Local Employment Dynamics: Partnership, Employment, and Public-Use Data

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U.S. Census Bureau

United States Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Themes

- Strength (and Savings) in Partnership
- Innovation is “Baked In”
- Infrastructure Supports Many Uses
- New Data Products/Tools ***Must*** Be Demonstrated

Questions

Which industries in my region are hiring older workers?

Younger workers?

Workers without a high school diploma?

What do these jobs pay?

Questions

Where do the workers employed downtown live?

What share of workers employed in my community also live there?

What share of workers with a short commute have a college degree?

Questions

Where did ND's oil and gas workers come from (industry/geography)?

Where did MI's auto workers go to (industry/geography)?

Local Employment Dynamics Partnership

- Then:
  - Begun in late 1990s with a few states
  - Goal to generate new labor market statistics from existing records (UI and firm info)
- Now:
  - 53 partner states/territories
  - 3 data products
  - 4 web-based data tools
  - A culture of innovation and cost savings

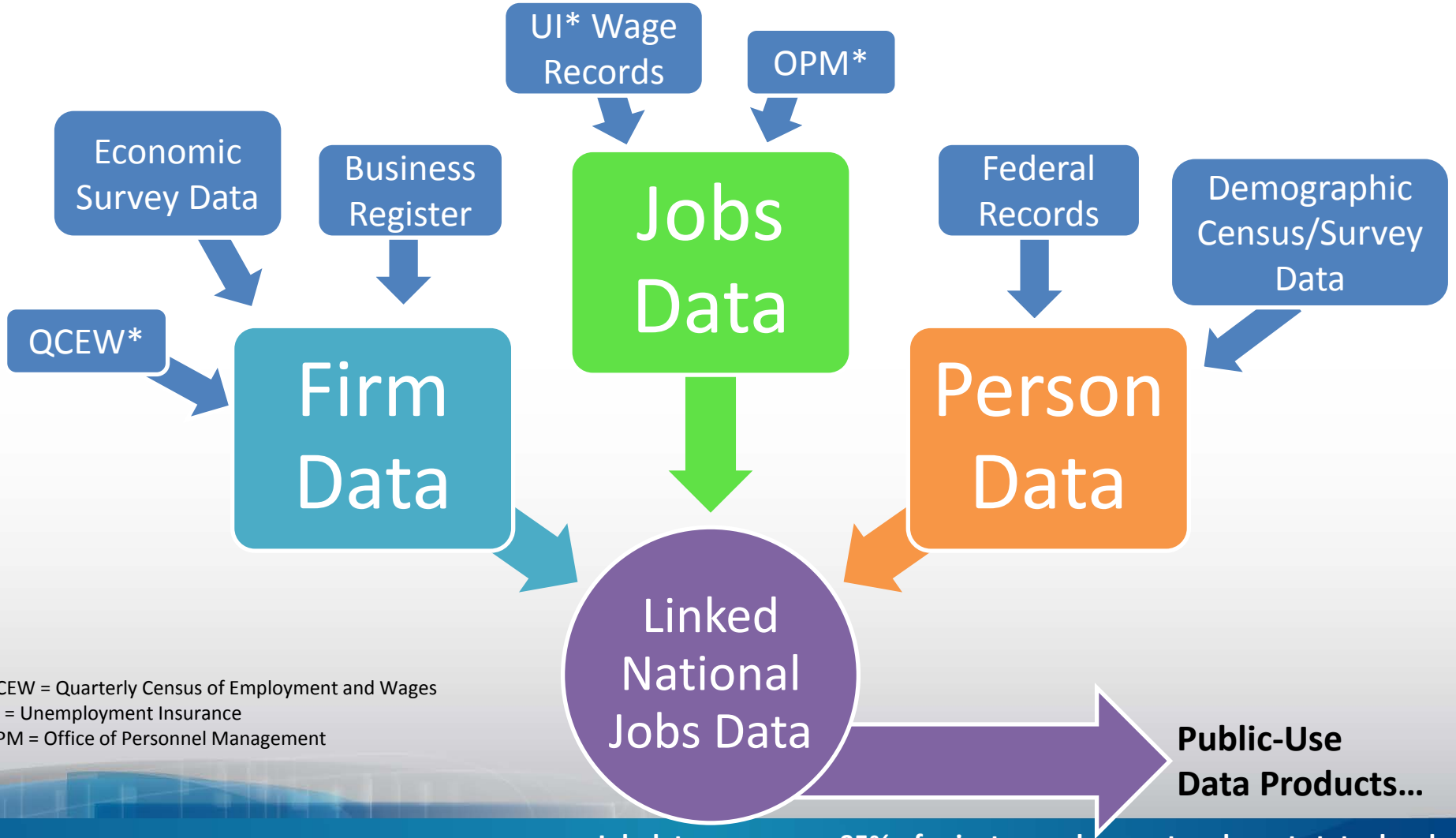
What's In a Partnership?

- Sharing of costs (and data)
- Breadth of expertise
- Diversity of ideas and needs
- National scale *and* local knowledge
- But it requires commitment and maintenance…

Building on State Inputs

- We combine **state records** with other admin/census/survey data from the **Census Bureau** and **other Federal agencies**
- We can then create public statistics on:
  - Firms & Establishments
  - Jobs & Workers
  - By Firm and Person Characteristics
- Without new respondent burden

Admin. Records & LED Infrastructure



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

- **Job data cover over 95% of private employment and most state, local, and federal jobs**
- **Data availability: 1990-2014, start year varies by state, rolling end date**

Protecting Personal Information

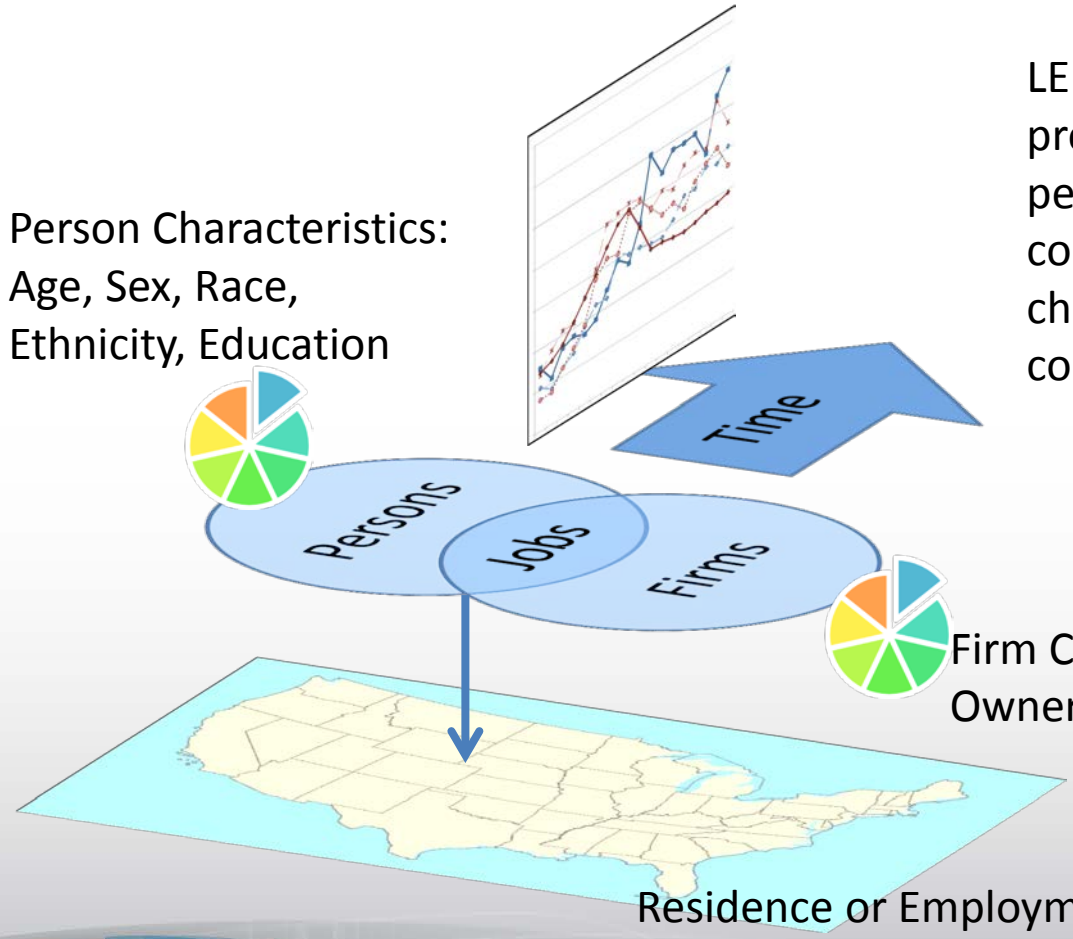
- Some records enter the Census Bureau with SSNs, some with other personally identifiable information
- First, the SSN is replaced with a “protected identification key” (PIK).
- The PIK is used for all further matching.

Costs & Benefits, Risks & Rewards

- Universe-level data, but limited variables
- Less expensive than surveys, but less control
- More work cleaning the data, but if the data are being used elsewhere, then they are already pretty clean.
- Large frame micro-data linkages allow innovative data products
- Cutting-edge confidentiality protection is key

Data Relationships

Person Characteristics:
Age, Sex, Race,
Ethnicity, Education



LED Data Products (QWI, LODES, J2J) provide indicators/measures about persons, jobs, or firms by different combinations of geography, time, characteristics detail, and variable construction.

Firm Characteristics:
Ownership, Industry, Age, Size

Residence or Employment
(Establishment) Location

LED Data Products

- Quarterly Workforce Indicators (QWI)
  - Employment, Job Creation, Job Destruction, Hires, Separations, Turnover, Earnings
  - By industry, county, and worker characteristics
- LEHD Origin Destination Employment Statistics (LODES)
  - Employment and Workplace-Residence Connections
  - Detailed geography + firm/worker characteristics
- Job-to-Job Flows (Beta)
  - Data being released over coming months

Choosing Among LED Data Products

Data Product	Why Choose It?	Potential Drawbacks
QWI	You need employment, hires, separations, turnover, or earnings by detailed industry or person characteristics, quarterly time resolution, or a relatively short data lag	No geography below county; no residential information
LODES	You need employment for detailed or customized geography, or you need the residential patterns of the workforce	Annual time resolution; less detailed firm/person characteristics; significant data lag (temporary)
J2J	You need to understand transitions of workers among jobs	Data product still under development*

*But feedback is welcome.

Choosing Data 1

When should I be interested in using LED data compared to other available statistics?

Suppose I'm primarily interested in **Employment**

Do I need the latest national estimate available?

- ***Current Employment Statistics*** (CES)
  - Employment by industry - 'the payroll survey'
- ***Current Population Survey*** (CPS)
  - Employment status and demographics - 'the household survey'

Some sub-state geographies are available concurrently through ***Local Area Unemployment Statistics*** (LAUS)

Choosing Data 2

But suppose I need either sub-national employment data or statistics by detailed industry:

Quarterly Census of Employment and Wages (QCEW)

- Employment by detailed industry, sub-state geography and better employment coverage (6-month lag)

Quarterly Workforce Statistics (QWI)

- Employment by detailed industry, sub-state geography, and *worker demographics* (age, sex, education, race) and *fewer cell suppressions* than the QCEW (9-month lag)

American Community Survey (ACS)

- Employment status by more sub-state geographies than CPS/LAUS (9-month lag)

LODES/OnTheMap

- Employment at the *block-level* (>1 year lag)

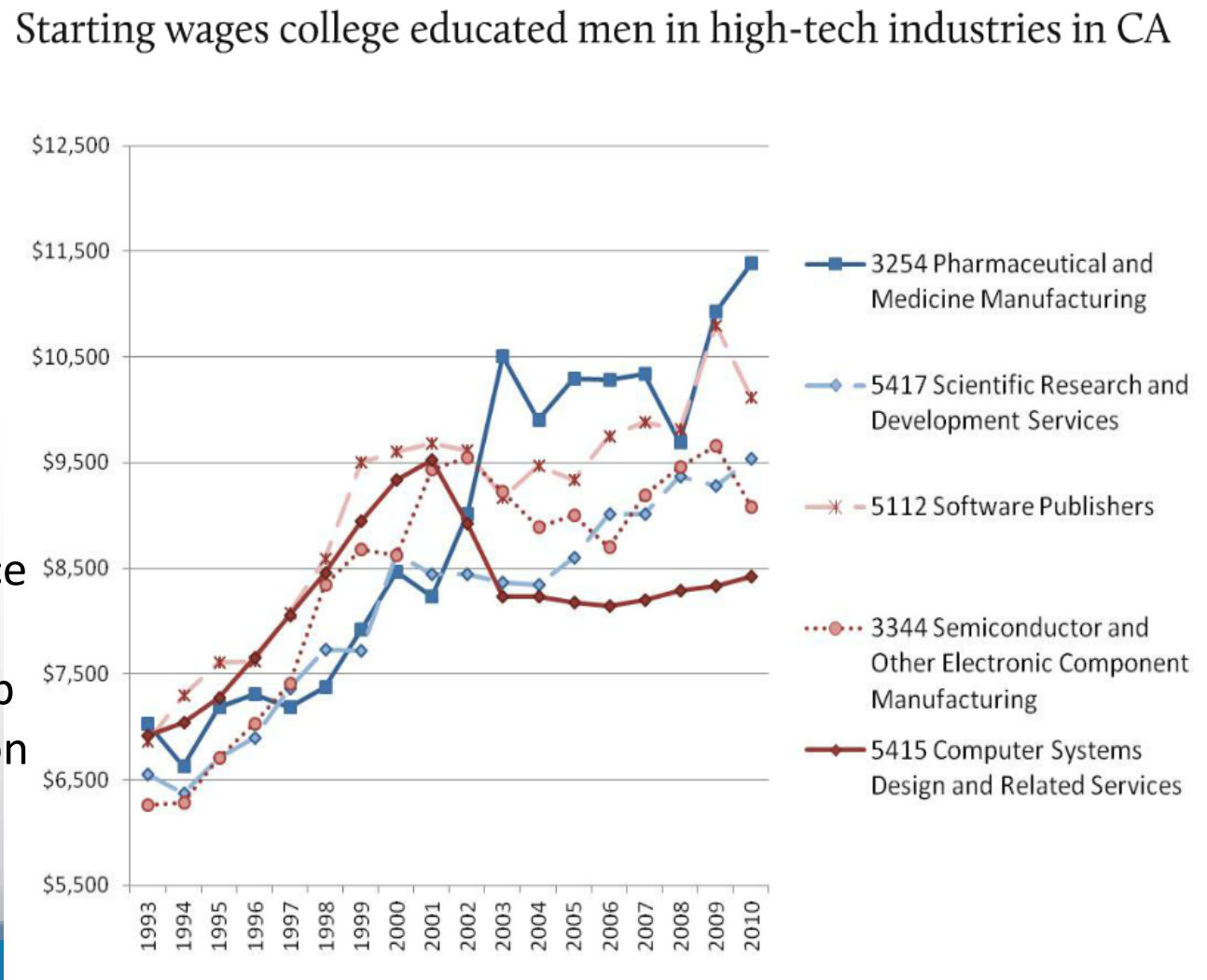
County Business Patterns (CBP)

- Employment at the zipcode-level (>1 year lag)

Quarterly Workforce Indicators (QWI)

- Detailed workforce dynamics, by worker characteristics and firm characteristics

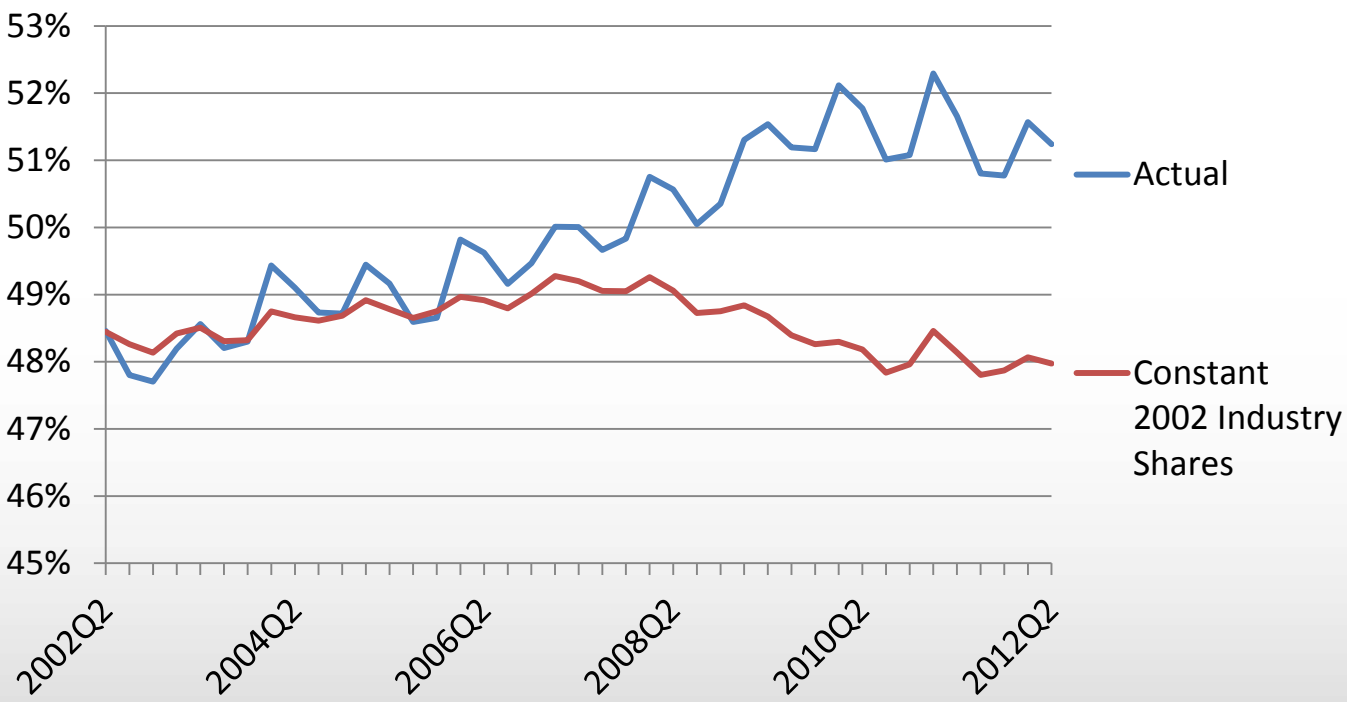
- **Popular uses**:
  - Local workforce demographics
  - Local industry workforce trends
  - Workforce turnover, job creation and destruction



Quarterly Workforce Indicators (QWI)

- Can see workforce composition by detailed firm characteristics
- Such as what share of the workforce at startup firms is female?

Percentage of Female Workers at New Firms, 2002 - 2012



Note: "New Firms" are firms of age 0 or 1. "Actual" is the percentage of female workers at new firms observed in the data. "Constant 2002 Industry Shares" measures the hypothetical percentage of female workers at new firms, assuming that the distribution of new firms across industries remained constant at their 2002Q2 levels. Data is for privately-owned firms and excludes workers in the following states: AZ, AR, DC, MA, MS & NH.

Source: U.S. Census Bureau, Center for Economic Studies, Quarterly Workforce Indicators, 2013 Q3 Release

Choosing Data 3

Suppose I'm primarily interested in **Hires/Separations/Turnover**

Do I need the most current national data (1 month lag) or do I want to differentiate between quits and layoffs?

- ***Job Openings and Labor Turnover Survey*** (JOLTS)

Do I need sub-national data (state/county), data by worker demographics, or for detailed industries?

- ***Quarterly Workforce Statistics*** (QWI)

Choosing Data 4

Suppose I'm primarily interested in **Wages**

State and Regional Wage Information by Occupation?

- Occupational Employment Statistics (OES)

Wages by Detailed Industry and Geography?

- Quarterly Census of Employment and Wages (QCEW)

Wages by Detailed Industry and Geography and by Worker Demographics? Starting Wages for New Hires by Industry and Geography?

- Quarterly Workforce Statistics (QWI)

Choosing Data 5

Suppose I'm primarily interested in **Commuting**

Transportation mode, time to work, work at home?

- American Community Survey (ACS) Commuting Data

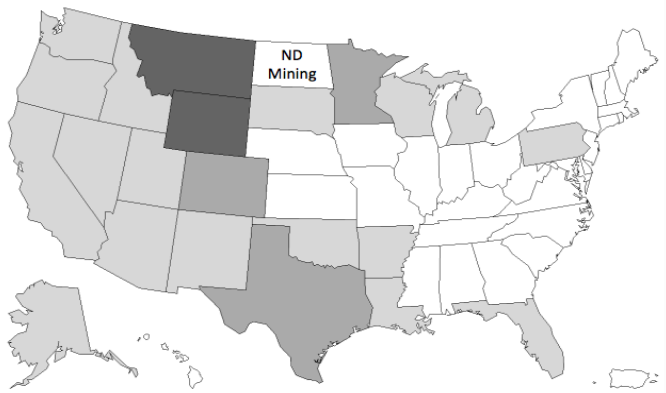
Commuting for Detailed/Custom Areas or Multiple Jobholders?

- LEHD Origin-Destination Employment Statistics (LODES)

Job-to-Job Flows

- Types of questions that can be answered:
  - How did the growth and decline in construction jobs in the last decade impact the ability of low-wage workers to move to better jobs?
  - Where are North Dakota's oil boom workers coming from?
- Download data from http://lehd.ces.census.gov/data/j2j_beta.html

Where are the out-of-state workers coming from?
Net economic migration into ND mining sector: 2008-2012



Public Data Tools

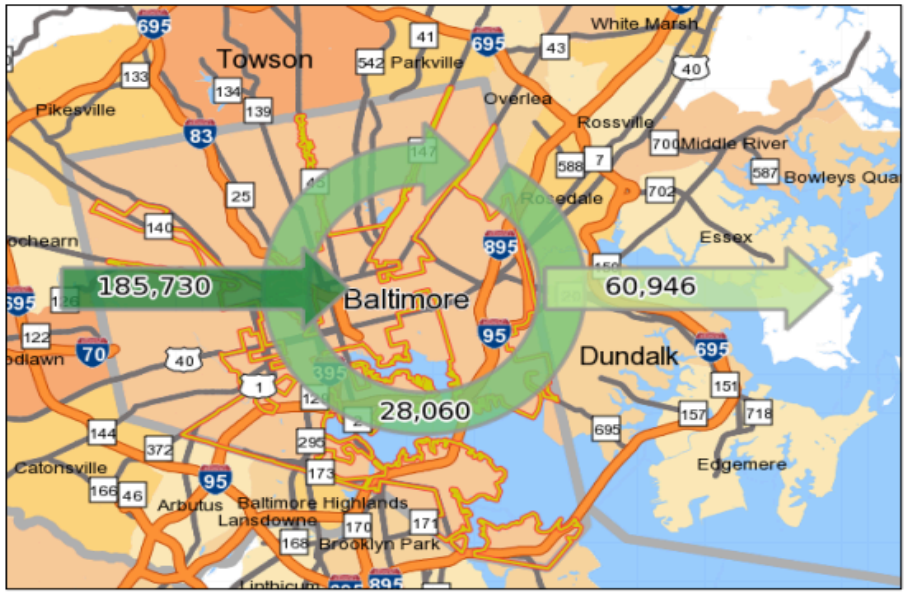
- All tools are free and available 24/7.
- **Live Demonstrations** of
  - QWI Explorer
  - LED Extraction Tool (QWI)
  - OnTheMap
  - OnTheMap for Emergency Management

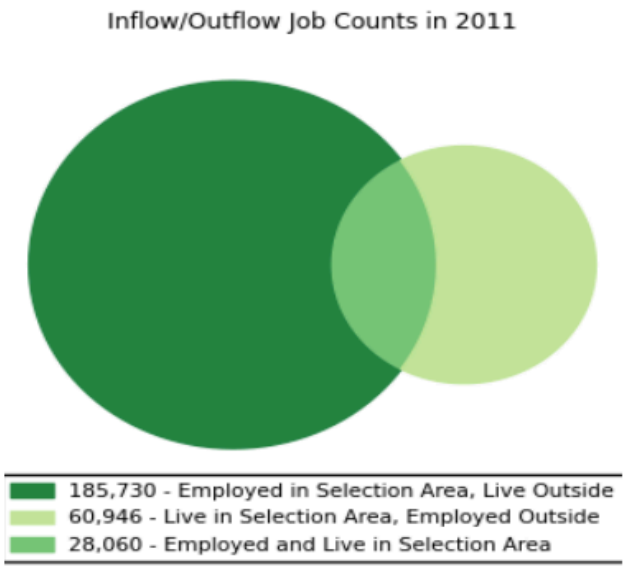
Real World Examples

Some brief examples of from our users…

LODES: An Examination of Maryland Enterprise Zones

Baltimore EZ Commuting Analysis





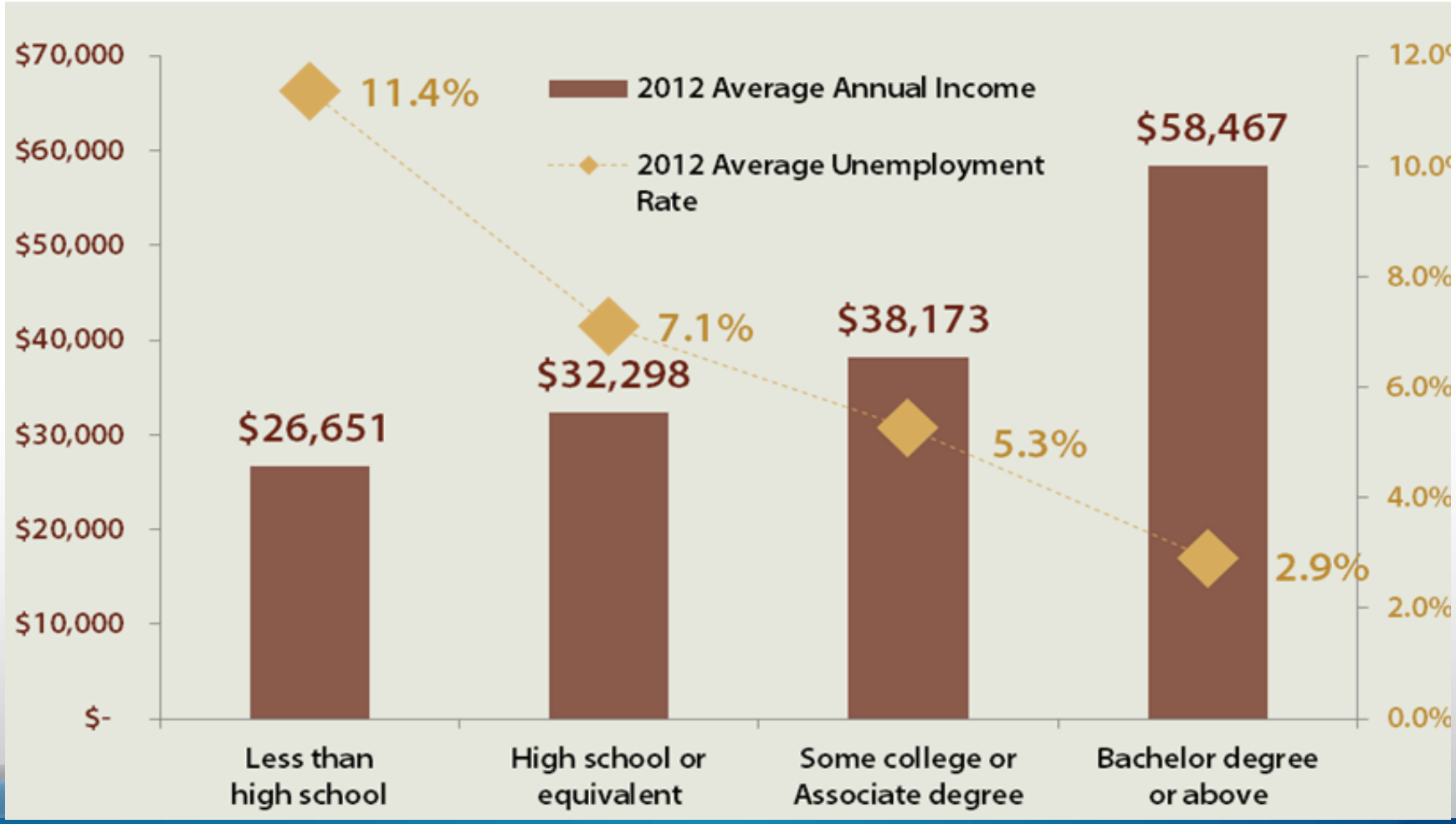
Of the 214 thousand workers employed in Census blocks intersected by Baltimore's Enterprise Zone Boundaries between 2002 and 2011, 28 thousand (13%) both lived and worked within prior or current EZ boundaries, and 32% of residents worked in the EZ.

LODES: An Examination of Maryland Enterprise Zones

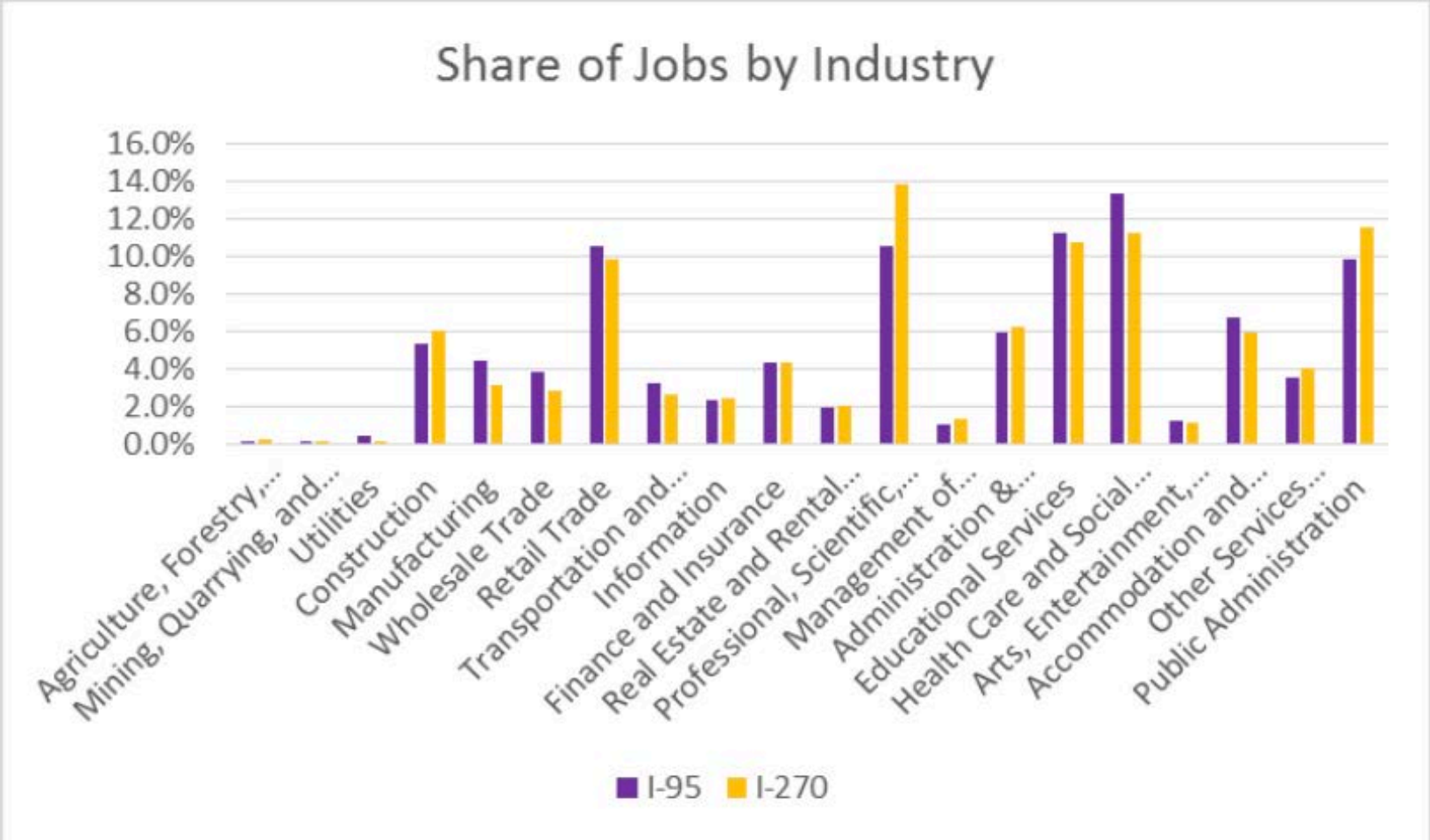
Baltimore EZ Commuting Analysis

Living in the Study Area	2002	2011	Change
Baltimore City	280,957	242,084	-13.8%
Baltimore Enterprise Zones	102,475	89,006	-13.1%
Living and Employed in the Study Area	**2002**	**2011**	**Change**
Baltimore City	132,983	111,257	-16.3%
Baltimore Enterprise Zones	36,719	28,060	-23.6%
Living and Employed in the Study Area	**2002**	**2011**	**Change**
Baltimore City	147,974	130,827	-11.6%
Baltimore Enterprise Zones	65,756	60,946	-7.3%
Employed in the Study Area	**2002**	**2011**	**Change**
Baltimore City	319,016	325,608	2.1%
Baltimore Enterprise Zones	220,497	213,790	-3.0%

QWI: Education and Employment in Utah



QWI: A Comparison of I-95 and I-270 Corridors



Kansas City, MO – Earnings Tax

- Civic Council of Greater Kansas City
- 1% Earnings Tax on gross compensation for all those living or working in KCMO
- In 2010 & 2011, ballot challenges to the tax were brought to voters
- LODES and QWI from LED helped the community focus on “issues and outcomes” and showed “tax and benefits are shared with non-KCMO residents.”

Takeaways

- The LED Partnership provides unique data products and tools at a relatively low cost
- LED data products (QWI, LODES, J2J) can give insight into **local** and regional economies and labor markets
- LED's web tools provide free, 24/7 access to a basic analytical platform for the data

Bon Voyage!

- Local Employment Dynamics
  - lehd.ces.census.gov
- Contact
  - Robert.Sienkiewicz@census.gov
  - Matthew.Graham@census.gov
  - Earlene.KP.Dowell@census.gov
- Tools
  - QWIExplorer.ces.census.gov
  - LEDExtract.ces.census.gov
  - OnTheMap.ces.census.gov
  - OnTheMap.ces.census.gov/em.html