Memorandum

CITY OF DALLAS

DATE March 24, 2017

TO Honorable Members of the Quality of Life & Environment Committee: Sandy Greyson (Chair), Tiffinni A. Young (Vice Chair), Rickey D. Callahan, Mark Clayton, Philip T. Kingston, B. Adam McGough

SUBJECT **Transportation Equity**

On Monday, March 27, 2017, the Committee will be briefed by Dr. Shima Hamidi from the University of Texas at Arlington on Transportation Equity. The briefing materials are attached for your review.

Please feel free to contact me if you have any questions or would like additional information.

Theresa O'Donnell
Chief Resilience Officer
214.670.3309

c: T.C. Broadnax, City Manager
    Larry Casto, City Attorney
    Craig D. Kinton, City Auditor
    Rosa A. Rios, City Secretary
    Daniel F. Solis, Administrative Judge
    Kimberly Bizor Tolbert, Chief of Staff to the City Manager
    Majed A. Al-Ghafry, Assistant City Manager

    Mark McDaniel, Assistant City Manager
    Eric D. Campbell, Assistant City Manager
    Jill A. Jordan, P.E., Assistant City Manager
    Joey Zapata, Assistant City Manager
    M. Elizabeth Reich, Chief Financial Officer
    Alan E. Sims, Interim Chief of Community Services
    Directors and Assistant Directors

Transportation Equity
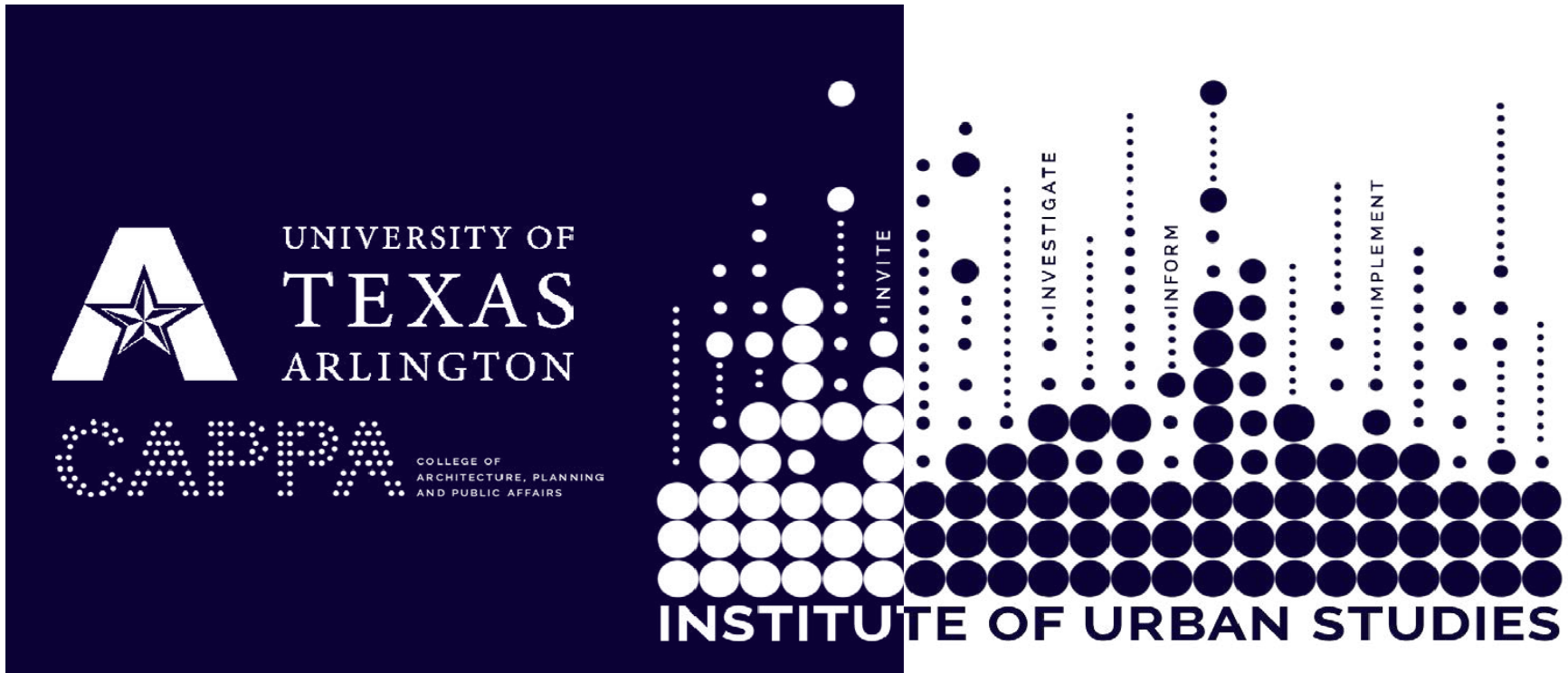
Shima Hamidi, PhD
Executive Director of the Center for Transportation Equity, Decisions
and Dollars and Director of the Institute of Urban Studies and Assistant
Professor of Urban Planning
College of Architecture, Planning and Public Affairs
University of Texas at Arlington
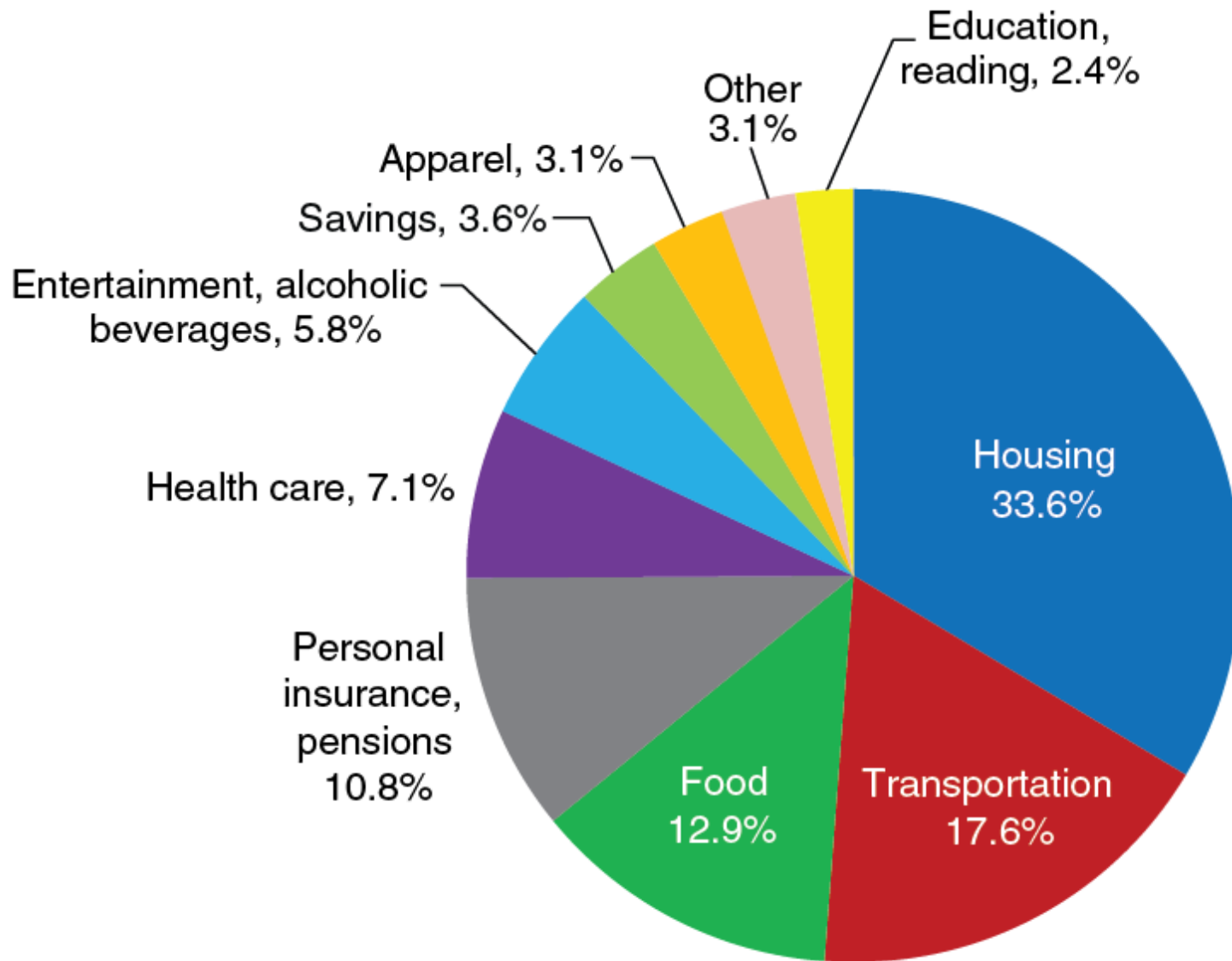shima.hamidi@uta.edu

HUD's Measure of Housing Affordability

Total housing costs **at** or **below 30%** of gross annual income

- It is considered the definition of housing affordability nationally and internationally

- It is also the legislative standard used to qualify applicants for housing assistance under certain programs

But how about **Transportation Costs**?

Share of U.S. household consumer expenditures by major categories, 2013

- Housing 33.6%
- Transportation 17.6%
- Food 12.9%
- Personal insurance, pensions 10.8%
- Health care, 7.1%
- Entertainment, alcoholic beverages, 5.8%
- Savings, 3.6%
- Apparel, 3.1%
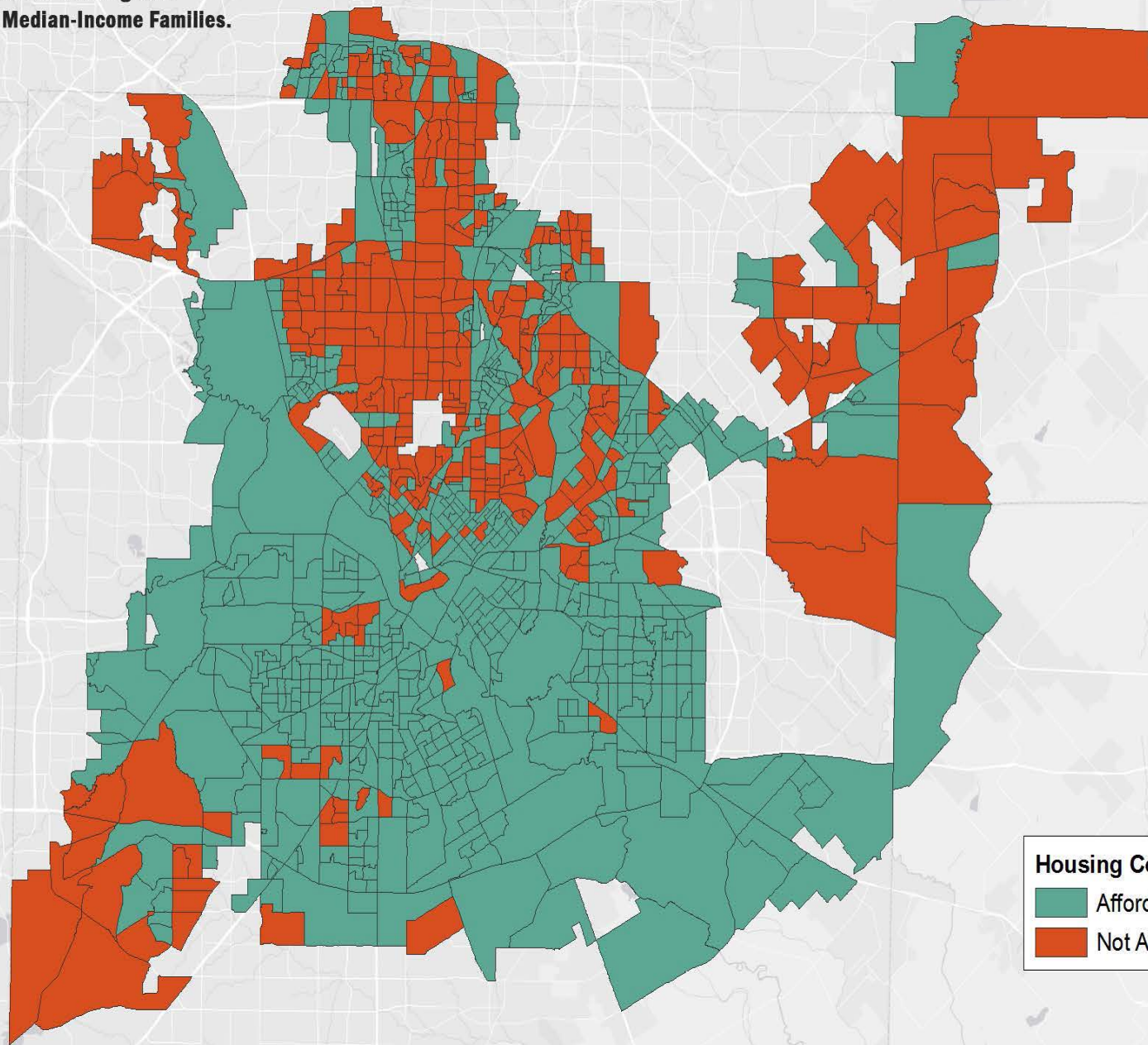- Other 3.1%
- Education, reading, 2.4%

69.6% of Block Groups has affordable housing cost with Median-Income Families.

Housing Cost in Median-Income Family

Housing Cost_HH1
Affordable
Not Affordable

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

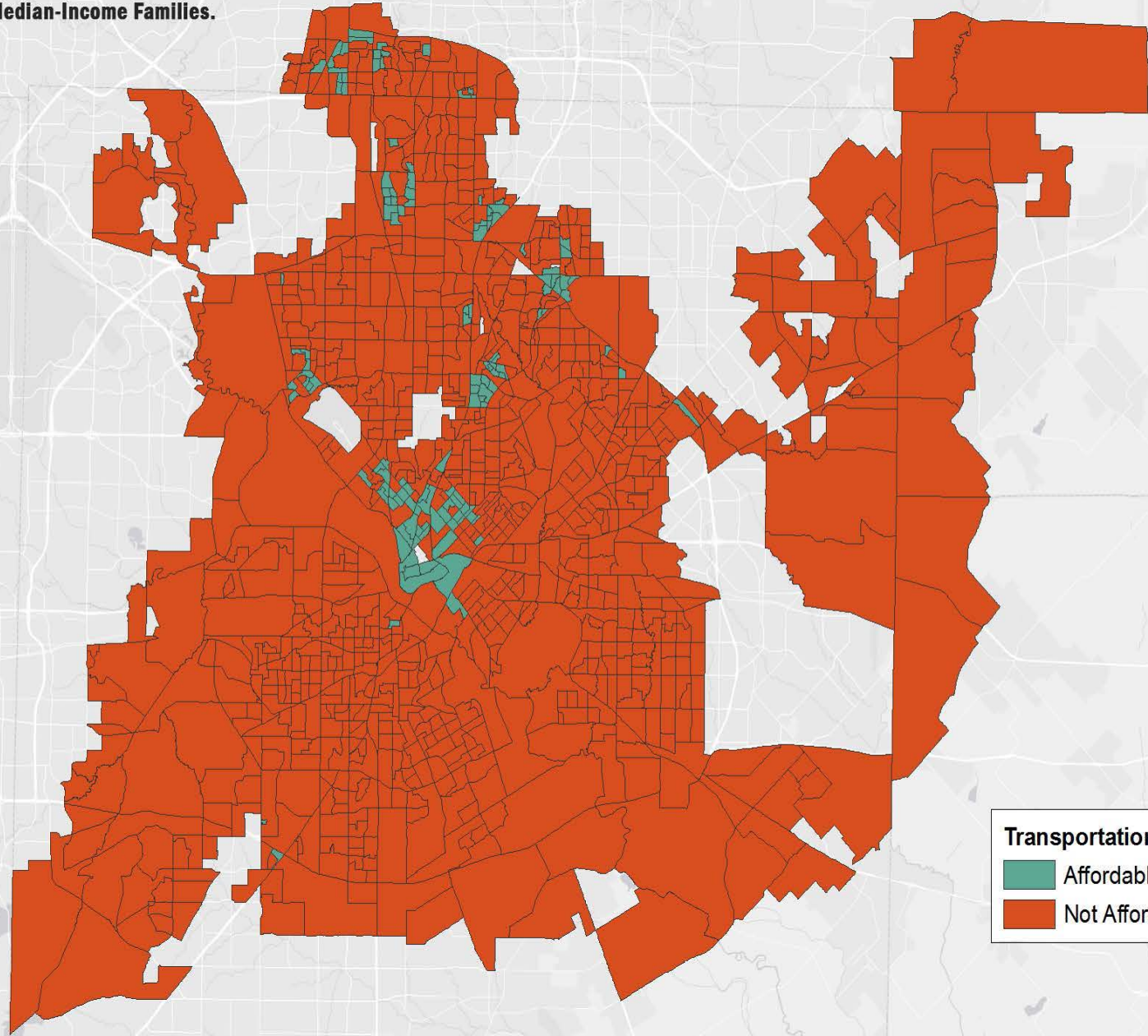**12.4%** of Block Groups has affordable transportation cost with Median-Income Families.

Transportation Cost in Median-Income Family

Transportation Cost_HH1

Affordable

Not Affordable

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

How Affordable is our **Affordable Housing** in Dallas?

LIHTC and Sec 8 Multifamily Portfolio Dataset

0.25 mile, 0.5 mile, 1 mile

Household Transportation Costs =
[*vehicle fixed costs per car*] +
[*driving costs*] +
[*transit costs*]
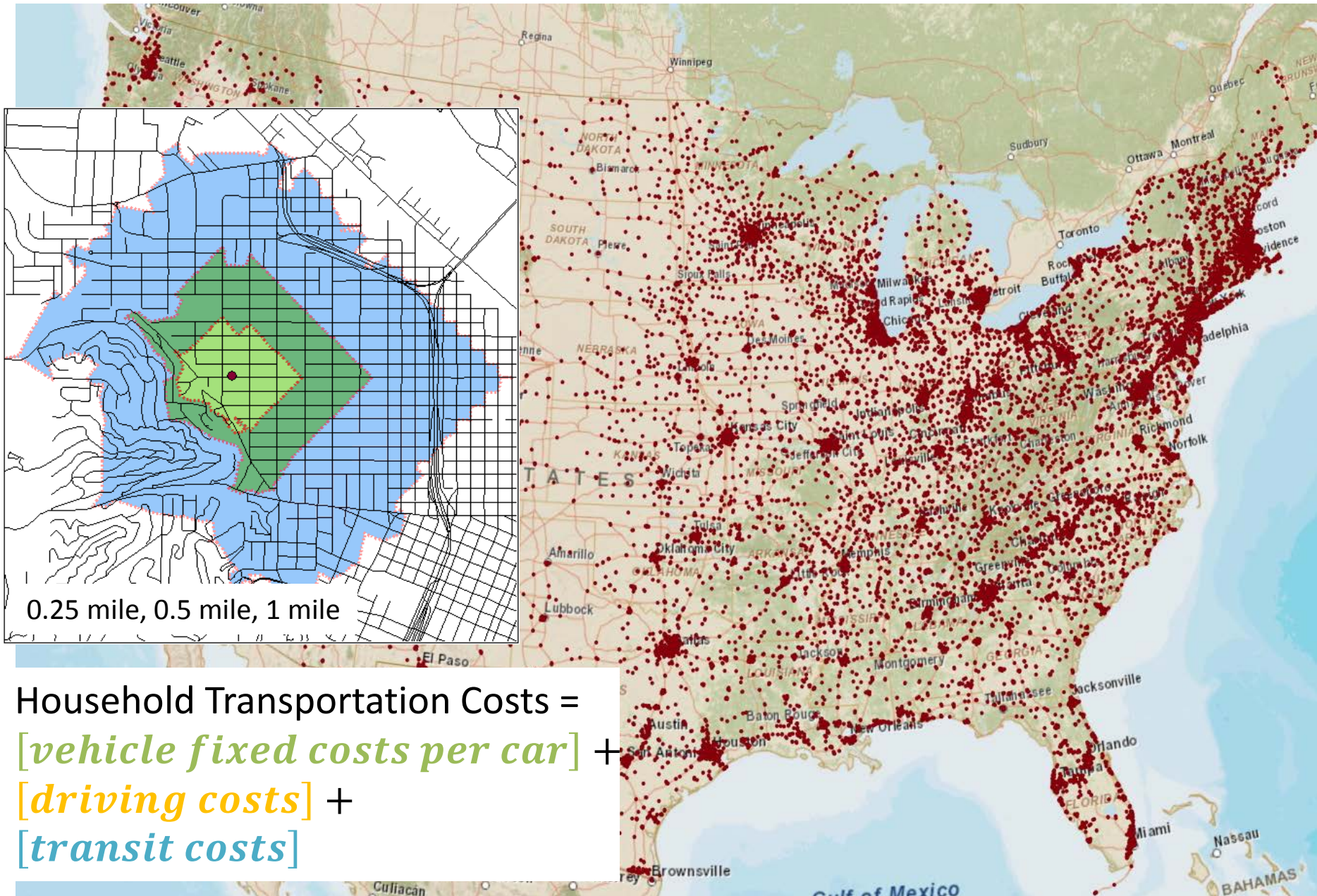
Transportation Affordability
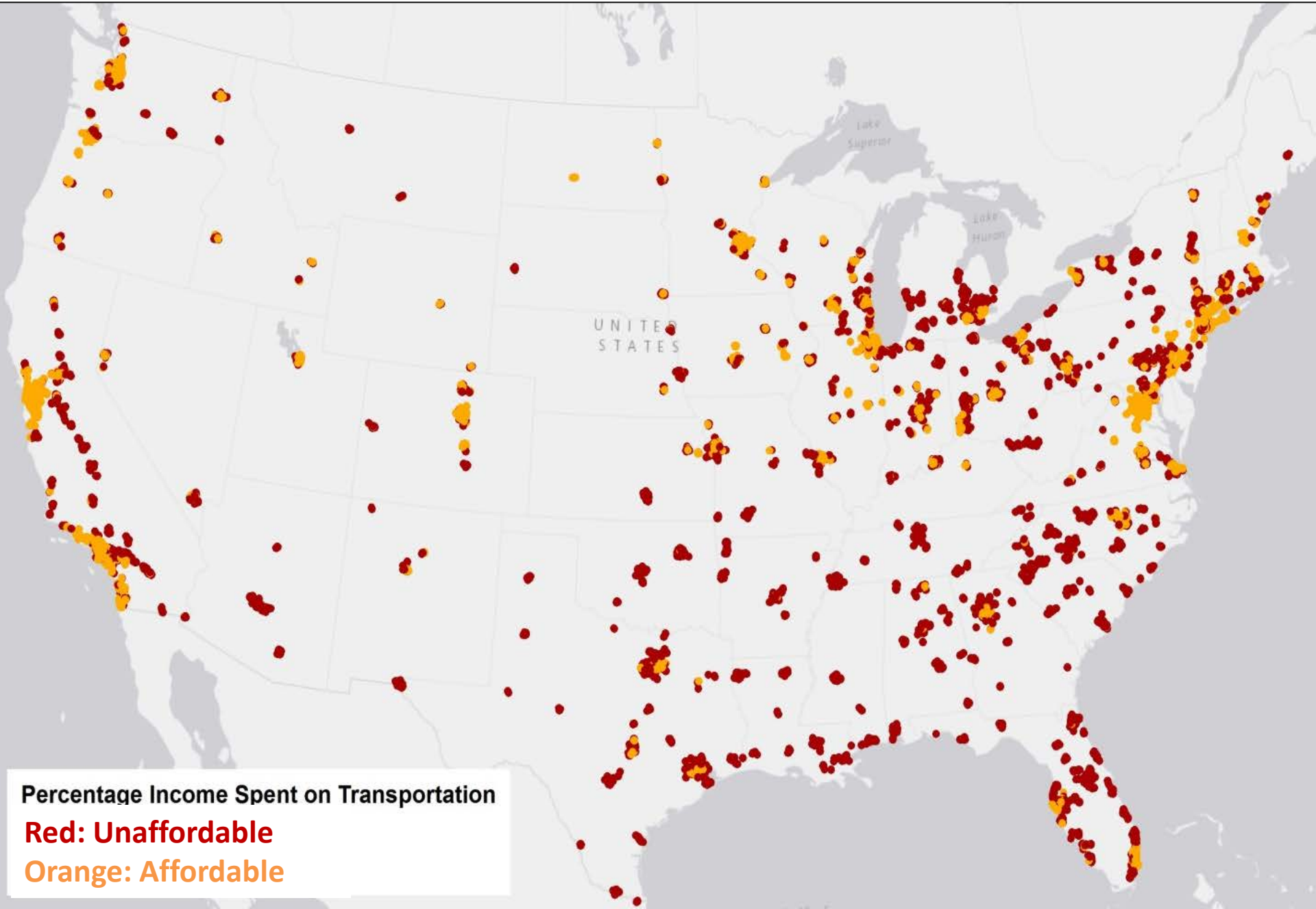
Percentage Income Spent on Transportation
Red: Unaffordable
Orange: Affordable

Fifteen Metropolitan Areas with Highest Number of Affordable Properties in Terms of Transportation Costs

| MSA name	Number of affordable properties	Total number of properties	% of properties affordable
San Francisco-San Mateo-Redwood City, CA	156	156	100
Los Angeles-Long Beach-Glendale, CA	763	787	96.95
Denver-Aurora-Broomfield, CO	220	233	94.42
New York-White Plains-Wayne, NY-NJ	686	756	90.74
Portland-Vancouver-Hillsboro, OR-WA	197	220	89.55
Minneapolis-St. Paul-Bloomington, MN-WI	376	423	88.89
Oakland-Fremont-Hayward, CA	160	181	88.4
Washington-Arlington-Alexandria, DC-VA	311	353	88.1
Chicago-Joliet-Naperville, IL	596	693	86
Kansas City, MO-KS	164	208	78.85
Philadelphia, PA	205	261	78.54
Milwaukee-Waukesha-West Allis, WI	151	205	73.66
Baltimore-Towson, MD	188	281	66.9
Providence-New Bedford-Fall River, RI-MA	161	267	60.3
St. Louis, MO-IL	168	281	59.79

Fifteen Metropolitan Areas with Highest Number of Unaffordable Properties in Terms of Transportation Costs

MSA name	Number of affordable properties	Total number of properties	% of properties affordable
Columbus, OH	82	217	37.79
Cincinnati-Middletown, OH-KY-IN	90	260	34.62
Cleveland-Elyria-Mentor, OH	75	262	28.63
Dallas-Plano-Irving, TX	60	212	28.3
Atlanta-Sandy Springs-Marietta, GA	63	246	25.61
Detroit-Livonia-Dearborn, MI	48	208	23.08
Indianapolis-Carmel, IN	43	195	22.05
Houston-Sugar Land-Baytown, TX	46	240	19.17
Pittsburgh, PA	57	321	17.76
Buffalo-Niagara Falls, NY	24	145	16.55
San Antonio-New Braunfels, TX	18	133	13.53
Riverside-San Bernardino-Ontario, CA	11	129	8.53
Tampa-St. Petersburg-Clearwater, FL	5	182	2.75
Phoenix-Mesa-Glendale, AZ	5	191	2.62
Warren-Troy-Farmington Hills, MI	1	147	0.68

More Affordable   Less Affordable
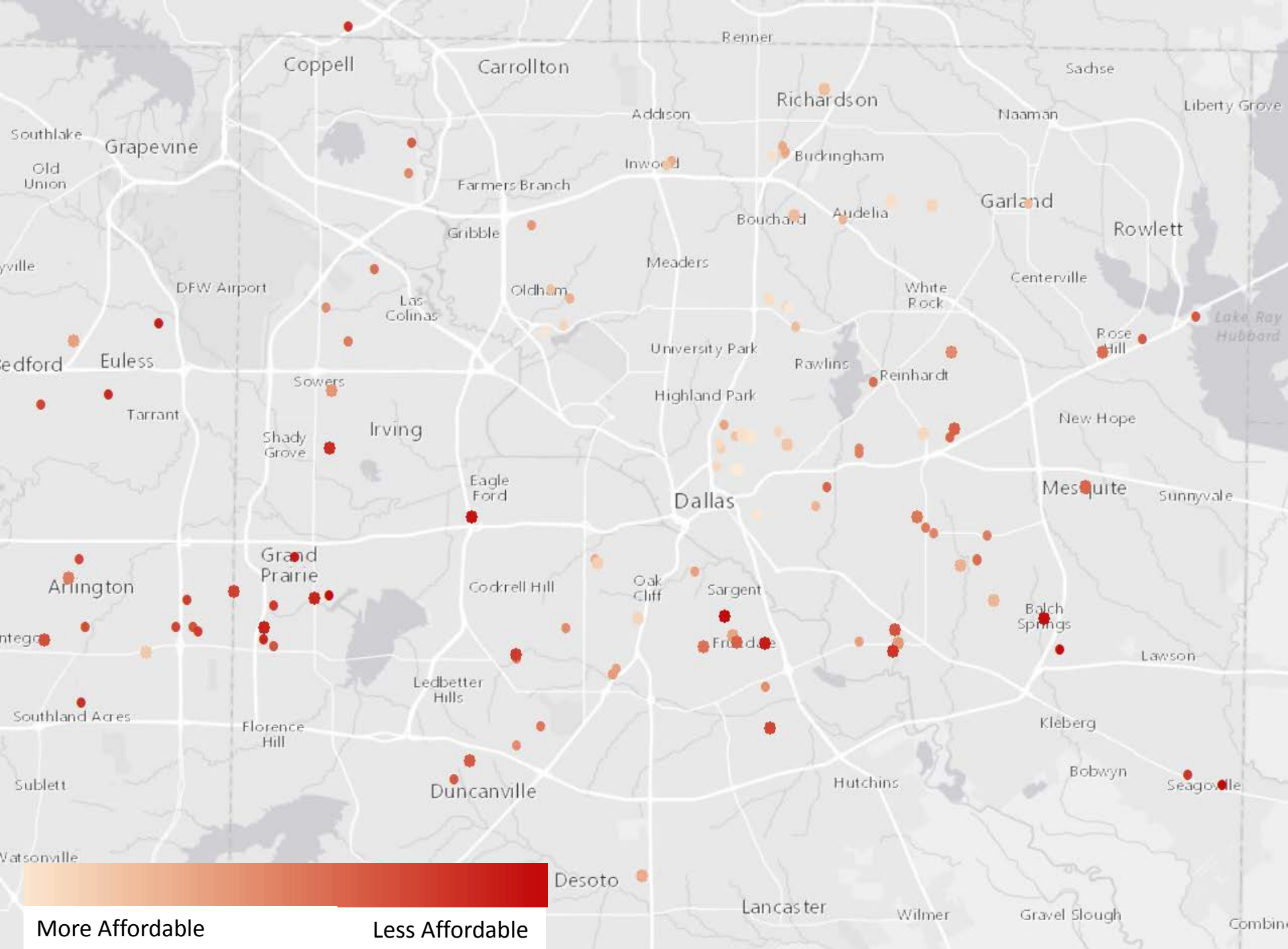
Total Households Below Poverty Level, 2014
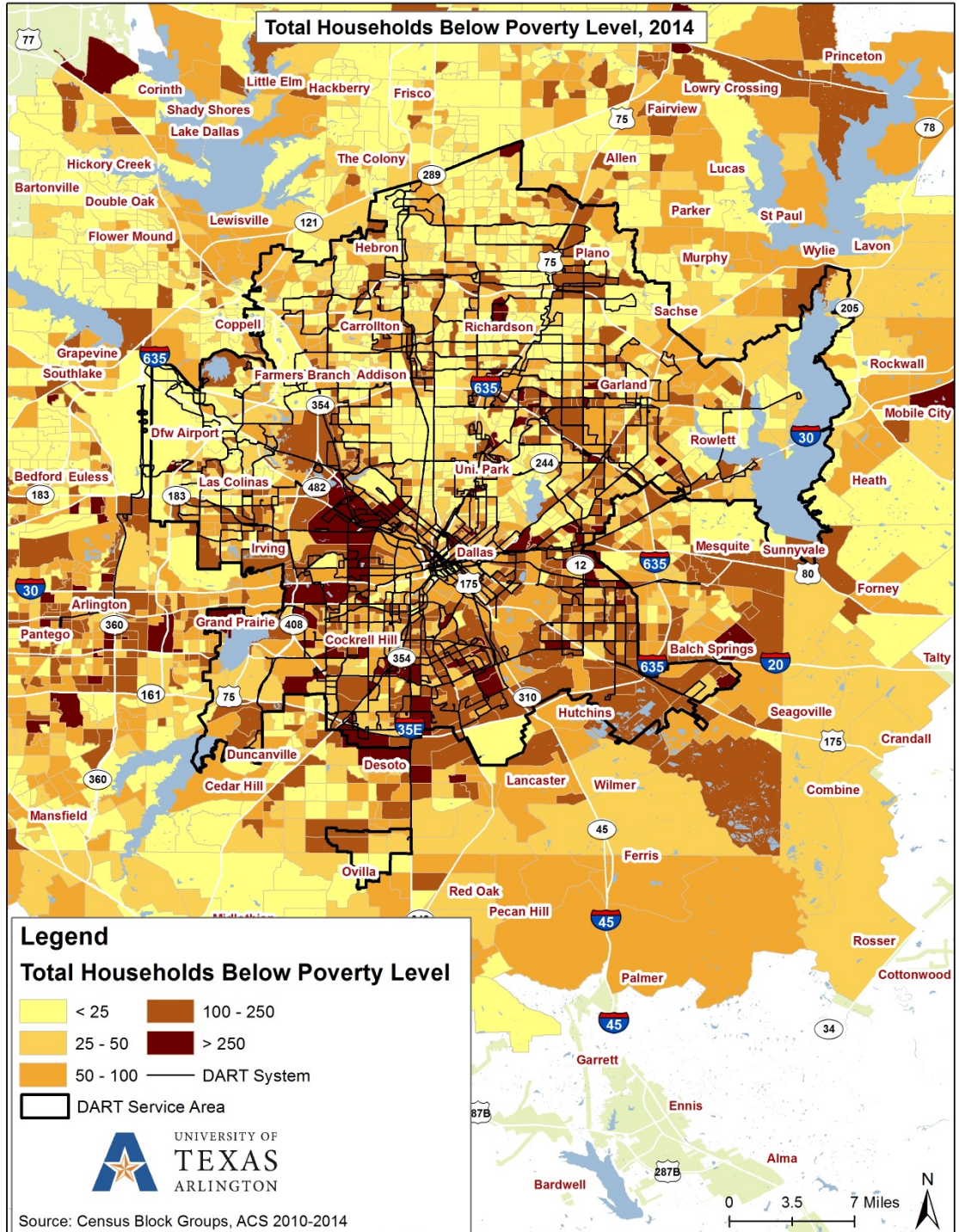
Legend

Total Households Below Poverty Level

- < 25
- 25 - 50
- 50 - 100
- 100 - 250
- > 250
- DART System
- DART Service Area

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Source: Census Block Groups, ACS 2010-2014

0   3.5   7 Miles

Total Household Received Food Stamps/SNAP
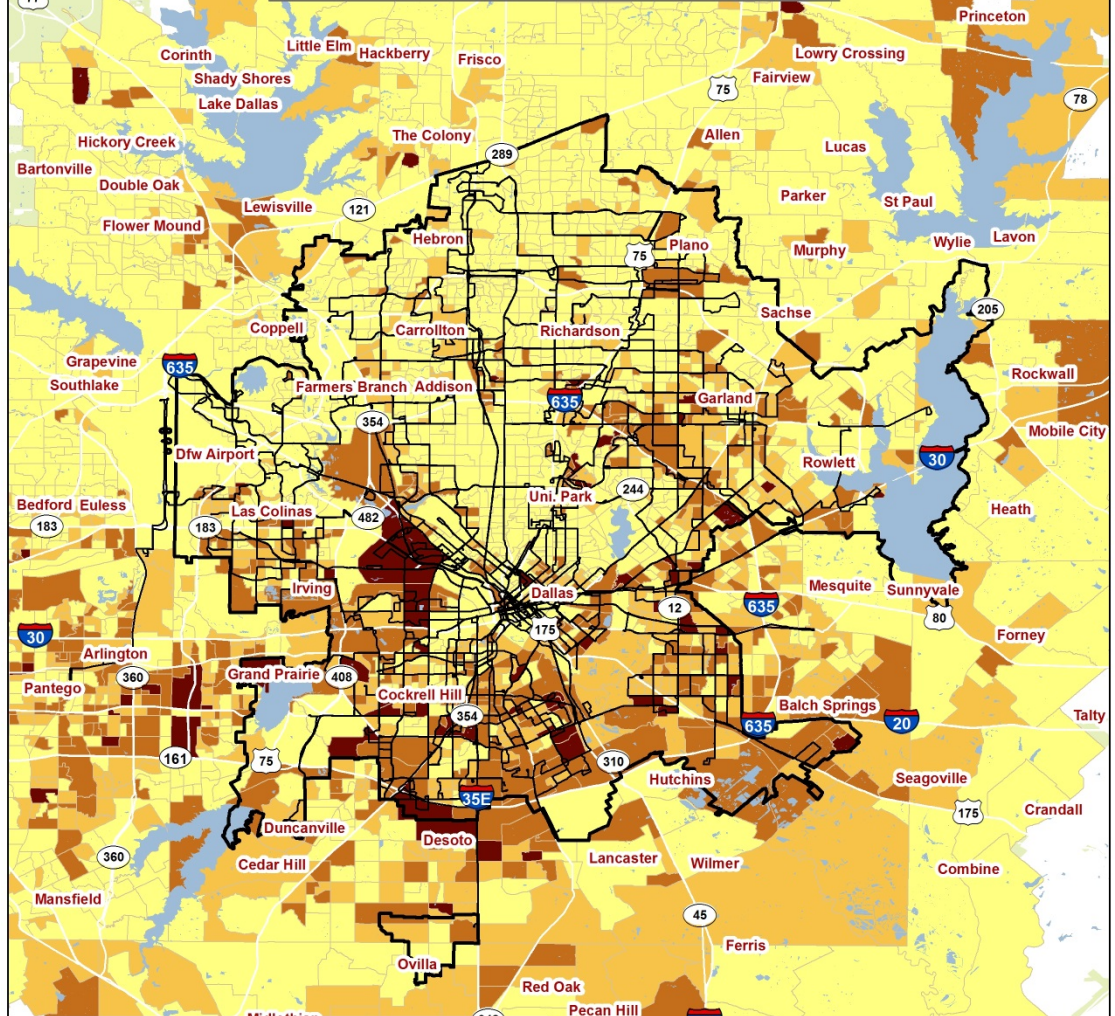
Legend

Household Received Food Stamp/SNAP

- < 50
- 50 - 100
- 100 - 250
- > 250

— DART System

☐ DART Service Area

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ARLINGTON

Source: Census Block Groups, ACS 2010-2014

0   3.5   7 Miles

Means of Transportation to Work: % of Workers Using Public Transit

Princeton

77

Corinth
Little Elm   Hackberry   Frisco   Lowry Crossing
Shady Shores   Fairview
Lake Dallas   75
Hickory Creek   The Colony   Allen   Lucas
Bartonville   Parker   St Paul
Double Oak   289
Lewisville   121   Hebron   Plano   Murphy   Wylie   Lavon
Flower Mound   75   Sachse
Coppell   Carrollton   Richardson   Garland   205
Grapevine   635   Farmers Branch Addison   Rockwall
Southlake   Mobile City
114   77   635
Colleyville   Dfw Airport   Rowlett   Heath
30
Bedford   Euless   Las Colinas   482   Uni. Park   244   Mesquite   Sunnyvale
183   183   Dallas   80   Forney
Irving   354   352   635   Balch Springs
Arlington   12   Talty
Pantego   Grand Prairie   Cockrell Hill   635
Dalworthington Gardens   20
161   Hutchins   Seagoville
20   75   Duncanville   Crandall
360   Desoto   Lancaster   Wilmer   Combine
Cedar Hill   175
Mansfield
287B   Ovilla   Ferris
Red Ok   75
342   Pecan Hill   45   Rosser
                                                      Cottonwood
Palmer
45   34
Garrett
Ennis
287B
Alma
Bardwell   287B

Legend

% of Workers Using Public Transit

<= 2%	10.0% - 20%
2.0% - 5%	20.0% - 55.4%
5.0% - 10%	—— DART System

☐ DART Service Area

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N

0   3.5   7 Miles

Source: Census Block Groups, ACS 2010-2014
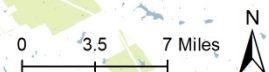
Job Density, 2014
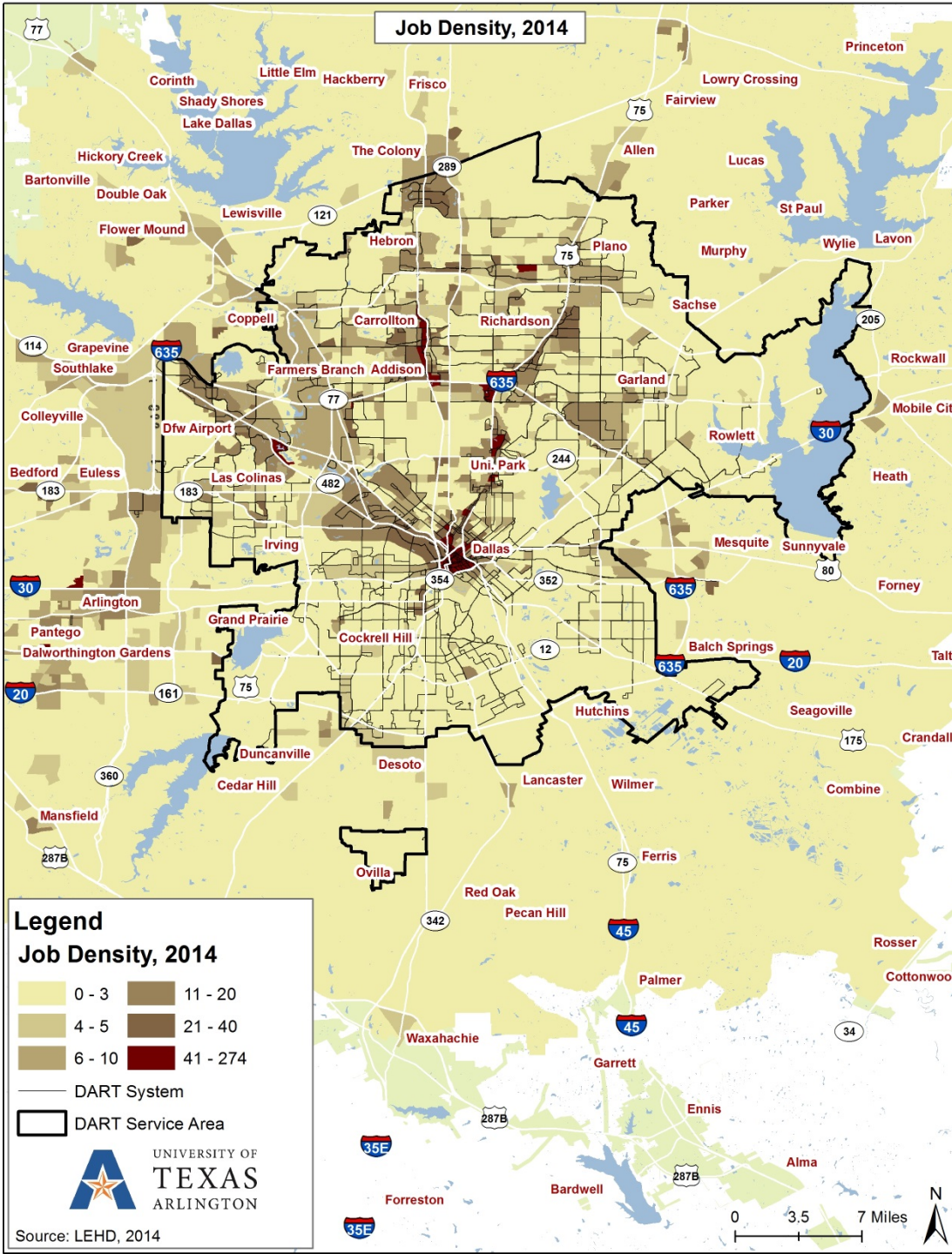
Legend
Job Density, 2014

- 0 - 3
- 4 - 5
- 6 - 10
- 11 - 20
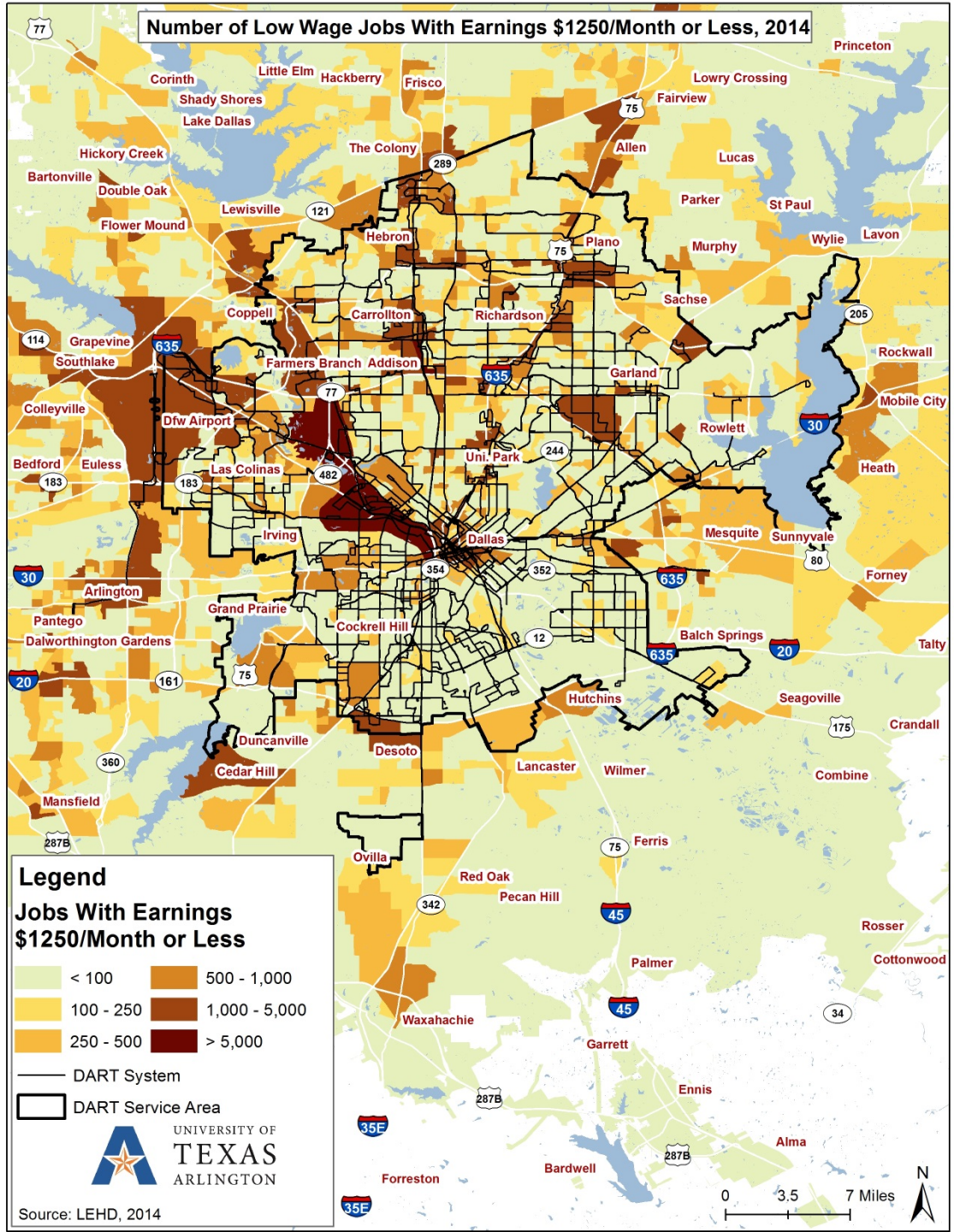- 21 - 40
- 41 - 274

— DART System

▭ DART Service Area

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Source: LEHD, 2014

0   3.5   7 Miles

N

Number of Low Wage Jobs With Earnings $1250/Month or Less, 2014
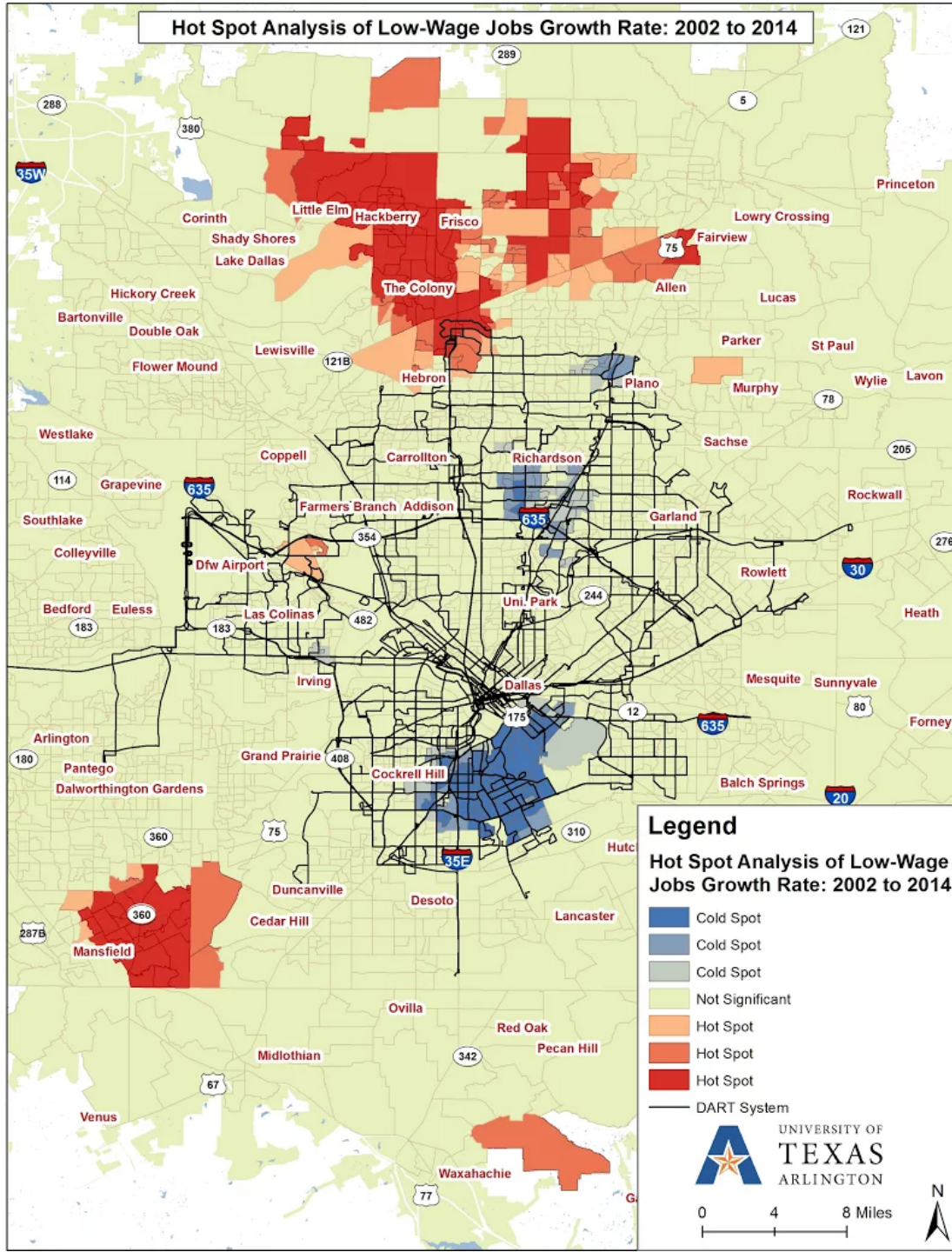
Legend

**Jobs With Earnings
$1250/Month or Less**

< 100	500 - 1,000
100 - 250	1,000 - 5,000
250 - 500	> 5,000

—— DART System

☐ DART Service Area

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Source: LEHD, 2014

0   3.5   7 Miles

N

Hot Spot Analysis of Low-Wage Jobs Growth Rate: 2002 to 2014
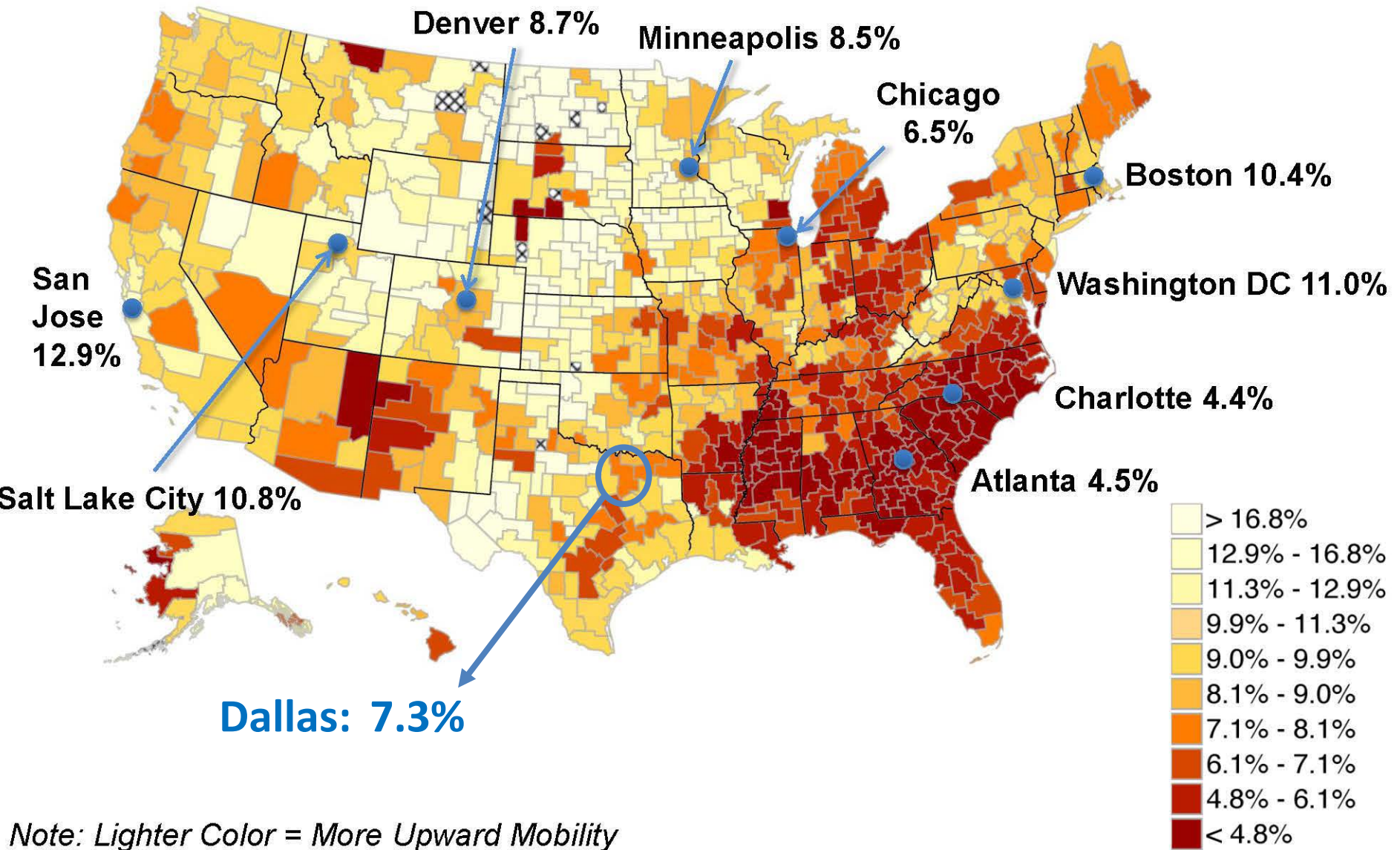

Legend

Hot Spot Analysis of Low-Wage Jobs Growth Rate: 2002 to 2014

- Cold Spot
- Cold Spot
- Cold Spot
- Not Significant
- Hot Spot
- Hot Spot
- Hot Spot
- DART System

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0   4   8 Miles

Spatial Mismatch
Households Below Poverty Level vs. Low-Wage Jobs Growth

Legend

Hot Spot of Low-Wage Jobs Growth, 2002-2014

Hot Spot, Households Below Pverty Level, 2014
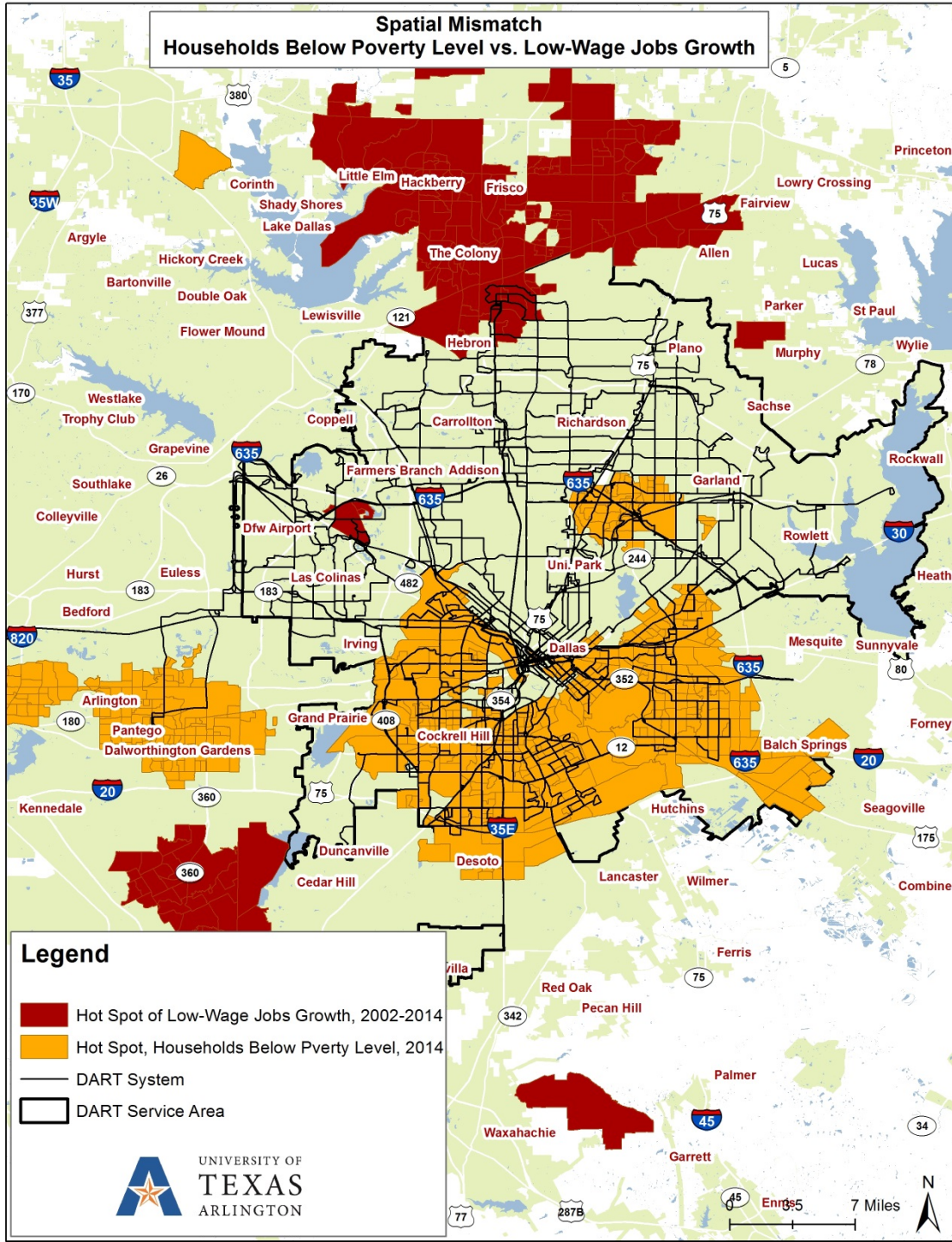
DART System

DART Service Area

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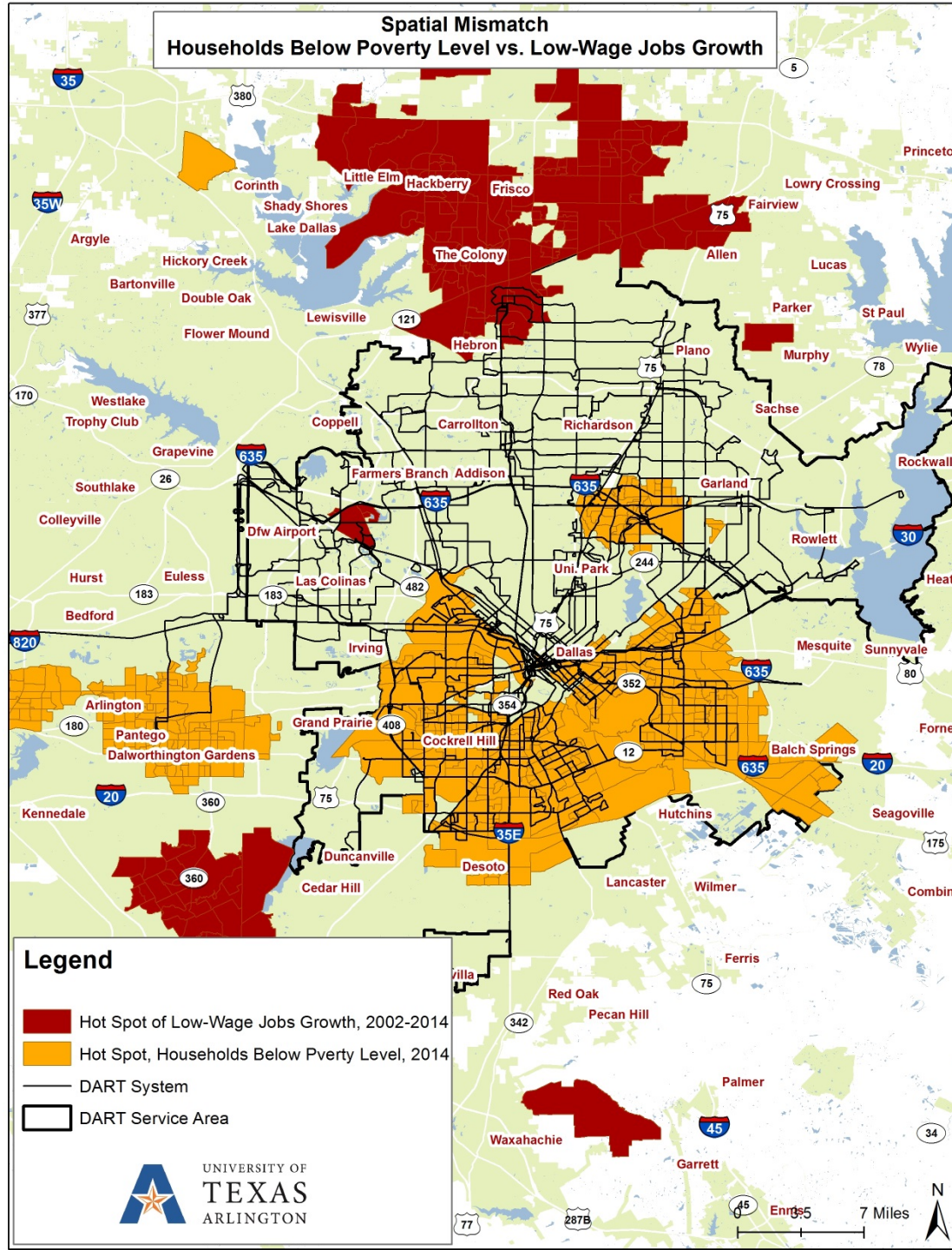
The Geography of Upward Mobility in the United States
Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area

Denver 8.7%

Minneapolis 8.5%

Chicago 6.5%

Boston 10.4%

San Jose 12.9%

Washington DC 11.0%

Salt Lake City 10.8%

Charlotte 4.4%

Atlanta 4.5%

Dallas: 7.3%

Note: Lighter Color = More Upward Mobility

	> 16.8%
	12.9% - 16.8%
	11.3% - 12.9%
	9.9% - 11.3%
	9.0% - 9.9%
	8.1% - 9.0%
	7.1% - 8.1%
	6.1% - 7.1%
	4.8% - 6.1%
	< 4.8%

Spatial Mismatch
Households Below Poverty Level vs. Low-Wage Jobs Growth

Legend

■ Hot Spot of Low-Wage Jobs Growth, 2002-2014
■ Hot Spot, Households Below Pverty Level, 2014
— DART System
▢ DART Service Area

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Smart Decisions on investments

*"Our transit system should go beyond functionality and mobility concerns, It should be planned as **enablers**."*

The Longest Light Rail System in the Nation

Using the best out of existing transportation infrastructure

Peak parking occupancy as percentage of supply and ITE guidelines[2]

TOD	Peak parking occupancy as percentage of ITE guidelines
Englewood, CO[3]	45.8%
Fruitvale Village	19.0%
Redmond, WA	41.6%
Rhode Island Row	32.7%
Wilshire/Vermont	33.0%

Real parking needs at five TODs

Directing developments to better (**more compact, walkable, and transit-served**) locations

DFW is the **4th LARGEST** (6,703,020 population) **1**
the **1st FAST GROWING**
the **3rd YOUNGEST** Metropolitan Area
among 30 largest Metropolitan Areas in U.S.

28 INNOVATION INCUBATORS in **NORTH TEXAS** **7**
229 INNOVATIVE SMALL FIRMS in **DFW**

DFW is the **6TH FAST GROWING** metropolitan area **2**
in terms of **LABOR FORCE** with **HIGHER EDUCATION**

8 **DFW** is ranked **THE 3rd LOWEST ON HOUSING**
THE 5th LOWEST ON ALL ITEMS
THE 6th LOWEST ON APPAREL AND RECREATION
among 30 largest Metropolitan Areas
ELECTRICITY PRICE in **TEXAS** is **CHEAPER** than other 36 states and national average

MANAGEMENT OF COMPANIES AND ENTERPRISES is **3**
the **FASTEST GROWING INDUSTRY** in **NORTH TEXAS**

9 **6 CITIES** of **NORTH TEXAS** are ranked in
NATIONAL TOP 100 CITES WITH GREAT PARK SYSTEM

HEALTH CARE AND SOCIAL ASSISTANCE is
the **BIGGEST INDUSTRY** in **DFW**
It is **12.4%** OF TOTAL EMPLOYEES (356,355 workers) of **DFW**

10 **NORTH TEXAS** has **8 ORCHESTRAS**
6 BALLET CENTERS
3 OPERA COMPANIES
16 CONCERT HALLS
114 MUSEUM

FORTUNE 500
39% OF FORTUNE 500S COMPANIES of Texas **4**
are **LOCATED** in **NORTH TEXAS**

AIRPORT
(2014- 2015)

BACHELOR'S DEGREE
an Texas and U.S.

DFW is the 4th LARGEST
the 1st FASTEST GROWING
the 3rd YOUNGEST

Smart
Collaboration
Leading to
a Smart
Future

DFW is the 6th FASTEST GROWING
LABOR FORCE
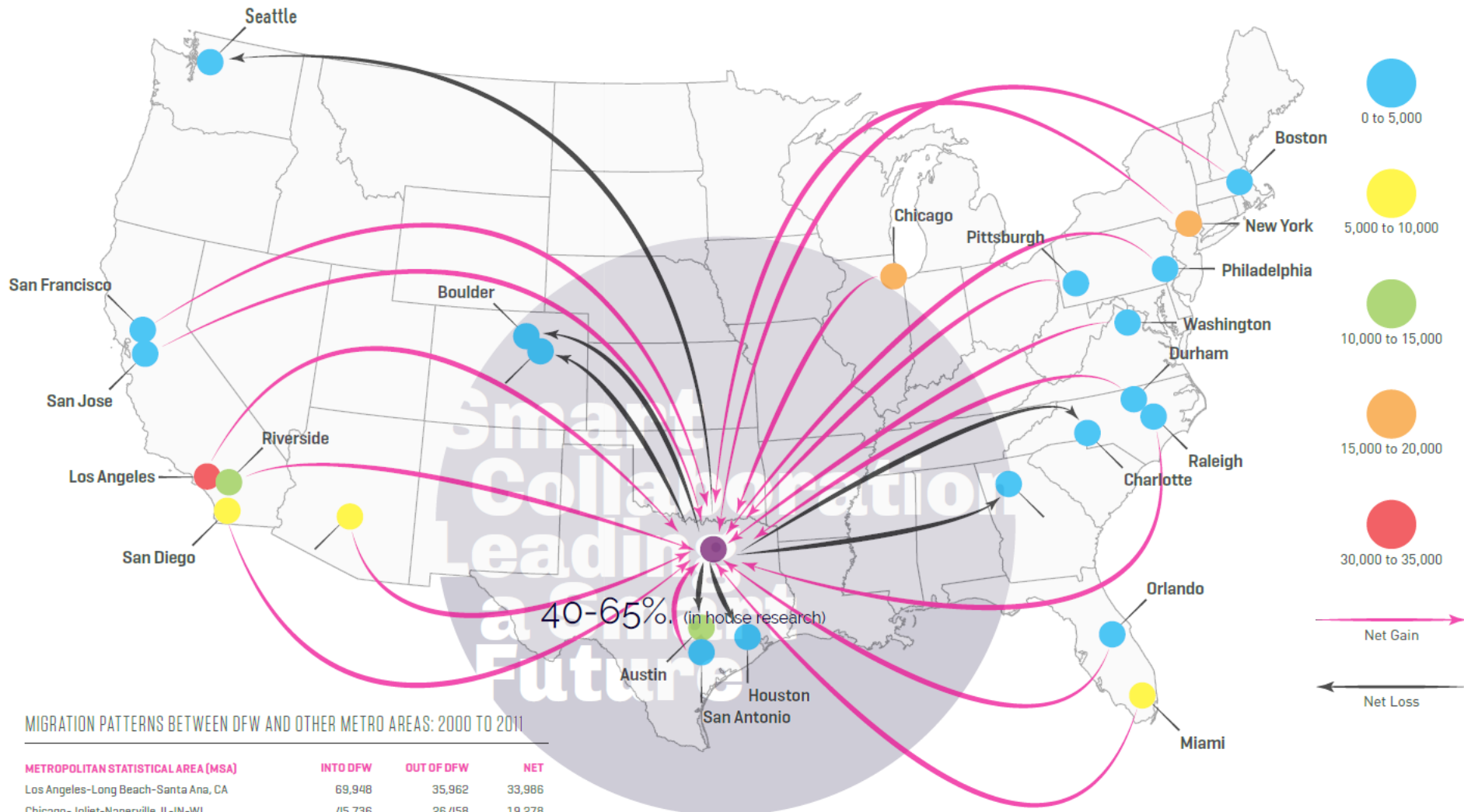
**MIGRATION PATTERNS BETWEEN DFW AND OTHER METRO AREAS: 2000 TO 2011**

METROPOLITAN STATISTICAL AREA (MSA)	INTO DFW	OUT OF DFW	NET
Los Angeles-Long Beach-Santa Ana, CA	69,948	35,962	33,986
Chicago-Joliet-Naperville, IL-IN-WI	45,736	26,458	19,278
New York-Northern New Jersey-Long Island, NY-NJ-PA	41,308	24,070	17,238
Riverside-San Bernardino-Ontario, CA	23,233	10,994	12,239
San Diego-Carlsbad-San Marcos, CA	23,358	16,358	7,000
Miami-Fort Lauderdale-Pompano Beach, FL	22,241	16,703	5,538
Phoenix-Mesa-Glendale, AZ	27,199	22,192	5,007
San Francisco-Oakland-Fremont, CA	17,118	12,608	4,510
San Jose-Sunnyvale-Santa Clara, CA	11,400	8,359	3,041
Orlando-Kissimmee-Sanford, FL	11,542	8,617	2,925
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	10,321	7,518	2,803
Boston-Cambridge-Quincy, MA-NH	10,318	7,819	2,499
San Antonio-New Braunfels, TX	46,727	45,124	1,603
Washington-Arlington-Alexandria, DC-VA-MD-WV	23,829	22,798	1,031

METROPOLITAN STATISTICAL AREA (MSA)	INTO DFW	OUT OF DFW	NET
Pittsburgh, PA	3,263	2,559	704
Durham-Chapel Hill, NC	1,374	1,197	177
Raleigh-Cary, NC	4,846	4,698	148
Charlotte-Gastonia-Rock Hill, NC-SC	5,594	5,787	-193
Denver-Aurora-Broomfield, CO	20,922	21,211	-289
Seattle-Tacoma-Bellevue, WA	16,489	16,818	-329
Boulder, CO	1,806	2,507	-701
Houston-Sugar Land-Baytown, TX	113,896	116,954	-3,058
Atlanta-Sandy Springs-Marietta, GA	28,713	32,789	-4,076
Austin-Round Rock-San Marcos, TX	62,290	72,771	-10,481
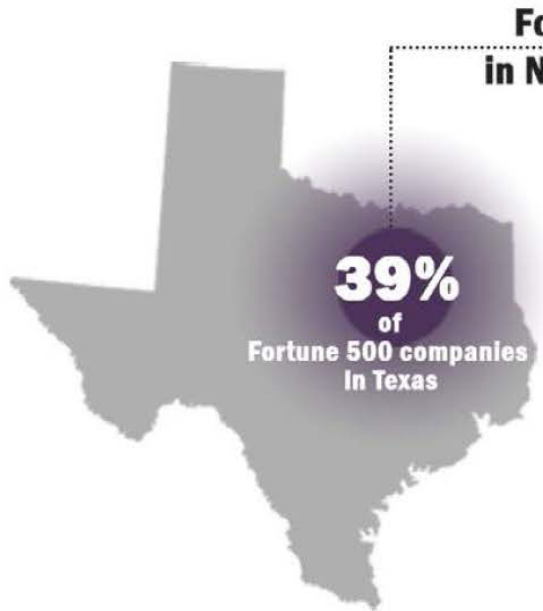
FORTUNE 500s

Fortune 500 in North Texas

2	ExxonMobil	228	JCPenney
10	AT&T	260	D·R·HORTON America's Builder
65	ENERGY TRANSFER	302	GameStop
67	American Airlines	336	Dean FOODS
140	tenet HEALTH	404	AllianceData.
142	SOUTHWEST	407	TRINITY INDUSTRIES
151	Kimberly-Clark	413	DR PEPPER SNAPPLE GROUP
155	FLUOR.	417	cmc Commercial Metals Company
214	HOLLYFRONTIER CORPORATION	453	Celanese
219	TEXAS INSTRUMENTS	475	Energy Future Holdings

39% of Fortune 500 companies in Texas

Innovation Districts are the geographic areas where leading-edge anchor institutions and companies cluster and connect with startups, business incubators and accelerators.

© Katz & Wagner, 2014

Innovation Districts are also physically compact, transit-accessible, and technically-wired and offer mixed use housing, office, and retail.

© Katz & Wagner, 2014

© nltimes, 2010

Smarter Decisions

Map of Opportunity Areas
- Measuring Access to Major destinations for all census blocks in Dallas
  - Access to jobs
  - Access to high quality schools
  - Access to health care facilities
  - Access to Health food
  - Access to amenities

Opportunity Score

Comprehensive Assessment of Transportation Equity and Efficiency in Dallas
  - Transit quality
  - Transit connectivity (first mile-last mile)
  - Transit coverage
  - Transportation decision making and funding

The Largest Grant ever received by UTA or any other university in North Texas from US DOT

$7.7 million
2017-2022

C-TEDD

Center for Transportation Equity, Decisions and Dollars (C-TEDD)

Lead Institution:
University of Texas at Arlington, Arlington, TX 76019
Minority Serving Institution

Member Institutions:
California Polytechnic State University, San Luis Obispo, CA 93407
Georgia Institute of Technology, Atlanta, GA 30332
University of Wisconsin–Madison, Madison, WI 53706
University of South Florida, Tampa, FL 33620