

Thinking About Transportation Energy, Climate and Economy in Chicago

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Technology

Advanced Energy, December 1 2016

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Scenario Based Tools

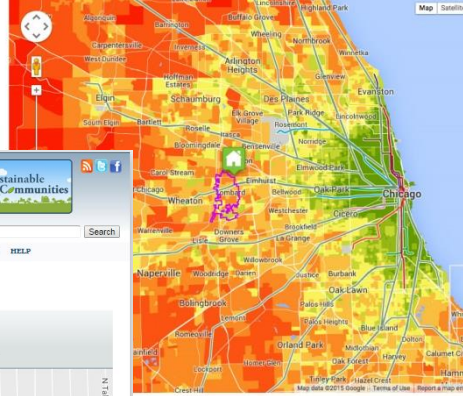
Gas costs are only a fraction of total driving costs. The majority of costs are due to owning and maintaining cars.

Gas Price: \$2.00

Use the slider to see how gas prices affect total costs based on location.

Total Auto Costs

Annual Monthly



eTOD beta Calculator About Resources Feedback CNT

Jump to: [Location Maps](#) [Developer Resources](#) [Demographics & Trends](#) Map Layers

Parcel Location
no address available
Pin#: 1325232047 Sq Ft: 4004

Proposed Building Design
on your Selected Parcel
Pin#: 1325232047
In an Average Location
The Average Location in Cook County that is not in a TOD.

PARKING: 0.43
Parking spaces used per household
27% lower than the Average Location

JOB ACCESS: 952,702
Total Jobs within 30 Minute Transit Trip
392% higher than the Average Location

TRANSIT QUALITY: 9.5
AllTransit™ Performance Score (10 Point Scale)
Score is 3.3 higher than the Average Location

Proposed Building Design	Studios	1 BR	2 BR	3+ BR	Building
Number of Units	0	0	50	0	50
Affordable Units	0	0	50	0	50
Market Rent	\$810	\$940	\$1,090	\$1,390	\$1,090
Affordable Rent	\$0	\$0	\$654	\$0	\$654

Location Affordability Portal Version 2
Understanding the Combined Cost of Housing and Transportation

HOME ABOUT MYTRANSPORTATION COST CALCULATOR LOCATION AFFORDABILITY INDEX VIGNETTES RESOURCES HELP

My Transportation Cost Calculator

Enter an address, intersection, city, county, state or zip code to add marker. Markers may be dragged to a new location.

Map Satellite
2428 N Francisco Ave, Chicago, IL 60647, USA

Locations	Your Household	Housing	Transportation	Total Housing and Transportation Cost
2428 N Francisco Ave, Chicago, IL 60647, USA	\$0	\$0	\$0	\$0

2428 N Francisco Ave, Chicago, IL 60647, USA

Household Profile: 3



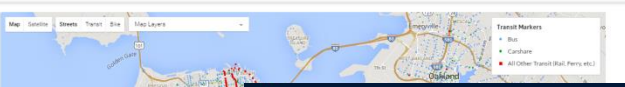
Green TRIP **Connect beta**
Creating affordable, low traffic and healthy communities

Connect Tool About Methodology Glossary FAQ Feedback Green TRIP Program

Step 1: Enter a location
Step 2: Pick a parcel

Enter address, city, zip, transit station, etc.

VIDEO LAUNCH TOOL



Park Right DC BETA Site

Enter a location...

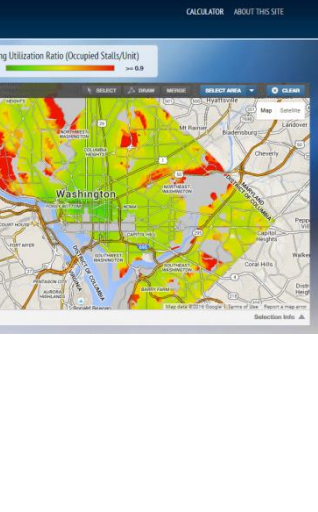
Parking Utilization Ratio (Occupied Stalls/Unit)
< 0.3

Walkability: 0.78

Population: 133,416

Jobs: 200,070

Transit Service: 1,375



GREEN VALUES STORMWATER TOOLBOX

- What is Green Infrastructure?
- How Landscapes Work
- About This Site
- Resources

Welcome to the Green Values® Stormwater Toolbox

RainReady Community Risk Tool

Catchment: 361
Area: 2,806,068 sqft
FLOOD RISK SCORE: 5
OPPORTUNITY SCORE: 2

AVERAGE ANNUAL RAINFALL
Annual Rainfall (in): 35.8
Design Storm Rainfall (in): 5.5
Design Storm Time (hr): 24

REDUCTION GOAL
Precipitation Depth Capture (in): 2.0
26.6% Goal Reached

Total Cost: \$2,116K

GREEN IMPROVEMENTS

Improvement	Lifecycle Cost	% Towards Goal
Roof Water Capture: Green Roof	\$0	0%
Roof Water Redirection: Planter Boxes	\$537K	4.6%
Rain Garden	\$1,579K	22%

Map Layers Community Areas

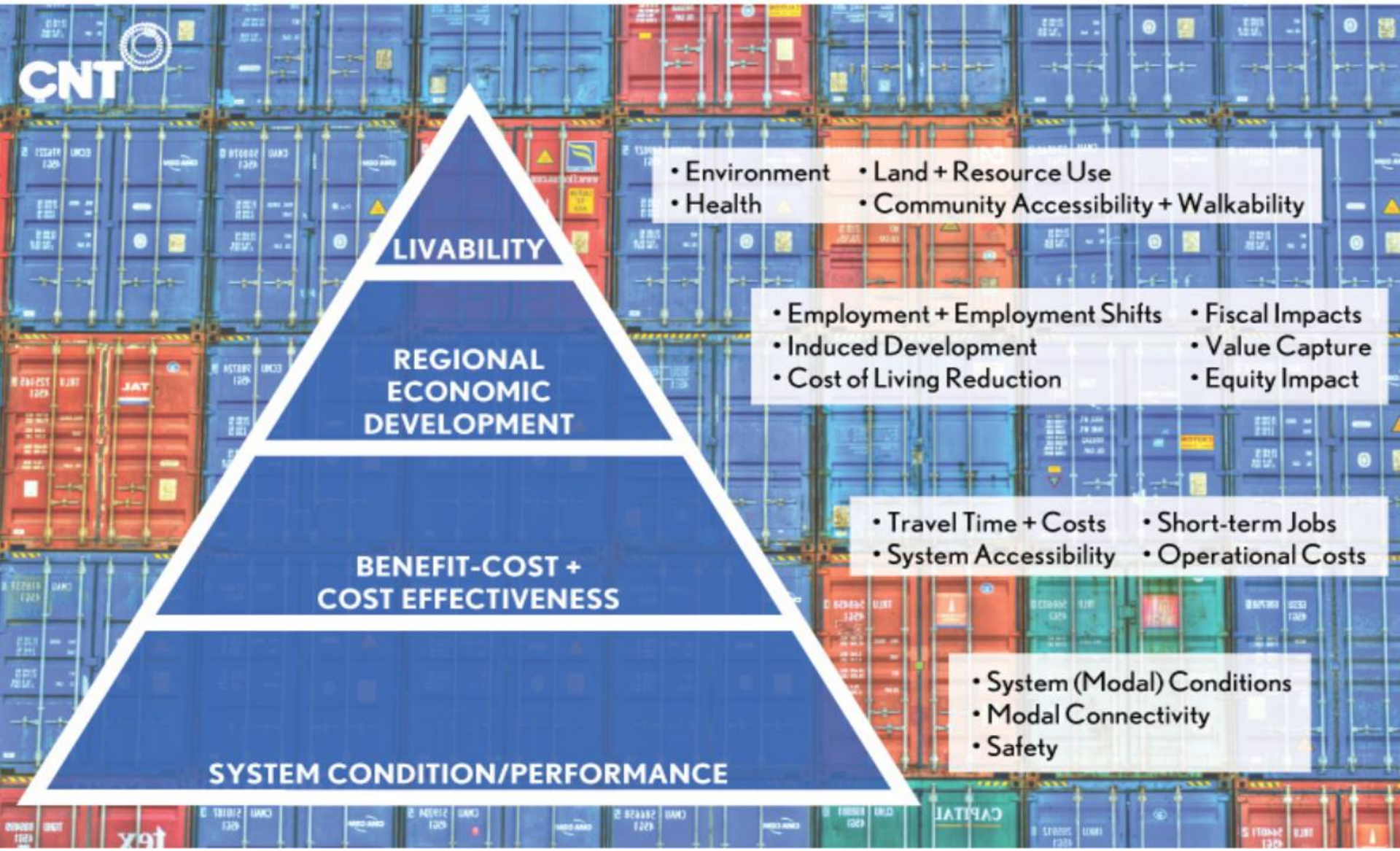
Upstream Selected Catchment Downstream

FLOOD RISK
low 1 2 3 4 5 high

GREEN IMPROVEMENT CO-BENEFITS

1.9% Runoff Reduction	\$14 Water Treatment Cost Reduction	8.2% Volume Capture Increase
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What If We Planned Like This— Findings from A Survey



Household Transportation GHG Emissions per Household—Used in Chicago Climate Action Plan, California Cap and Trade Allocations

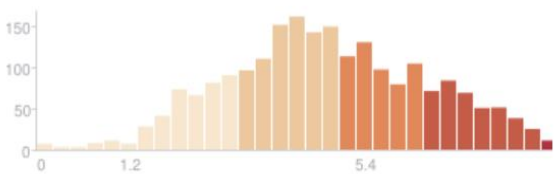
Chicago IL

Municipality: Chicago, IL

H+T Costs % Income: 44%

Housing: 29% Transportation: 15%

Annual GHG per Household



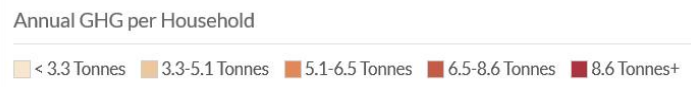
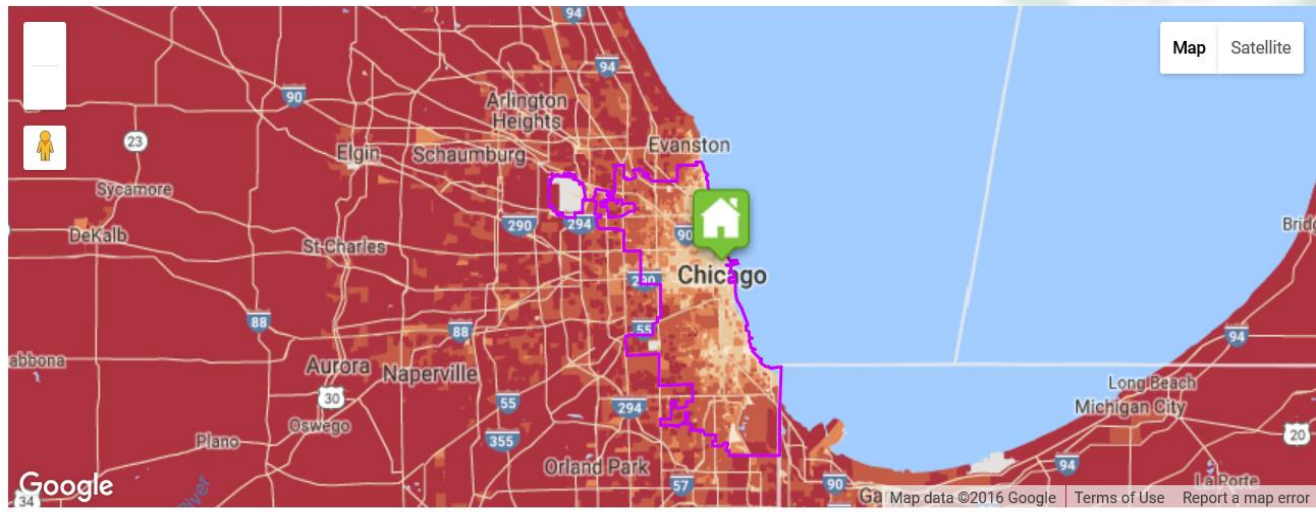
Annual GHG per Household
 Average: 4.89 Tonnes Range: 0.00 - 10.26

Population	Household	Neighborhood
		Population
		% of Population
< 3.3 Tonnes	391,686	14.5%
3.3 - 5.1 Tonnes	917,729	33.9%
5.1 - 6.5 Tonnes	699,682	25.8%
6.5 - 8.6 Tonnes	615,798	22.7%
8.6 + Tonnes	82,814	3.1%
Total	2,707,709	100%

Household: Regional Typical Regional Moderate National Typical

Income: \$61,156 Commuters: 1.20 workers Household Size: 2.72 people

Tour | Share Map



Two Views of Household Transportation Affordability

H+T® Two Views of Affordability

Chicago IL



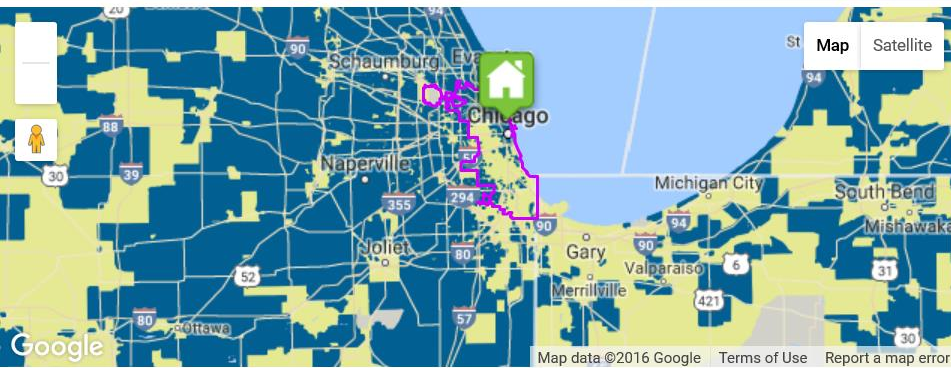
You may enter an address, city, county or zip

Map Detail: Low (2-Color) High (8-Color)

Municipality: Chicago, IL

Regional Typical
 Regional Moderate
 National Typical
 Income: \$61,156 Commuters: 1.20 workers Household Size: 2.72 people
 Block Groups: 2,179 Households: 1,029,375

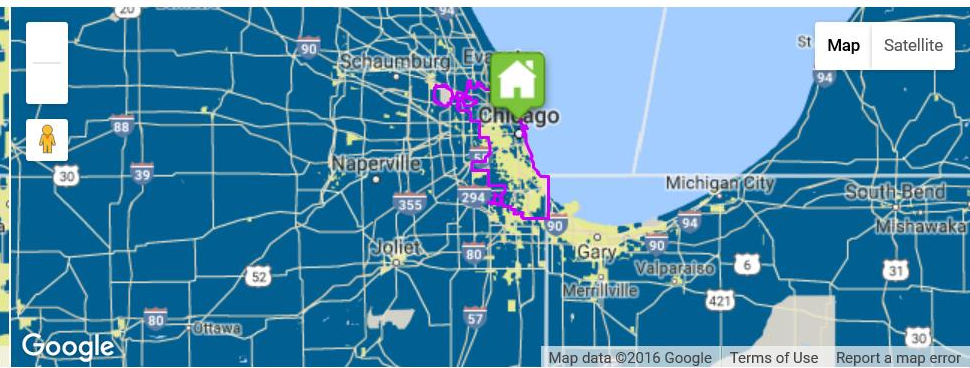
Tour | [+] Share Map



Housing Costs % Income **29%**
Range: 5 - 79

< 30% 30%+

[Fact Sheet](#)

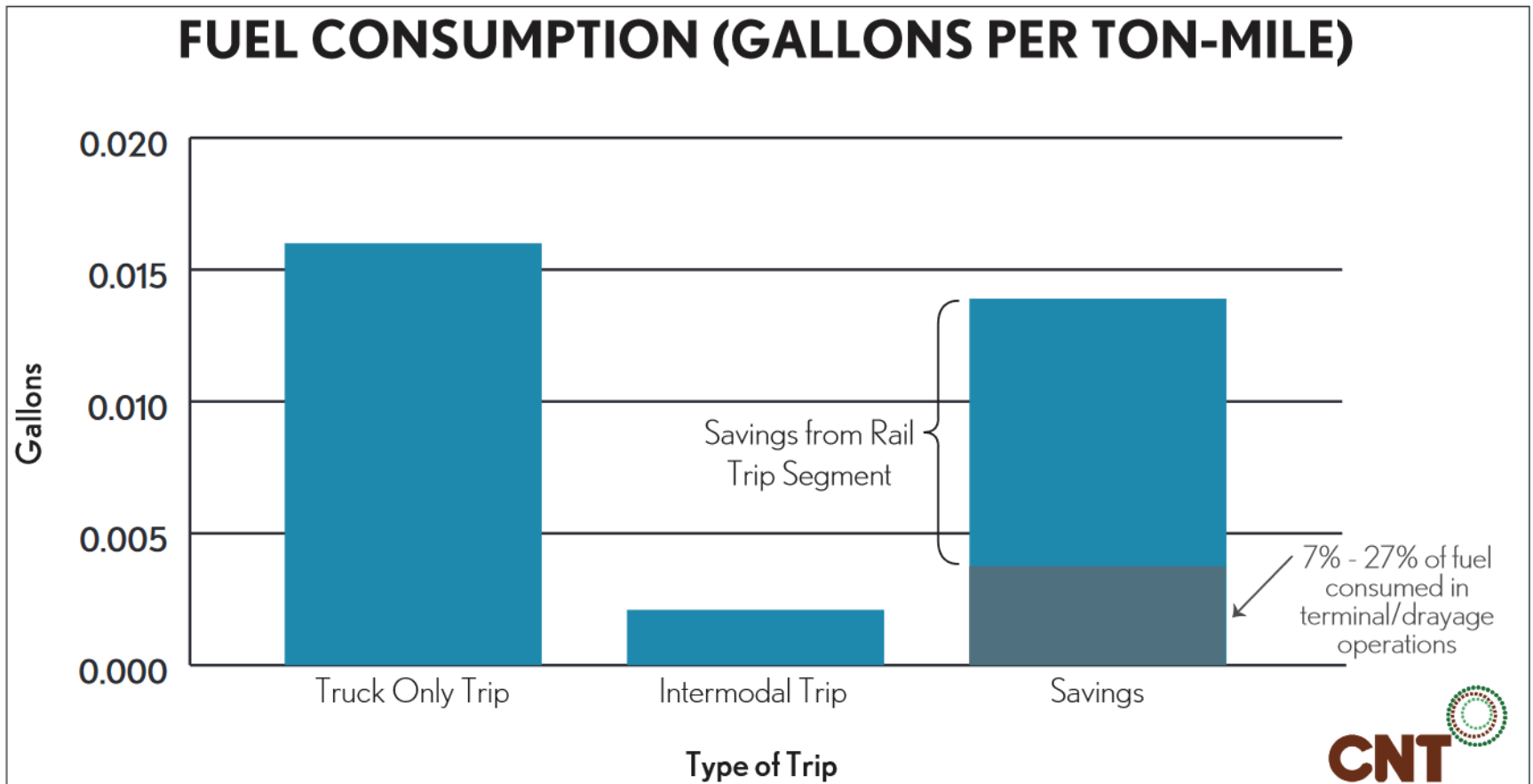


Housing + Transportation Costs % Income **44%**
Range: 19 - 97

< 45% 45%+

[Fact Sheet](#)

Energy Intensity by Shipping Mode



Impact of Manufacturing-Shipping Mismatch on Cargo Vehicle Miles Traveled

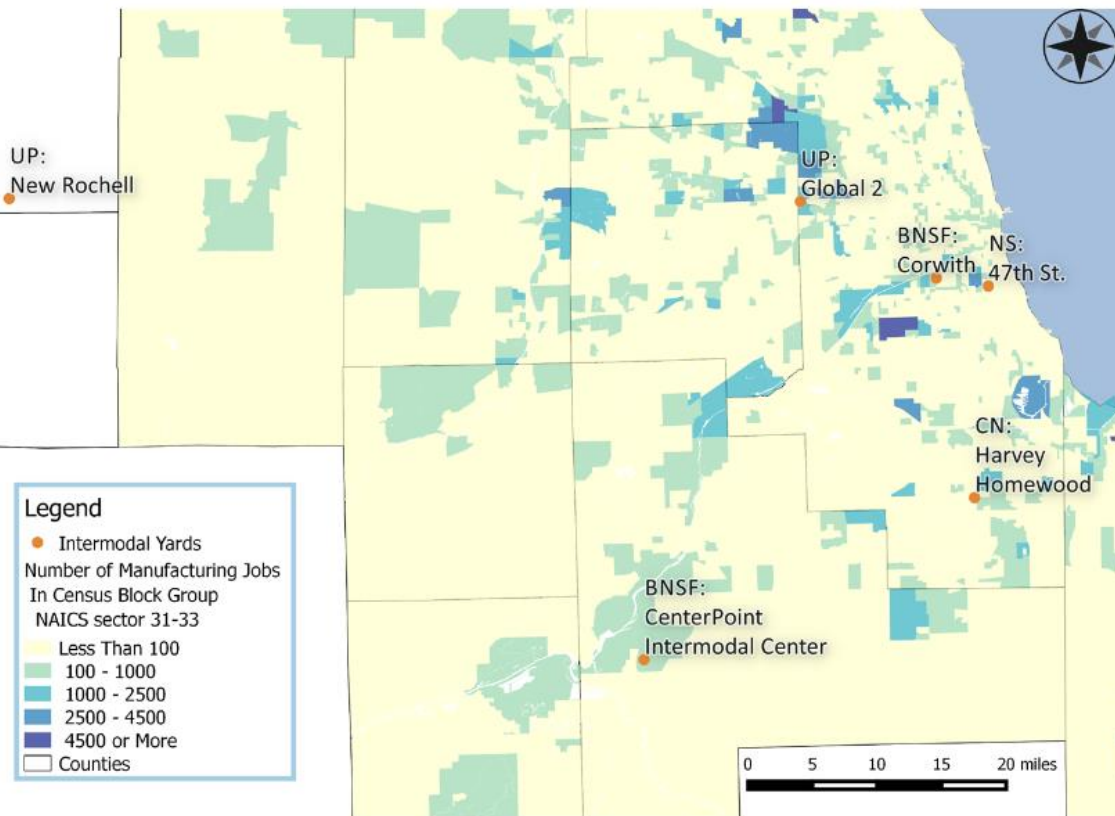


FIGURE 3

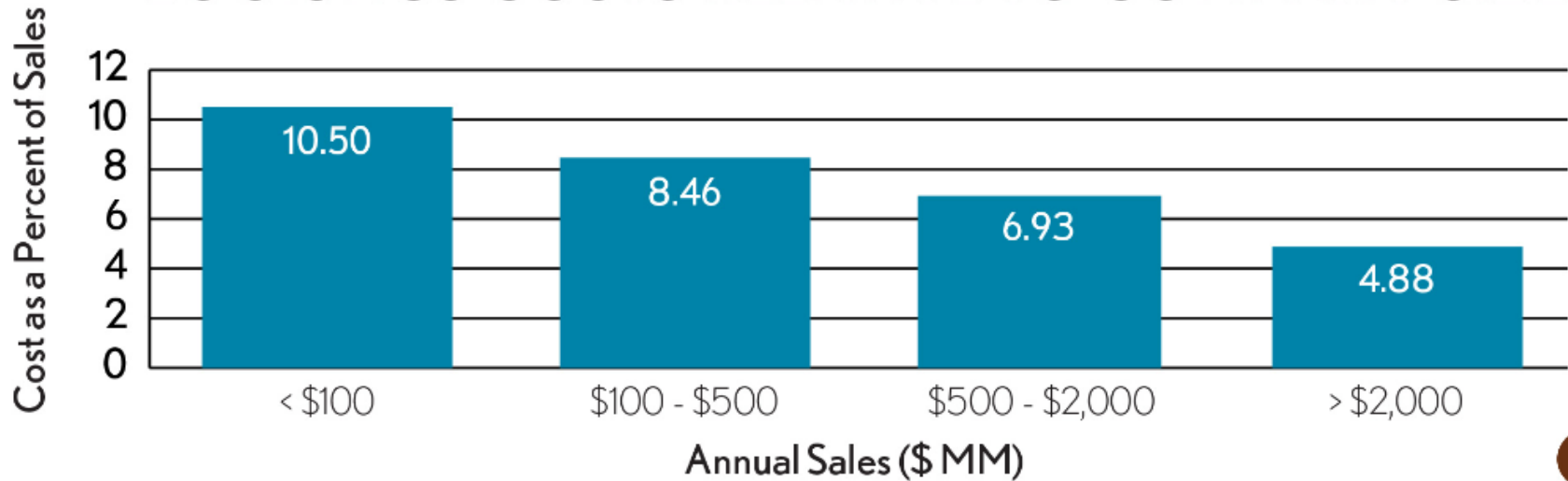
Location of Selected Intermodal Terminals and Manufacturing Job Centers in Metropolitan Chicago

Source: CNT Analysis of Longitudinal Employer-Household Dynamics (LEHD) Data 2013

Name	Mean Distance to Manufacturing Jobs
UP - Global 2	19.41158557
BNSF - Corwith	21.94395637
NS - 47 th St.	23.92049384
CN - Harvey/Homewood	31.40638945
BNSF - CenterPoint Intermodal Center	42.6437734
UP - New Rochell	64.92027132

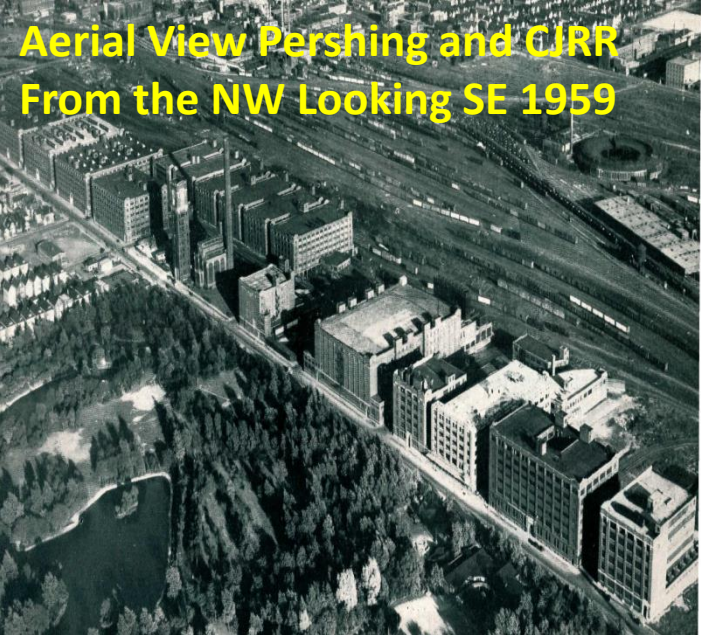
Impact of Limiting Rail Service to Carload and Unit Trains

LOGISTICS COSTS RELATIVE TO COMPANY SIZE

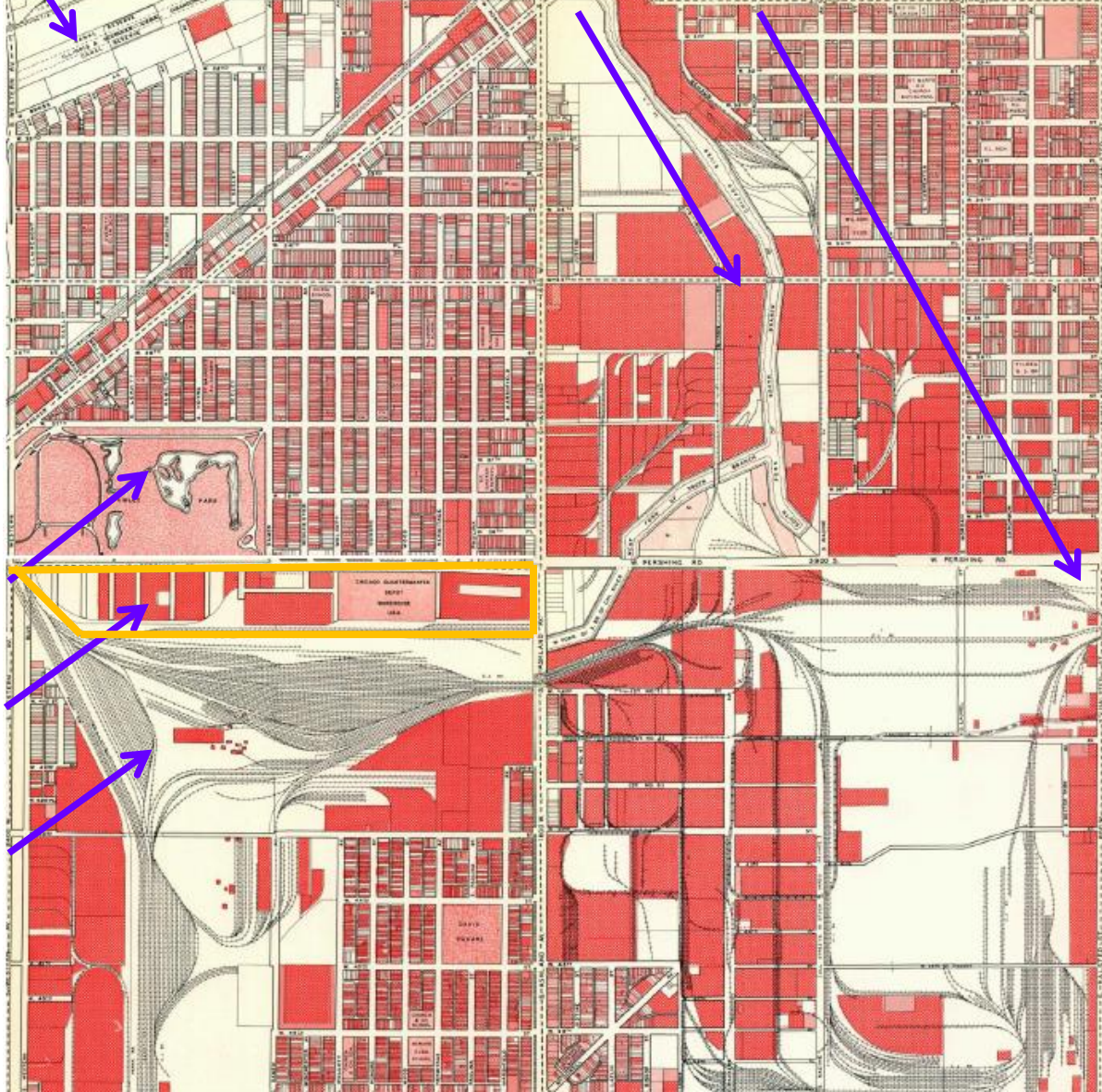


Central Manufacturing District, Halsted-Western & 31st – 47th Showing Aerial of Pershing Road

Aerial View Pershing and CJRR From the NW Looking SE 1959



Ship & Sanitary Canal CMD East Union Stockyards



TYPE OF USE

[Red box]	SINGLE FAMILY - DETACHED
[Red box]	SINGLE FAMILY - ATTACHED
[Red box]	TWO FAMILY
[Red box]	THREE AND FOUR FAMILY
[Red box]	APARTMENTS WITHOUT BUSINESS
[Red box]	APARTMENTS WITH BUSINESS
[Red box]	BUSINESS WITH DWELLING UNITS
[Red box]	COMMERCIAL
[Red box]	COM'L & IND'L. (MIXED)
[Red box]	INDUSTRIAL
[Grey lines]	RAILROADS
[Red box]	PARKING & USED CAR LOTS
[Red box]	OTHER TEMPORARY BUSINESS
[Red box]	PARKS & PLAYGROUNDS
[Red box]	CEMETERIES
[Red box]	OTHER PUBLIC & INSTITUTIONAL
[Red box]	STREETS & ALLEYS
[Blue lines]	WATERWAYS
[White box]	VACANT

McKinley Park

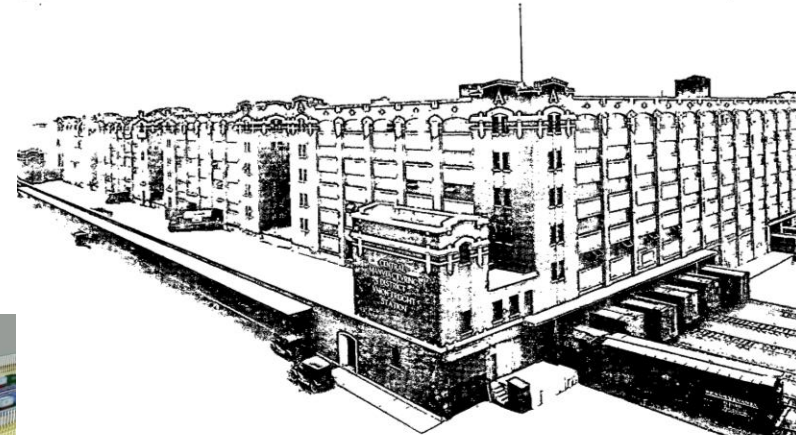
CMD
Pershing Road

CJ RR Yards

Aerial CMD Magazine March 1959
Maps in Land Use in Chicago 1940

COD: WHAT'S EVOLVING

- Technology to eliminate emissions, noise and glare and save up to 90 percent on land use
- Consolidation centers to bundle less-than-railcar and less-than-truckload domestically produced goods
- Re-visiting how to fit manufacturing into a 21st century city – “extreme mixed use”



NEWER PERFORMANCE MEASURE EXAMPLES

<p>Reduced Dwell Times for Both Truck and Rail “Turns”</p>	<p>Reduces In-Yard Congestion + Emissions</p>
<p>Reduced truck queuing</p>	<p>Reduces unnecessary driver shortages</p>
<p>Increased daily loads/truck and use of each truck chassis Reduced in-yard tractor dependence</p>	<p>Increases drayage productivity and asset utilization</p>
<p>Increased Land Use Intensity—e.g. reducing number of operations to turn a 1-mile train (96 well-car, 228 containers) from 28.7k to 5k reduces land requirement from 200 to 50 acres</p>	<p>Creates + Captures value through tandem manufacturing & distribution + mixed-use Increases employment intensity and public revenue Reduces minimum economical rail distance from 600 to 300 miles</p>
<p>Increased ability to handle off-schedule train arrivals increases yard and network efficiencies</p>	<p>Increases capacity and opportunity for joint passenger + cargo services and thereby both TOD and COD</p>

Thank You!

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