level, the third section projects the effect of transportation and housing choices on three hypothetical losts and moderate-income families in each of four different neighborhood in the Taire Cities. The brief concludes with suggested policy recommendations and applications of the new tool for various action in the bouring merket, and for regulators, planners, and funders in the transportation and lead use around at all leads of government.

The Howing and Transportation Affordability Index is a groundbreaking innovation because it prices the trade-offs that households make between bousing and transportation costs and the aveing that derive from firsting in commentation that are near shopping. schools, and work, and that boast a transit-rick environment. Built using data sets 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. policymaken, lenden, and investors with the information needed to make better deci-sions about which neighborhoods are truly effordable, and illuminate the implications of their policy and investment choices.

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

be cost of living for an American family consists of many components. The two largest are bearing and transportation. Housing affordability is most commanly understood as the extent to which a households 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 affordability equation, has become increasingly central to family budgets, given their choices to live



Jrban Markets Initiative

JANUARY 2006 - THE RECOGNOS INSTRUCTION - URBAN MARKETS INSTANTOR - MARKET INNOVATION BRIEF

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
- Counsel a household or person to help them identify methods of lowering the cost of living and/or identify a specific program opportunity to help them do so

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

H+T Index = (Housing Costs + Transportation Costs)
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



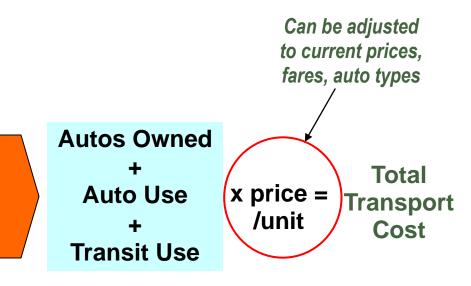
We analyze the Urban Form and the Household Characteristics of neighborhoods to predict the three major components of total household transportation costs.

7 Neighborhood Variables:

- 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

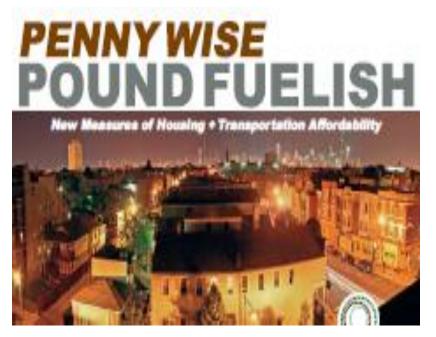
- 1. Household income
- 2. Household size

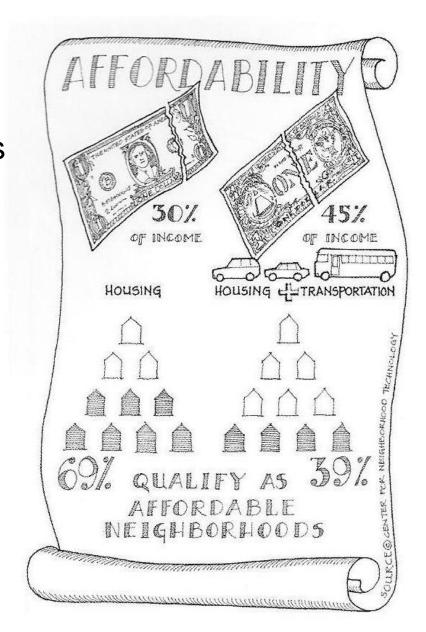


Extensive Coverage

CNT
Sustainable Communities
Attainable Results

- 42 variables, 161 thousand block groups in 337 metro areas
- Upgrade in June 2011 expands to over 200 thousand block groups in all metropolitan & micropolitan areas





Chicago MSA Mirror Images Net Density 0-347 HH/RA vs 6600 to 30,400 VMT/HH/Year

Households



Residential Density Change Household Density Statistics Viewable Area on Map Below Region Block Groups 5,970 (5,970 with data) 5,583 (5,583 with data) Minimum 0 HHs/Res. Acre 0 HHs/Res. Acre 11 HHs/Res. Acre 12 HHs/Res. Acre Average Maximum 347 HHs/Res. Acre 347 HHs/Res. Acre.

2,971,690

2,739,718

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Palatine Arlington Heighte
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Wheaten Scok County Chicago Ve
Illinois
Naperville Oak l'awn
Bolin gbrook (2)
Orland Park
Hammond Renter County
Vi County Joliet
12 ni CN 62010

Vehicle Miles Traveled (VMT) per Household Change

Vehicle Miles Trave	eled (VMT) per Household	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,583 (5,511 with data)
Minimum	6,600 Annual Miles	6,600 Annual Miles
Average	16,567 Annual Miles	15,886 Annual Miles
Maximum	30,399 Annual Miles	29,453 Annual Miles
Households	2,971,528	2,739,556



Mirror Images Again—Net Density 0-347 vs. 0.5 – 2.2 Vehicles Per Household

2,739,718



▼ Change Residential Density Household Density Statistics Region Viewable Area on Map Below Block Groups 5,970 (5,970 with data) 5,583 (5,583 with data) 0 HHs/Res. Acre 0 HHs/Res. Acre Minimum 11 HHs/Res. Acre. 12 HHs/Res. Acre Average 347 HHs/Res. Acre 347 HHs/Res. Acre Maximum

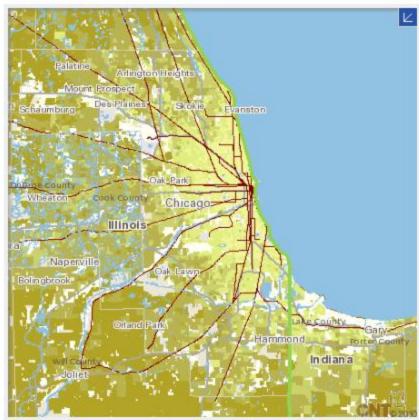
2,971,690

Households

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Autos per Household Change

Autos per Househo	old	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,583 (5,511 with data)
Minimum	0.5 Autos/HH	0.5 Autos/HH
Average	1.6 Autos/HH	1.5 Autos/HH
Maximum	2.2 Autos/HH	2.1 Autos/HH
Households	2,971,528	2,739,556

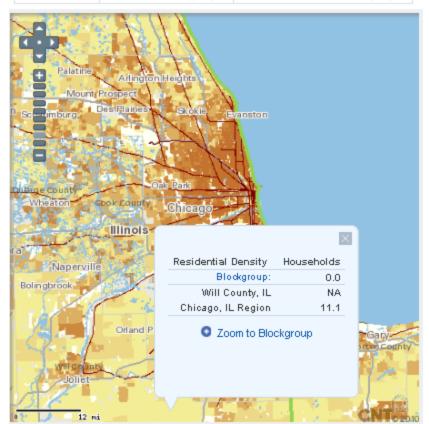


One Click Shows Area of Highest VMT



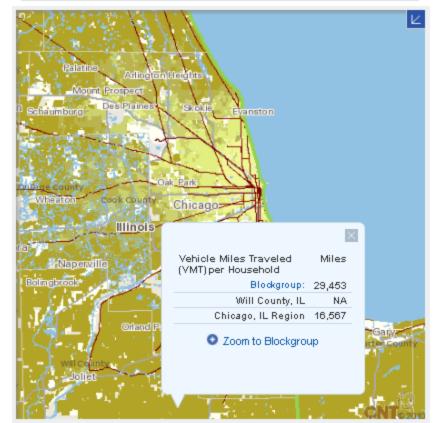
Residential Density Change

Household Density		
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,970 with data)	5,583 (5,583 with data)
Minimum	0 HHs/Res. Acre	0 HHs/Res. Acre
Average	11 HHs/Res. Acre	12 HHs/Res. Acre
Maximum	347 HHs/Res. Acre	347 HHs/Res. Acre
Households	2,971,690	2,739,718



Vehicle Miles Traveled (VMT) per Household **▼**Change

Vehicle Miles Trave	eled (VMT) per Household	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,583 (5,511 with data)
Minimum	6,600 Annual Miles	6,600 Annual Miles
Average	16,567 Annual Miles	15,886 Annual Miles
Maximum	30,399 Annual Miles	29,453 Annual Miles
Households	2,971,528	2,739,556



Another Shows Urban Form or Lack Thereof



Residential Density Change Household Density		
Block Groups	5,970 (5,970 with data)	1 (1 with data)
Minimum	0.0 HHs/Res. Acre	0.0 HHs/Res. Acre
Average	11.1 HHs/Res. Acre	0.0 HHs/Res. Acre
Maximum	347.3 HHs/Res. Acre	0.0 HHs/Res. Acre
Households	2,971,690	821

Households	2,971,6	90 821
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Vehicle Miles Traveled (VMT) per Household Change Vehicle Miles Traveled (VMT) per Household Viewable Area on Map Below Statistics Region Block Groups 5,970 (5,898 with data) 1 (1 with data) Minimum 6,600 Annual Miles 29,453 Annual Miles 29,453 Annual Miles Avverage 16,567 Annual Miles 30,399 Annual Miles 29,453 Annual Miles Maximum

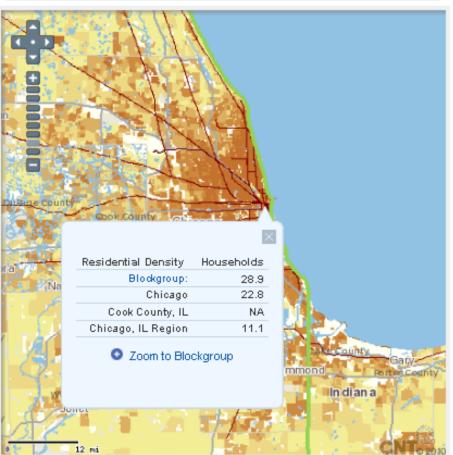


Another Shows Area of Lowest VMT—Note Ratio of 6:1 Highest-Lowest



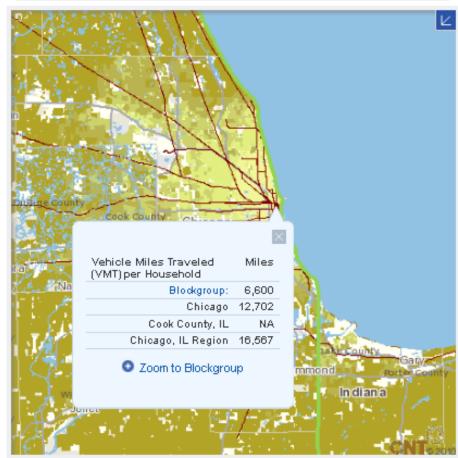
Residential Density Change

Household Densit	ty	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,970 with data)	5,585 (5,585 with data)
Minimum	0 HHs/Res. Acre	0 HHs/Res. Acre
Average	11 HHs/Res. Acre	12 HHs/Res. Acre
Maximum	347 HHs/Res. Acre	347 HHs/Res. Acre
Households	2,971,690	2,741,118



Vehicle Miles Traveled (VMT) per Household **▼**Change

Vehicle Miles Trave	eled (VMT) per Household	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,585 (5,513 with data)
Minimum	6,600 Annual Miles	6,600 Annual Miles
Awerage	16,567 Annual Miles	15,886 Annual Miles
Maximum	30,399 Annual Miles	29,453 Annual Miles
Households	2,971,528	2,740,956



While This One Clearly Shows Urban Form and Transit Station Areas



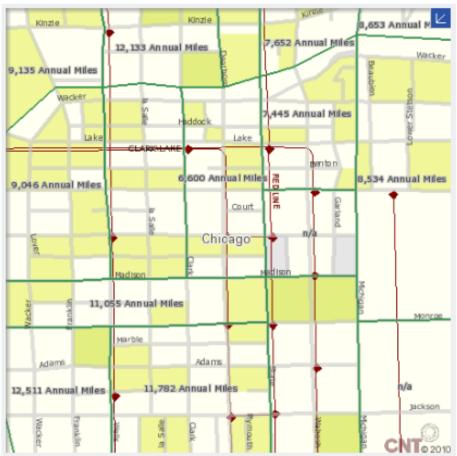
Residential Density Change

Household Density	/	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,970 with data)	14 (14 with data)
Minimum	0 HHs/Res. Acre	3 HHs/Res. Acre
Average	11 HHs/Res. Acre	165 HHs/Res. Acre
Maximum	347 HHs/Res. Acre	284 HHs/Res. Acre
Households	2,971,690	7,017



Vehicle Miles Traveled (VMT) per Household **▼** Change

Vehicle Miles Trave	eled (VMT) per Household	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	14 (13 with data)
Minimum	6,600 Annual Miles	6,600 Annual Miles
Average	16,567 Annual Miles	8,509 Annual Miles
Maximum	30,399 Annual Miles	12,959 Annual Miles
Households	2,971,528	7,017



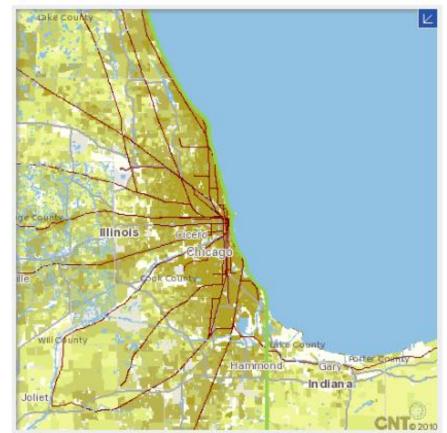
Transit Connectivity and Ridership—If You Build It, Operate It Frequently and Connect to the Region's Destinations, People Will Ride It



Fransit Conne	ctivity Index (TCI) 🝱	age
Transit Connectivi	ty Index (TCI)	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,900 with data)	5,463 (5,096 with data)
Minimum	0 Rides/Week	0 Rides/Week
Average	2,553 Rides/Week	3,021 Rides/Week
Maximum	88,973 Rides/Week	88,973 Rides/Week
Households	2,940,016	2,468,162

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Will County		Like Cot	enty
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Transit Ridership,	% of Workers	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,463 (5,391 with data)
Minimum	0 %	0 %
Awerage	13 %	14 %
Maximum	100 %	100 %
Households	2,971,528	2,645,762



4170/5898 areas are affordable at H<=30% AMI 3198/5898 areas are affordable at H+T<=45% AMI 388,000 additional households financially stressed Note Avg. H-Cost = 29%, Avg. H+T = 48%



129 %

2,645,734

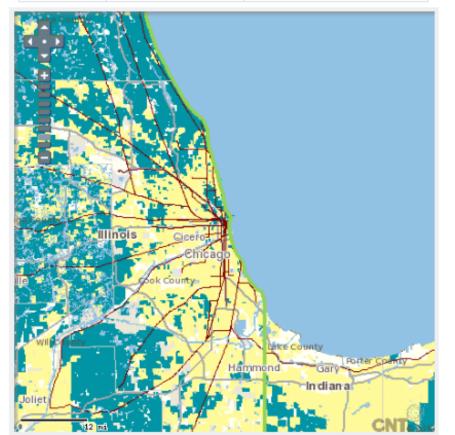
Housing Costs - % Income Change Housing and Transportation Costs - % Income Change

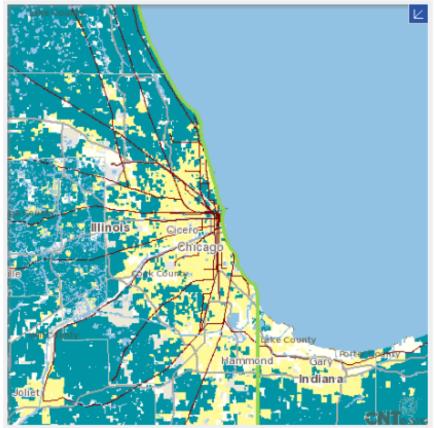
Total Housing Cos	ts - % Income	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,906 with data)	5,463 (5,399 with data)
Minimum	3 %	2 %
Average	28 %	28 %
Maximum	104 %	104 %
Households	2,971,638	2,645,872

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 %

2,971,500

Households





Much tighter for households earning 80% of AMI—H-cost = 36%, H+T = 57% Reduces Affordable Places from 2626/5898 to 1427

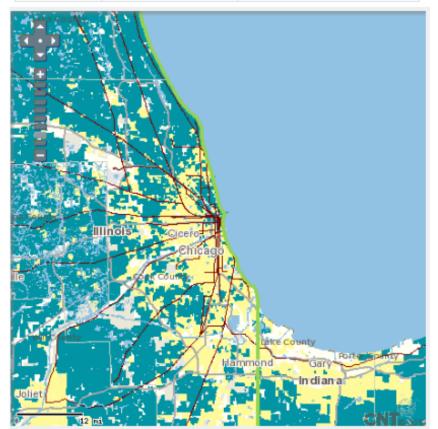


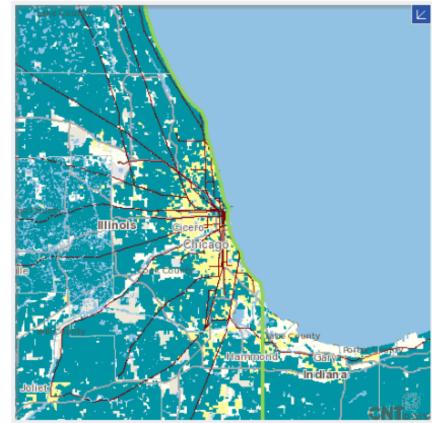
Housing Costs - % Income Change

Total Housing Cos	ts - % Income	
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,906 with data)	5,463 (5,399 with data)
Minimum	3 %	3 %
Average	36 %	35 %
Maximum	131 %	131 %
Households	2,971,638	2,645,872

Housing and	Transportation	Costs - %	Income	Ļ

Total Housing an	id Transportation Costs - % Inc	ome
Statistics	Region Viewable Area on Map Belov	
Block Groups	5,970 (5,895 with data)	5,463 (5,388 with data)
Minimum	15 %	15 %
Average	57 %	56 %
Maximum	159 %	159 %
Households	2,971,500	2,845,734



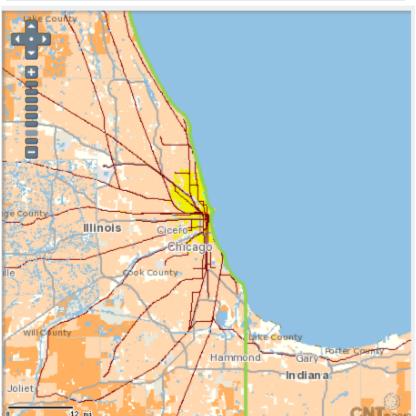


Showing Effect of Gas Price Spike from 2000 to 2008



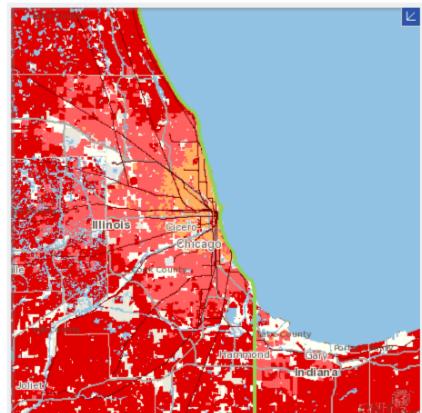
Annual Household Gasoline Expenses (\$) - 2000 Gas Price Change

Annual Househol mpg	d Gasoline Expenses (\$) - 2000 Gas	Price Fuel Efficiency of 20.3
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,463 (5,391 with data)
Minimum	509 \$/Year	509 \$/Year
Average	1,278 \$/Year	1,201 \$/Year
Maximum	2,344 \$/Year	2,262 \$/Year
Households	2,971,528	2,645,762



Annual Household Gasoline Expenses (\$) - 2008 Gas Price Change

Annual Household mpg	Gasoline Expenses (\$) - 2008 Gas	Price Fuel Efficiency of 20.3
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,463 (5,391 with data)
Minimum	1,399 \$/Year	1,399 \$/Year
Average	3,512 \$/Year	3,302 \$/Year
Maximum	6,444 \$/Year	6,217 \$/Year
Households	2,971,528	2,645,762



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



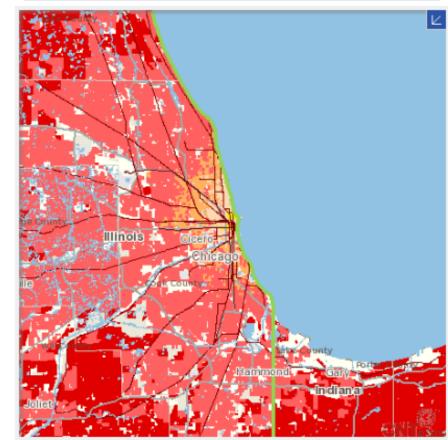
Monthly Transportation Expenses % Income - 2000 gas **▼** Change

Monthly Transport	ation Expenses % Income - 2000 g	gas Fuel Efficiency of 20.3 mpg
Statistics	Region	Viewable Area on Map Below
Block Groups	5,970 (5,898 with data)	5,463 (5,391 with data)
Minimum	9.7 %	9.7 %
Average	19.1 %	18.7 %
Maximum	27.9 %	28.0 %
Households	2 971 528	2 845 782

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Johnet John Market	Letve coventy Kammond Gary Forter Top Indiana Control Contr

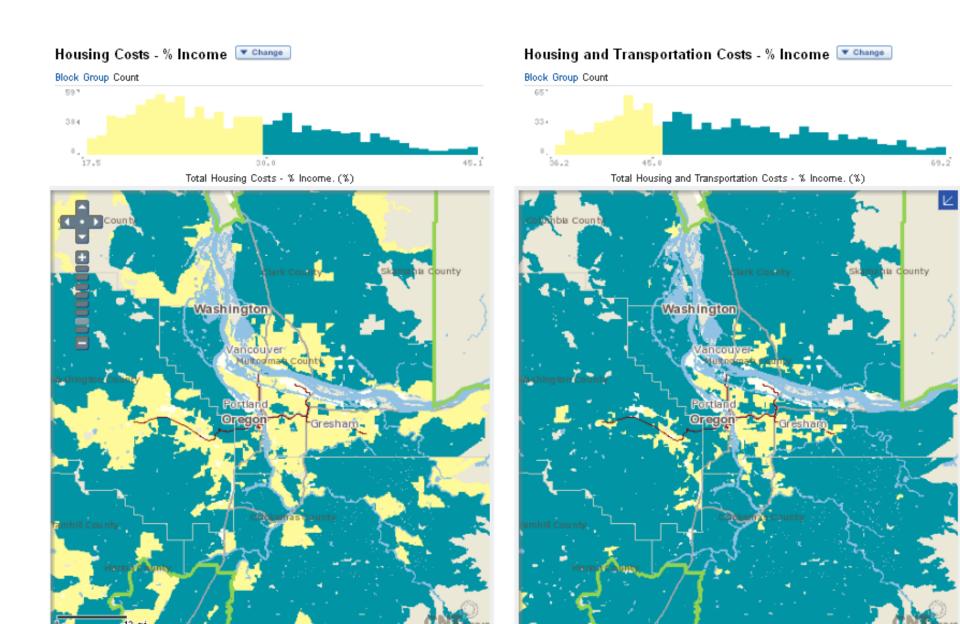
Monthly Transportation Expenses % Income - 2008 gas **▼**Change

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



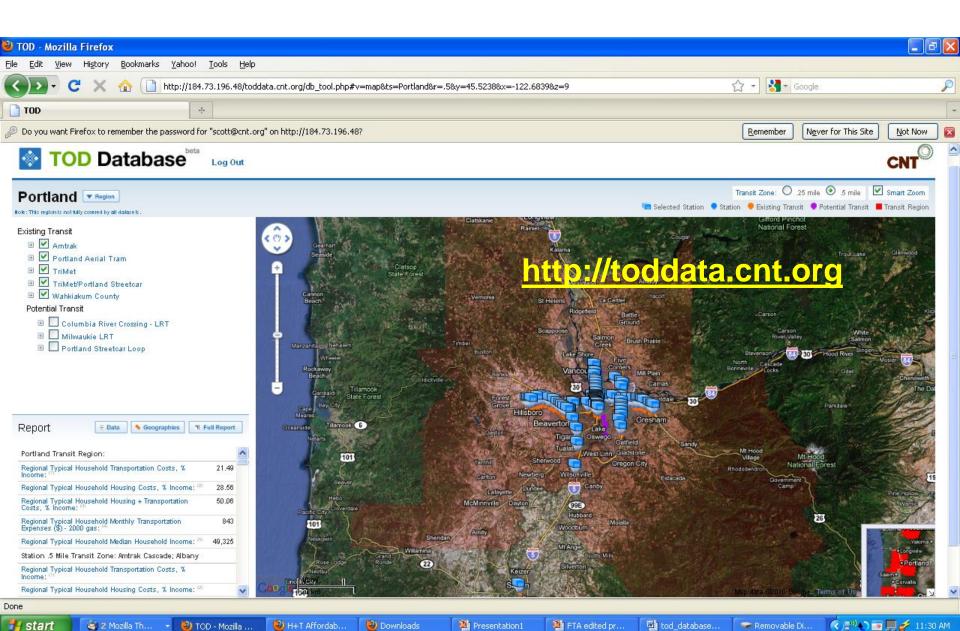
In Portland OR...Also Happens ...







...even with excellent planning



Http://abogo.cnt.org or abogo.cnt.org

Downtown Portland shows low T-cost, low footprint



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

Sign up for Updates

Blog

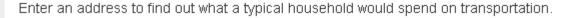
Sprawl in the red

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



Current Address: 545 SW Taylor St, Portland, OR 97204, USA

Search



Transportation Cost for an average household

\$505/month

Regional average: \$842 @

🚰 Share | 🛂 🚾 💥 🕒

for an average household

0.14 metric tons/month @

Regional average: 0.7 metric tons @



What is Abogo?

How it Works

Lower Your Costs

FAQ

CNT Resources

Bloa

How to spend less:

Click for more tips »

Retrofitting the suburbs? Gresham shows continued need to improve...and



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

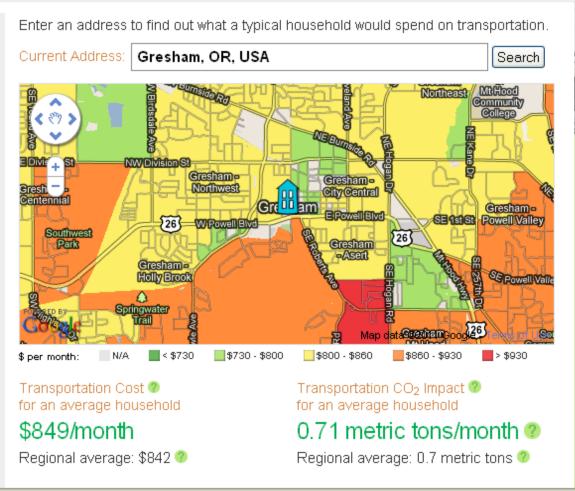
Blog

Chicago: Our Kind of Town

Street festivals, theater, and a unique music scene make Chicago one of the most exciting places to be each summer. Winter seems to weed out those unable to embrace the Windy City all year round, but once you shovel your way out of your apartment, you will find a city full of camaraderie and pride [...]

Abogo is for Realtors

REALTORmag ran a great piece about how Realtors are starting to pay attention to the commute when it comes to selling a house. They do a great job of pointing out how important transportation issues are for



What is Abogo?

How it Works

Lower Your Costs

FAQ

CNT Resources

Blog

How to spend less:

Take your bike: you can cover more distance on a bicycle than on foot, and in troffic biking con he footer.

Exurbs not likely to improve fast enough



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

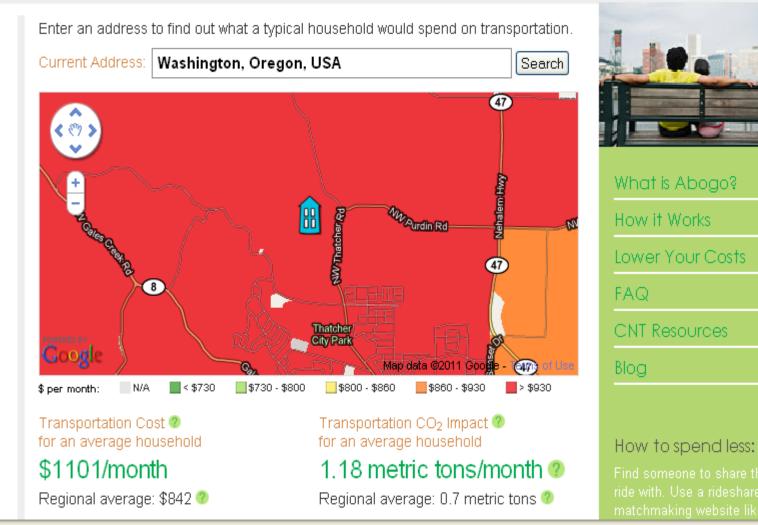
Blog

Chicago: Our Kind of Town

Street festivals, theater, and a unique music scene make Chicago one of the most exciting places to be each summer. Winter seems to weed out those unable to embrace the Windy City all year round, but once you shovel your way out of your apartment, you will find a city full of camaraderie and pride [...]

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REALTORmag ran a great piece about how Realtors are starting to pay attention to the commute when it comes to selling a house. They do a great job of pointing out how important

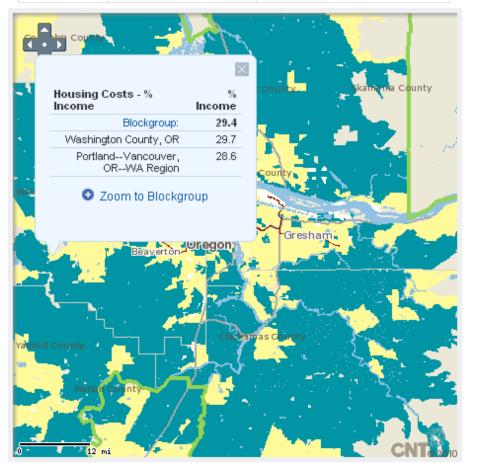


Same exurban area, shows 30% of AMI for H-Cost, + 27% for T-Cost, *not affordable*



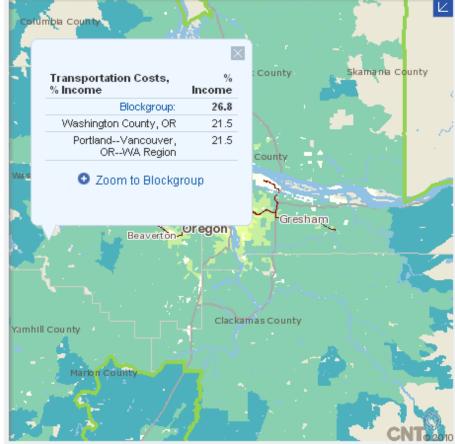
Housing Costs - % Income Change

Total Housing Costs - % Income				
Total housing costs - 76 income				
Statistics	Region	Viewable Area on Map Below		
Block Groups	1,243 (1,243 with data)	1,243 (1,243 with data)		
Minimum	7.4 %	7.4 %		
Average	28.6 %	28.6 %		
Maximum	76.9 %	76.9 %		
Households	741,776	740,976		



Transportation Costs, % Income Change

Total Transportation Costs - % Income			
Statistics	Region	Viewable Area on Map Below	
Block Groups	1,243 (1,242 with data)	1,243 (1,242 with data)	
Minimum	11.9 %	11.9 %	
Average	21.5 %	21.5 %	
Maximum	29.3 %	31.5 %	
Households	741,235	740,435	



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

States and Regions Are Using the H+T Index



- MTC Bay Area Metropolitan Planning Organization
 - Adopted H+T Affordability Goal
 - Helped MPO argue for appropriating \$44M for TOD
- CMAP Chicagoland's MPO
 - Adopted H+T Affordability Goal
 - Used Index to Justify Boosting Long Range Plan transit and trip reduction funding
- State of Illinois
 - Passed H+T Affordability Index Act in April 2010
 - Five state agencies to use the H+T Index for siting and investment decisions

Cities, Counties and Non-Profits Are Using H+T



- Oakland, CA, EBALC experimenting with enhanced counseling
- El Paso, TX
 - Transportation costs to be included in funding and policy decisions related to affordable housing
- Asheville, NC
 - City is studying implementation of location efficiency incentives for affordable housing
- Also:
 - Orange County, NY
 - Eugene, OR
 - Boise, ID
 - Mercer County, NJ
 - Ann Arbor and Grand Rapids, MI

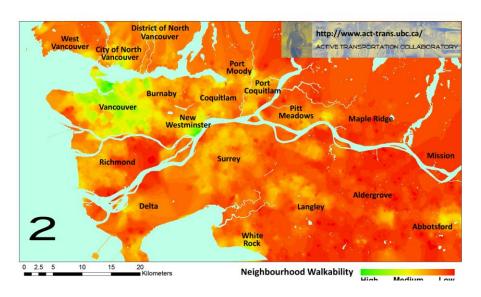
Making It Work for Metropolitan Vancouver B.C

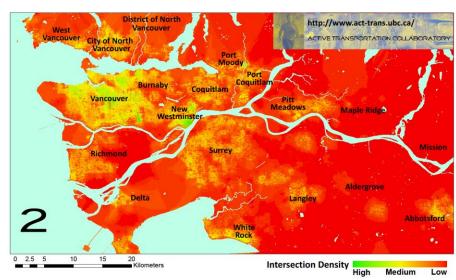


- Build on work of current researchers at UBC, SFU
- Build on planning and implementation by local governments and civic leaders
- Adapt local data sets using US methods
- Build a community of practice around this

UBC Active Transportation Lab Regional Scores

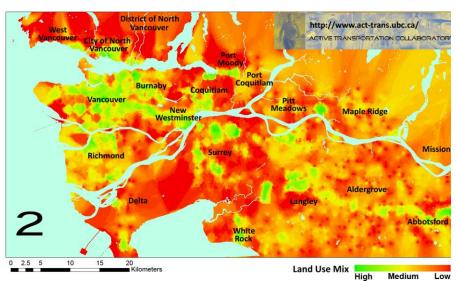


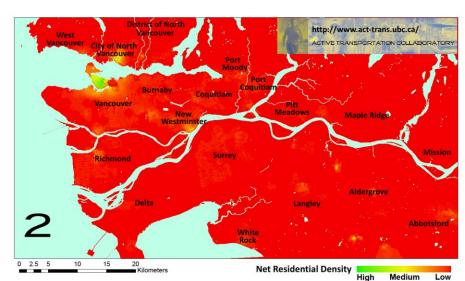




-8 / 2 / 12

0 /55/ 100 Intersections/km2

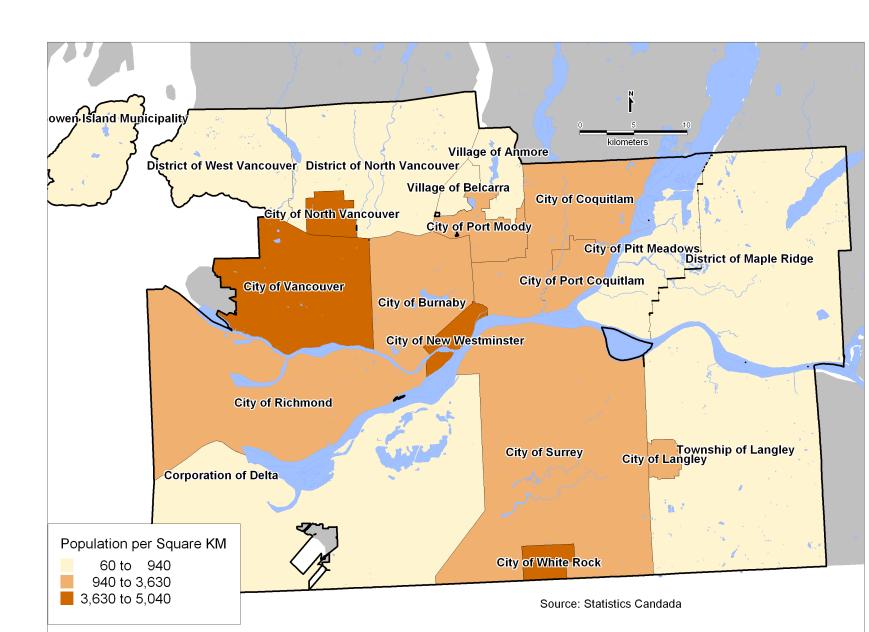




0 / .45 / 0.9 0 / 100 / 200 Units/RA

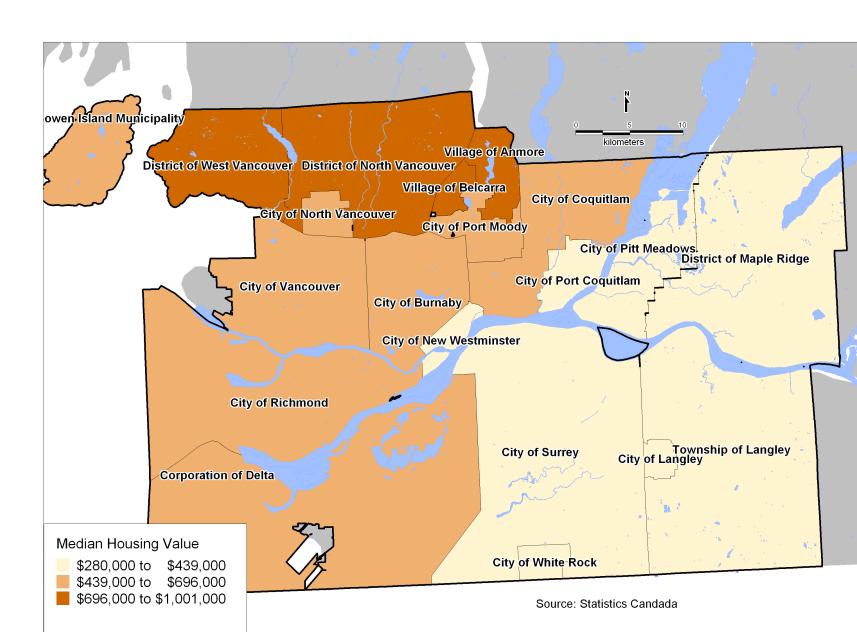






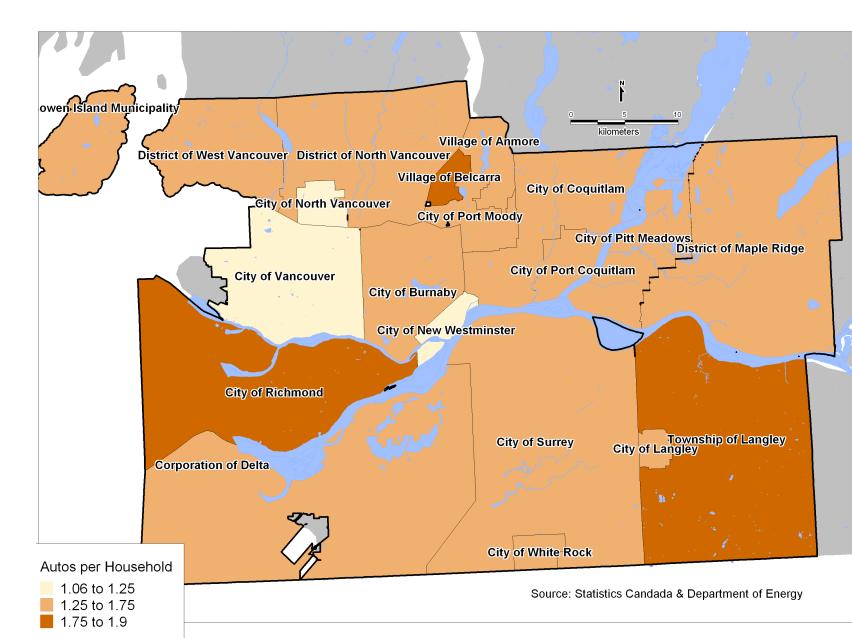






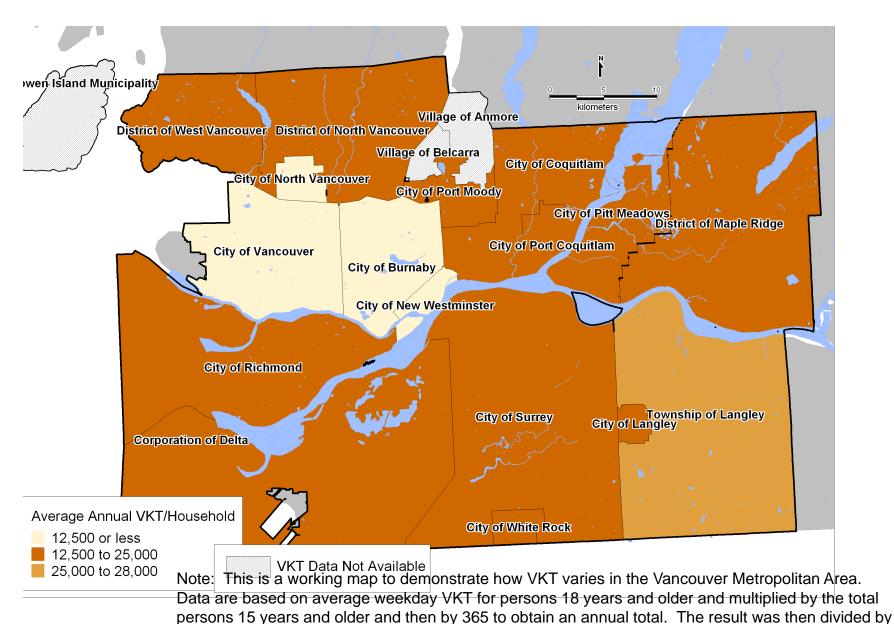


Household Vehicle Ownership



Annual Household Travel

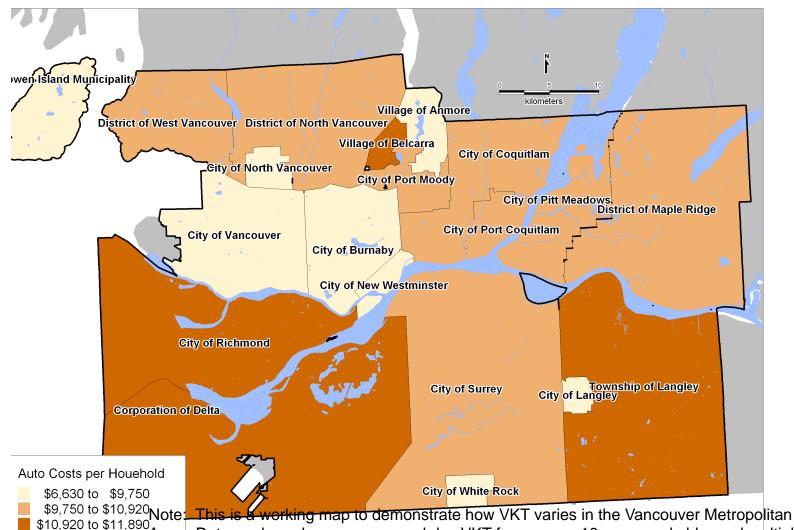




the total households in each local authority to obtain an annual average VKT per household



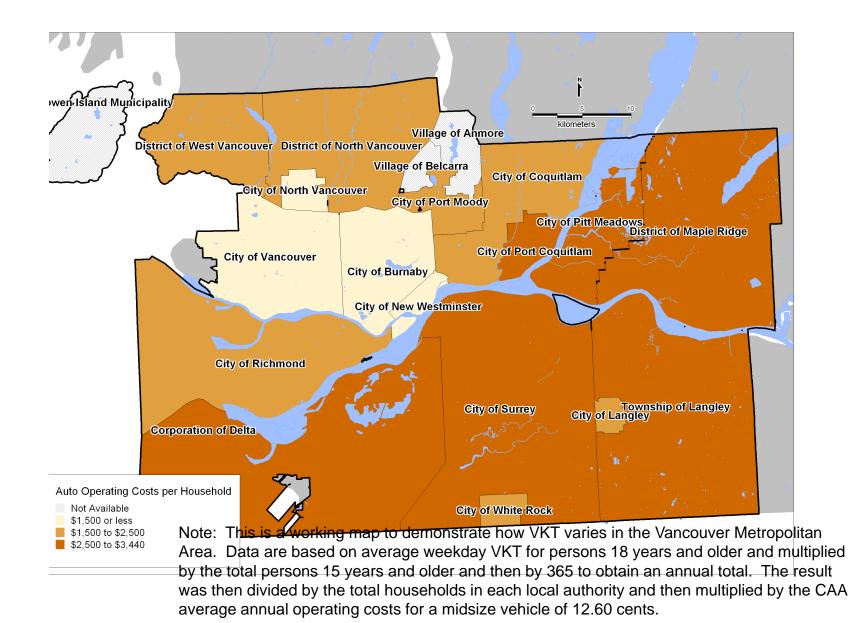
Fixed Costs of Driving per Household



Area Data are based on average weekday VKT for persons 18 years and older and multiplied by the total persons 15 years and older and then by 365 to obtain an annual total. The result was then divided by the total households in each local authority and then multiplied by the CAA average annual ownership costs for a midsize vehicle of \$6,257.

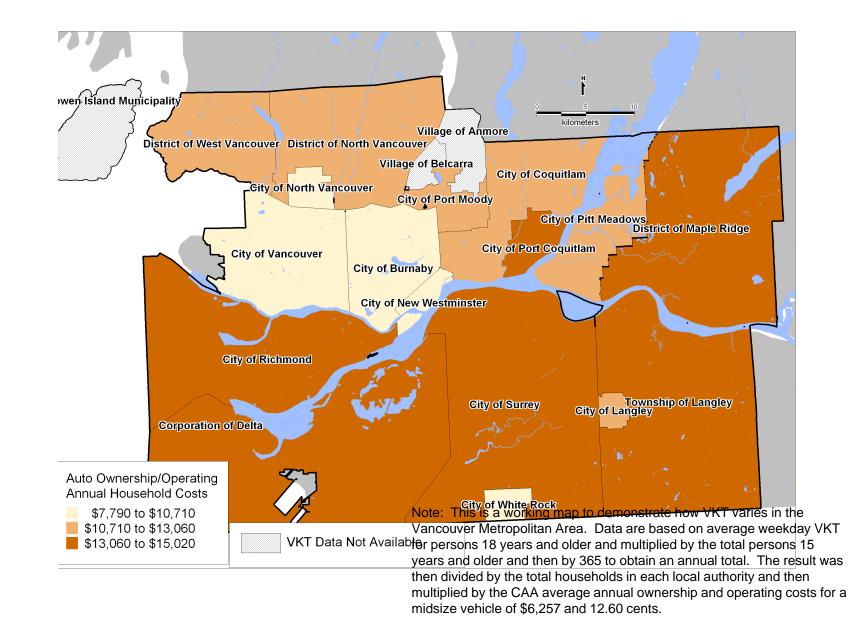


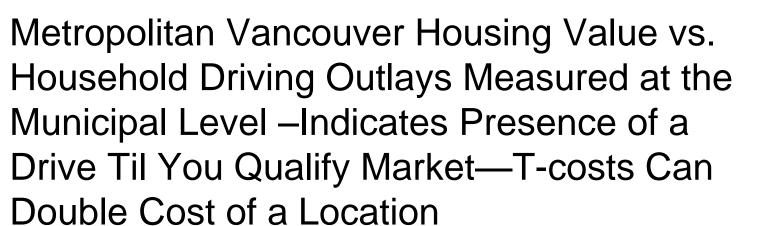
Variable Cost of Household Driving





Total Estimated Household Driving Costs





CNT
Sustainable Communities
Attainable Results

Median Housing Value
Area of Lowest H-Cost

Household Driving Outlays
Area of *Highest T-Cost*

