

Economic Impacts of Reducing Vehicle Miles Traveled in Metro Denver

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Impresa, Inc.,
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Roadmap

1. Transportation and Air Quality
2. Vehicle Miles Traveled in Metro Denver
3. Economic effects of VMT reductions
4. Walkability
5. Accessibility and Home Values

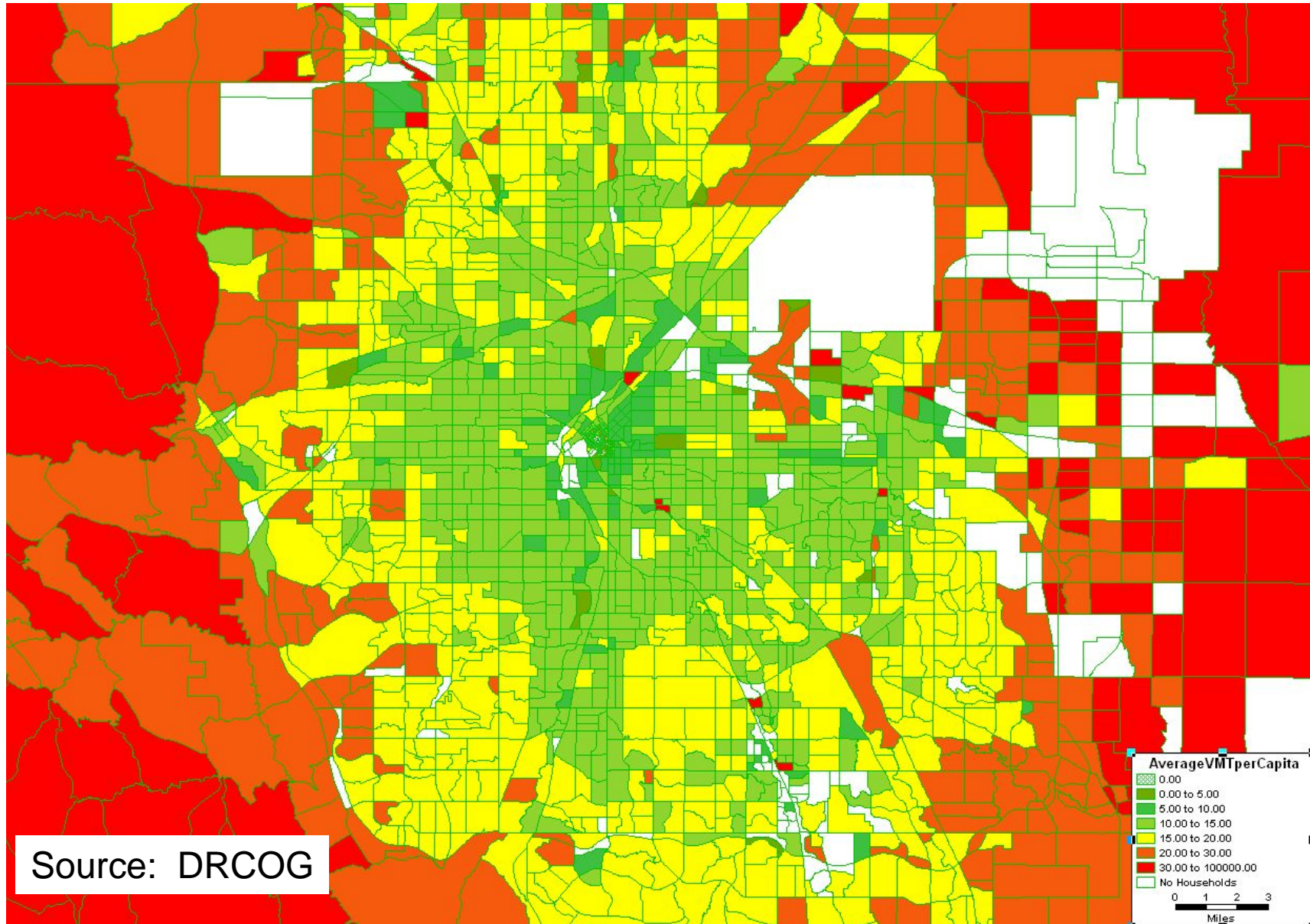
1. Transportation and Air Quality

- Transportation is responsible for most of air pollution in Metro Denver
 - A majority of criteria pollutants
 - A quarter of greenhouse gases
- Transportation emissions are determined largely by VMT
- Reducing VMT lowers emissions

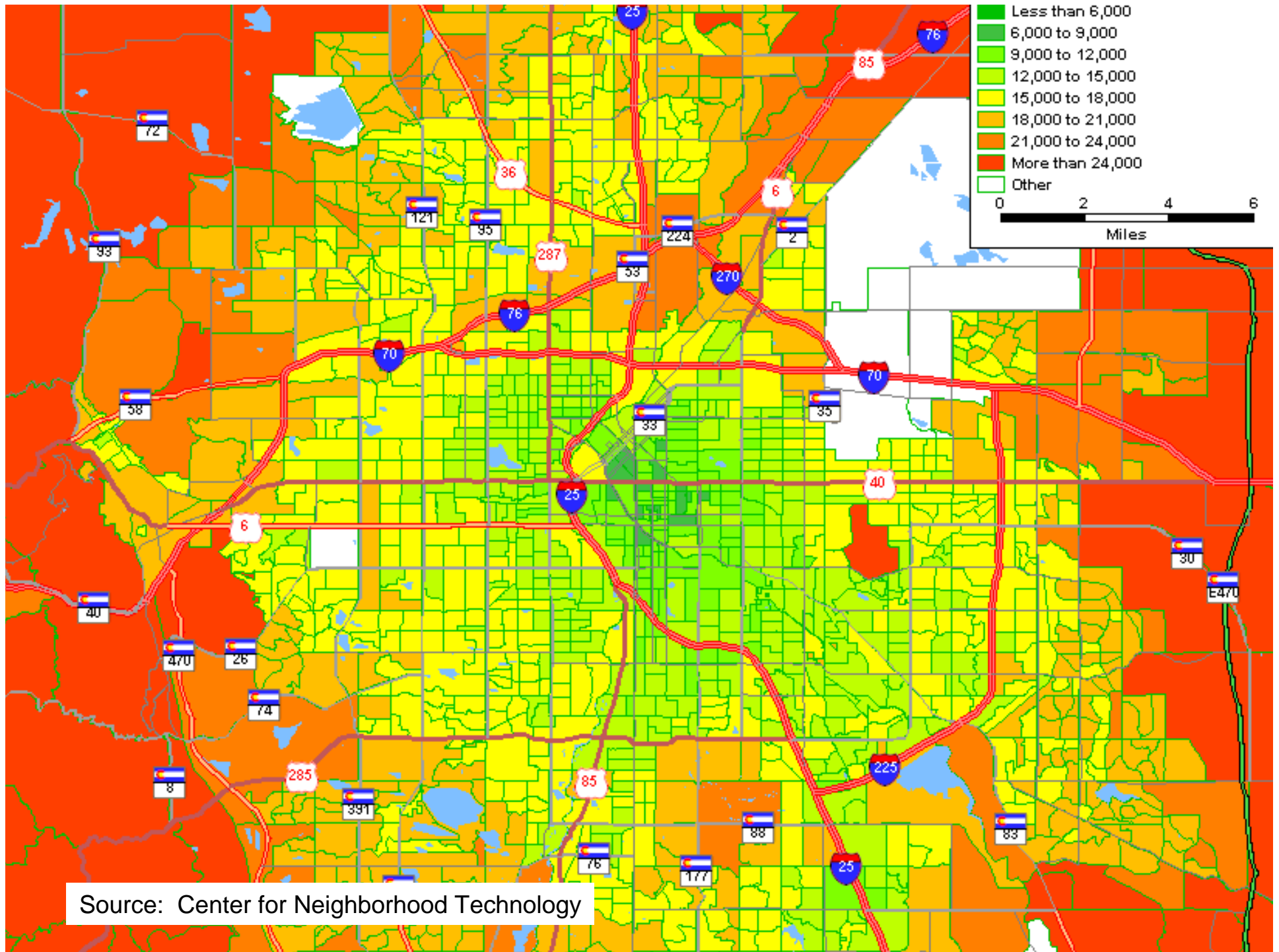
2. Vehicle Miles Traveled

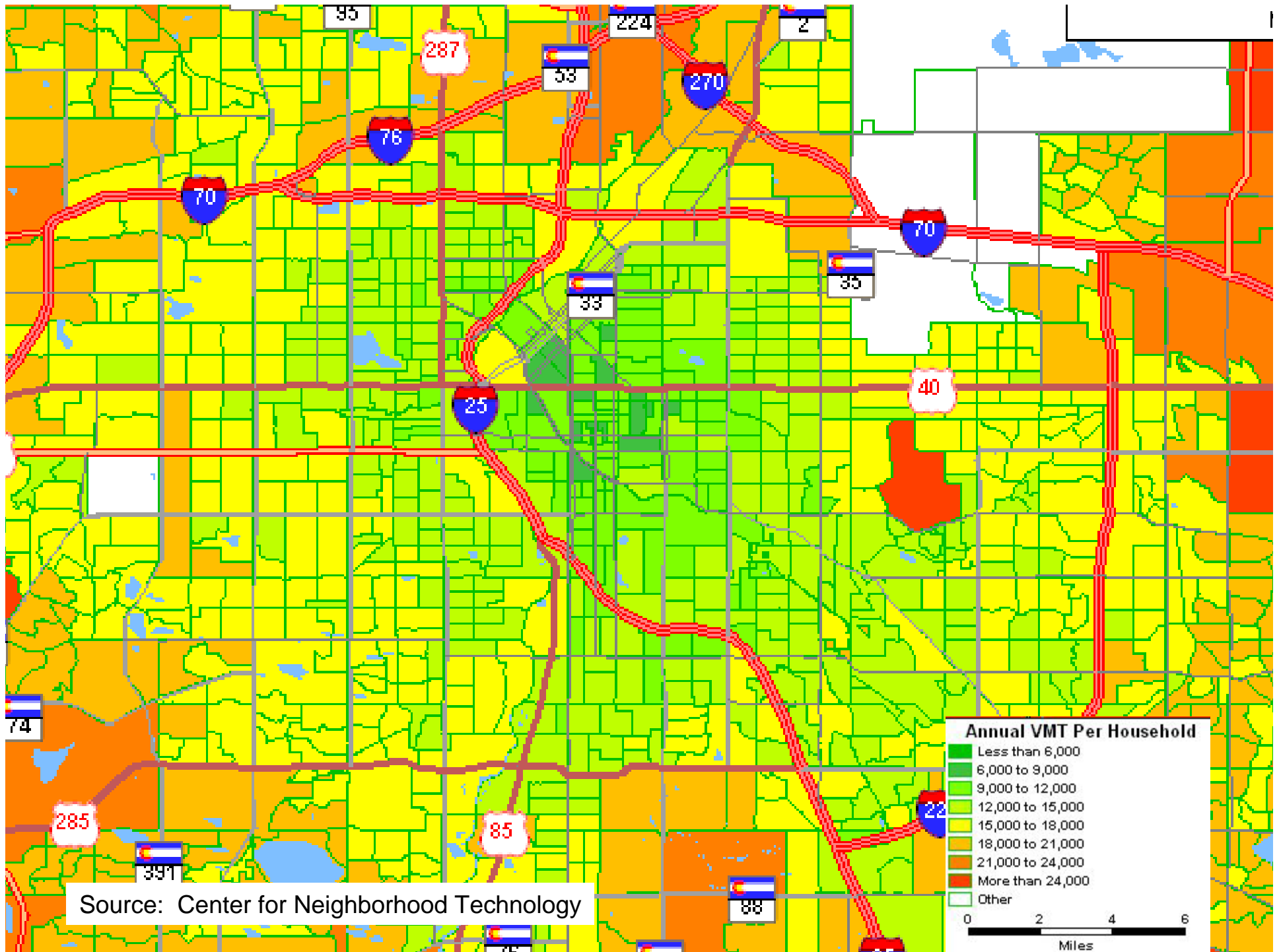
- VMT varies substantially across the region
- Two sources of estimates
 - DRCOG travel modeling
 - Center for Neighborhood Technology

VMT Per Person



Source: DRCOG



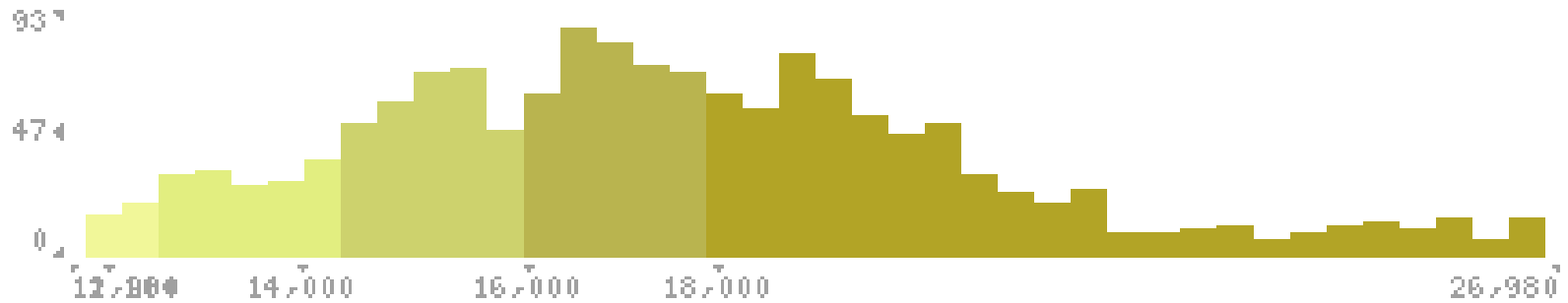


Wide variations in VMT per household

Vehicle Miles Traveled (VMT) per Household

▼ Change

Block Group Count



Vehicle Miles Traveled (VMT) per Household. (Annual Miles)

Source: Center for Neighborhood Technology

Distribution of VMT in Denver-Boulder

Miles driven per household per year

- 10th Percentile 12,250
- 25th Percentile 14,750
- 50th Percentile 17,050
- 75th Percentile 19,500
- 90th Percentile 22,100

Impresa calculations from CNT data for Denver-Boulder metropolitan area,
Households aggregated by block group average

3. Economics of VMT Reduction

- Neighborhoods that drive less spend less on transportation
- Lowering VMT lowers transportation costs
- The gains are substantial
- At the metro level, Portland saves \$1 billion annually on cars and fuel because it drives 4 miles less per day than US average

Economic Benefits of Reducing VMT in Denver

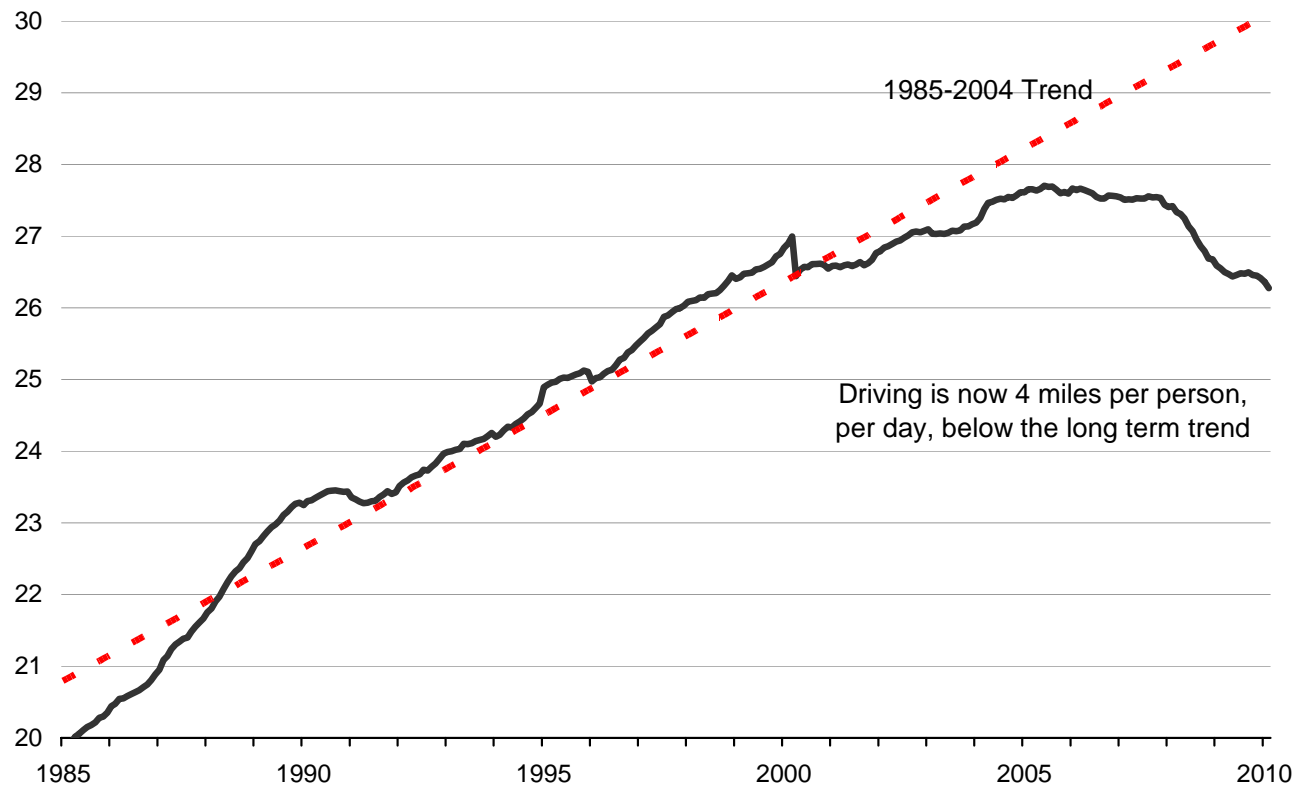
- 50th Percentile 17,050
- 75th Percentile 19,500
- Difference: 2,450 miles per household / year
- Savings: 40 cents per mile
- About \$980 per year per household

Aggregate Benefits

- How much less would Denver spend on transportation if the next 1,000,000 residents were accommodated in more accessible neighborhoods?
- 1,000,000 population / 2.5 persons per household = 400,000 households
- \$980 savings per household per year
- Aggregate benefit: \$390 million annually

This is achievable—driving is starting to decline

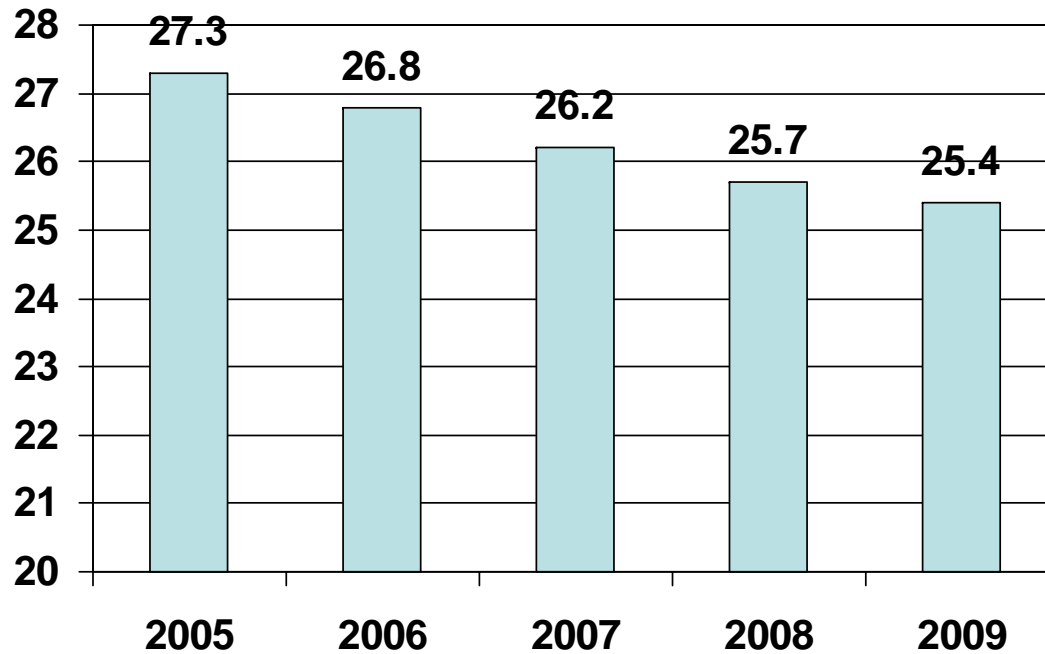
Per Capita VMT declining since 2005
Vehicle miles traveled per person per day, US



Source: Bureau of Transportations Statistics, Impresa calculations
12 month moving average, monthly data through February 2010

Denver VMT/capita decreasing

Vehicle Miles Traveled per person per day



Source: DRCOG vehicle miles traveled estimates divided by estimated Metro Denver Population

4. Walkability

- Walkability is a key characteristic of successful urban places
- We can measure walkability
- Walkability is positively correlated with real estate values


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What is Walk Score?

Walk Score measures the walkability of any address.

1. Type an address

Street Address:

88 Bedford St, New

2. See what's nearby



3. Get your Walk Score



Find Your City

[See walkability maps and neighborhood rankings](#) for the 2,500 largest cities in the U.S.



San Francisco, CA



New York, NY



Boston, MA



Chicago, IL

1445 Market Street

Downtown
Denver

Walk Score **98** Out of 100 **Walker's Paradise** 1445 Market St Denver Ren

[Overview](#) [More Amenities](#) [Your Commute](#) [Lodo](#)

Restaurants	▼
PF Changs	0.02mi
Coffee	▼
Starbucks	0.11mi
Groceries	▼
EVOO Marketplace	0.03mi
Shopping	▼
Patagonia Denver	0.03mi
Schools	▼
Emily Griffith Oppo	0.61mi
Parks	▼
Larimer Square Hist	0.08mi
Books	▼
Big Dog Text Books	0.05mi
Bars	▼
Pour House Pub the	0.02mi
Entertainment	▼
Valley Home Movies	0.34mi



Map data ©2010 Google

Naples Way, Aurora

Suburban
Aurora

Walk Score **40** Car-Dependent
Out of 100

Overview More Amenities Your Commute Laredo Highline

- Restaurants**
Lam's Garden Chines 0.54mi
- Coffee**
Mocha Motive Cafe 0.74mi
- Groceries**
Legos Market 0.75mi
- Shopping**
Artistic Apparel LL 0.52mi
- Schools**
William Smith High 0.35mi
- Parks**
Apache Mesa Park 0.17mi
- Books**
Aurora Public Schoo 0.6mi
- Bars**
Kasbah 0.74mi
- Entertainment**
Century Aurora 16 1.95mi

Map data ©

Wanderlust Place, Parker

Exurban
Parker

Walk Score **12** Car-Dependent
Out of 100

E Wanderlust Pl Parker

Overview More Amenities Your Commute

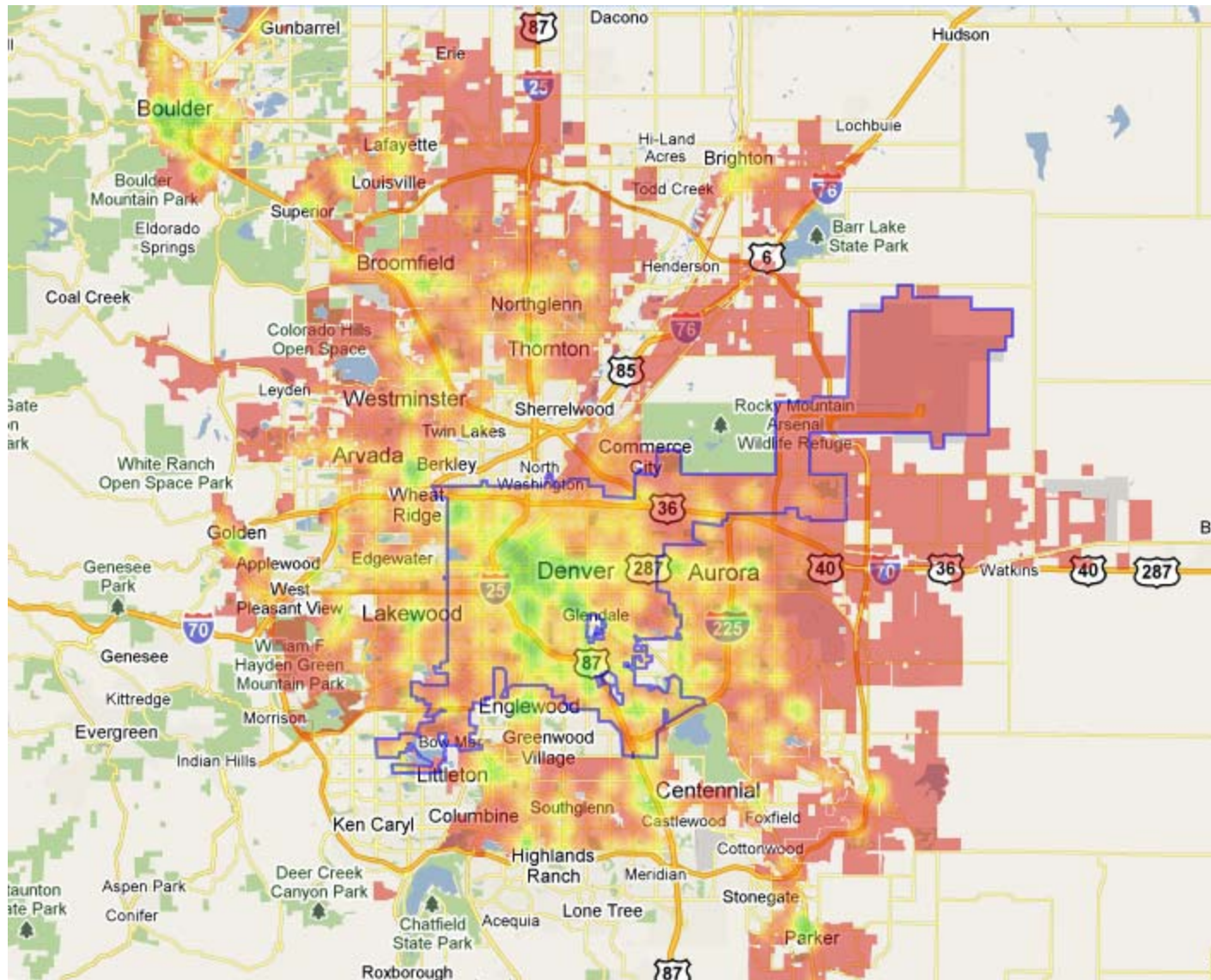
Restaurants	
Yuan Palace Mongoli	0.79mi
Coffee	
Starbucks	1.78mi
Groceries	
King Soopers	1.51mi
Shopping	
King Soopers	1.51mi
Schools	
Iron Horse Elementa	1.09mi
Parks	
Lost Watch Communit	1.87mi
Books	
Outskirts Press, In	1.95mi
Bars	
Takoda Tavern	0.94mi
Entertainment	
AMC Twenty Mile 10	2.42mi

Map data ©

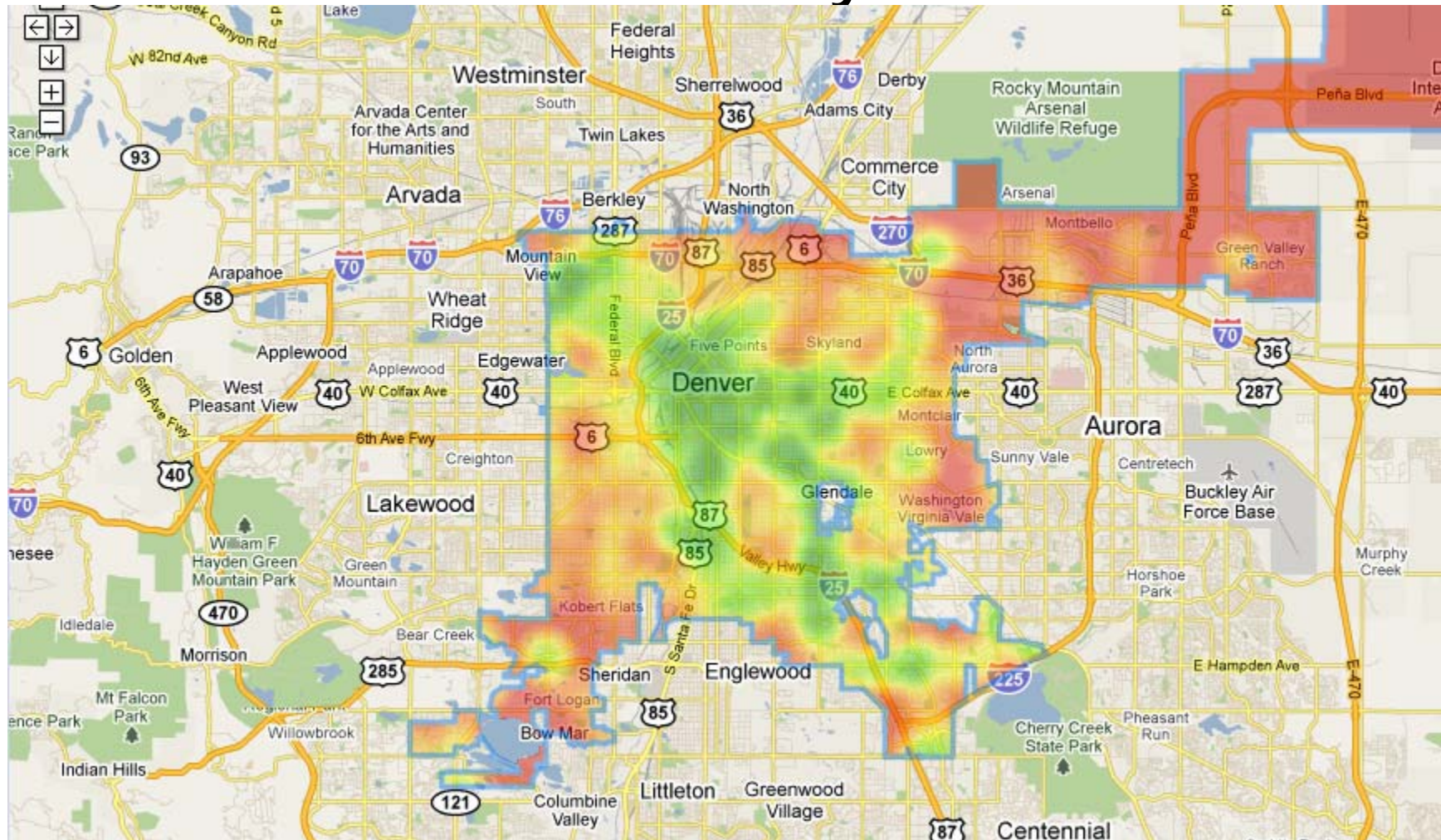
Walkscore Destinations

- Grocery Store
- Restaurant
- Coffee Shop
- Bar
- Movie Theater
- School
- Park
- Library
- Bookstore
- Fitness
- Drug Store
- Hardware Store
- Clothing and Music Store

Metro Denver Walkscores



Walkscore in City of Denver



Source: Walkscore.com (City of Denver only)

Most Walkable Neighborhoods

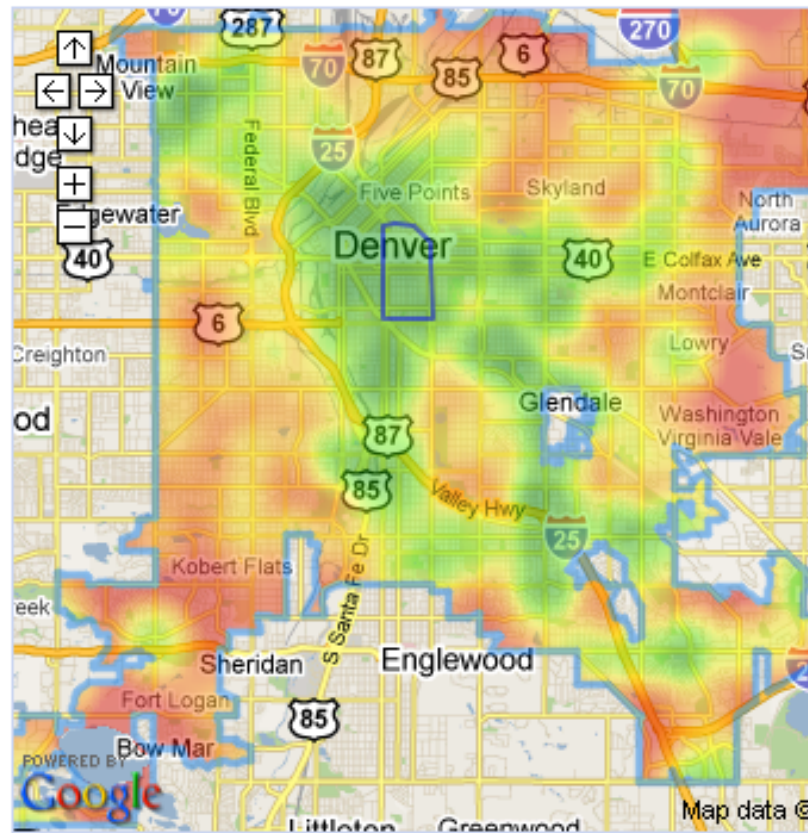
Neighborhood	Score
1 Lodo	97
2 Golden Triangle	96
3 Capitol Hill	93
4 Cherry Creek	90
5 Baker	89
6 Alamo Placita	87
7 Five Points	87
8 City Park	85
9 Highland	79
10 University	75
11 Central East Denver	75
12 Jefferson Park	73
13 Northwestern Denver	73
14 Washington Park	68
15 Park Hill	67
16 Southeastern Denver	66
17 Central West Denver	64
18 Northern Denver	62
19 Southwestern Denver	53
20 Stapleton	35
21 Gateway-Green Valley	31



#3 Capitol Hill

Walk Score: 93

Population: 18,860



[Big Map View](#)

0-49 50-69

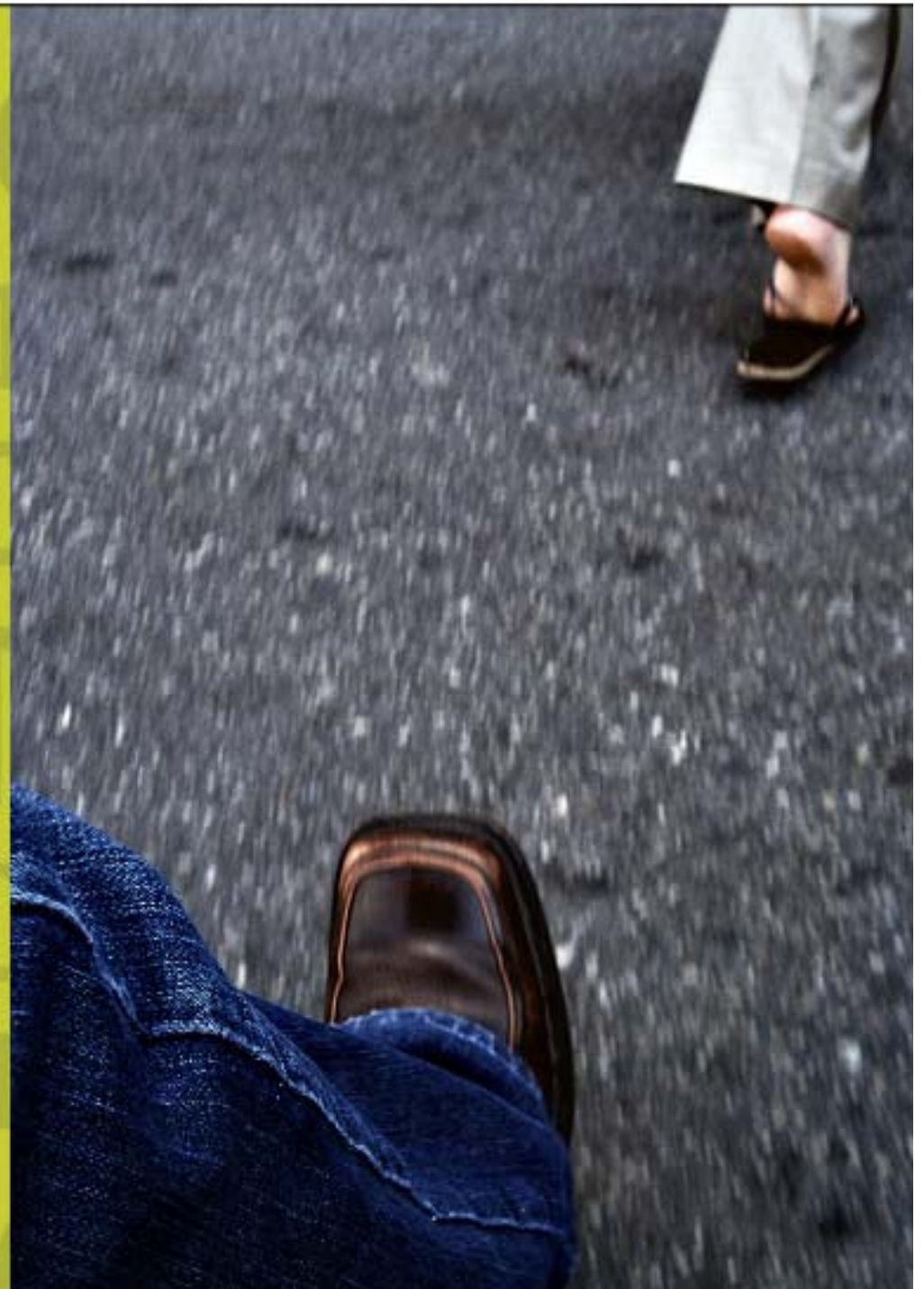
Walking the Walk

How Walkability
Increases Home
Prices in U.S. Cities

By Joseph Cortright for

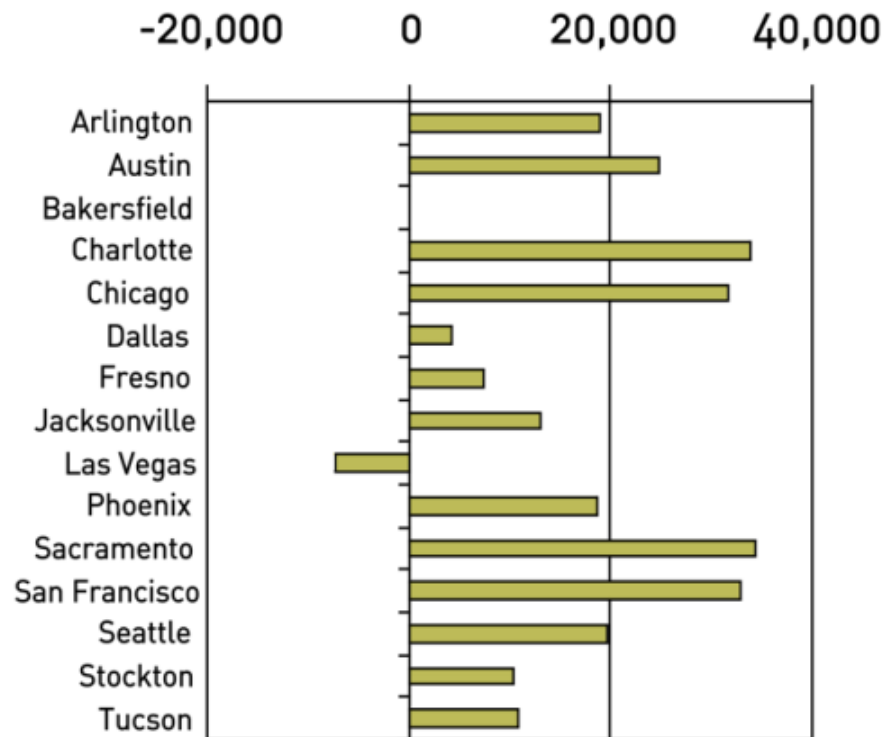
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Walkability adds value

Improving Walkability Adds \$10,000 to \$30,000 to Home Values in Most Cities

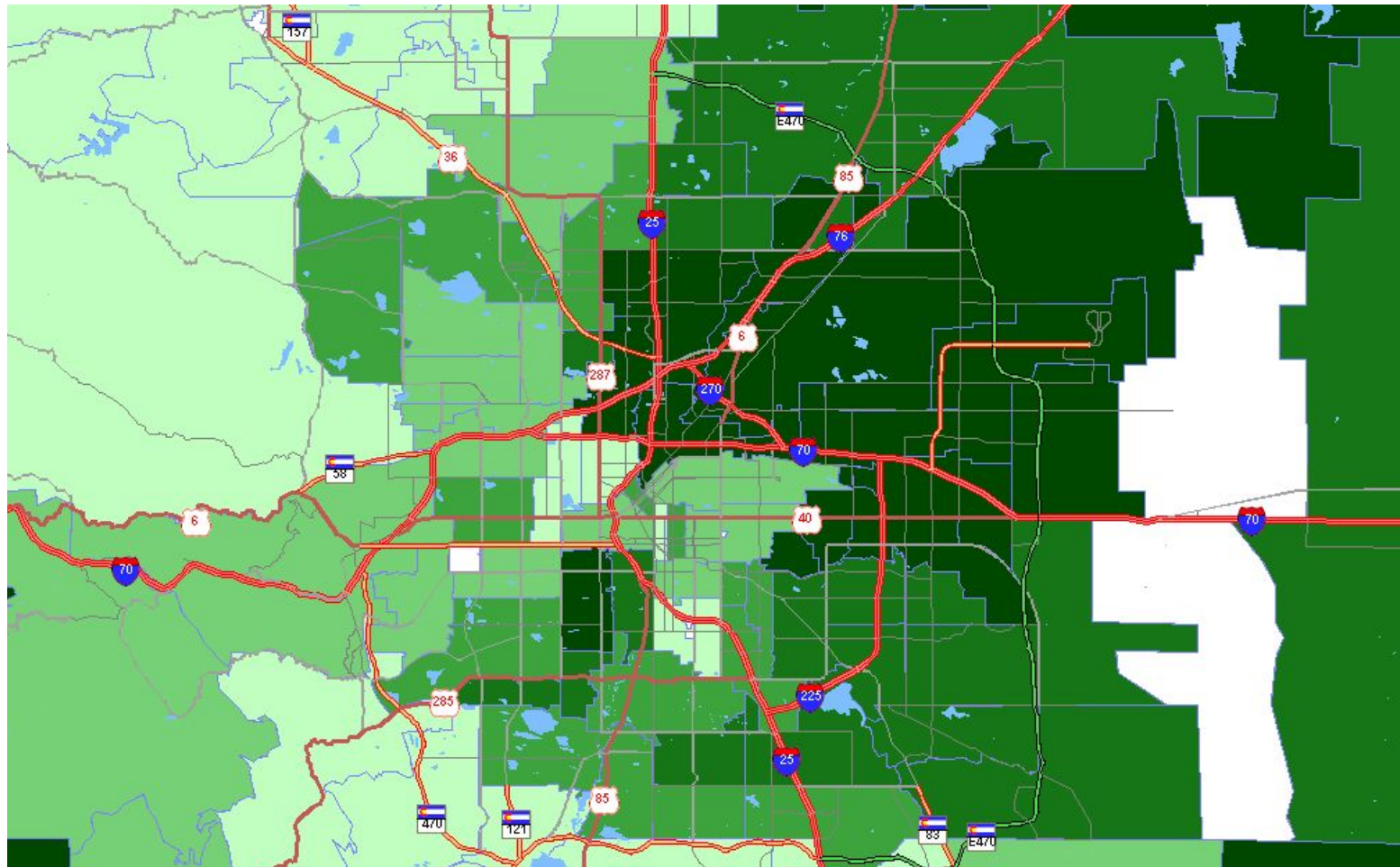


5. Accessibility and Home Values

- Home values have declined since the peak
- But declines have been greatest in areas where commuting distances and travel costs are highest

Biggest Declines in NE Area

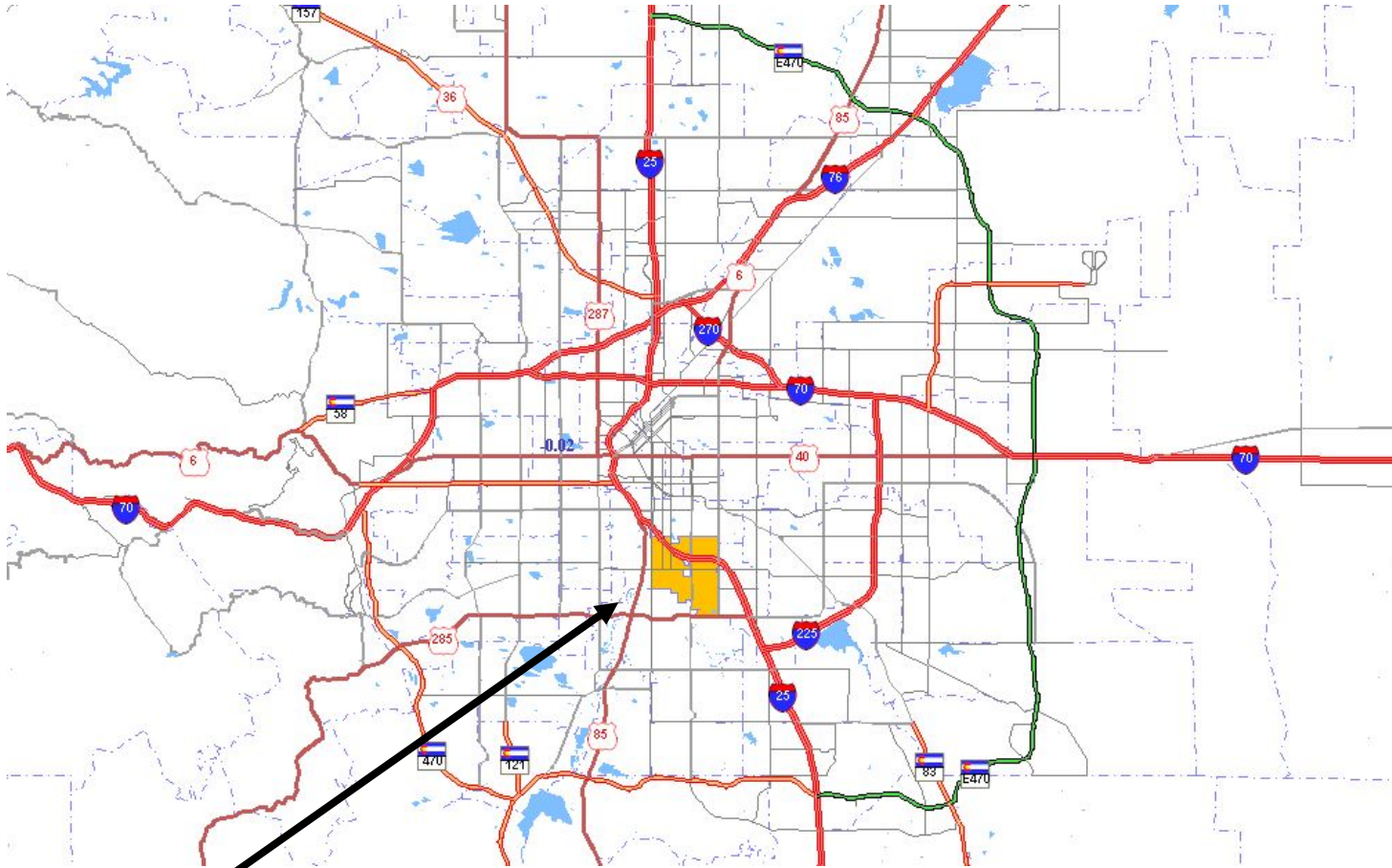
Change in housing values, peak to 2009Q3, (Zillow data, Impresa analysis)



■ Largest price declines

□ Smallest price declines

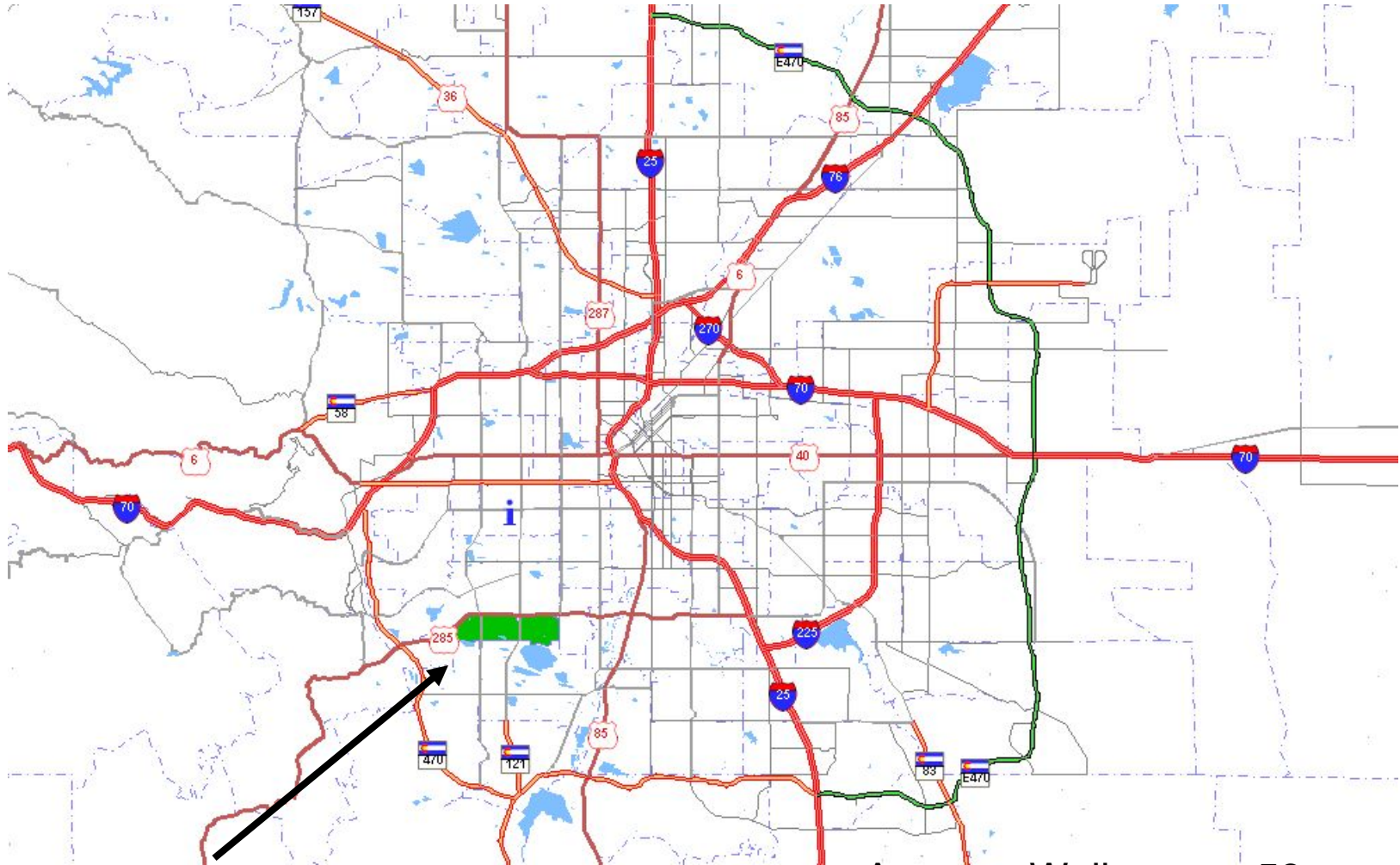
University Park



Zip Code 80210

Average Walkscore: 75

SW Denver



Zip Code 80235

Average Walkscore: 53

Denver Metro Home Prices and Home Values

Zillow Home Value Index [?](#)

\$ 223,400 ▼ -1.4 % Y-o-Y

Calculated 10/05/2010*

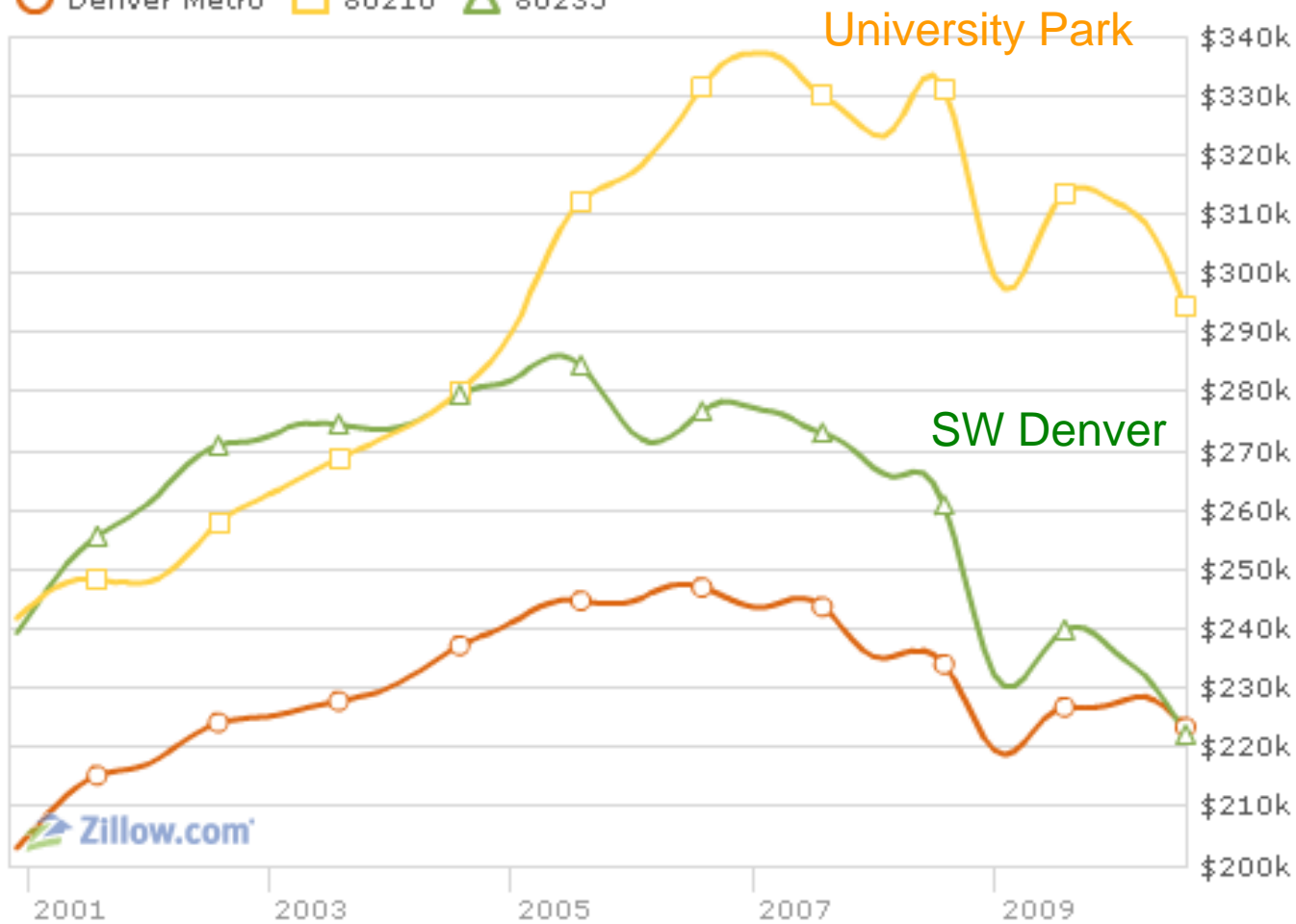
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FAQs

○ Denver Metro □ 80210 △ 80235



Conclusions

- Transportation affects air quality
- VMT is a key leverage point for transportation
- Land use patterns shape VMT
- Reducing VMT saves households money; going from 75% to 50% percentile = \$980/ year
- Gross savings could be \$390 million annually
- Walkability is highly correlated with lower VMT
- More walkable and less auto dependent areas have higher housing values and hold these values better