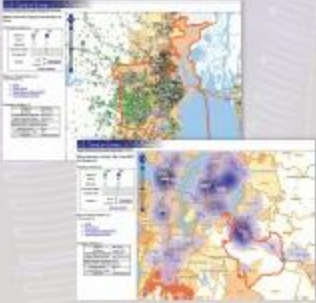


**Local
Employment
Dynamics**



www.census.gov

All About Jobs


Free Data Online 24/7

- Quarterly Workforce Indicators (QWI Online)
- OnTheMap_
- Industry Focus
- Older Worker Profiles

To Inform

- Workforce Development
- Emergency Preparedness
- Transportation Planning
- Business Location Decisions

USCENSUSBUREAU
Helping You Make Informed Decisions



LOCAL EMPLOYMENT DYNAMICS: Connecting Workers and Jobs

Heath Hayward
Geographer
Center for Economic Studies
U.S. Census Bureau

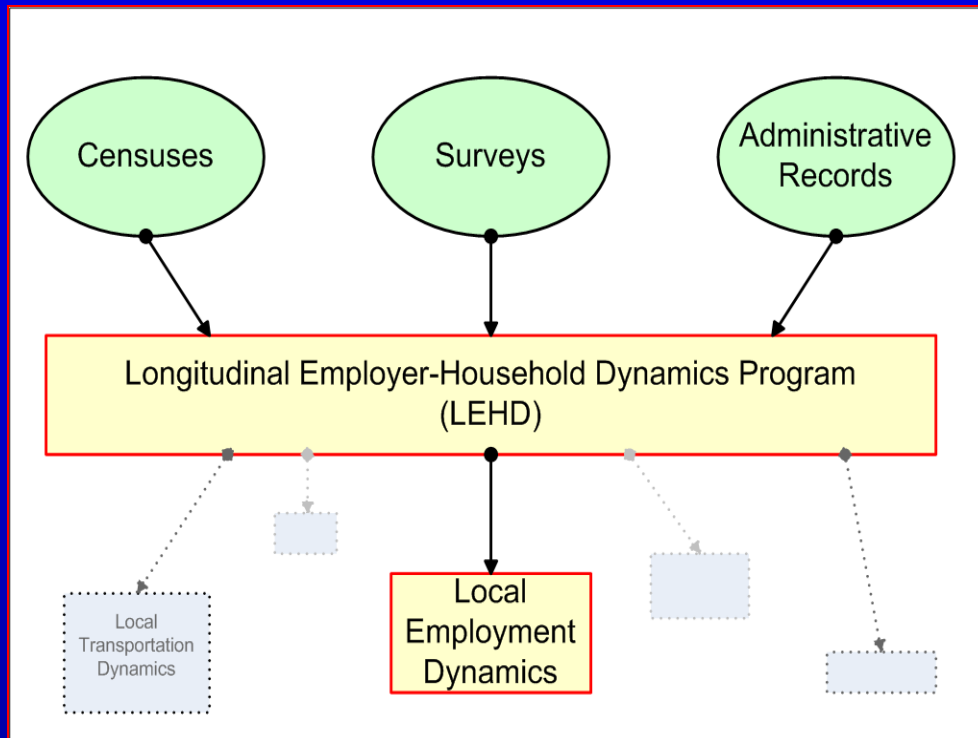
Outline

- Introduction to LED Data and Partnership
- What is the LODES Data?
 - Sources
 - Processing
 - Confidentiality Protection
- Releasing LODES Data
 - OnTheMap Application
 - Downloadable Data

Local Employment Dynamics (LED) Partnership

- ✓ **Partnership between 53 states/territories**
 - ✓ Not yet in producing data = MA, PR, USVI
- ✓ **Data Sharing**
 - ✓ Local knowledge
 - ✓ Comparable data for all states, counties, regions, WIAs
- ✓ **Innovative and Cost-Effective**
 - ✓ Uses *existing* data
 - ✓ Creates *new* data products

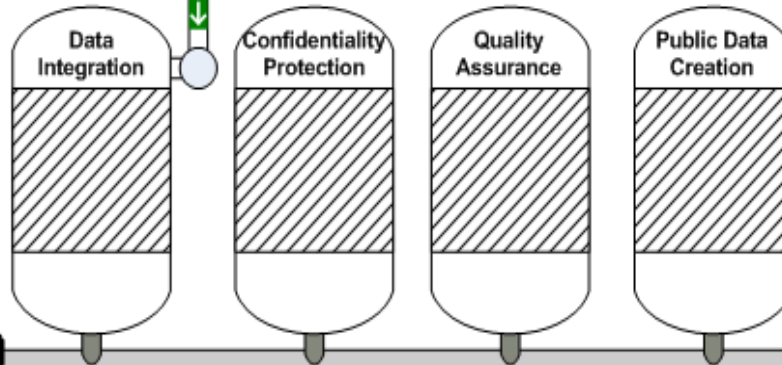
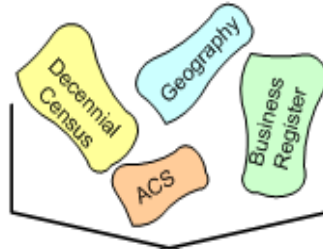
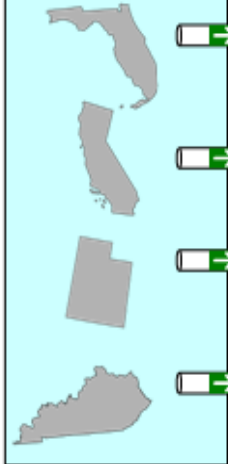
Overview of LED



- ✓ Leverages existing data
- ✓ Creates new data products at low cost
- ✓ Makes detailed data available for local areas while protecting confidentiality
- ✓ Adds no respondent burden

The Data Refinery

State Partners



Local Employment Dynamics Data Production System

OnTheMap 0.00
QWI 0.00



LED Partnership's Data Tools

The screenshot shows the United States Census Bureau website. The top navigation bar includes 'Home', 'About Us', 'Subjects A to Z', 'FAQs', and 'Help'. The main navigation menu has 'People', 'Business', 'Geography', 'Data', 'Research', and 'Newsroom'. The 'Business' menu is expanded, showing categories like 'Tools', 'Data by Sector', 'Business Topics', and 'Popular Resources'. 'Local Employment Dynamics' is highlighted in the 'Business Topics' section. Below the navigation, there are sections for 'Bureau Economic Indicators' with data on Goods, Pending, and Ship Rate. Other sections include 'QuickFacts', 'Census News' with articles on Father's Day and a media advisory, and 'Stat of the Day' about Asian Military Veterans.

United States Census Bureau

Home | About Us | Subjects A to Z | FAQs | Help

People **Business** Geography Data Research Newsroom

Tools
Get Help with Your Form
Data by Industry
Data by Geography
Data by Survey
American Fact Finder
Industry Snapshots
Indicators Database

Data by Sector
Economy-Wide
Construction
Governments
Manufacturing
Retail Trade
Services
Wholesale Trade
Other Sectors

Business Topics
Business Expenses
Concentration
E-Commerce
Export Codes
Economic Studies
NAICS /NAPCS
Small Business
Women/Minorities/Veterans

Popular Resources
Economic Census
Business Patterns
Economic Indicators
Economic Studies
Foreign Trade
Local Employment Dynamics

uscensusbureau

Bureau Economic Indicators

Indicator	Value	Change
Goods	\$460.5 B	-1.5%
Pending	\$808.1 B	0.1%
Ship Rate	65.4%	0.6%PTS
Advance Report Durable Goods	\$202.6 B	-4.2%

QuickFacts
Quick, easy access to facts about people, business, and geography.

Census News
Facts for Features: Father's Day: June 17, 2012
Media Advisory -- Census Bureau to Release 2010 Census Statistics on Nation's Native Hawaiian and Other Pacific Islander Population

Stat of the Day
Asian Military Veterans

Local Employment Dynamics @

<http://lehd.ces.census.gov>

Longitudinal Employer-Household Dynamics

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QUICK LINKS

- ▶ **Tools**
 - [Release Schedule](#)
 - [OnTheMap Version 4 \(Help\)](#)
 - [QWI Online \(Help\)](#)
 - [Job Gains/Losses](#)
 - [Industry Focus](#)
 - [Older Worker Profiles](#)
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 - Classes
- ▶ **Partnership**
 - [State Partners](#)
 - [Partners Only](#)
- ▶ **Data Download**
 - [VirtualRDC](#)
 - [State Only](#)

WHAT'S NEW?

- ▶ 01/08/10: [Invitation to 2010 LED Partnership Workshop](#)
- ▶ 12/17/09: [OnTheMap Version 4.0.1 Released](#)
- ▶ 12/14/09: [OnTheMap Version 4 Released](#)
- ▶ 12/10/09: [Deadline Extended for Call for Presentations](#)
- ▶ 10/28/09: [Call for Proposals for 2010 LED Workshop](#)

[\[more...\]](#)

[Click here for the 2010 LED Partnership Workshop Preliminary Agenda](#)

[2010 LED Partnership Workshop Concurrent Sessions](#)

[Click here to send an email to join the OnTheMap listserv.](#)

Q&A

- ▶ [What is LEHD?](#)
- ▶ [What is LED?](#)
- ▶ [What is the difference between LEHD and LED?](#)
- ▶ [What are the QWI?](#)

[\[more...\]](#)

OnTheMap Version 4 Released

[Start using OnTheMap now!](#)

The new version adds:

- Data for 2007 and 2008
- Data for Ohio (2002-2008)
- Import/Export shapefiles and KML/KMZ
- Better selection tools
- Other new features and usability improvements
- See [examples](#) and [tutorials](#)...



DID YOU KNOW?

**Private Sector
Total Employment in
South Carolina**

	2008Q1	2009Q1	Change
All			
Female	735,594	700,278	-4.8%
Male	793,094	735,717	-7.2%

Management of Companies...

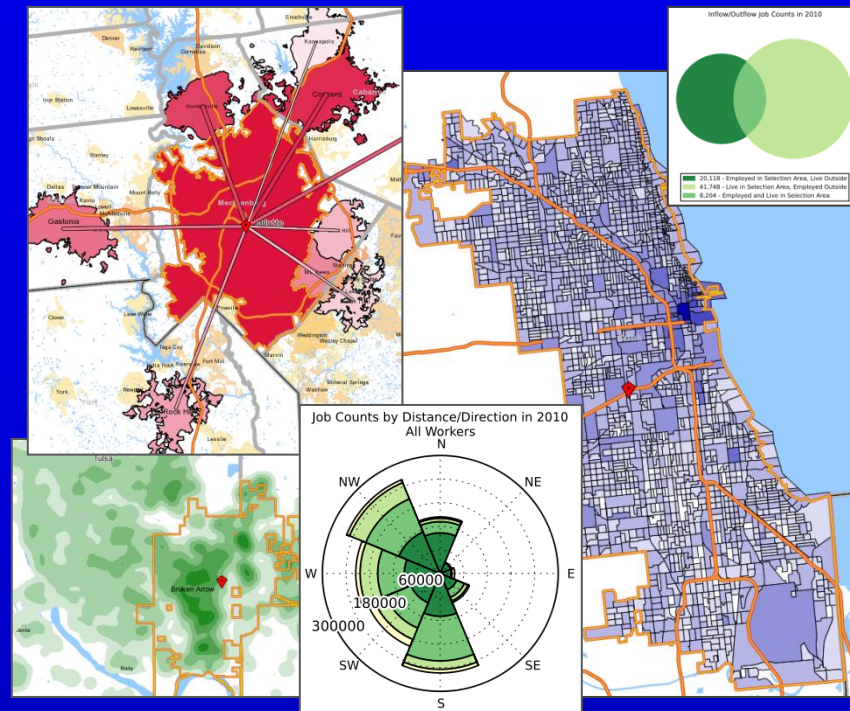
Female	8,255	8,067	-2.3%
Male	8,252	8,070	-2.2%

Keep in Mind...

- ✓ LED not quite national in scope
- ✓ LED does not yet include military or self-employed
- ✓ Data in *OnTheMap* refreshed annually
- ✓ Data sourced from administrative records provide a unique and powerful view of the workforce, but should be paired with survey data and local knowledge

OnTheMap

Interactive mapping and reporting tool



- ✓ Where do workers live?
- ✓ Where do residents work?
- ✓ Analyze/report by age, earnings, or industry segments
- ✓ Data for 50 states (DC, not MA)
- ✓ 2002-2010 annual data
- ✓ User-selected areas
- ✓ Based on Census Blocks
- ✓ Disclosure protection
- ✓ Flexible Inputs/Outputs

Uses for *OnTheMap*

- ✓ **Economic Planning & Time Series**
 - ✓ Where is the labor supply located?
 - ✓ Which industries are growing or declining over time?
- ✓ **Transportation Planning & Analysis**
 - ✓ Between which areas do workers commute?
 - ✓ How far and from what direction do workers commute?
 - ✓ What are the worker flows in, out, and within an area?
- ✓ **Emergency Management & Assessment**
 - ✓ What jobs are impacted by a disaster event?

Creating LODES Data: Sources

- Confidential Data Sources:
 - UI Wage Records
 - QCEW
 - Other Censuses and Surveys
 - StARS
 - Public Use Data Sources
 - 2000 Decennial (SF1, CTPP)
 - TIGER/Line Shapefiles
 - Previous year of OnTheMap
- LED
Infrastructure
Files**
- 

Creating LODES Data: Processing

- Unlike QWI, much of the processing is performed at the national level, starting with the definition of Primary/Dominant Job.
- Also unlike QWI, data for previous years are not reproduced with every production cycle – LODES is constrained by a “confidentiality budget”
- One year is processed at a time because of the requirement of a previous year of data for the synthetic method.

Creating LODES Data: Confidentiality Protection

- Two main processes are taking place to protect OnTheMap data:
 - **Noise Infusion** – Applied to workplace totals.
 - **Synthetic Data Methods** – Applied to residential locations.

For more information, see:

<http://lehd.ces.census.gov/led/datatools/doc/OTMSyntheticData%2005262009-jma.pdf>

http://lehd.ces.census.gov/led/datatools/doc/SyntheticDataDiagram%2006082009_JMA.pdf

Releasing LODES Data

- Once residential locations have been synthesized, the data are tabulated for public release.
- The basic structure of released data are the following file types:
 - Origin-Destination (OD)
 - Residence Area Characteristics (RAC)
 - Workplace Area Characteristics (WAC)

Releasing LODES Data

- OD
 - Connects a home block with a work block.
 - Gives one count of jobs for each home-work block pair and for each combination of year, job type, and segment variables.
- RAC/WAC
 - Provides totals on residence/workplace side only.
 - Gives one total for each worker/job characteristic for each combination of year, job type, and segment variables.

Releasing LODES Data

Jobs are classified by:

- Whether the job is a worker's primary/dominant job.
- Whether the job is in the private sector.
- Whether the job is sourced from OPM*.

The six Job Types are:

- All Jobs, Primary Jobs, All Private Jobs, Private Primary Jobs, All Federal Jobs*, and Federal Primary Jobs.*

* The Federal Job Types are only broken out in the raw LODES data. Only four Job Types are available in OnTheMap

Note: A job in LODES are defined as Beginning of Quarter Employment, which means the worker was employed by the same employer in both the current (2nd) and previous (1st) quarter.

Releasing LODES Data

- Labor Market Segment
 - Jobs are aggregated by 10 “segments” determined by a worker’s/firm’s characteristics.
 - The 10 segments are:
 - All Workers
 - Workers by Age (29 or younger; 30-54; 55 or older)
 - Workers by Earnings (\$1,250/mo or less; \$1,251/mo to \$3,333/mo; greater than \$3,333/mo)
 - Workers by Firm’s Industry (Goods Producing; Trade, Transportation, and Utilities; All Other Services)
 - OD Data is reported for each segment.
 - Segments are similar to but not the same as characteristics.

Releasing LODES Data:

A note about the Industry segments

- Industry Segments are build from NAICS Industry Sectors* (“2-digit”)
 - Goods Producing:
 - NAICS 11, 21, 23, 33-33
 - Trade, Transportation, and Utilities:
 - NAICS 22, 42, 44-45, 48-49
 - All Other Services
 - NAICS 51, 52, 53, 54, 55, 56, 61, 62, 71, 72, 81, 92

* See <http://www.census.gov/eos/www/naics/> for more info.

Releasing LODES Data

- **Characteristics** (available only in RAC/WAC data)
 - 3 Age Characteristics – Comparable to Age Segments
 - 3 Earnings Characteristics – Comparable to Earnings Segments
 - 20 Industry Characteristics (NAICS Sectors)
 - 6 Race Characteristics
 - 2 Ethnicity Characteristics
 - 4 Educational Attainment Characteristics
 - 2 Sex Characteristics

Releasing LODES Data

- OD vs. RAC/WAC: What's Available?
 - OD
 - Count for Year × Job Type × Segment
 - Residence Area *and* Workplace Area Specified
 - RAC/WAC
 - Count for Year × Job Type × Segment × Characteristic
 - Only one of Residence Area *or* Workplace Area Specified
- Example
 - OD: Count for 2010, All Jobs, 29 or younger, with home and work block specified.
 - RAC: Count for 2004, Primary Jobs, Goods Producing Industries, \$1250/mo or less, with only home block specified.

Releasing LODES Data: Downloadable Data

- Previously, LODES data could only be downloaded from Cornell University's Virtual RDC (VRDC).
- LODES data is now available through regular http download on the LED website:
<http://lehd.ces.census.gov/led/onthemap/>
- Data can be downloaded for individual states based upon state of employment.
- See OnTheMap Data Technical Document (<http://lehd.ces.census.gov/led/onthemap/LODES6/LODESTechDoc6.1.pdf>) for more detail.

Releasing LODES Data: Downloadable Data

- Main vs. Aux
 - To make it easier for users to limit the amount of data they need to download, the files have been split by state of employment *and* state of residence.
 - **Main:** Jobs of workers who are employed in the state and reside in the state.
 - **Aux:** Jobs of workers who are employed in the state and reside out of state.

Releasing LODES Data: Downloadable Data

Origin-Destination (OD) File Structure				
Pos	Variable	Type	Length	Explanation
1	w_geocode	Char	15	Workplace Census Block Code
2	h_geocode	Char	15	Residence Census Block Code
3	S000	Num	8	Total number of jobs
4	SA01	Num	8	Number of jobs of workers age 29 or younger
5	SA02	Num	8	Number of jobs for workers age 30 to 54
6	SA03	Num	8	Number of jobs for workers age 55 or older
7	SE01	Num	8	Number of jobs with earnings \$1250/month or less
8	SE02	Num	8	Number of jobs with earnings \$1251/month to \$3333/month
9	SE03	Num	8	Number of jobs with earnings greater than \$3333/month
10	SI01	Num	8	Number of jobs in Goods Producing industry sectors
11	SI02	Num	8	Number of jobs in Trade, Transportation, and Utilities industry sectors
12	SI03	Num	8	Number of jobs in All Other Services industry sectors
13	createdate	Char	8	Date on which data was created, formatted as YYYYMMDD

Other Notes

- ✓ Recently added...
 - ✓ Data for District of Columbia in OnTheMap
 - ✓ Federal Employment in OnTheMap
- ✓ In the next couple of years...
 - ✓ Firm Age, Firm Size, and Self Employed (2013)
 - ✓ Job-to-Job Flows (2014)
 - ✓ Updated QWI Online application

Contact Us

Local Employment Dynamics

<http://lehd.ces.census.gov>

Please send your comments to:

CES.OnTheMap.Feedback@census.gov.

Join ListServ

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lehd-general@lists.census.gov