Longitudinal Employer-Household Dynamics Job Related Data Tools

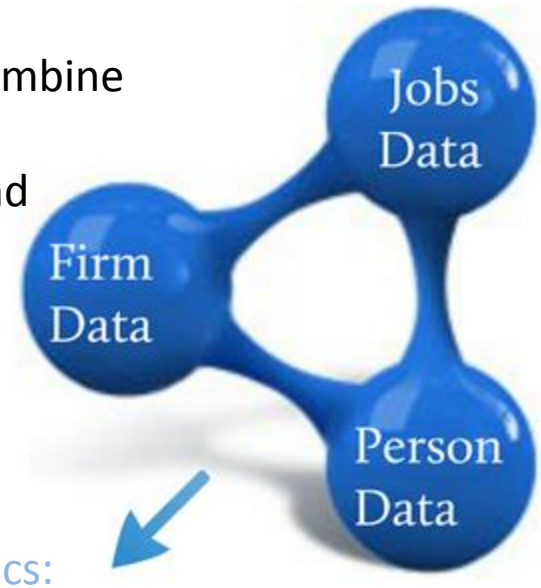
New York State Data Users Conference
September 14, 2018

Earlene Dowell
Program Analyst
Longitudinal Employer-Household Dynamics Program
Center for Economic Studies, U.S. Census Bureau

The Local Employment Dynamics (LED) state-federal partnership

An innovative partnership to combine already collected administrative and survey data

The LEHD microdata



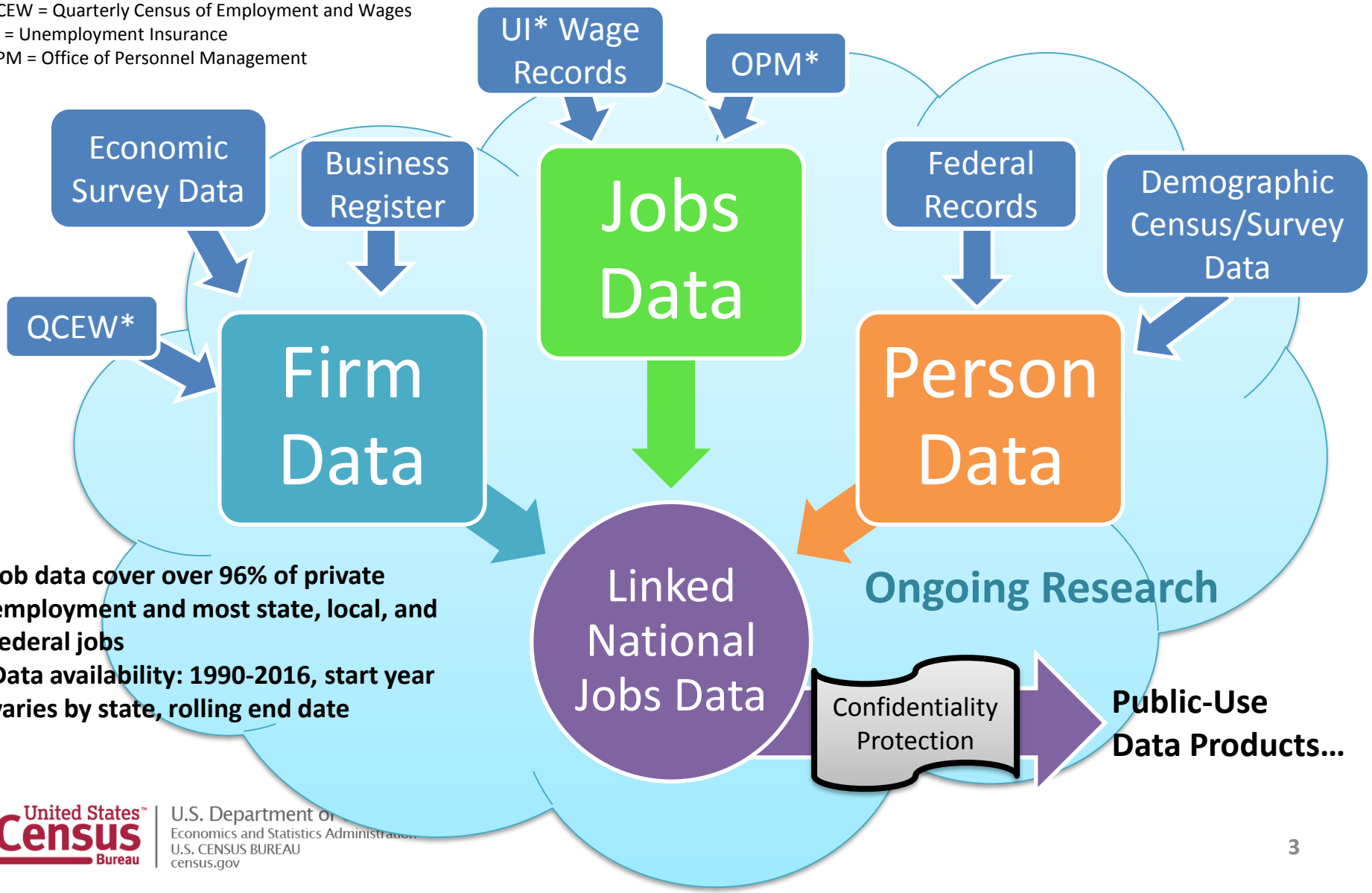
..linking it together to provide new information about the U.S. economy at very low cost

Public use statistics:

- Quarterly Workforce Indicators
- LODES/OnTheMap
- Job-to-Job Flows

LEHD Data Infrastructure

QCEW = Quarterly Census of Employment and Wages
UI = Unemployment Insurance
OPM = Office of Personnel Management



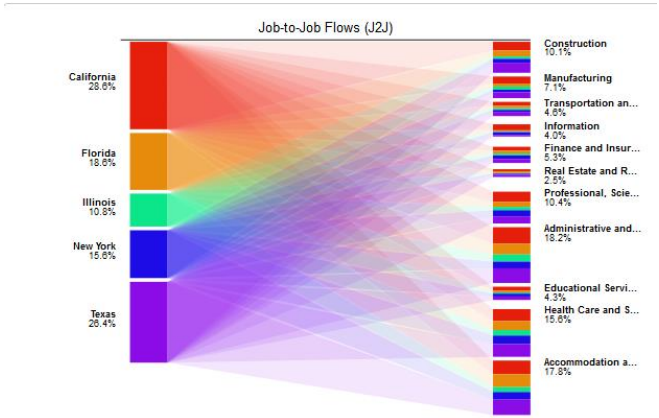
- **Job data cover over 96% of private employment and most state, local, and federal jobs**
- **Data availability: 1990-2016, start year varies by state, rolling end date**

Data Products

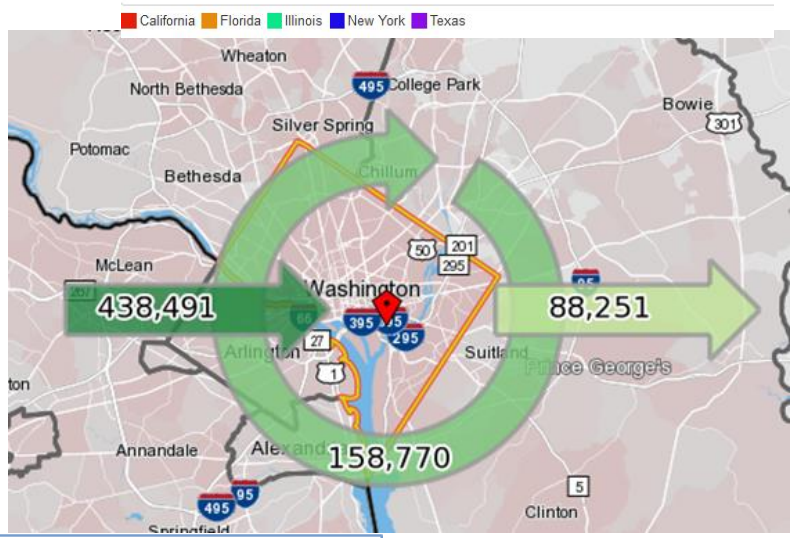
- Quarterly Workforce Indicators (QWI)
  - 32 indicators by
    - Industry (NAICS 2, 3, and 4-digit), Firm Age, Firm Size
    - Worker Age, Race, Ethnicity, Sex, Education
    - State, County, CBSA, WIB Area
  - >150 Million job records processed each quarter
  - Longitudinal series starts in 1990 for some states
- LEHD Origin-Destination Emp. Statistics (LODES)
  - Connects a job/worker's employment and residential locations
  - Data at census block detail
  - Less characteristic detail than QWI
- Job-to-Job Flows (J2J) - Beta
  - Flows between jobs as well as into/out of nonemployment

Data Tools

J2J Explorer

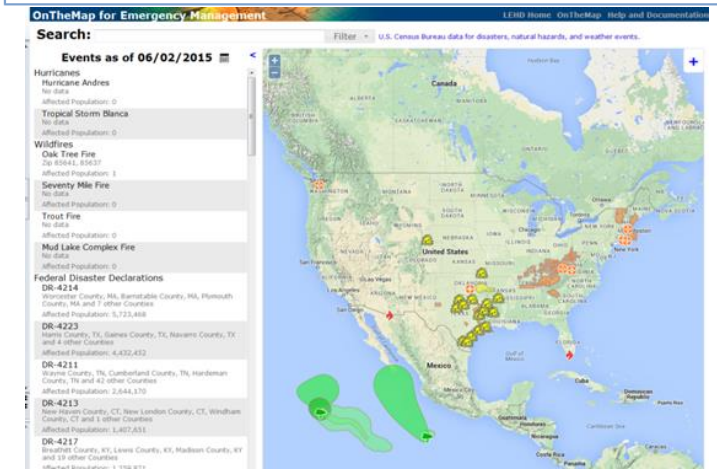


QWI Explorer



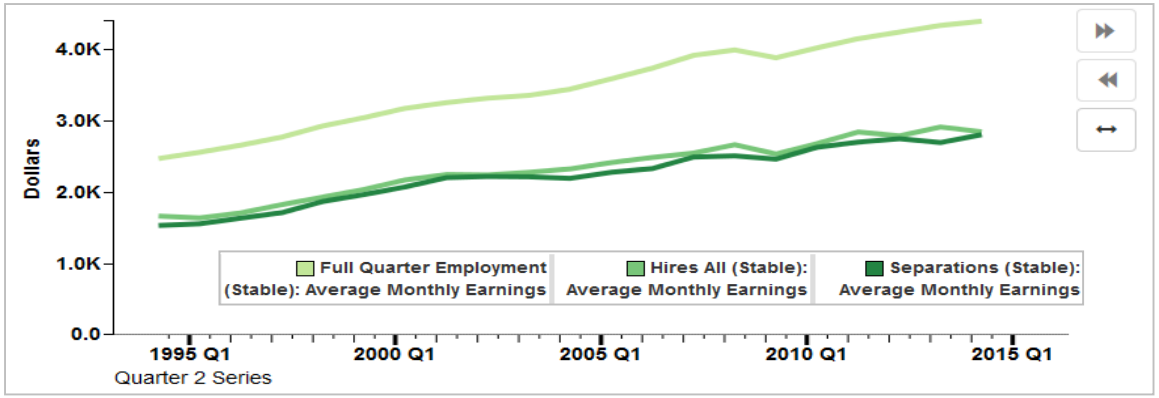
OnTheMap

OnTheMap for Emergency Management

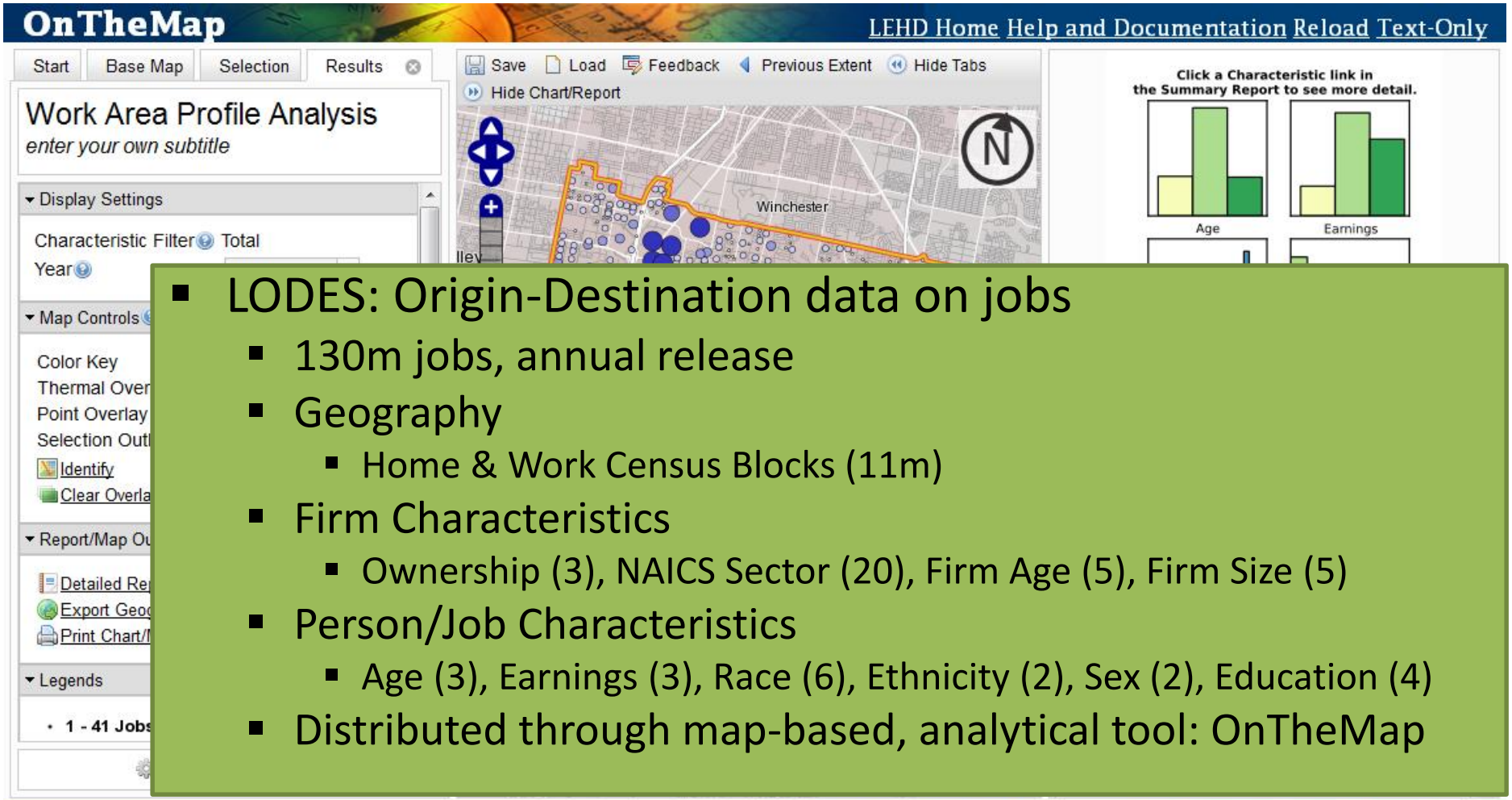


Why are LED Data Tools Important?

- Accessibility
- “Explorability”
- Provide context
- Visualizations lead to insight
- Promote/market the data
- Provide “value-add” for our state partners



LODES/OnTheMap



- LODES: Origin-Destination data on jobs
  - 130m jobs, annual release
  - Geography
    - Home & Work Census Blocks (11m)
  - Firm Characteristics
    - Ownership (3), NAICS Sector (20), Firm Age (5), Firm Size (5)
  - Person/Job Characteristics
    - Age (3), Earnings (3), Race (6), Ethnicity (2), Sex (2), Education (4)
  - Distributed through map-based, analytical tool: OnTheMap

http://onthemap.ces.census.gov/

Zillow and LODES

Gene Balk / FYI Guy

Is the 'Amazon effect' on rising rents in North Seattle real?

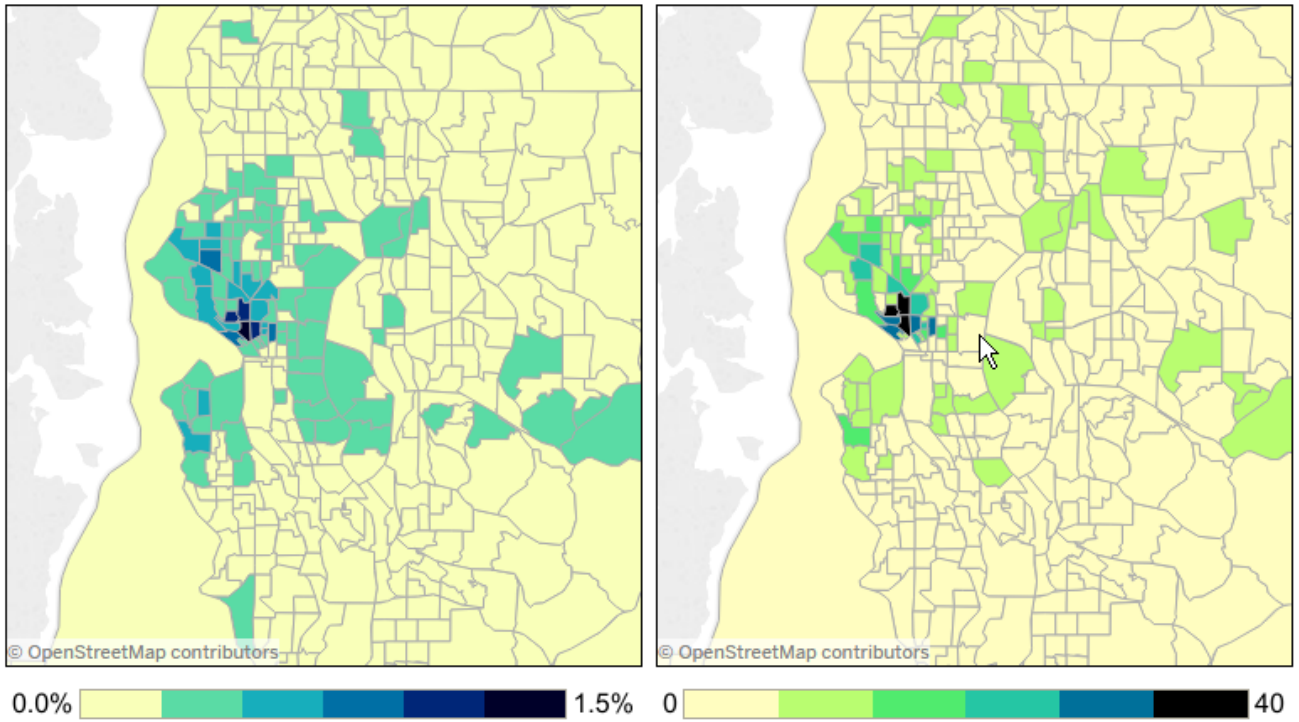
Originally published April 1, 2016 at 6:00 am | *Updated April 2, 2016 at 2:30 pm*

Workers Living and Working in Seattle

South Lake Union and nearby areas have both the greatest density and the largest growth in residents who work in South Lake Union.

Distribution of SLU workers across census tract of residence, 2015

Average annual change in number of SLU workers by residence census tract, 2011-2015

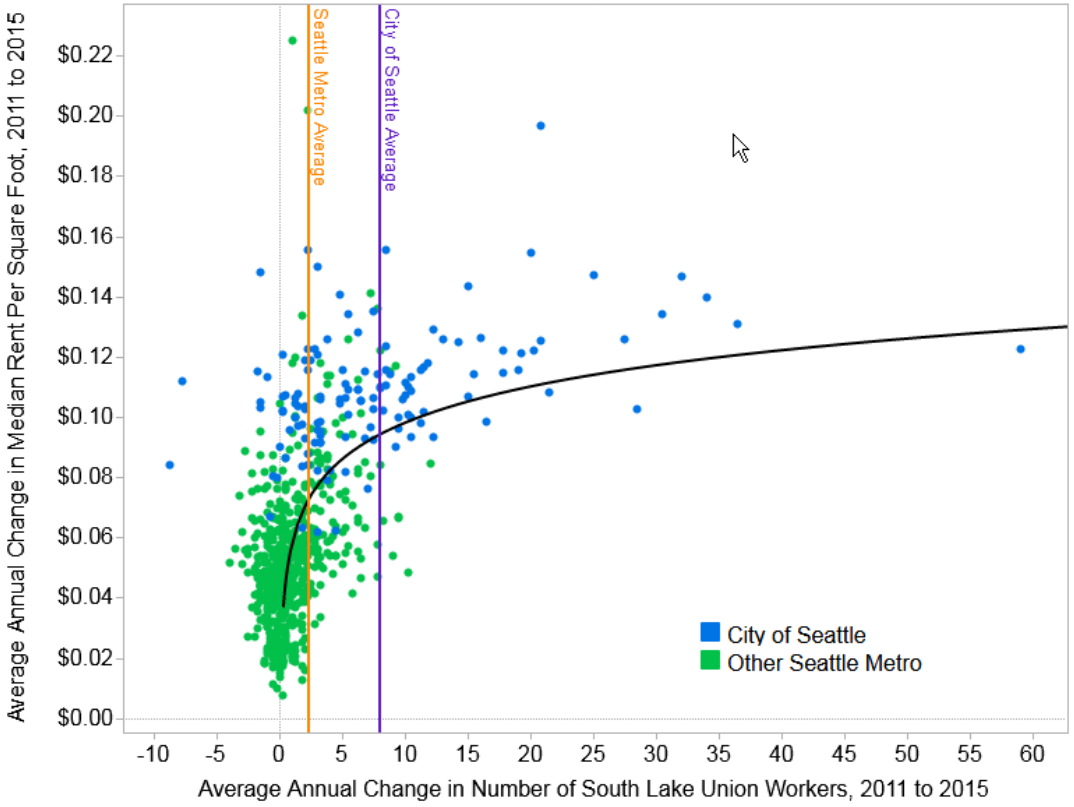


Zillow

Source: Zillow analysis of U.S. Census Bureau, Longitudinal Employer-Household Dynamics, Origin-Destination Employment Statistics, 2011 and 2015.

Greatest Rent Increase

Areas with the greatest growth in South Lake Union workers saw greatest rent increases.

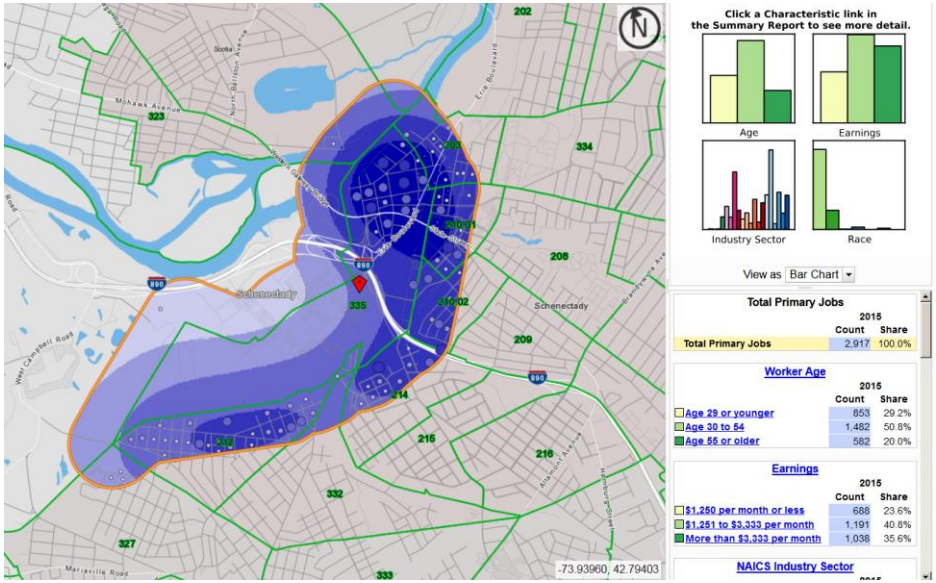


Zillow

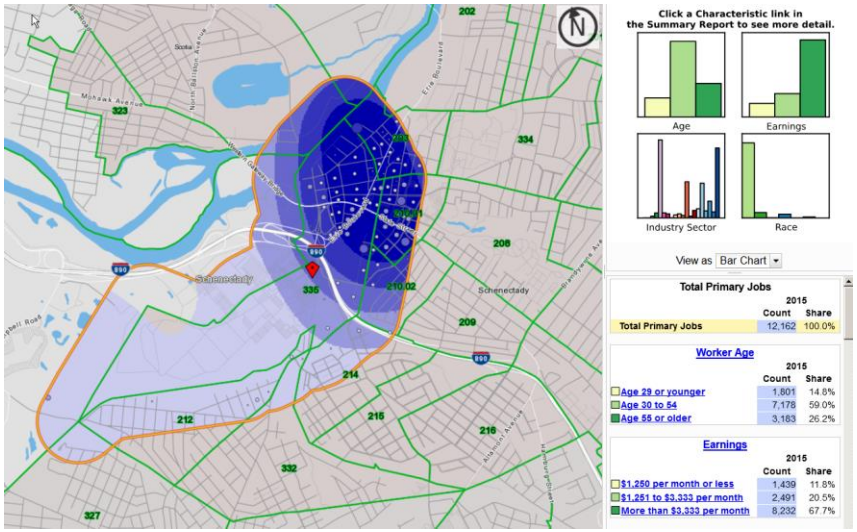
Source: U.S. Census Bureau, Longitudinal Household Employer Dynamics, Origin-Destination Employment Statistics, 2011 and 2015; Zillow Rent Index, Census Tract, December 2011 and December 2015.

Schenectady By Census Tract

Home 2015

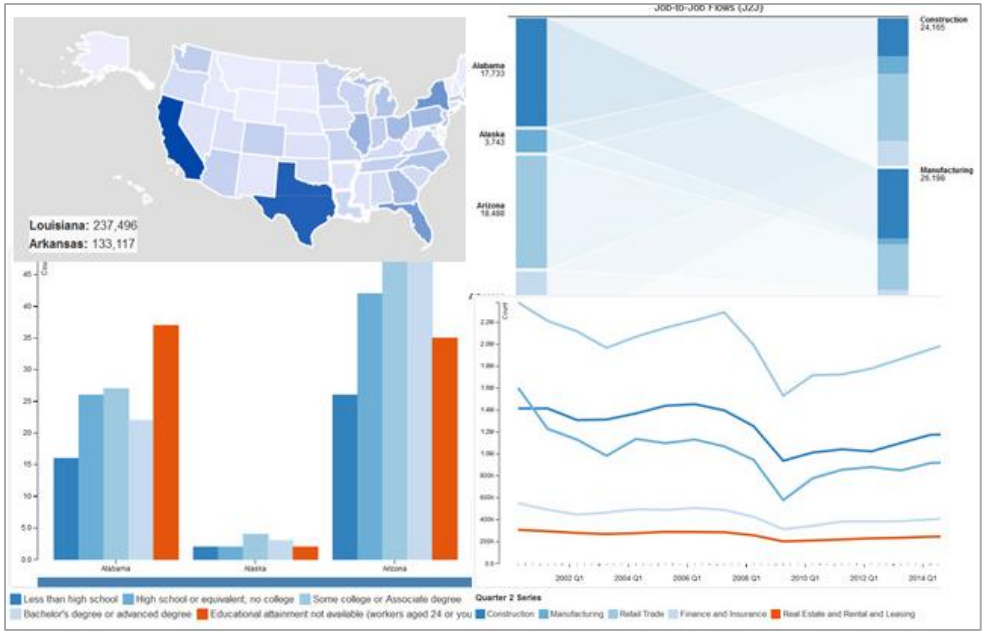


Work 2015



J2J Explorer

- ✓ 40 Measures of Worker Reallocation
- ✓ Six Visualization Modules with a flexible dashboard interface
- ✓ Export reports to Excel or CSV
- ✓ Trace worker movements through industries, geographic labor markets, and to/from employment
- ✓ Analyze/report by origin and destination geographies: national and state-level tabulations



- ✓ Analyze/report by origin and destination firm characteristics: NAICS Sector, firm age, and firm size
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Data updated every quarter

Zillow, Amazon, and J2J

Amazon Effect: Nashville and Denver Likely to See Biggest Rent Hikes If Chosen for HQ2

By Aaron Terrazas on Apr. 25, 2018

- If Amazon workers start arriving one year from now, Nashville could see the pace of rent appreciation more than double from what Zillow expects without Amazon HQ2.
- Denver and Los Angeles would also see a meaningful bump to rent growth from the estimated 50,000 workers Amazon plans to hire.

Most Popular

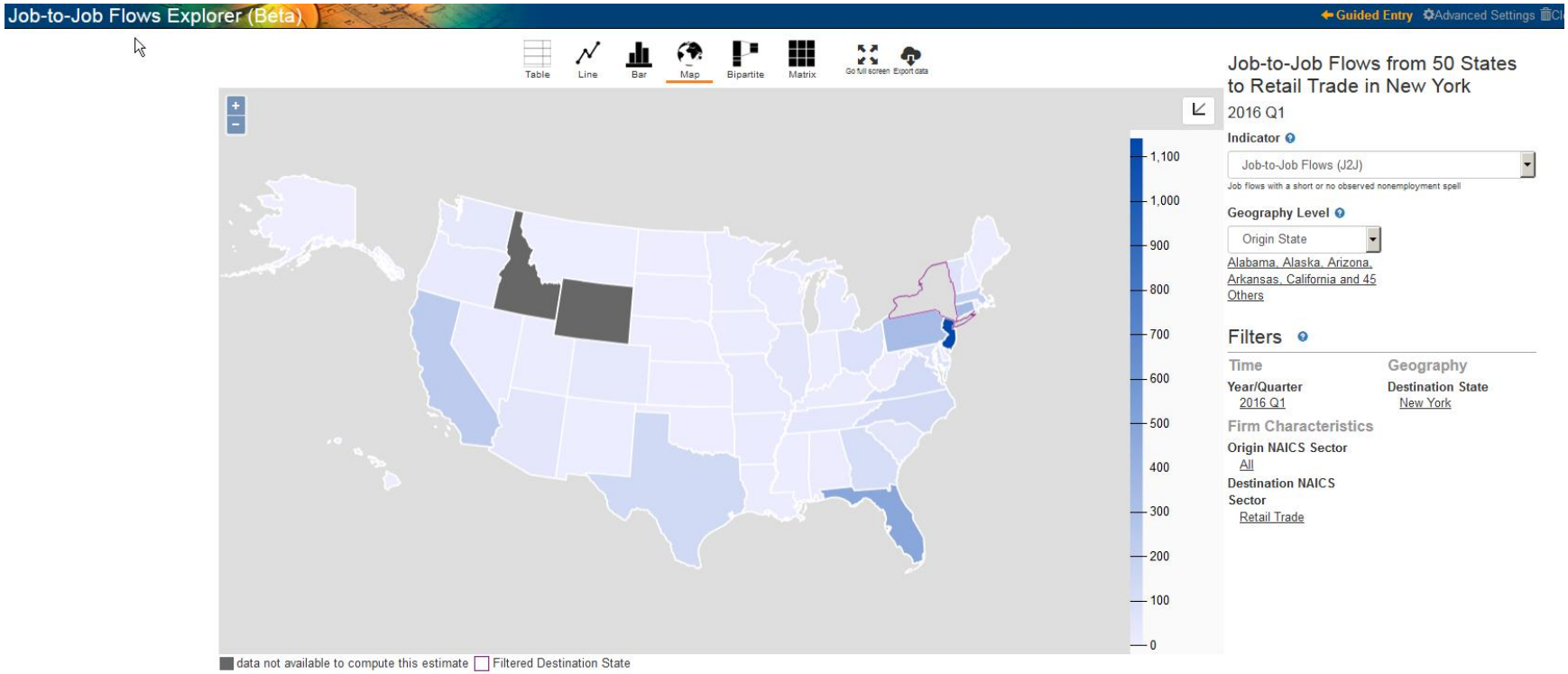
Half of Homes Have Regained Peak Values, But the Recovery Is Uneven (June 2018 Market Report)

The 9-to-5 Compromise: What We Save by Moving 15 Minutes Farther From Work

They Don't Build Them Like They Used to: The New Construction Shortage

Price Cuts Becoming More Common, Especially at the High End

Hires to New York in Retail Trade



Top 5 States

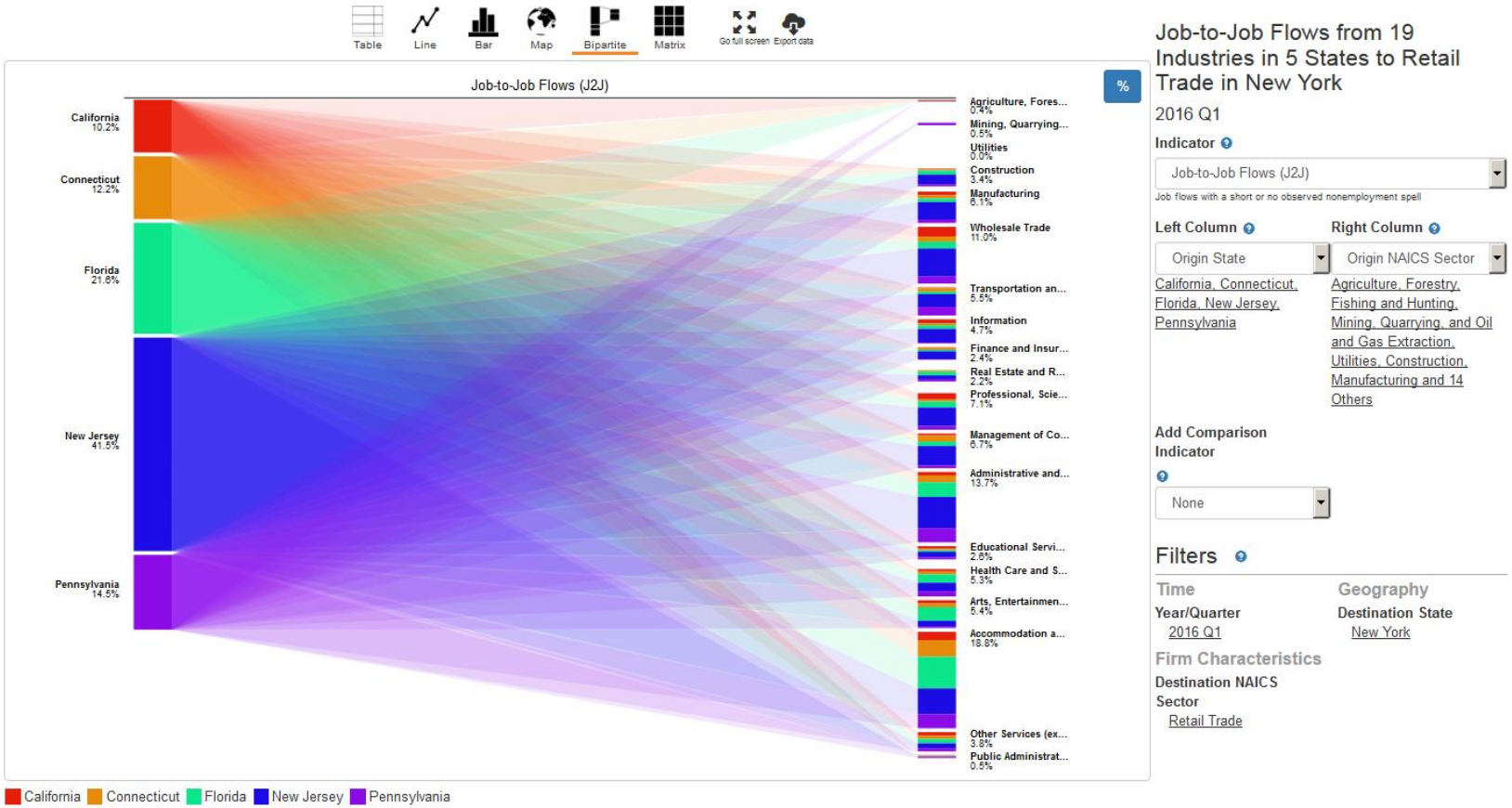


Table
Line
Bar
Map
Bipartite
Matrix
Go full screen
Export data
Job-to-Job Flows (J2J)
%
California 10.2%
Connecticut 12.2%
Florida 21.6%
New Jersey 41.5%
Pennsylvania 14.5%
Agriculture, Fores... 0.4%
Mining, Quarrying... 0.5%
Utilities 0.0%
Construction 3.4%
Manufacturing 6.1%
Wholesale Trade 11.0%
Transportation an... 5.5%
Information 4.7%
Finance and Insur... 2.4%
Real Estate and R... 2.2%
Professional, Scie... 7.1%
Management of Co... 6.7%
Administrative and... 13.7%
Educational Servi... 2.6%
Health Care and S... 5.3%
Arts, Entertainmen... 5.4%
Accommodation a... 18.8%
Other Services (ex... 3.8%
Public Administrat... 0.5%
California Connecticut Florida New Jersey Pennsylvania
Job-to-Job Flows from 19 Industries in 5 States to Retail Trade in New York
2016 Q1
Indicator
Job-to-Job Flows (J2J)
Job flows with a short or no observed nonemployment spell
Left Column
Origin State
California, Connecticut, Florida, New Jersey, Pennsylvania
Right Column
Origin NAICS Sector
Agriculture, Forestry, Fishing and Hunting, Mining, Quarrying, and Oil and Gas Extraction, Utilities, Construction, Manufacturing and 14 Others
Add Comparison Indicator
None
Filters
Time
Year/Quarter
2016 Q1
Geography
Destination State
New York
Firm Characteristics
Destination NAICS Sector
Retail Trade

Starting with the Guided Entry

Guided Entry

1. Start Here

Frame your question by selecting from the three dropdowns below; then click one of the blue links on the right to go to your customized results.

Hires to

New York

Retail Trade

2. Then Choose an Analysis

Analysis of Job-to-Job Flows

From (Origin Job)

Which States?

Which Industries?

To (Destination Job)

New York

Retail Trade

Analysis of Hires Over Time

Are hires to jobs in New York Retail Trade coming from nonemployment or another job?

Not sure? Try one of these recommended options:

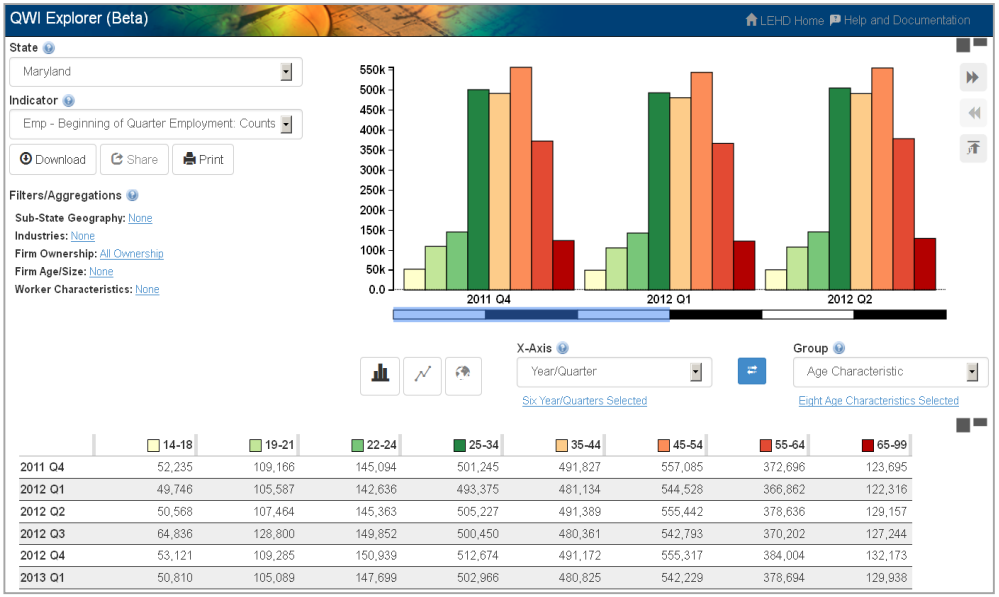
- Which age groups are driving worker reallocation out of New England states?
- Are workers without a college degree in North Dakota more likely to be hired from another job or from persistent nonemployment?
- What states and firm ages are workers in California start-ups hired from?
- Which industries have the highest connectivity in terms of national job flows?

Go Live!

- https://lehd.ces.census.gov/
- https://j2jexplorer.ces.census.gov/

QWI Explorer

- ✓ 32 Quarterly Workforce Indicators
- ✓ Flexible Pivot Table and Map/Chart interface
- ✓ Data on detailed interactions between firms and workers include employment, employment change (individual and firm), and earnings
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex



	14-18	19-21	22-24	25-34	35-44	45-54	55-64	65-99
2011 Q4	52,235	109,166	145,094	501,245	491,827	557,085	372,696	123,695
2012 Q1	49,746	105,587	142,636	493,375	481,134	544,528	366,862	122,316
2012 Q2	50,568	107,464	145,363	505,227	491,389	555,442	378,636	129,157
2012 Q3	64,836	128,800	149,852	500,450	480,361	542,793	370,202	127,244
2012 Q4	53,121	109,285	150,939	512,674	491,172	555,317	384,004	132,173
2013 Q1	50,810	105,089	147,699	502,966	480,825	542,229	378,694	129,938

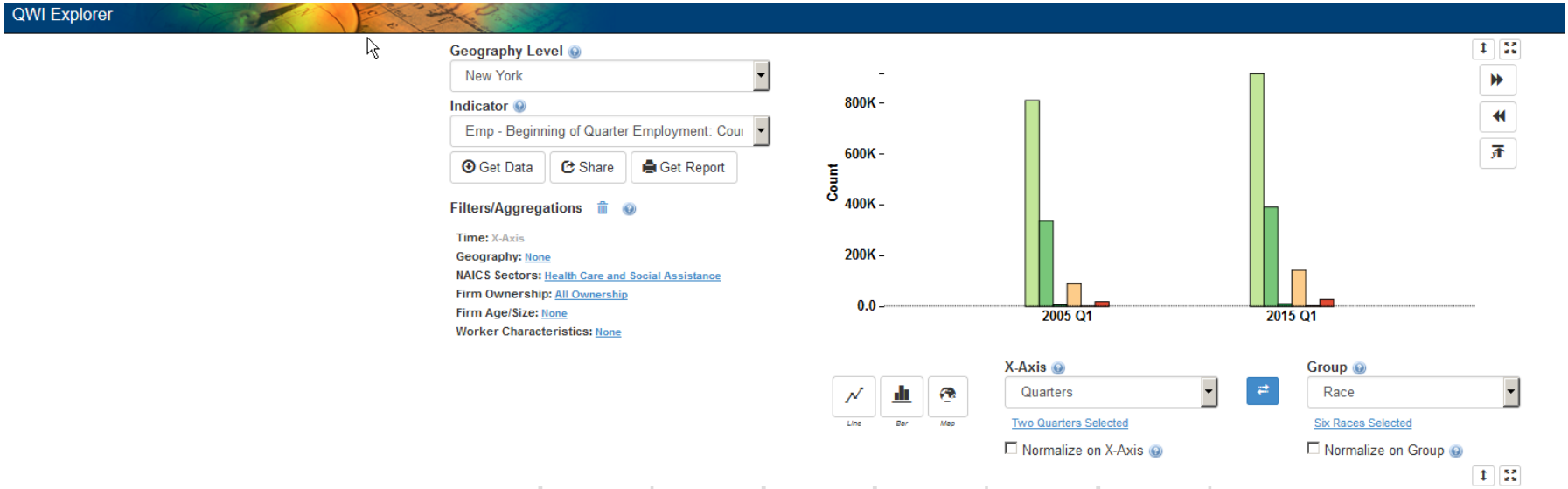
- ✓ Analyze/report by firm characteristics: NAICS classification (sector, 3, 4), firm age, and firm size
- ✓ Quarterly data very current (9-12 months old)
- ✓ National and 50 states available (plus DC)

Diversity in Greater Minnesota

Table 3: Health Care and Social Assistance Jobs by Race or Origin, 1995-2014						
	Twin Cities			Greater Minnesota		
	Jobs, 1995	Jobs, 2014	Change from 1995-2014	Jobs, 1995	Jobs, 2014	Change from1995-2014
All Races	139,870	242,620	73.5%	131,509	212,581	61.6%
White Alone	125,153	183,386	46.5%	128,388	199,429	55.3%
Black or African American	9,244	37,164	302.0%	528	4,933	834.3%
American Indian or Alaska Native	1,033	1,732	67.7%	823	2,264	175.1%
Asian or Other Pacific. Islander	3,250	16,081	394.8%	1,100	3,887	253.4%
Two or More Races	1,189	4,256	257.9%	668	2,068	209.6%
Hispanic or Latino	2,482	8,753	252.7%	1,281	5,080	296.6%

Source: U.S. Census Bureau, LEHD, Quarterly Workforce Indicators

Healthcare by Race



	White Alone	Black or African American Alone	American Indian or Alaska Native Alone	Asian Alone	Native Hawaiian or Other Pacific Islander Alone	Two or More Race Groups
2005 Q1	810,458	336,612	7,484	89,995	1,618	19,291
2015 Q1	915,232	390,599	10,595	143,197	2,735	27,385

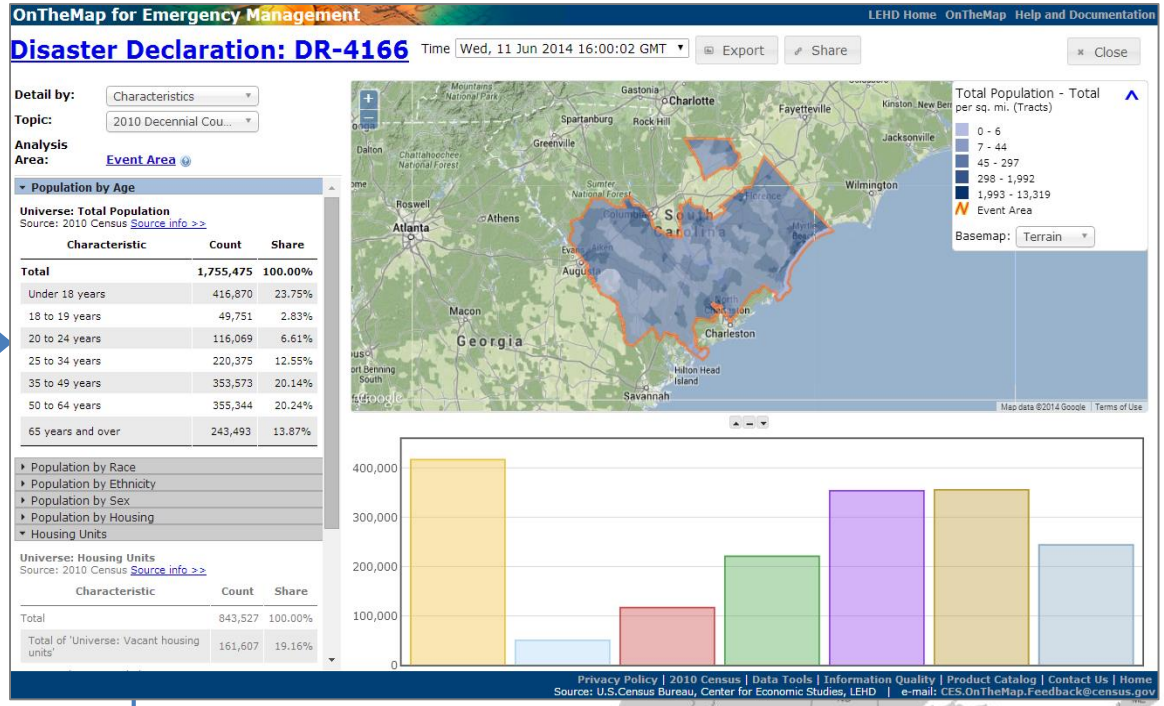
OnTheMap for Emergency Management

Hurricanes, Floods, Winter Storms

Disaster Areas

Wildfires

Demographic & Economic Data

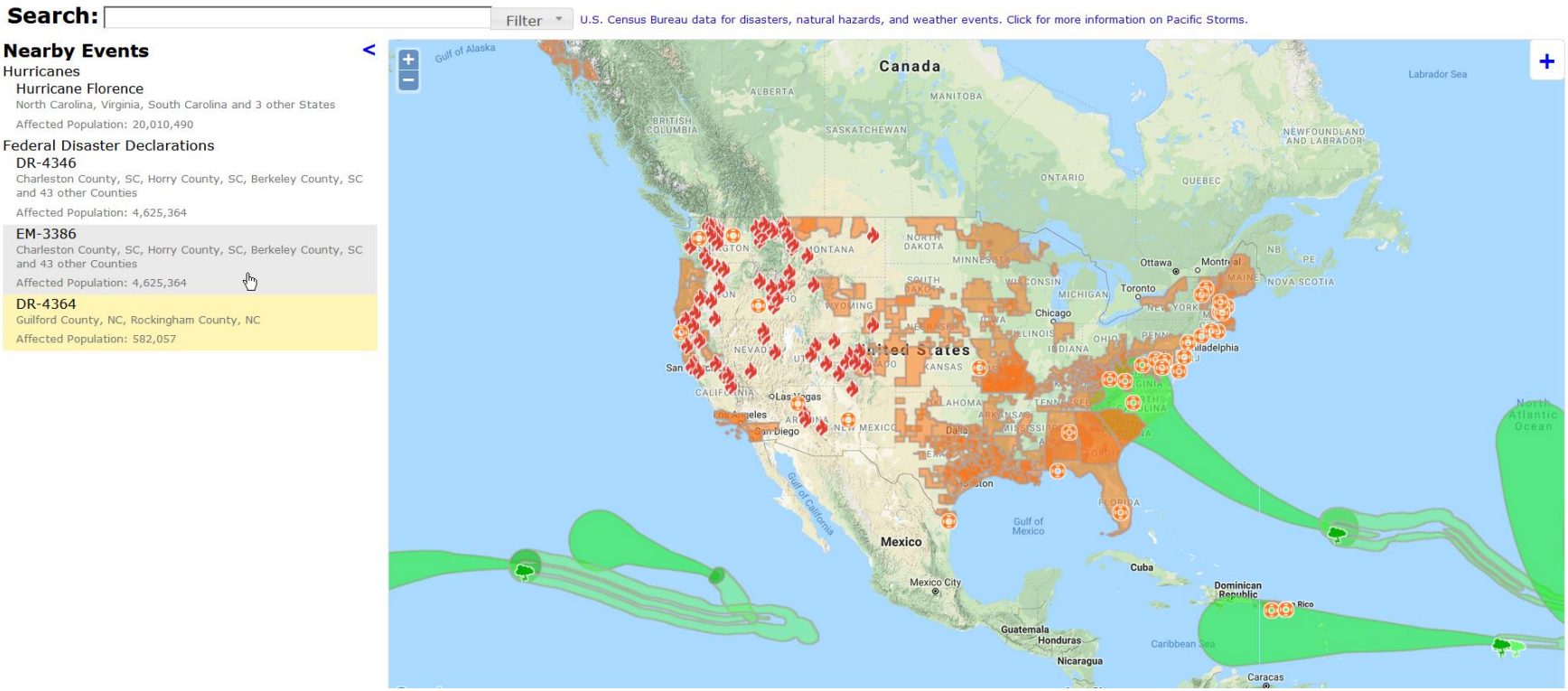


New Public Data Service for Emergency Preparedness & Response

- Comprehensive Reports
- Real-time Data Updates
- Easy-to-use & Interoperable
- Historical Event Archive
- Flexible Analyses & Visualizations

United States Census Bureau | U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Hurricane Florence



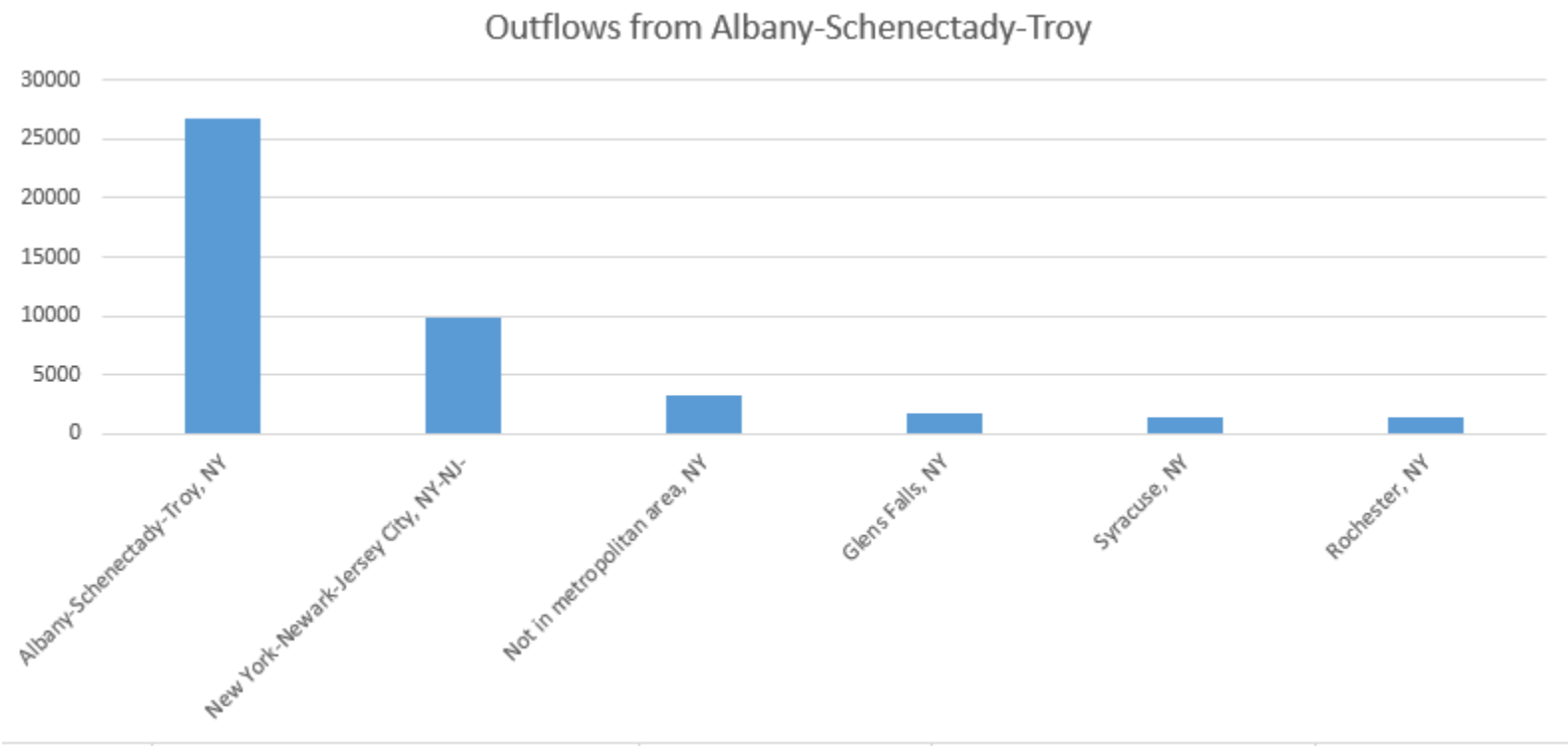
What's New in LEHD's Applications

- National QWI and cross-state queries in QWI Explorer and LED Extraction Tool
- Local Storage in QWI Explorer
  - Customize your preferences – choose to remove conflict popups, set default settings, etc.
- 2015 data in OnTheMap (with 2016 TIGER geographies)

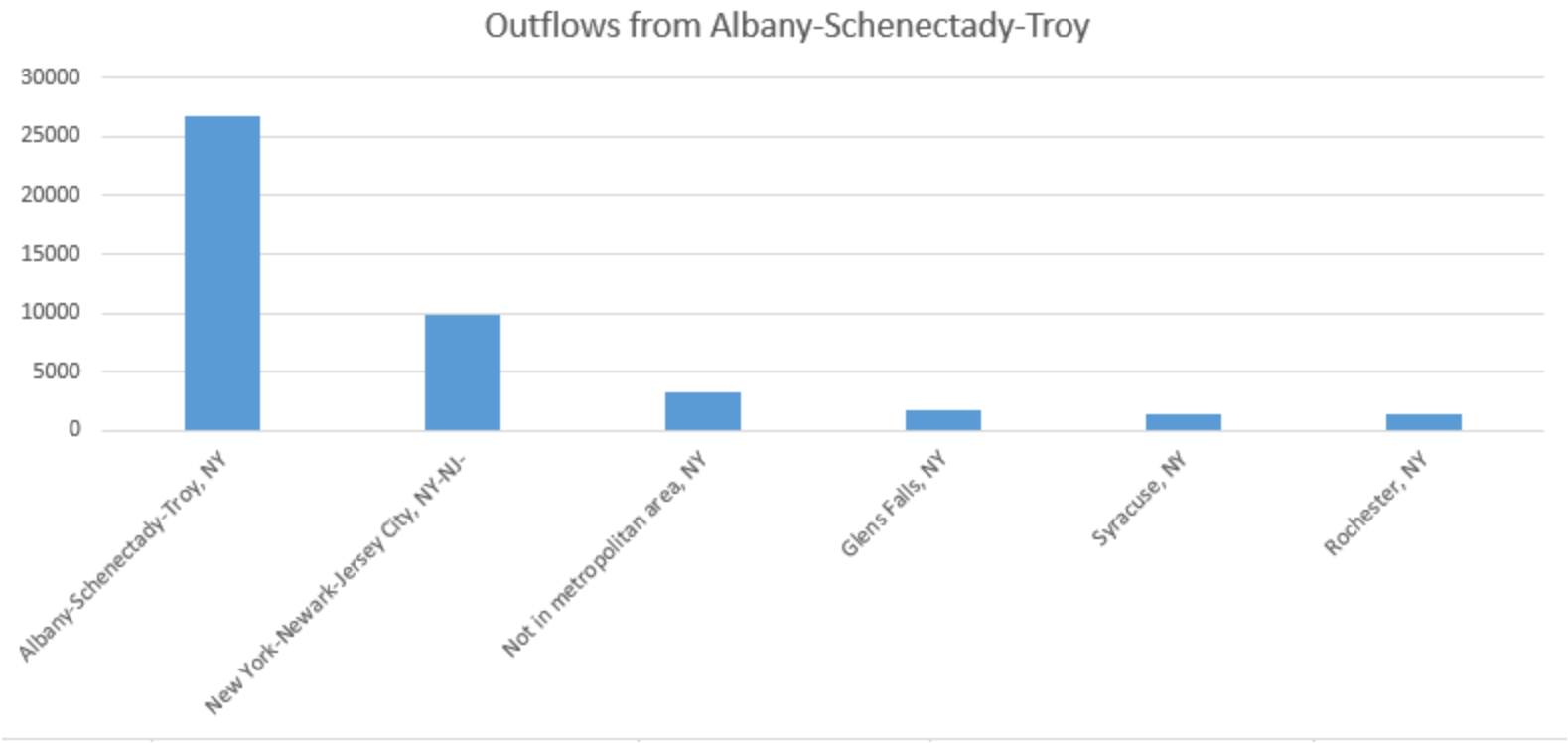
New Data and Tools Released

- New LODES data release
  - 2015 data
- Job-to-Job Flows v2.0
  - New metro-area tabulations
  - New earnings variables
  - More detailed cross-tabulations
- J2J Explorer
  - New tool to analyze Job-to-Job Flows data

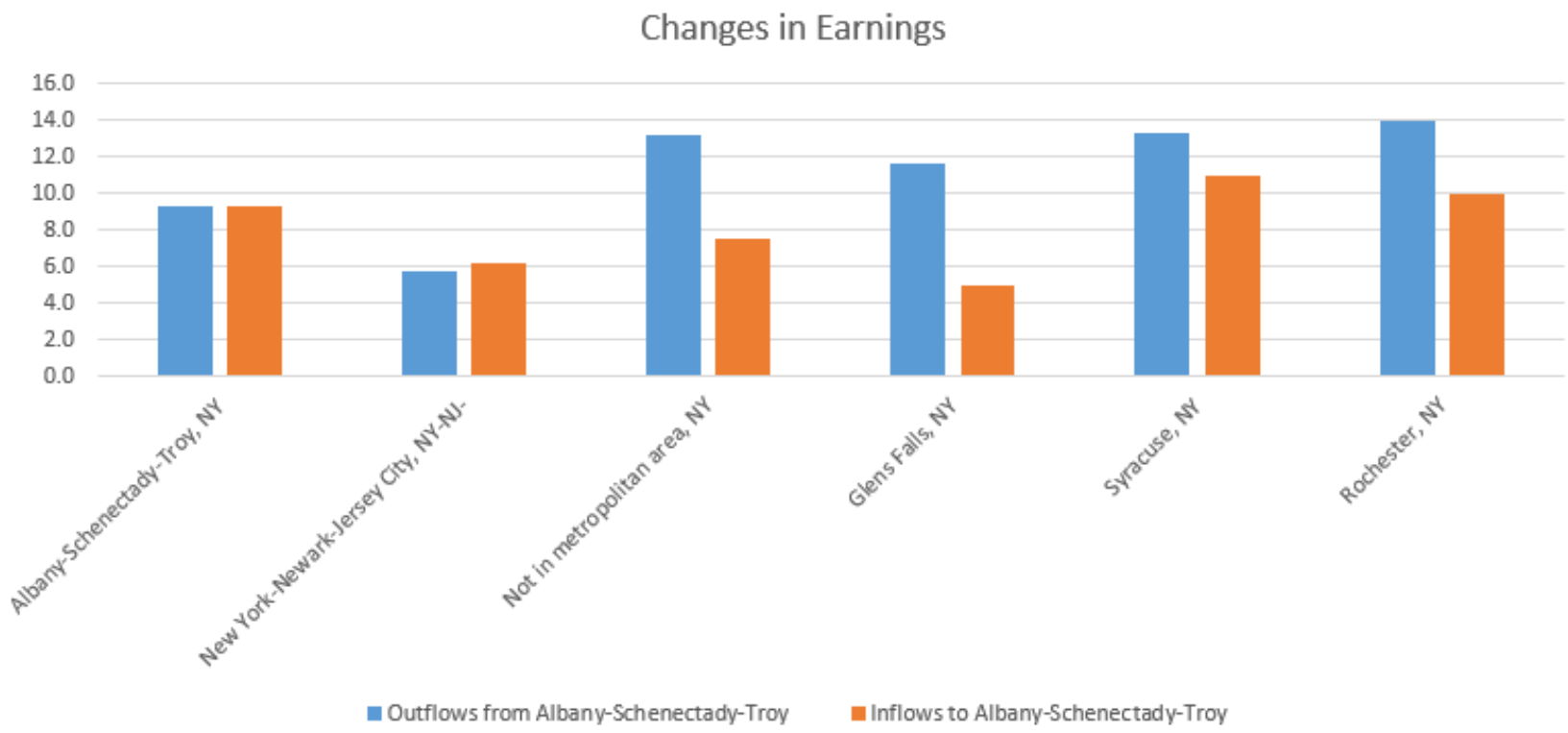
Outflows from Albany-Schenectady-Troy



Inflows to Albany-Schenectady-Troy



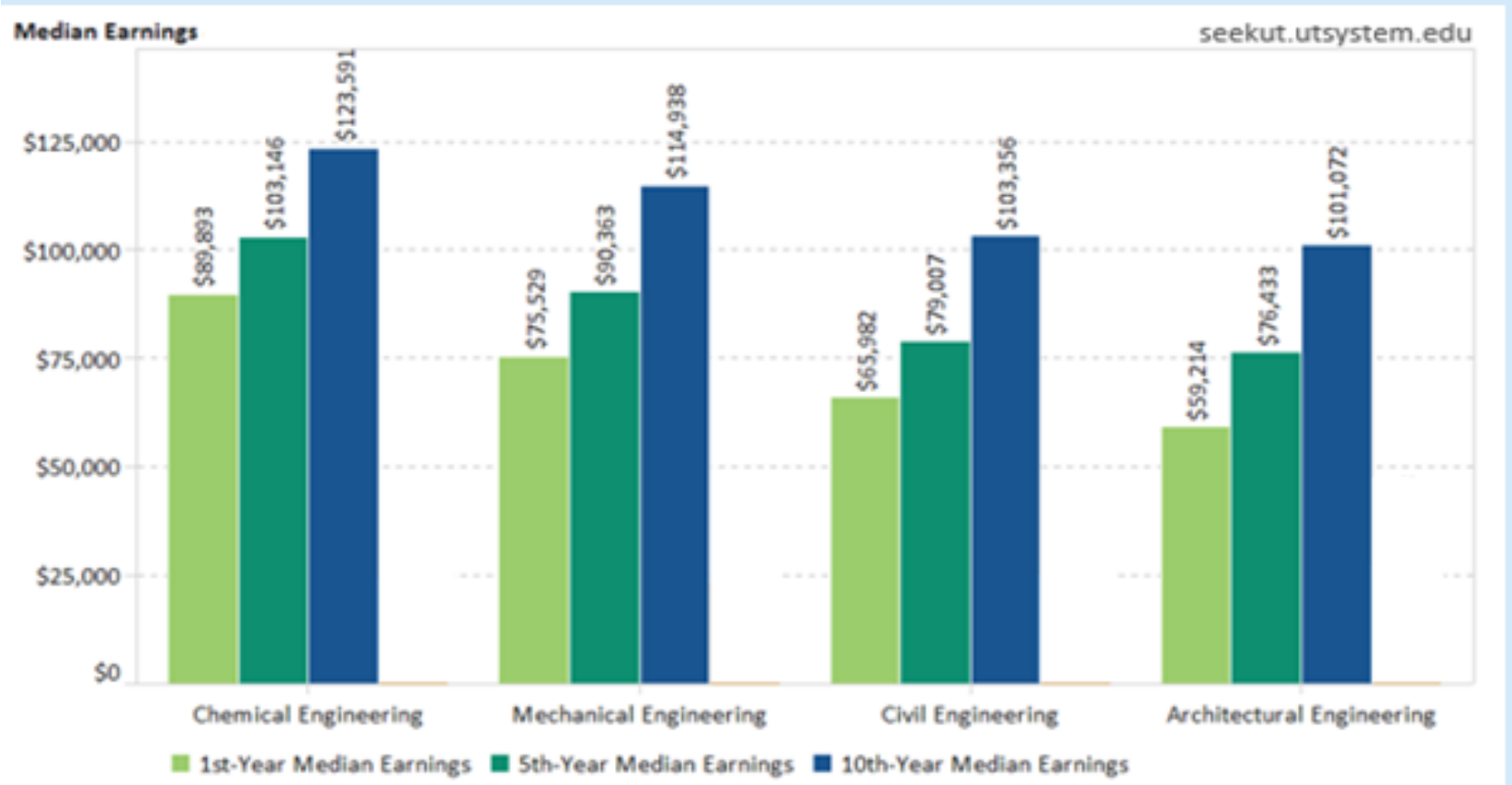
Change in Earnings



What's New in LEHD's Applications

- National QWI and cross-state queries in QWI Explorer and LED Extraction Tool
- Local Storage in QWI Explorer
  - Customize your preferences – choose to remove conflict popups, set default settings, etc.
- 2015 data in OnTheMap (with 2016 TIGER geographies)

PSEO – Post Secondary Employment Outcomes



Work Cited

- Suggested Citations:
  - OnTheMap Application
    - U.S. Census Bureau. 2016. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/
  - LODES Data
    - U.S. Census Bureau. 2016. LODES Data. Longitudinal-Employer Household Dynamics Program. http://lehd.ces.census.gov/data/lodes/

Useful Links

- **J2J Explorer**
  - Analysis Guides
  - FAQs

Contacts

- LEHD
  - lehd.ces.census.gov
  - CES.J2J.Feedback@census.gov
- Data/Applications
  - lehd.ces.census.gov/data
  - lehd.ces.census.gov/applications