



JOB GROWTH AND THE SPATIAL MISMATCH BETWEEN JOBS AND LOW-INCOME RESIDENTS

Reza Sardari, Ph.D., GISP

GIS & Transportation Analyst | C&M Associates, Inc.

1990

Pop: 3.8 m

Emp: 2 m



Who Will
reside here

Fort Worth

DFW
Airport



Dallas

Who
works here

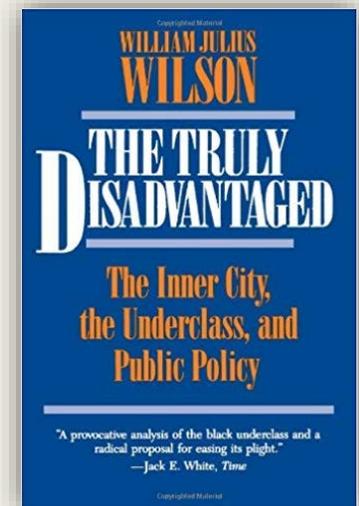
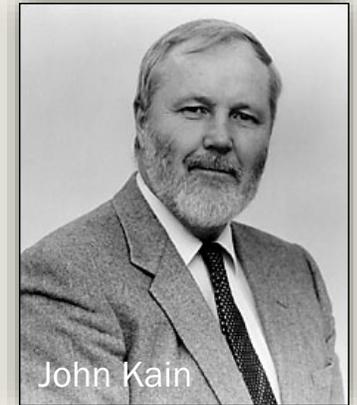
Motivations

- Mapping Job growth & spatial inequality
 - *Where new jobs are added*
 - *Where low-jobs are located*
 - *Where low-wage workers live*
- Data availability
 - *Home & Work Locations*
 - *Affordability*
 - *Accessibility*
- Data Integration
 - *Overlapping datasets and Creating interactive maps*

Spatial Mismatch Hypothesis (SMH)

- First introduced by John Kain (1965, 1968)
 - *Jobs/housing mismatch—job decentralization and housing segregation*
 - *Most new employment opportunities are created in suburbs.*
 - *The difficulty people have in getting to jobs makes unemployment unnecessarily high.*

- William Julius Wilson (1987): “The Truly Disadvantaged”
 - *An urban underclass population has grown rapidly within the inner city, and the movement of jobs from the city to suburbs is one of the causal factors.*

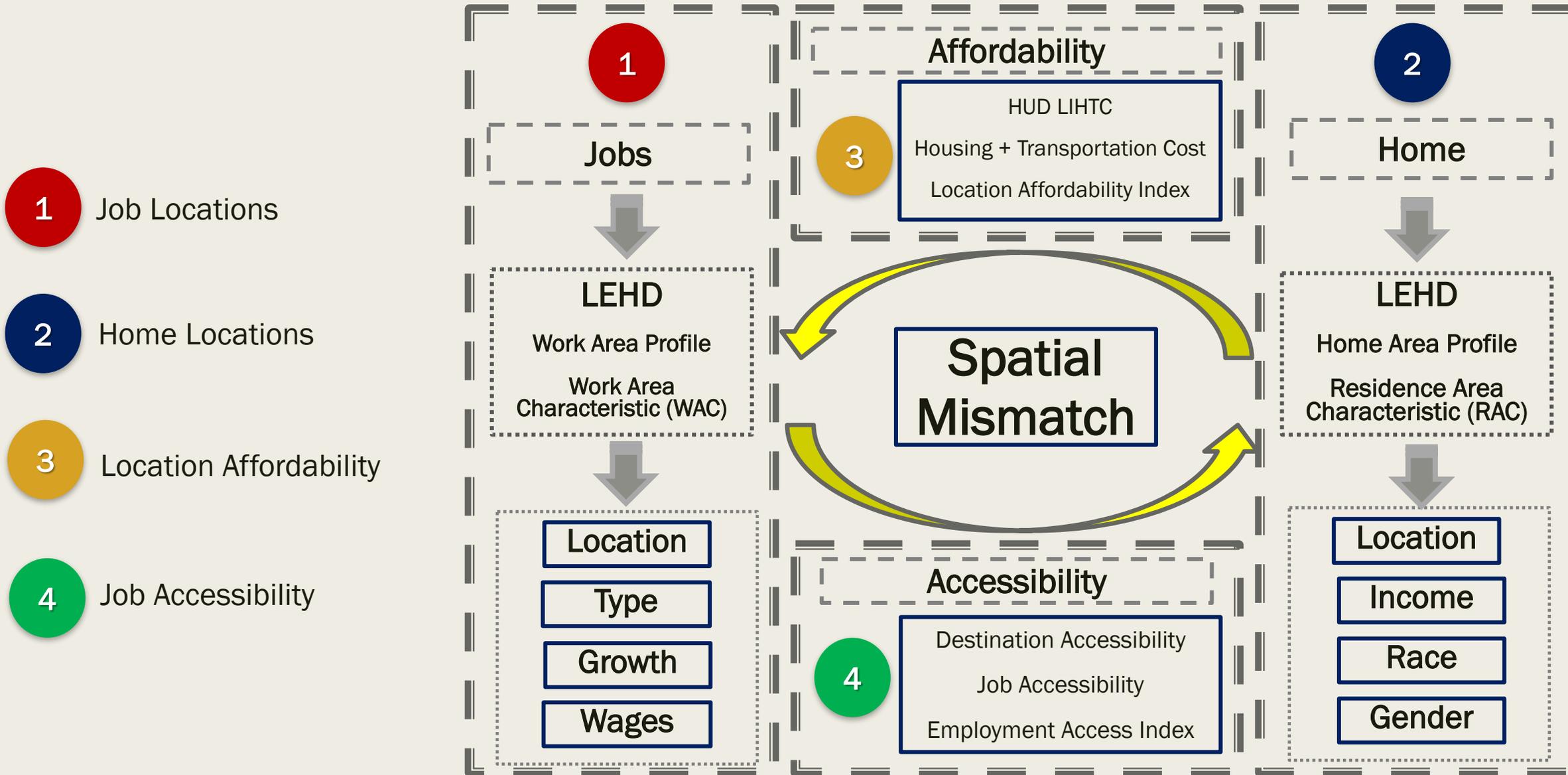


More Info:

<https://news.harvard.edu/gazette/story/2005/04/john-forrest-kain/>

https://inequality.stanford.edu/sites/default/files/media/_media/pdf/Reference%20Media/Kain_1992_Transportation.pdf

Key Factors



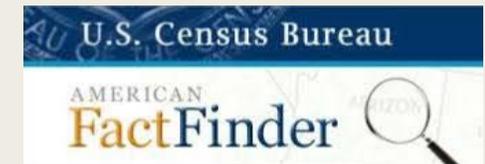
Datasets & Tools

Data

- LEHD
- U.S Census, American Community Survey
- HUD Low-Income Housing Tax Credits (LIHTC) Properties (U.S Dept. Housing & Urban Development)
- Transit Data: General Transit Feed Specification (GTFS)

Tools

- LEHD “OnTheMap” Web Tool
- American Fact Finder
- EPA EJSCREEN
- ArcGIS Desktop; ArcGIS Online



Longitudinal Employer-Household Dynamics (LEHD)

Provides statistics on employment, including information on:

- Resident workers
- Jobs
- Commute flows
- Origin-Destination Employment Statistics (LODES)

Applications

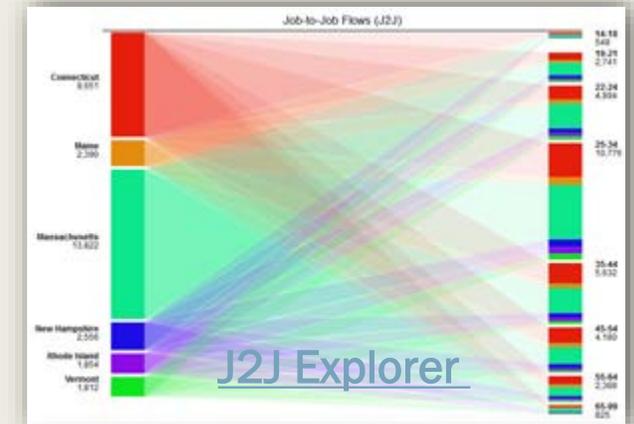
- [J2J Explorer](#): Job-to-Job Flows
- [QWI Explorer](#): Quarterly Workforce Indicators (QWI)

- [OnTheMap](#)

- [LED Extraction Tool](#)

Sources:

- <https://lehd.ces.census.gov/data/>



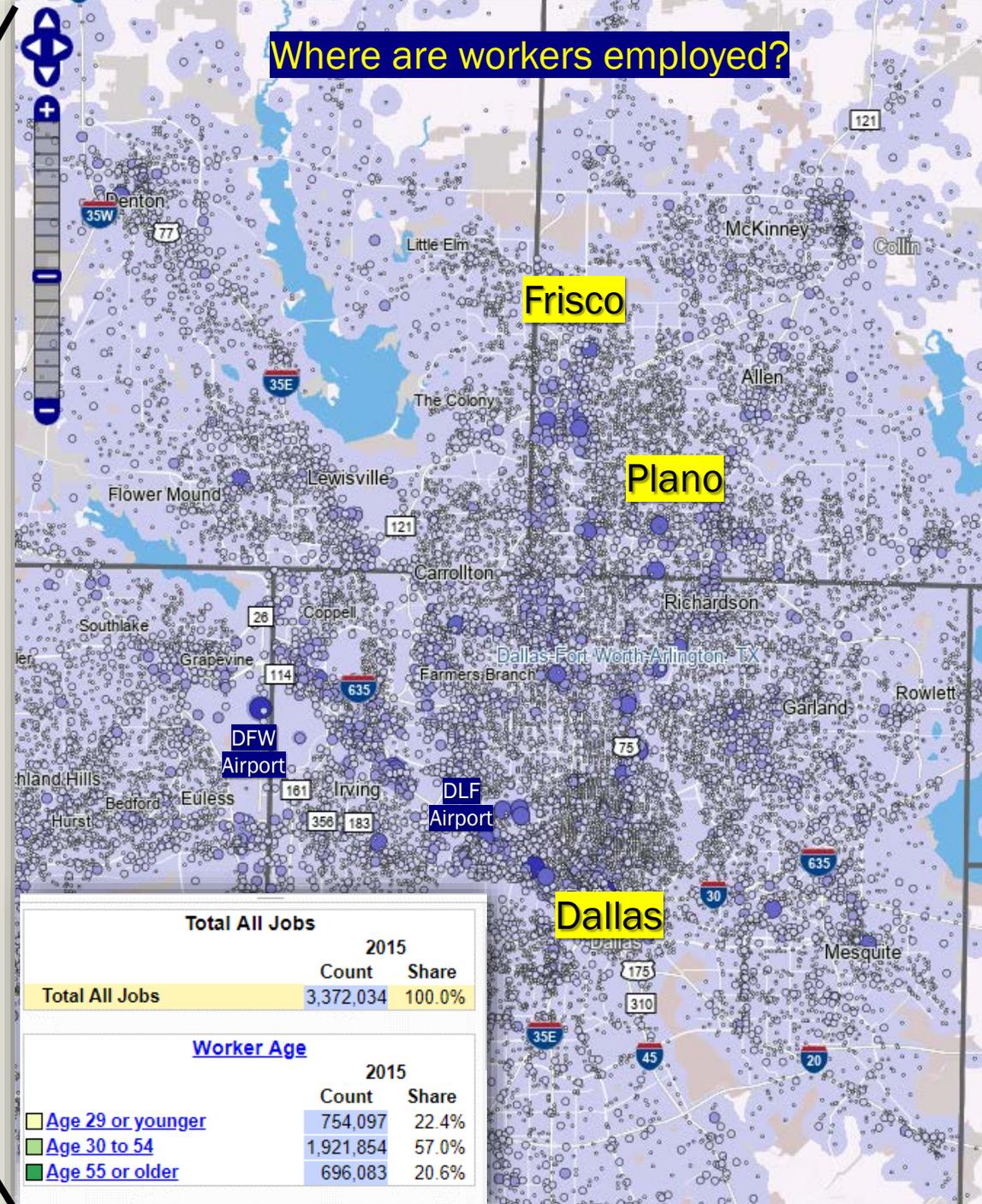
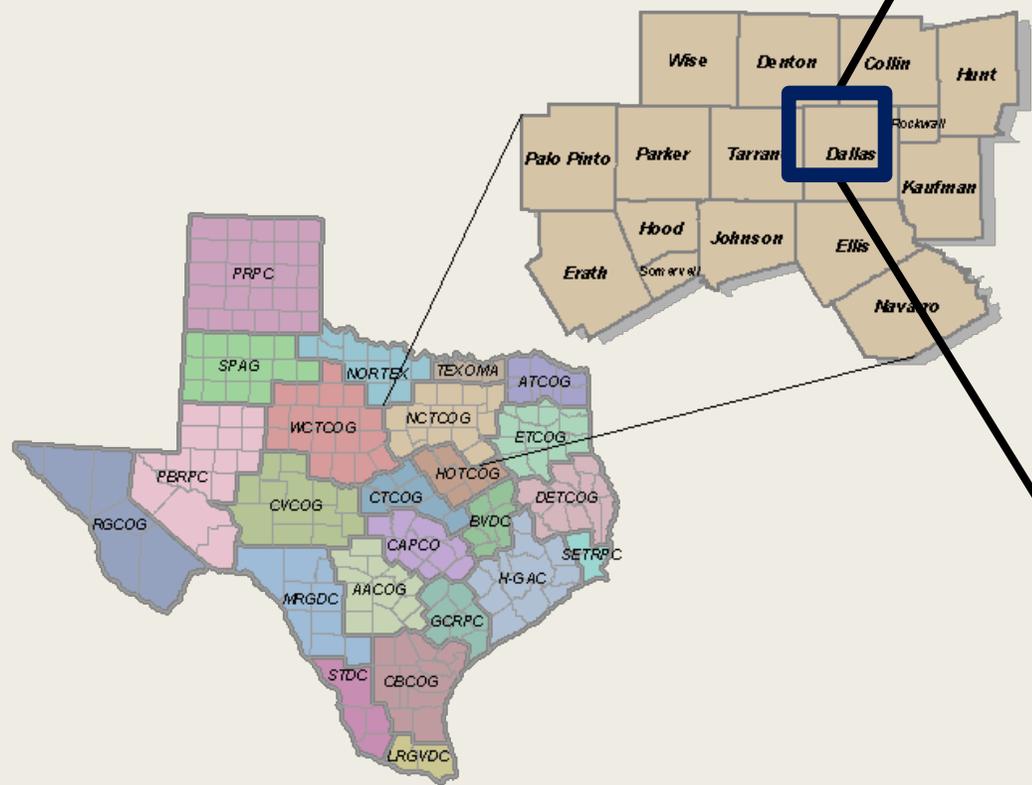
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Work Area Profile Analysis

OnTheMap

Start Base Map Selection Results

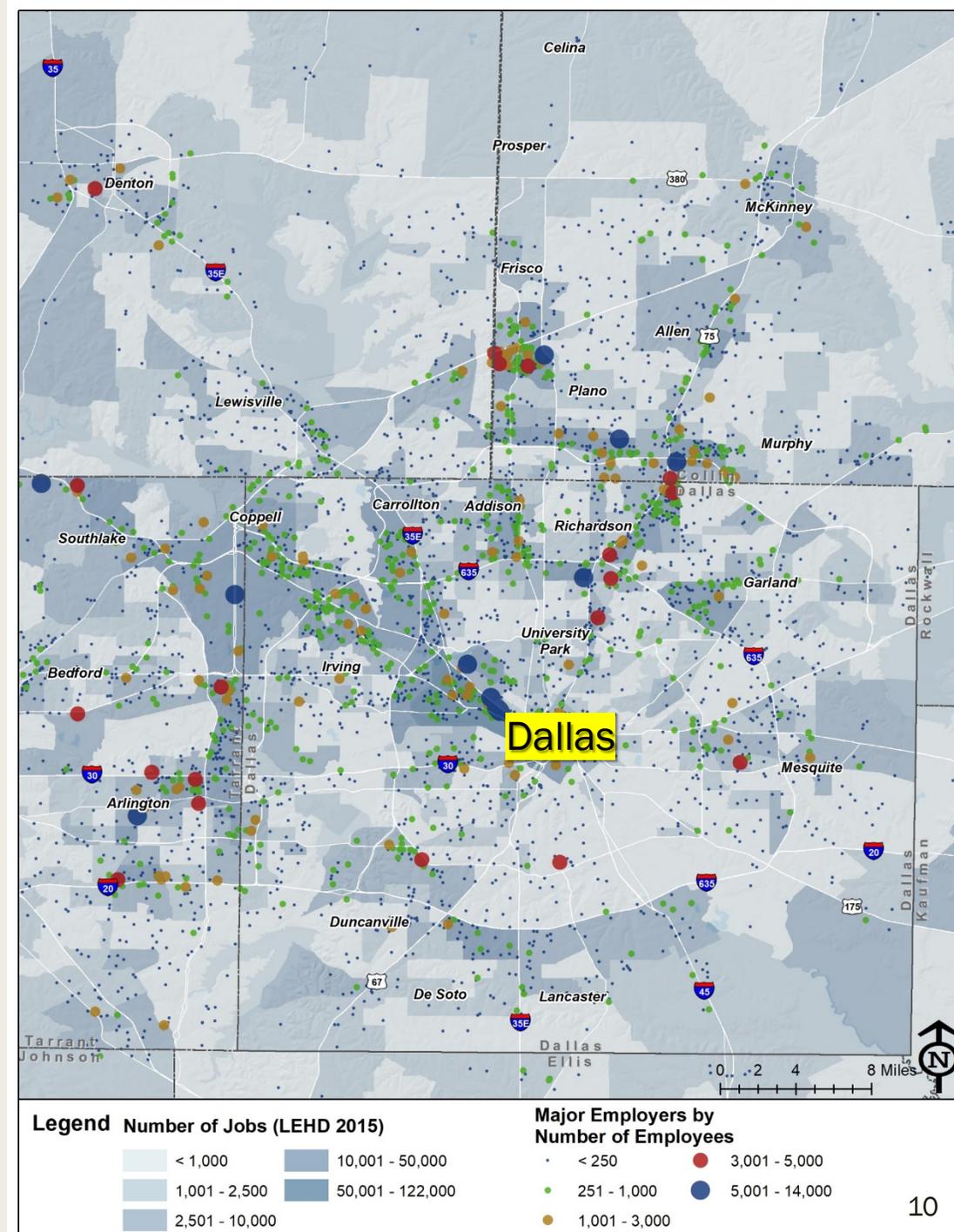
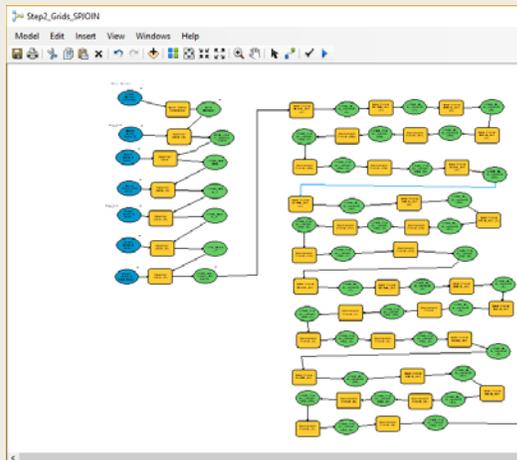
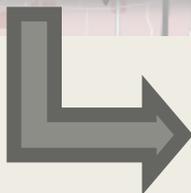
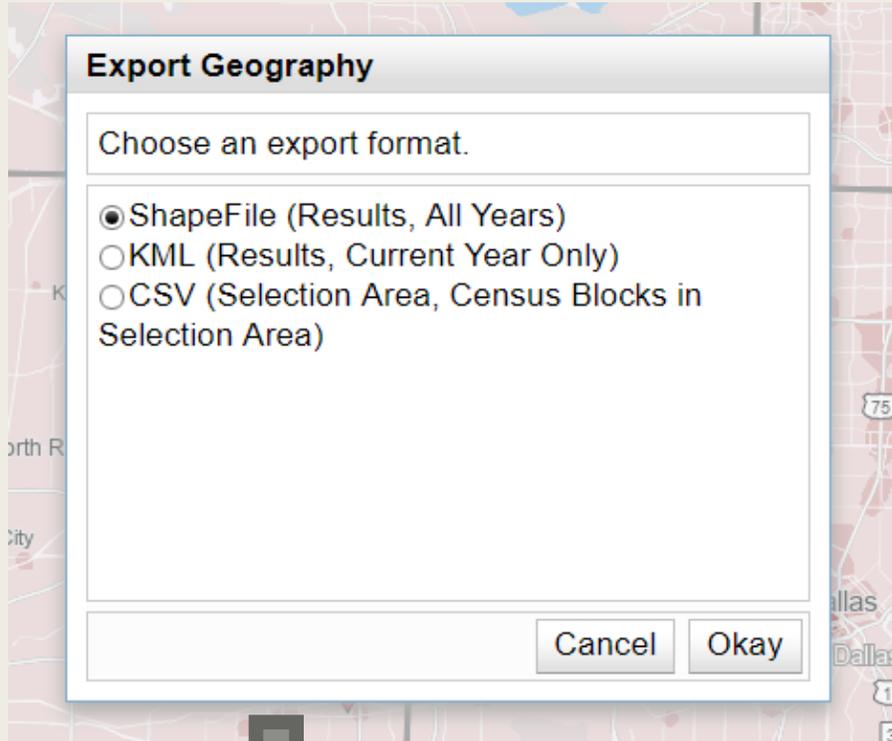
Work Area Profile Analysis
Job Locations



Total All Jobs		
	2015	
	Count	Share
Total All Jobs	3,372,034	100.0%

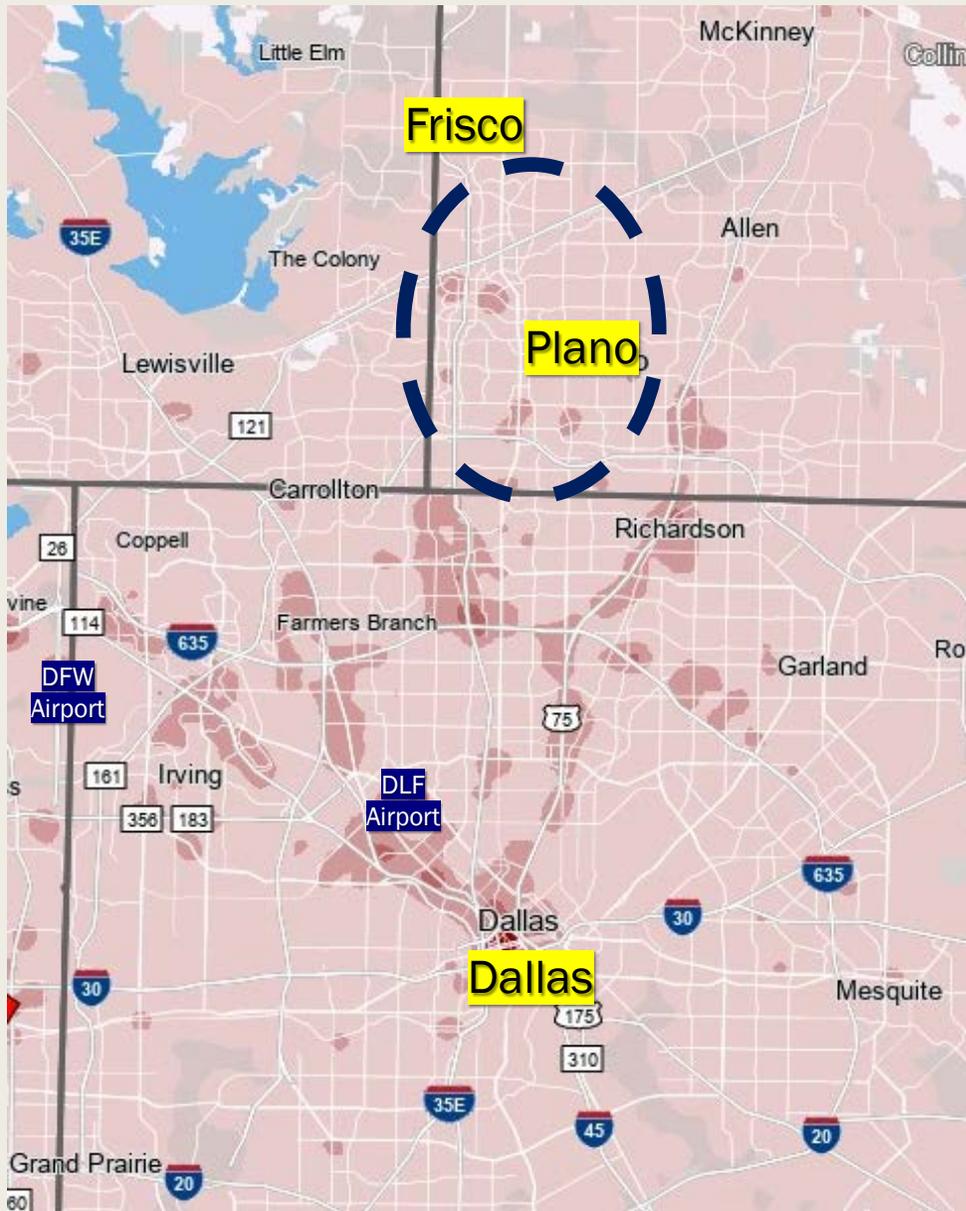
Worker Age		
	2015	
	Count	Share
Age 29 or younger	754,097	22.4%
Age 30 to 54	1,921,854	57.0%
Age 55 or older	696,083	20.6%

Data Aggregation

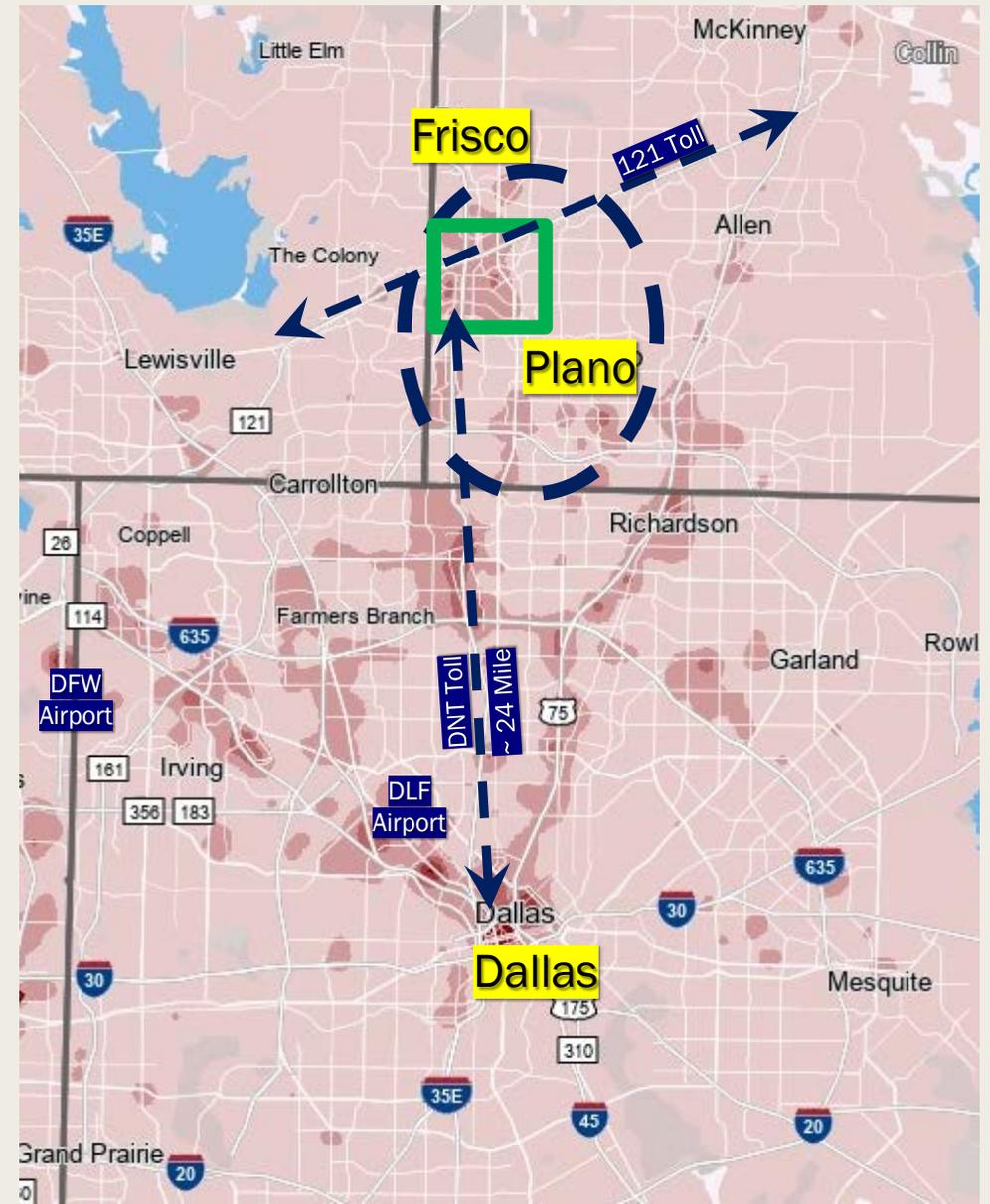


LEHD Historical Data: 2002-2015

Job Density: 2002



Job Density: 2015



LEHD Wage Classification Data

Earning \$1,250 or less per month

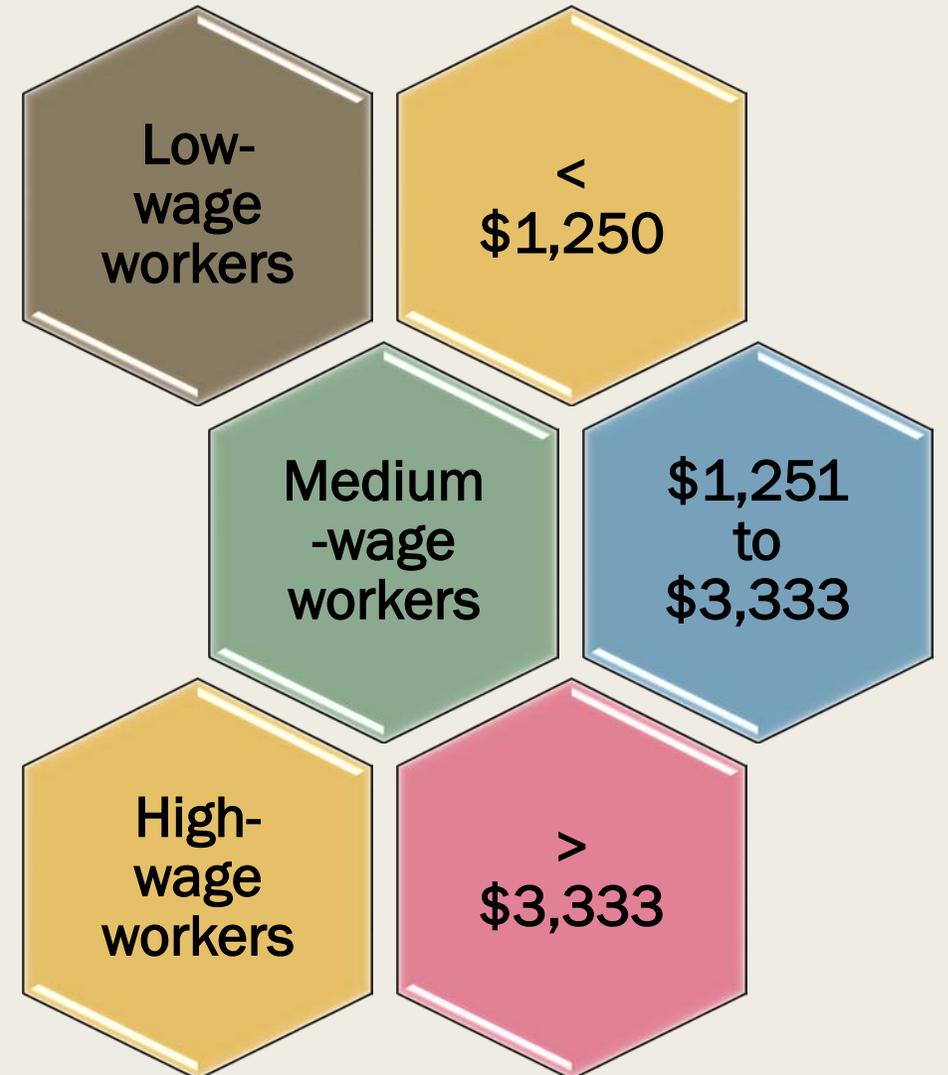
- *Low-wage workers*

Earning \$1,250 to \$3,333 per month

- *Medium-wage workers*

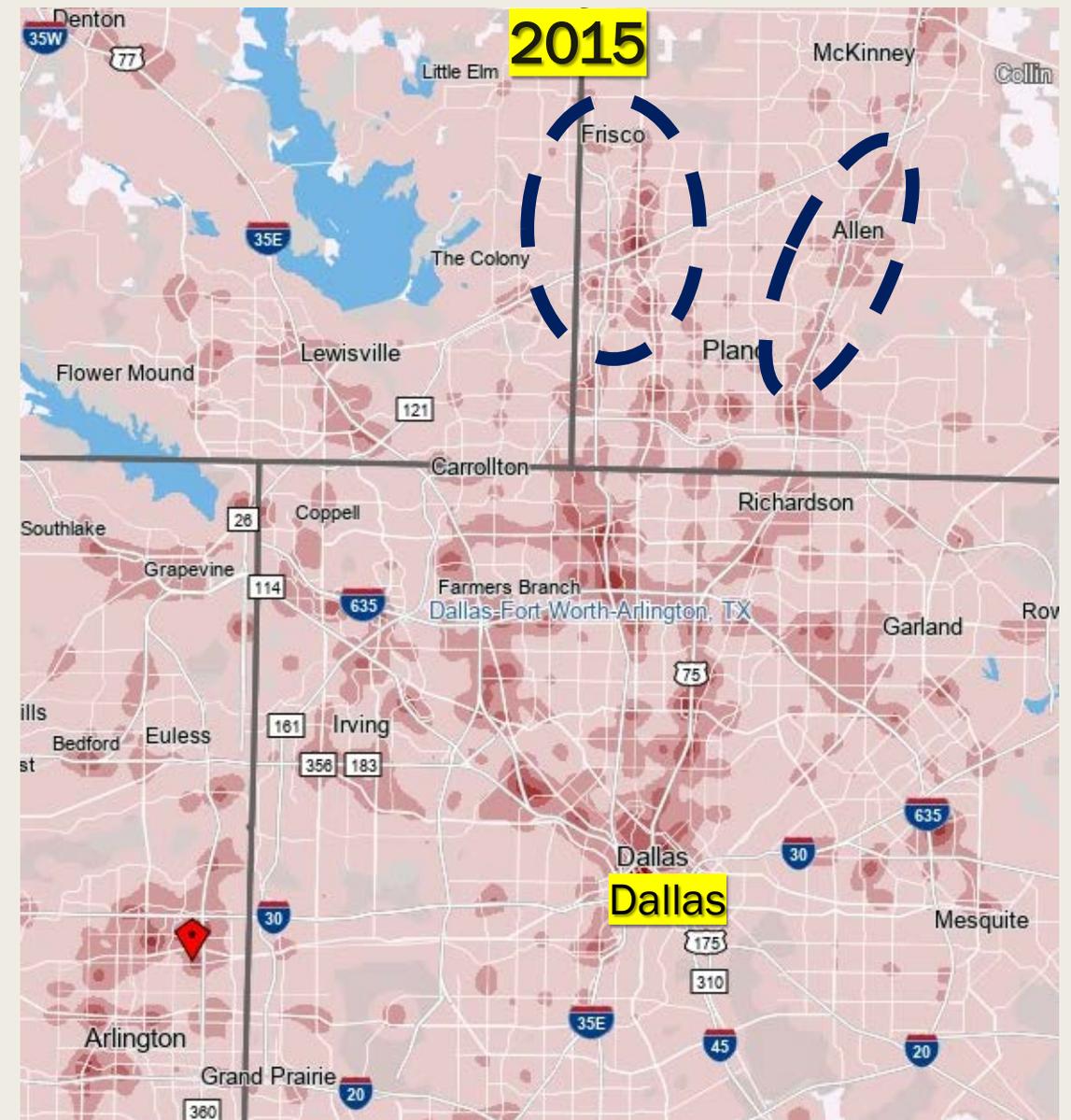
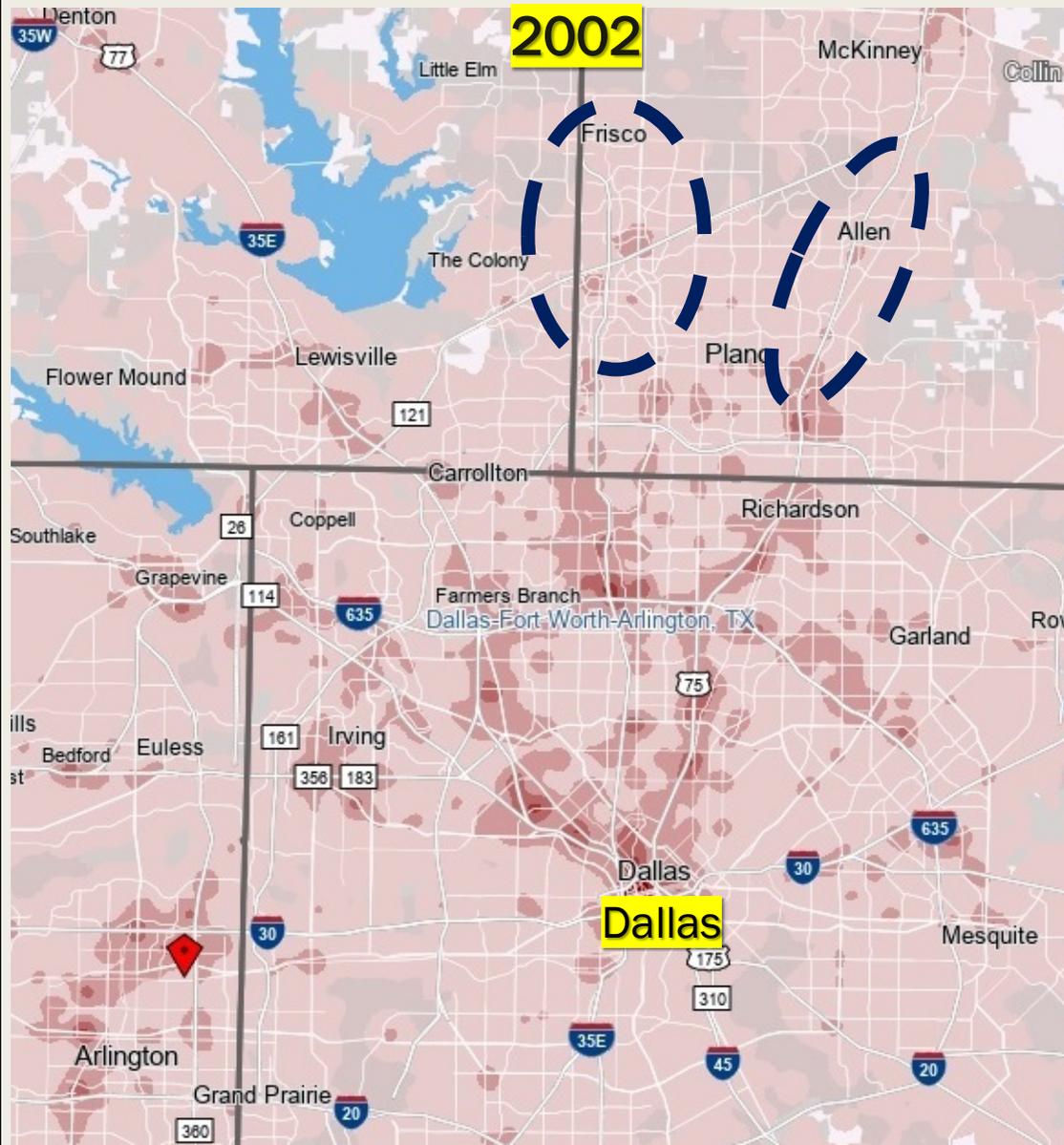
Earning more than \$3,333 per month

- *High-wage workers*



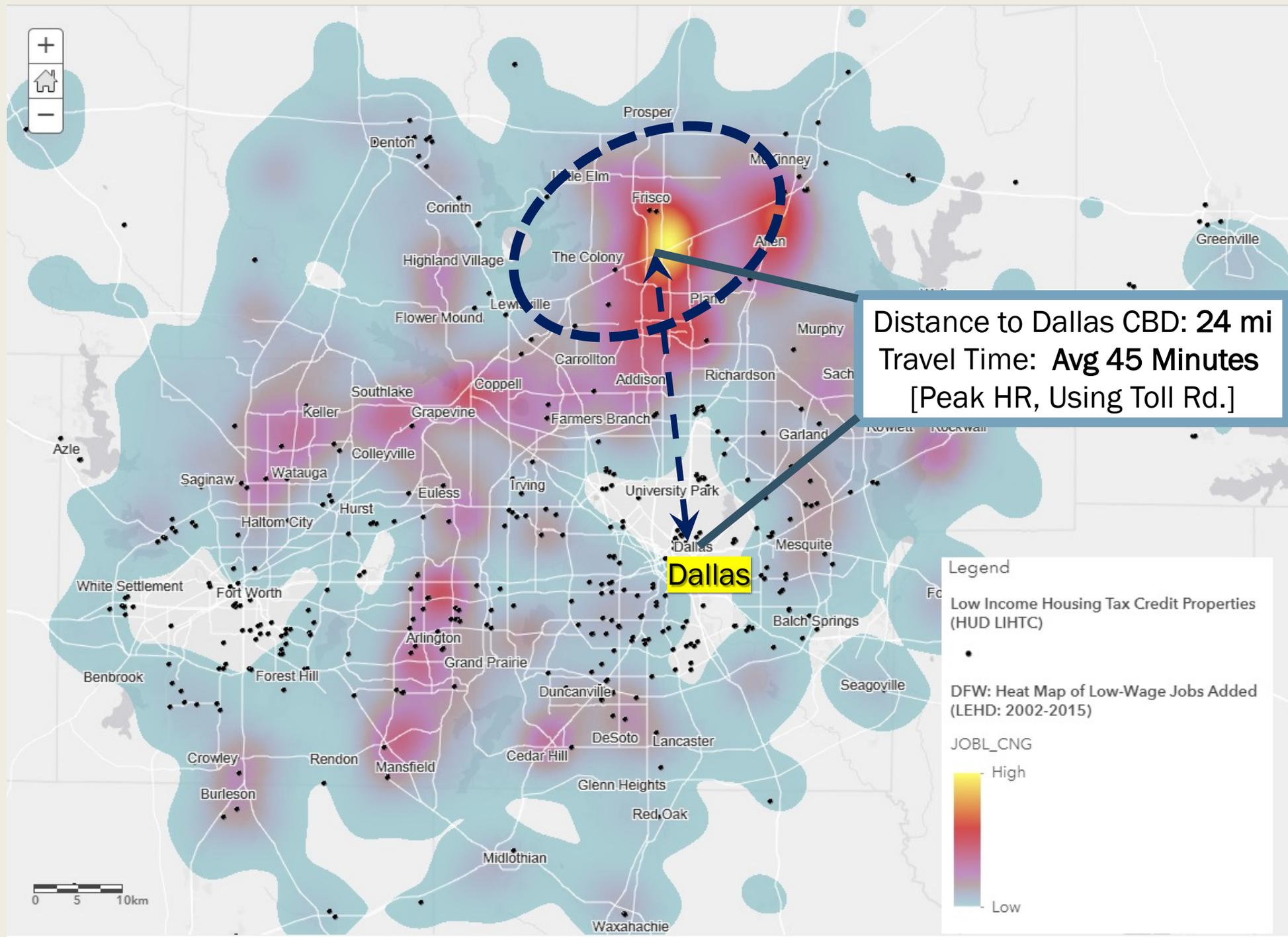
<u>Earnings</u>		2015	
		Count	Share
 <u>\$1,250 per month or less</u>		707,179	21.0%
 <u>\$1,251 to \$3,333 per month</u>		1,088,050	32.3%
 <u>More than \$3,333 per month</u>		1,576,805	46.8%

LEHD Low-Wage Jobs: 2002-2015



LEHD:
2002-2015

Heat Map of
Low-Wage
Jobs Added:
2002-2015



Home Location of Workers

OnTheMap

Start Base Map Selection Results

Home Area Profile Analysis
Workers Home Locations

Worker Ethnicity

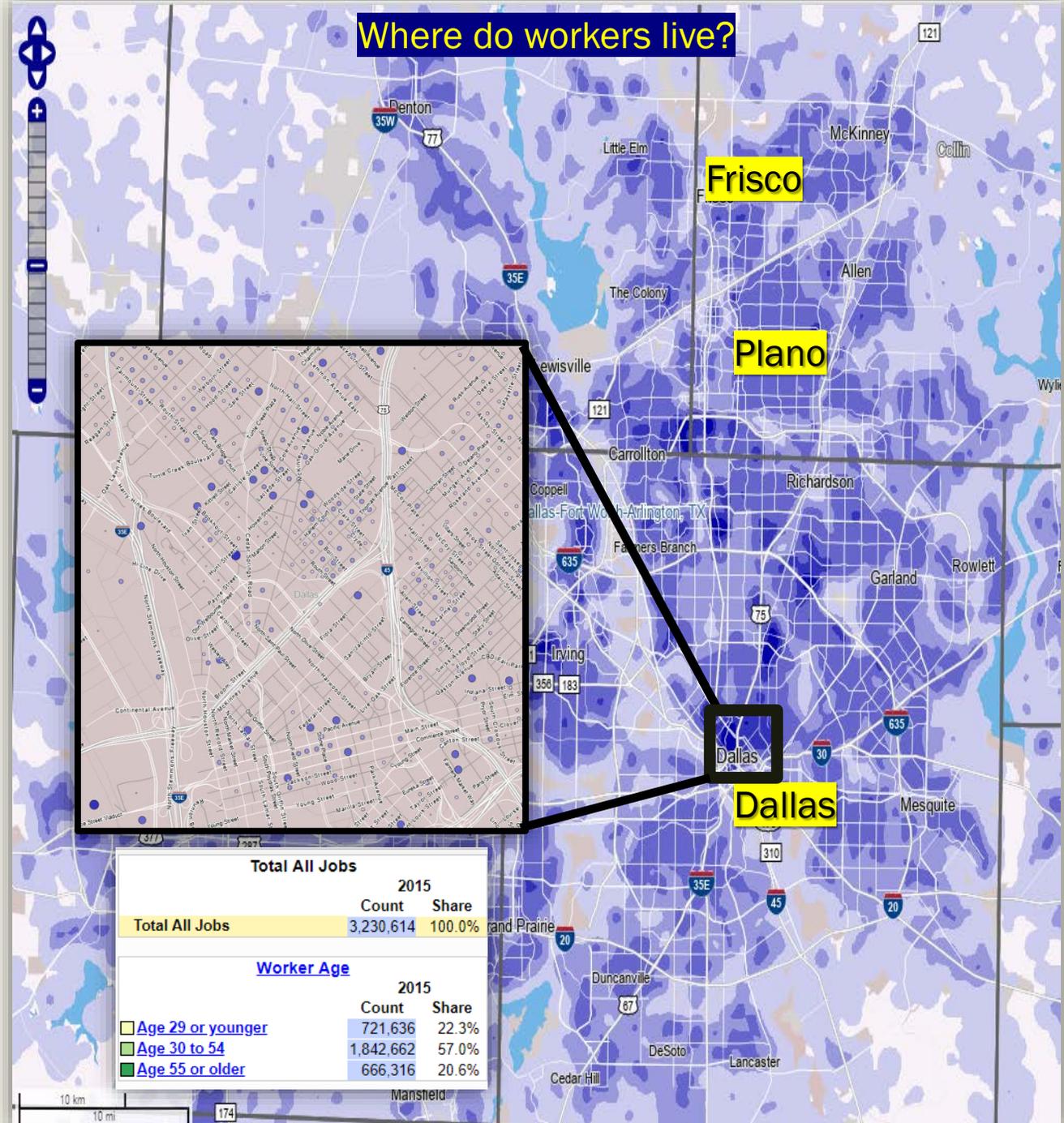
	2015	
	Count	Share
Not Hispanic or Latino	2,591,209	80.2%
Hispanic or Latino	639,405	19.8%

Worker Educational Attainment

	2015	
	Count	Share
Less than high school	385,349	11.9%
High school or equivalent, no college	633,434	19.6%
Some college or Associate degree	797,550	24.7%
Bachelor's degree or advanced degree	692,645	21.4%

Worker Sex

	2015	
	Count	Share
Male	1,651,548	51.1%
Female	1,579,066	48.9%

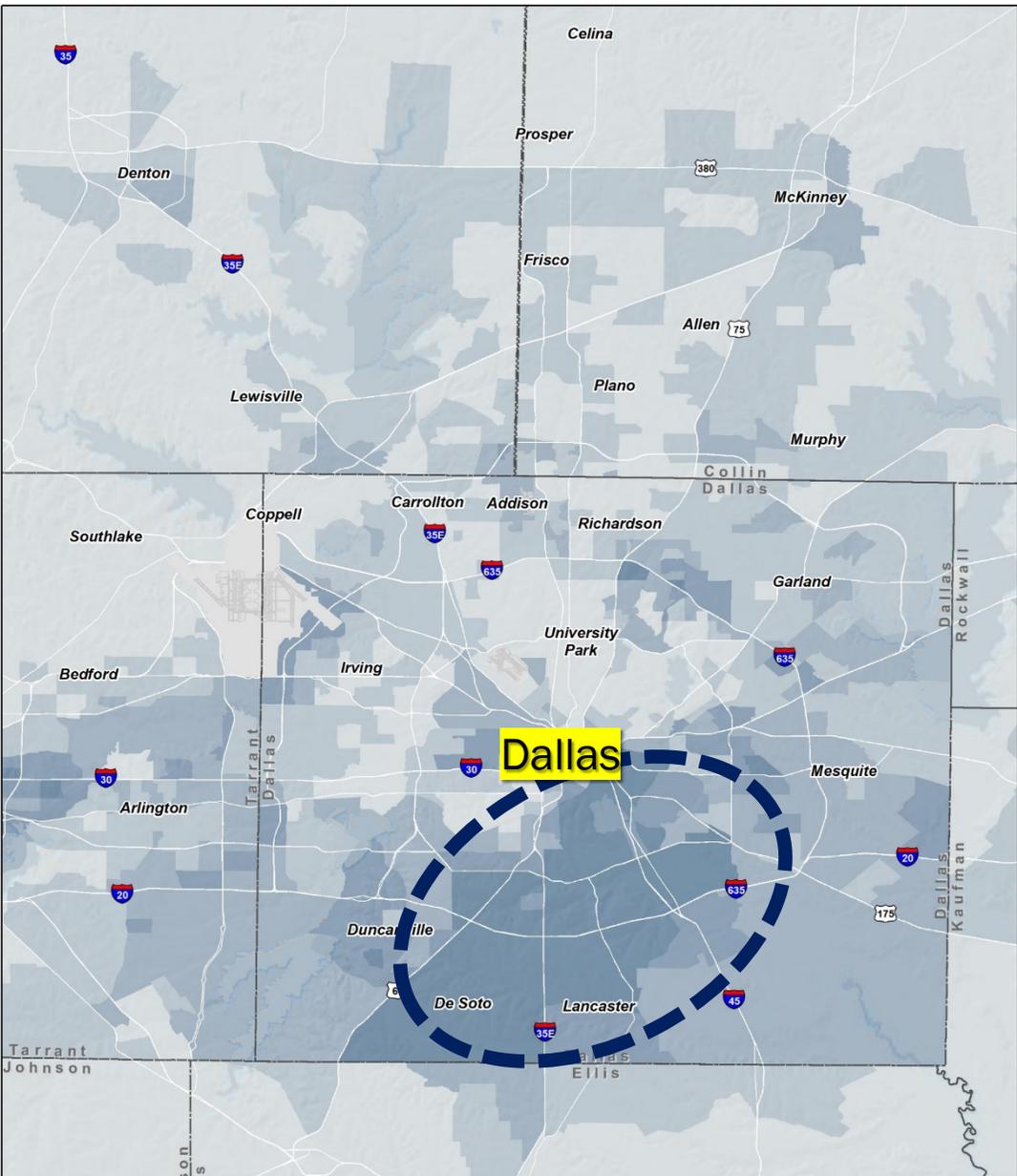


Total All Jobs

	2015	
	Count	Share
Total All Jobs	3,230,614	100.0%

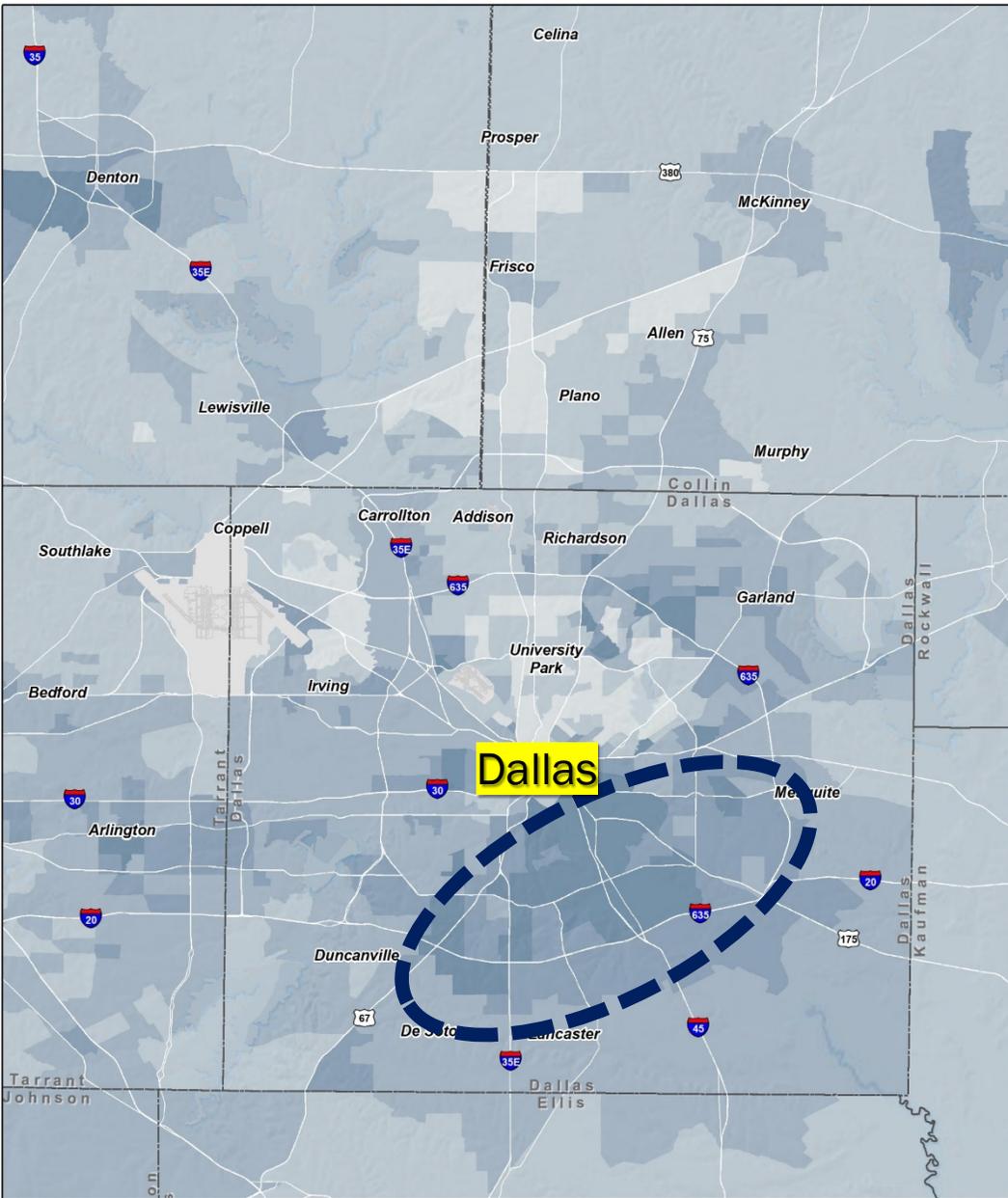
Worker Age

	2015	
	Count	Share
Age 29 or younger	721,636	22.3%
Age 30 to 54	1,842,662	57.0%
Age 55 or older	666,316	20.6%



LEHD HOME AREA PROFILE

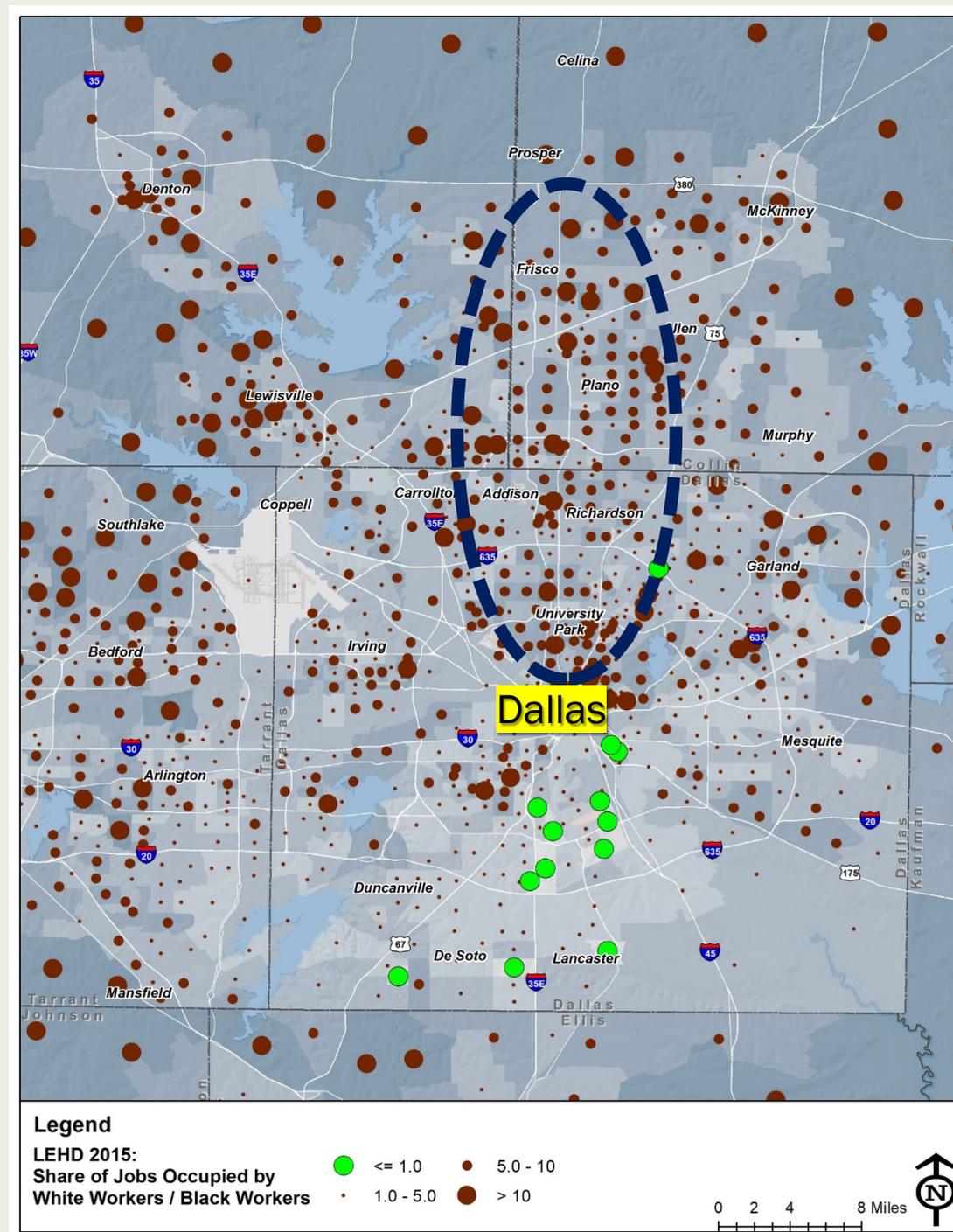
Where Do Black Workers Live?



LEHD HOME AREA PROFILE

% Low-Wage Workers [Home Location]

Share of Jobs Occupied by White / Black Workers [LEHD 2015]

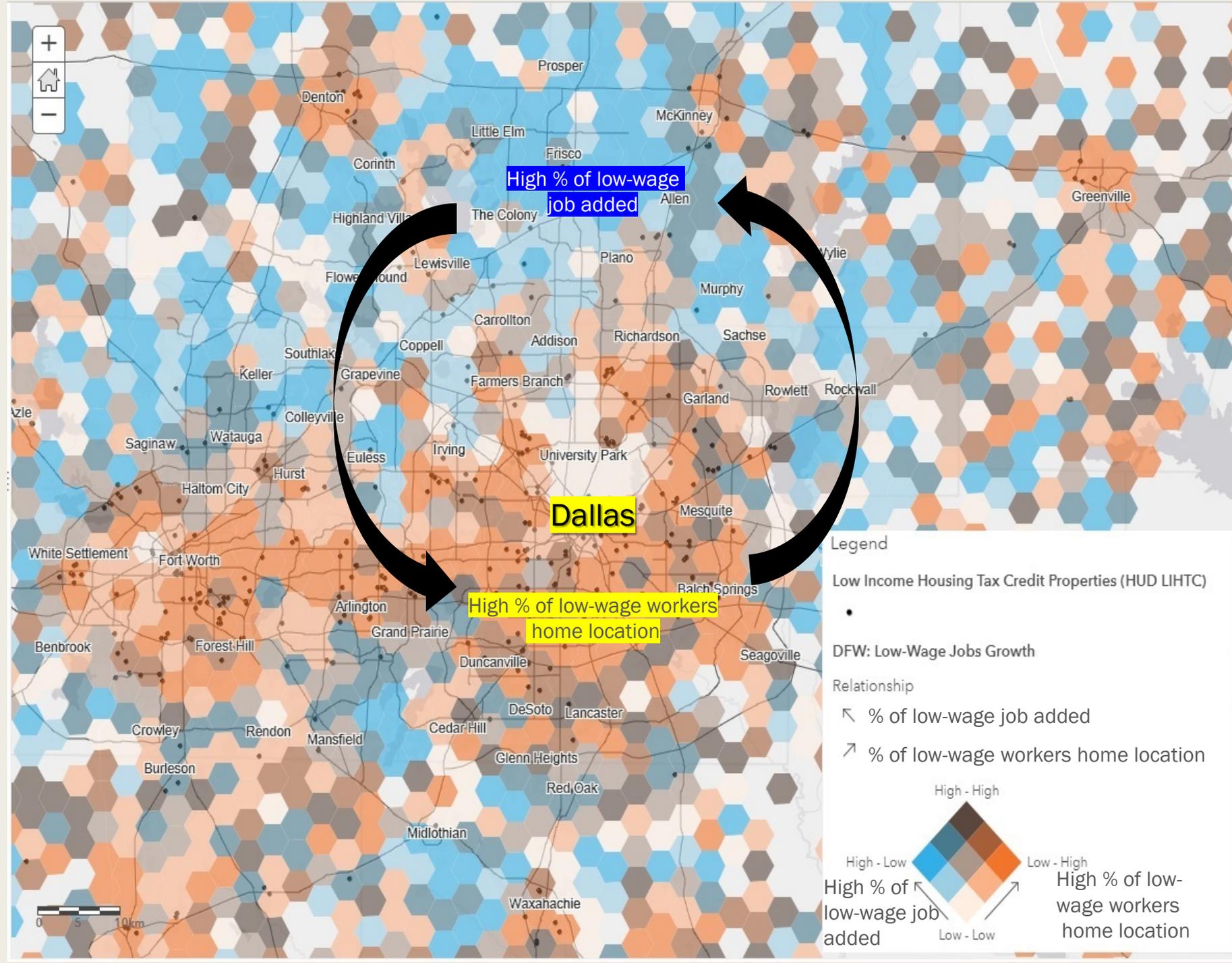


LEHD 2015

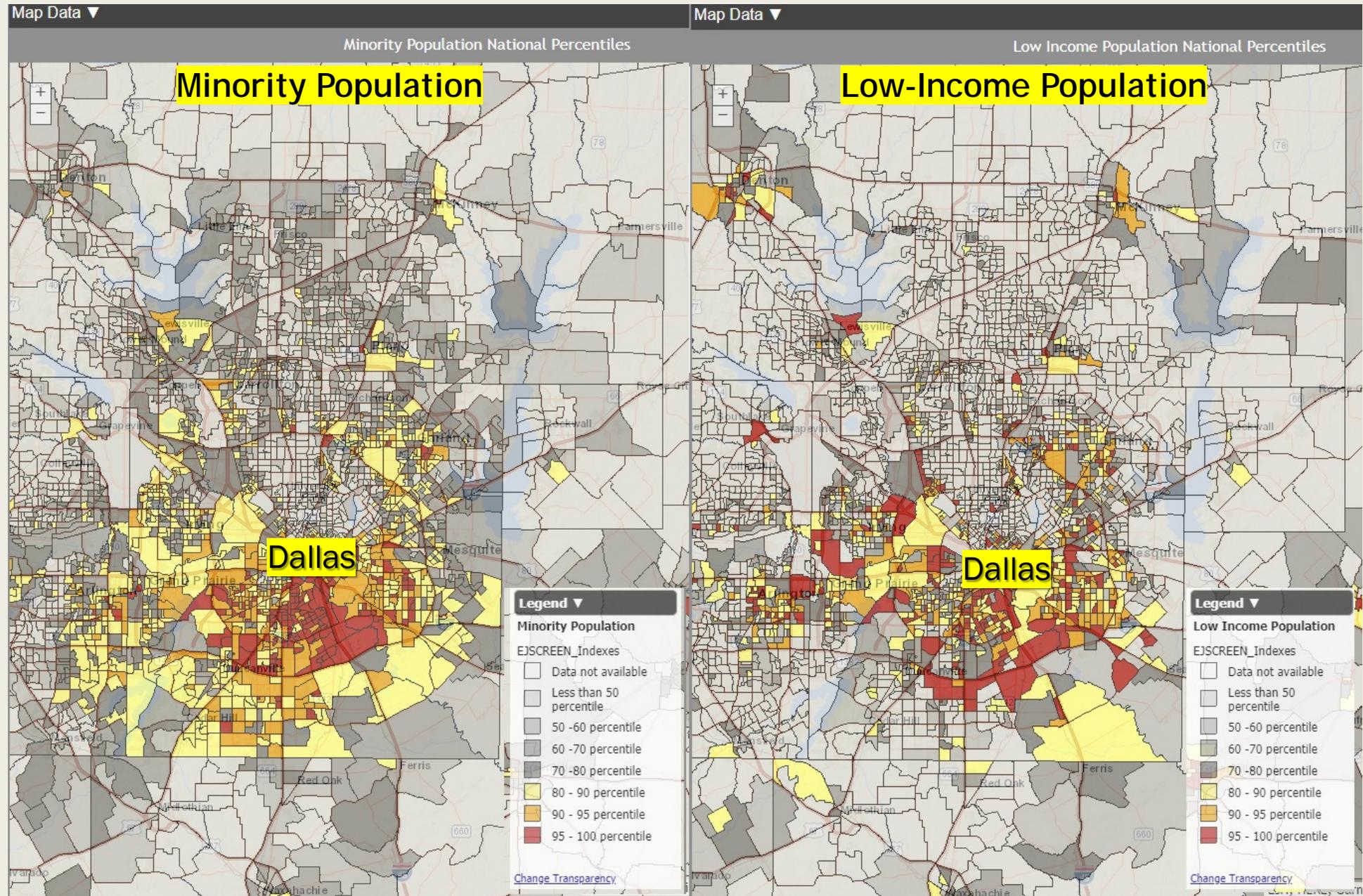
Work Area Profile &
Home Area Profile

Relationship Map

Low-Wage Job
Added (%)
vs.
Low-Wage
Residents (%)



EJSCREEN: Environmental Justice Screening and Mapping Tool



Location Affordability

- Housing and Transportation Costs as % of Household Income

Tools & Databases

HUD Low-Income Housing Tax Credit (LIHTC) Properties

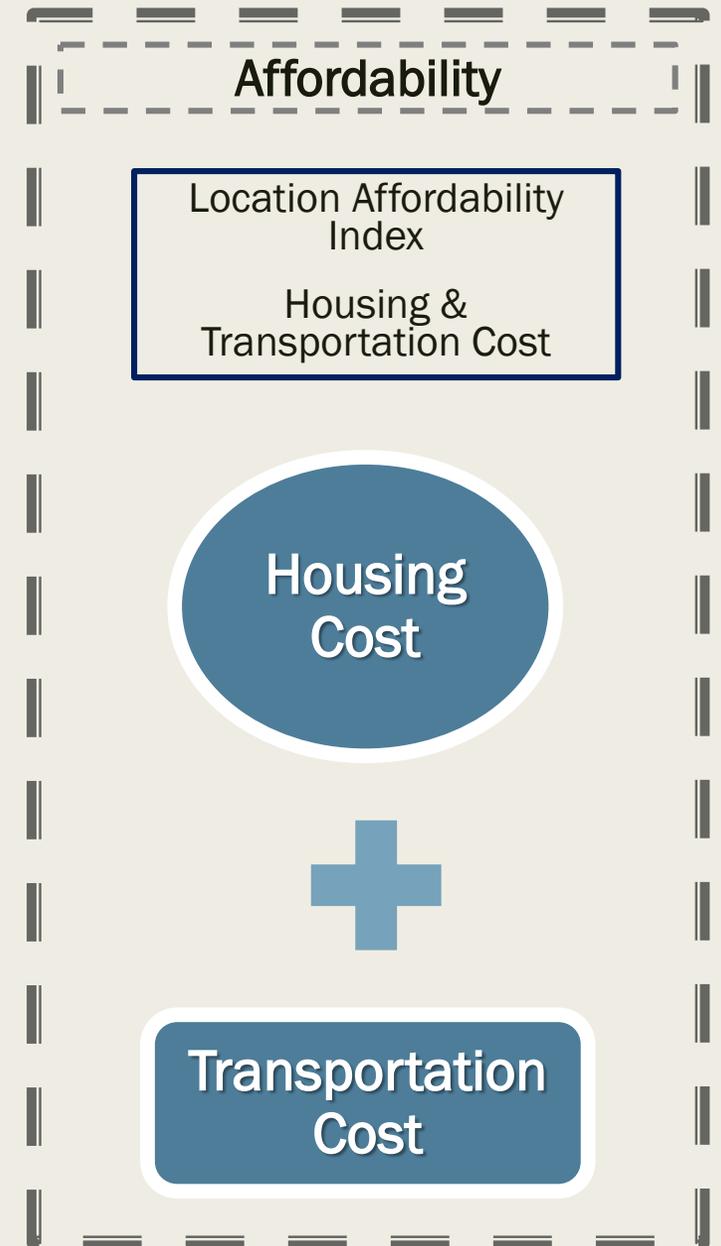
- www.lihtc.huduser.gov/
- www.huduser.gov/portal/datasets/lihtc.html

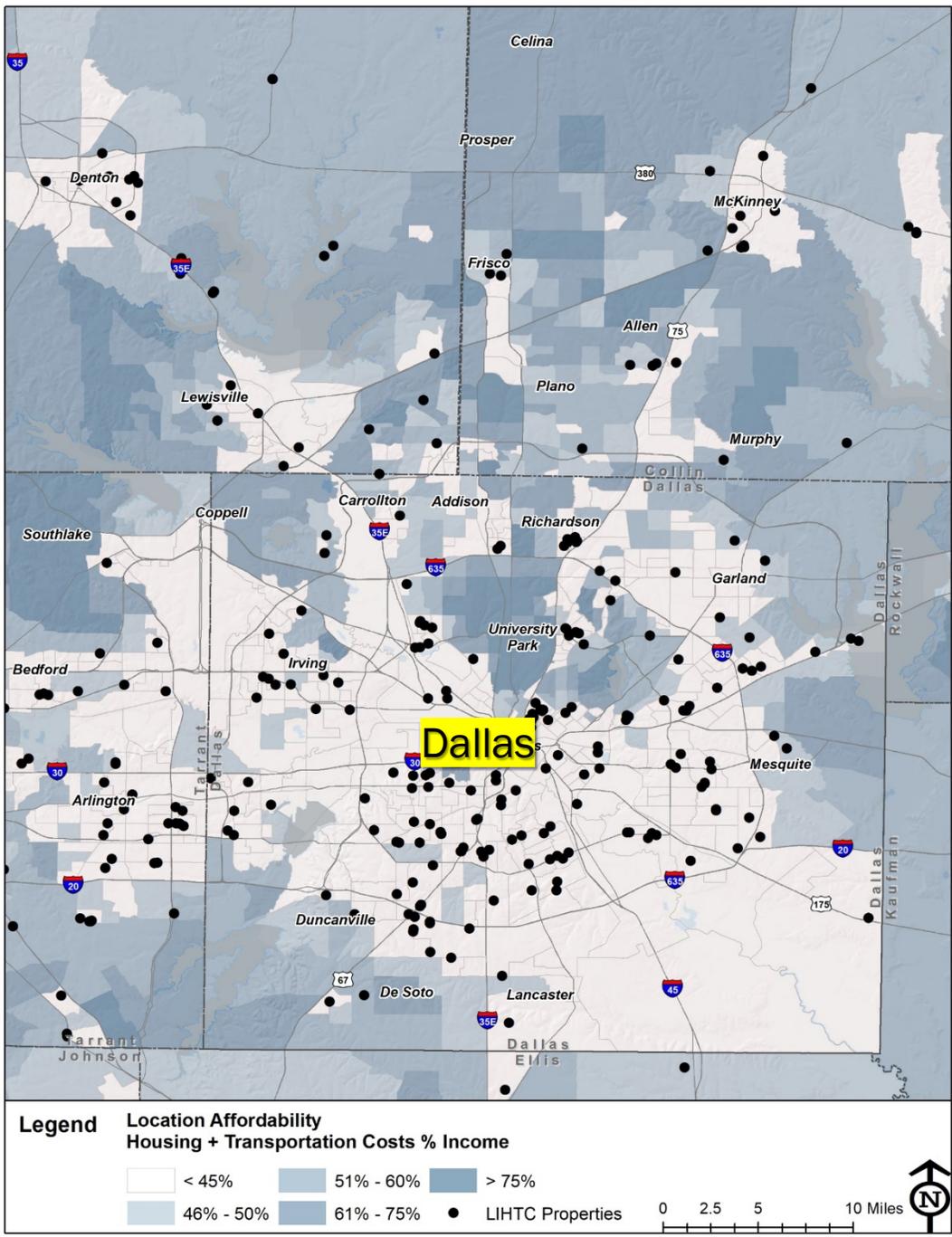
HUD Location Affordability Index

- www.hudexchange.info/programs/location-affordability-index/

H+T Index from the Center for Neighborhood Technology (CNT)

- www.cnt.org/tools/housing-and-transportation-affordability-index

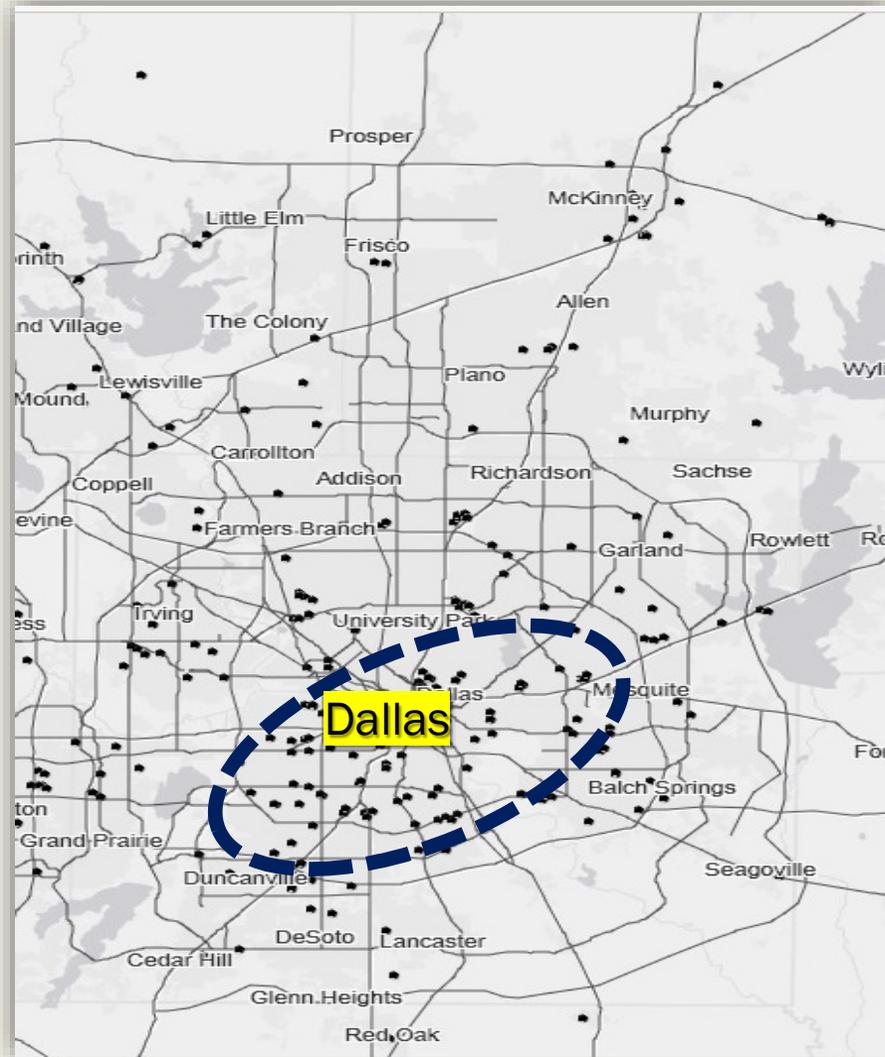




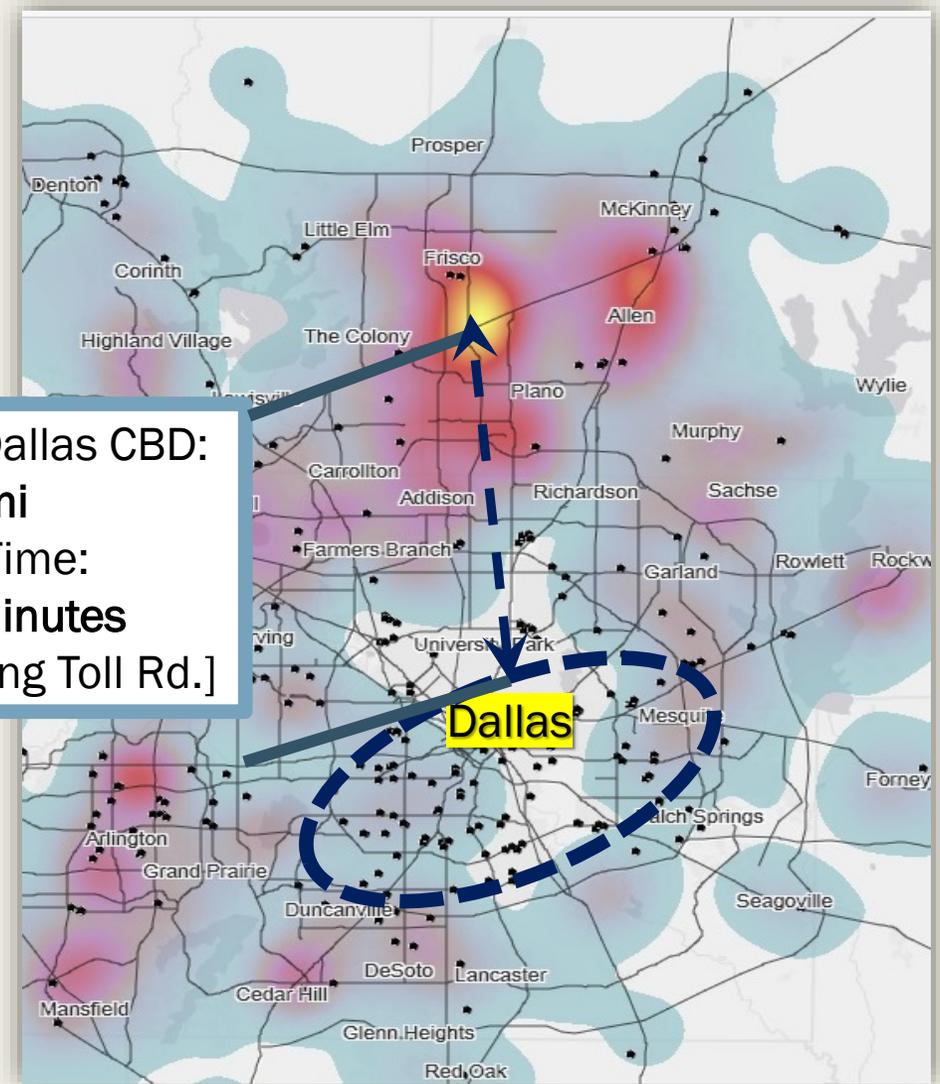
Location Affordability Index H+T Index (CNT.org)

Subsidized Housing

Low-Income Housing Tax Credit (LIHTC) Properties



Distance to Dallas CBD:
24 mi
Travel Time:
Avg 45 Minutes
[Peak HR, Using Toll Rd.]



Job Accessibility

- How close are low-wage workers to a transit stop?
- How far do they have to travel to get to the workplace?

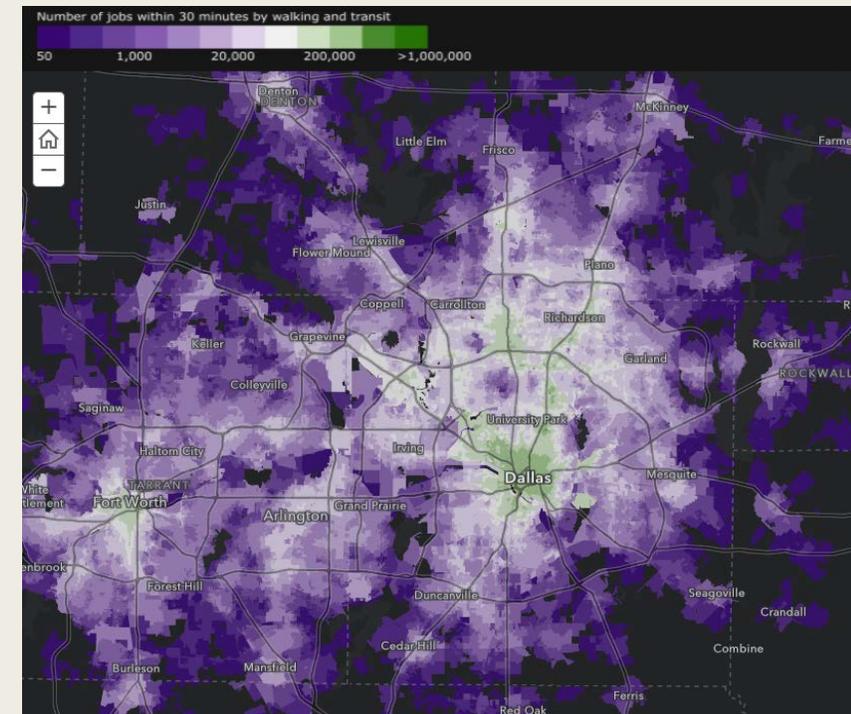
Tools & Databases

The General Transit Feed Specification (GTFS)

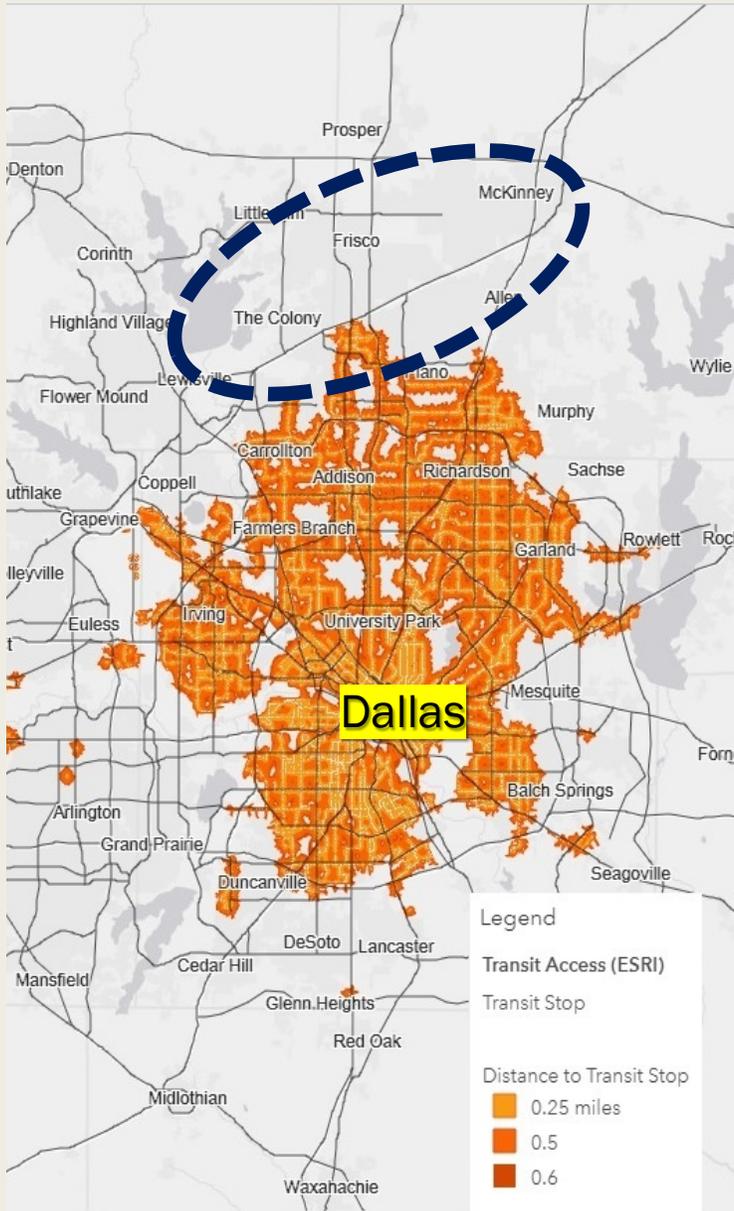
- <https://transitfeeds.com/>

EPA Smart Location Database

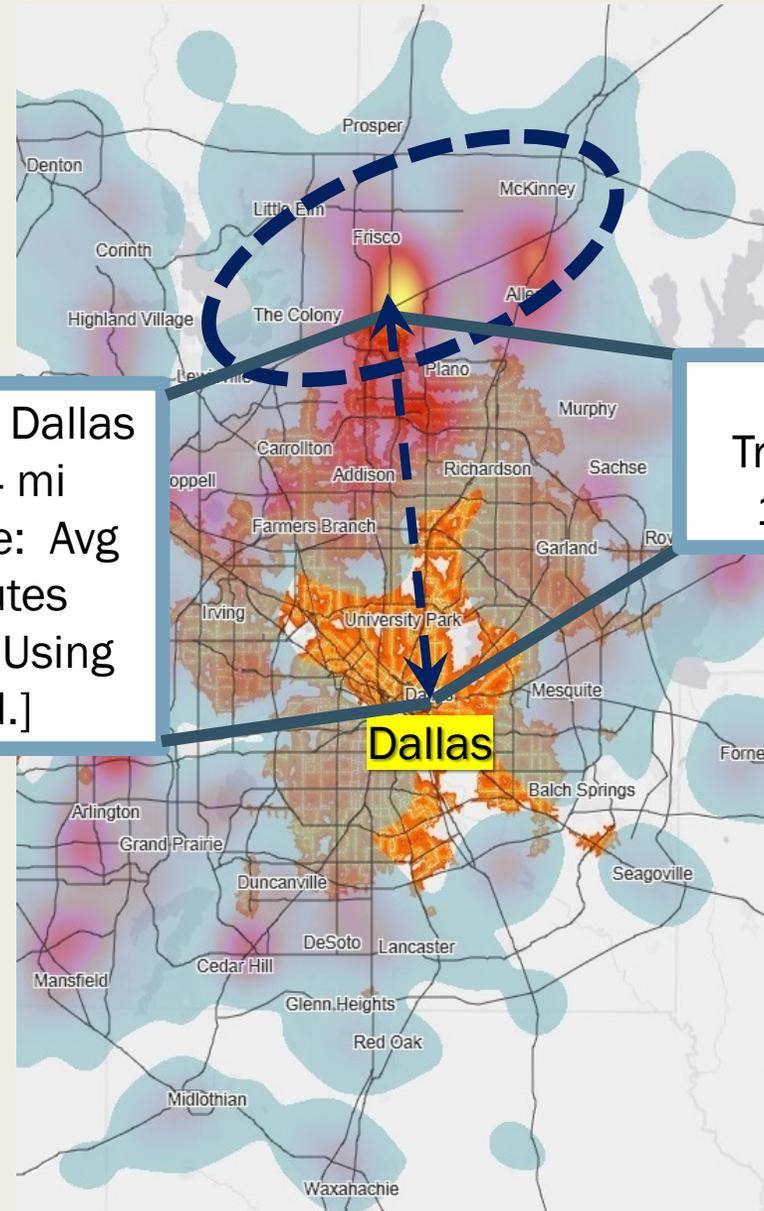
- Access to Jobs and Workers Via Transit Tool
 - www.epa.gov/smartgrowth/smart-location-mapping
 - <https://epa.maps.arcgis.com>



Job Accessibility with Transit



Distance to Dallas
CBD: 24 mi
Travel Time: Avg
45 Minutes
[Peak HR, Using
Toll Rd.]



Transit
Travel Time: Avg .
1 h 50 Minutes

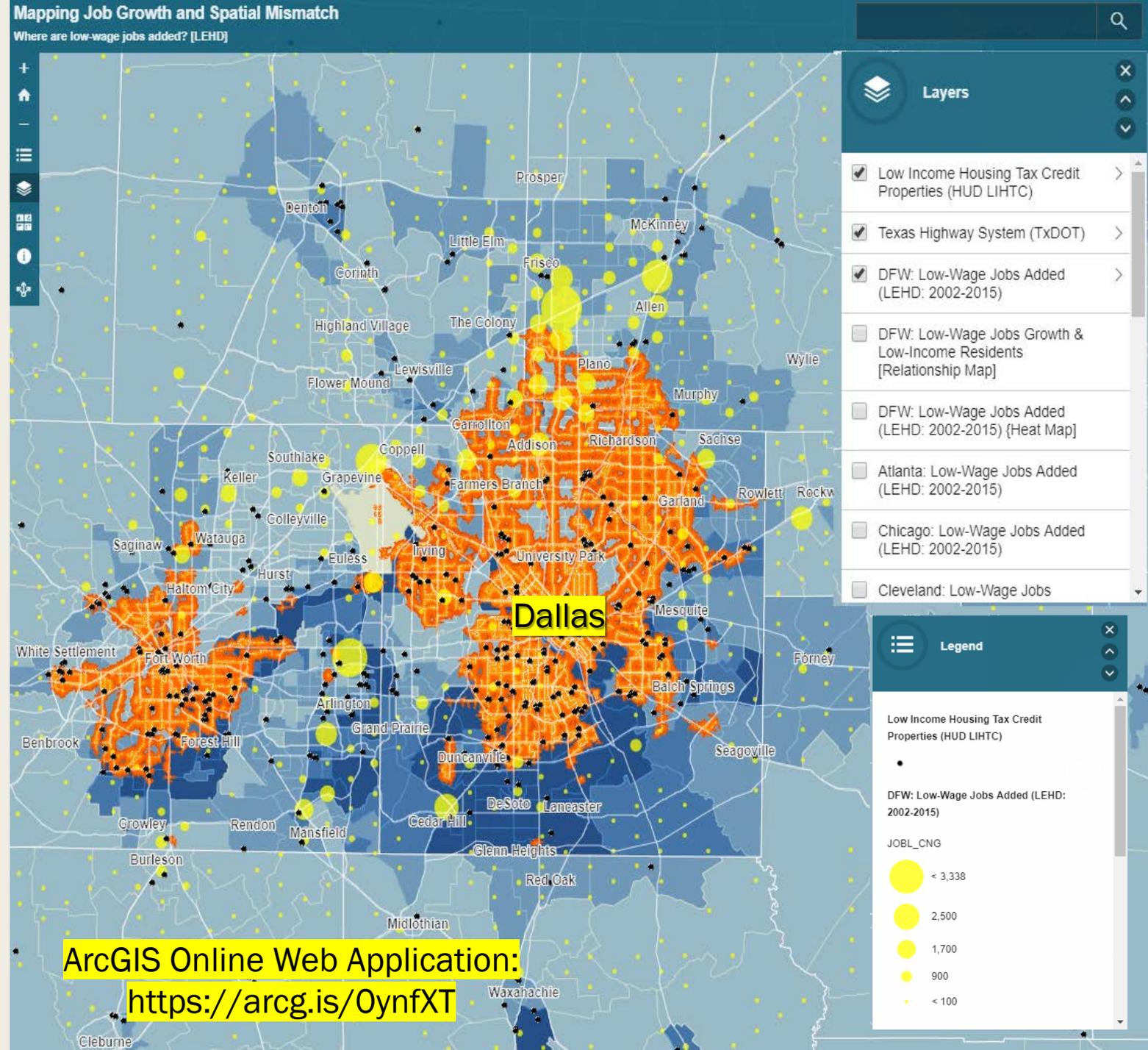
Data Integration

- Overlapping and Integrating all factors

<https://arcg.is/0ynfXT>

- Investigating other indices:

- Low Poverty Index
- Labor Market Engagement Index
- Employment Access Index
- School Proficiency Index



ArcGIS Online Web Application:
<https://arcg.is/0ynfXT>

Conclusions

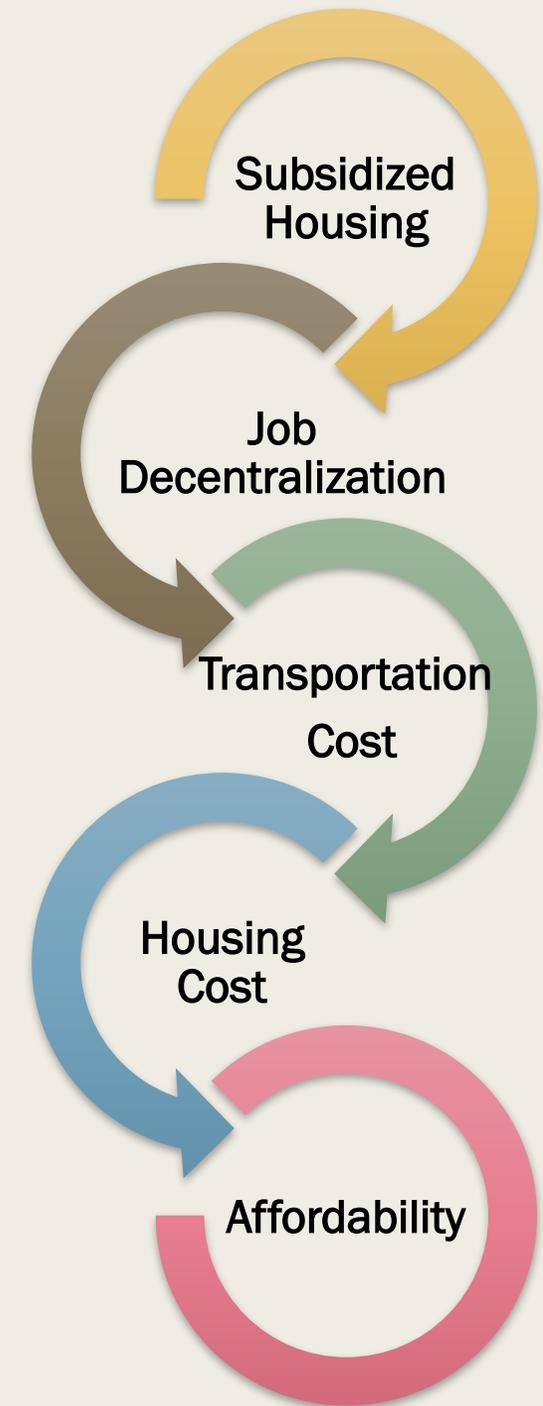
Spatial Mismatch

- *LEHD Home Area Profile*
- *LEHD Work Area Profile*
- *Affordability*
- *Accessibility*

Mapping Job Growth

Considerations

- *Providing better transportation options between inner-city neighborhoods and new job locations.*
- *Making suburban residential areas more accessible and affordable*



Thank You

Reza Sardari, Ph.D., GISP

GIS & Transportation Analyst | C&M Associates, Inc.

Urban Planning & Public Policy, UT Arlington, TX

LED Webinar

4.17.2019



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