

U.S. Census Bureau

Local Employment Dynamics (LED) Workshop

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Welcome everyone! My name is Armando Mendoza, Data Dissemination Specialist from the Customer Liaison and Marketing Services Office, Data Dissemination Branch of the US Census Bureau.

First, let me tell you what this workshop is about – it is not intended to cover every aspect of the program and its applications, rather is an overview of a very comprehensive and powerful program of the U.S. Census Bureau: the Longitudinal Employment-Household Dynamics. Some people refer to it as LEHD or LED.

I am sure that in this group, there are diverse data and geographic needs; so in a short session as this one, it would be impossible to cover every aspect of the program. Having said that, we can provide additional training sessions either in-person or via Webinar to address specific needs of your organization. At the end of this presentation, I provide my contact information if you are interested in setting up follow-up training.

Agenda

- What Is LED?
- Applications and Data Analysis Tools
 - Quarterly Workforce Indicators (QWI)
 - On The Map
 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

So, we'll start with a description of the program to provide you with an understanding of the LED infrastructure, and how the data is combined to create detailed statistics on employment, earnings, and job flows in different geographies, industries and demographic groups. We'll then cover the four powerful applications and Data Analysis tools and look at specific data for San Diego.

Overview

- What Is LED?
- Applications and Data Analysis Tools
 - Quarterly Workforce Indicators (QWI)
 - On The Map
 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

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The Longitudinal Employer-Household Dynamics (LEHD or LED) program is part of the [Center for Economic Studies](#) at the [U.S. Census Bureau](#). The [LEHD program](#) combines federal, state and Census Bureau data on employers and employees under the [Local Employment Dynamics \(LED\) Partnership](#) filling critical data gaps and provide indicators needed by state and local authorities.

Under the LED Partnership, states agree to share Unemployment Insurance earnings data and the Quarterly Census of Employment and Wages (QCEW) data with the Census Bureau. The LEHD program combines these data, additional administrative data, and data from censuses and surveys and creates statistics on employment, earnings, and job flows at detailed levels of geography and industry and for different demographic groups. In addition, the LEHD program uses these data to create partially synthetic data on workers' residential patterns.

All 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands have joined the LED Partnership, although the LEHD program is not yet producing public-use statistics for Massachusetts, Puerto Rico, or the U.S. Virgin Islands.

Our mission is to provide new dynamic information on workers, employers, and jobs with state-of-the-art confidentiality protections and no additional data collection burden.

Local Employment Dynamics (LED)

- LED is a part of the Longitudinal Employer-Household Dynamics (LEHD)
- LED is integral part of the U.S. Department of Commerce
- LED is a Partnership with all 50 States, DC, Puerto Rico* and the Virgin Islands *
- The LED program provides unprecedented details on jobs, workers, and local economies

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LEHD is a part of the Center for Economic Studies at the U.S. Census Bureau. It produces new, cost effective, public information that combines Federal, and State, and Census Bureau data on employers and employees under the LED Program.

It is an integral part of the U.S. Department of Commerce Open Government Plan to provide public access to high-value government data. It provides unprecedented details about America's jobs, workers, and local economies.

Why Are LED Data Special?

- 100% Coverage of UI Covered Jobs
- Firm Characteristics crossed with Worker Characteristics
- Detailed Geography
- Accessible via powerful and easy-to-use tools
- Flexible outputs: PDF reports, Excel tables, high-quality images, and shape files

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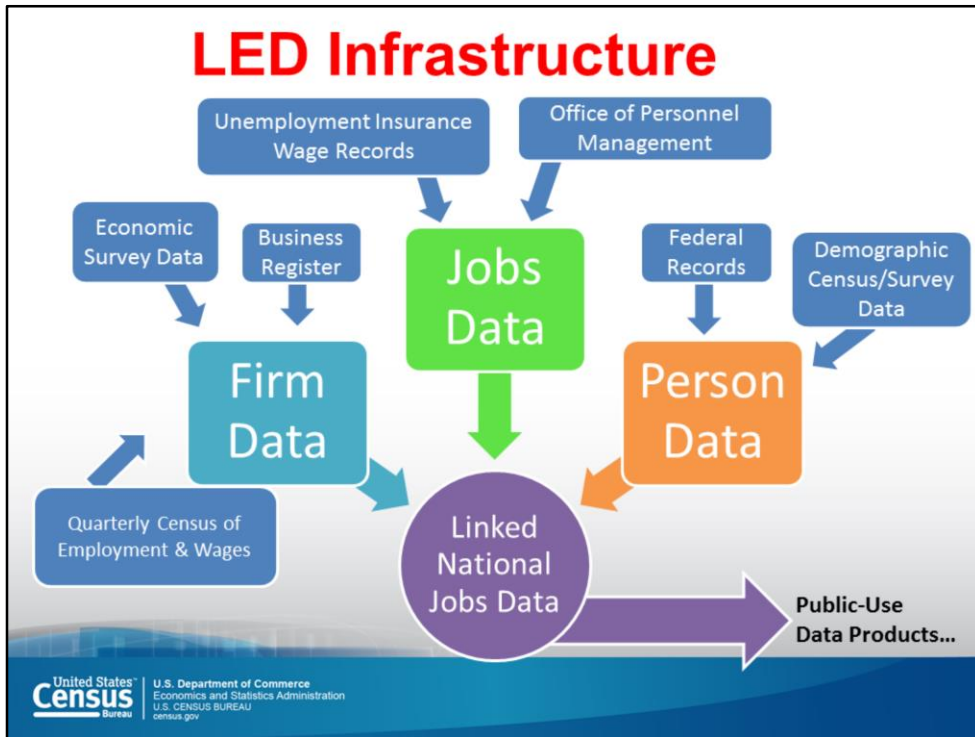
First, let's talk about the source of the data. Local Employment Dynamics (LED) is a voluntary partnership between state labor market information agencies and the U.S. Census Bureau to develop new information about local labor market conditions at low cost, with no added respondent burden, and with the same confidentiality protections.

The employment data used in this application are derived from Unemployment Insurance Wage Records reported by employers and maintained by each state for the purpose of administering its unemployment insurance system. The states assign employer locations, while workers' residence locations are assigned by the U.S. Census Bureau using data from multiple federal agencies. Using Quarterly Census Employment and Wages (QCEW) and the Unemployment Insurance (UI) worker wage records as the base, the Census Bureau links other available administrative records, as well as census and survey results. Age, earnings, and industry profiles are compiled by the Census Bureau from a state's records and are supplemented with other Census Bureau source data.

LED builds on State Inputs

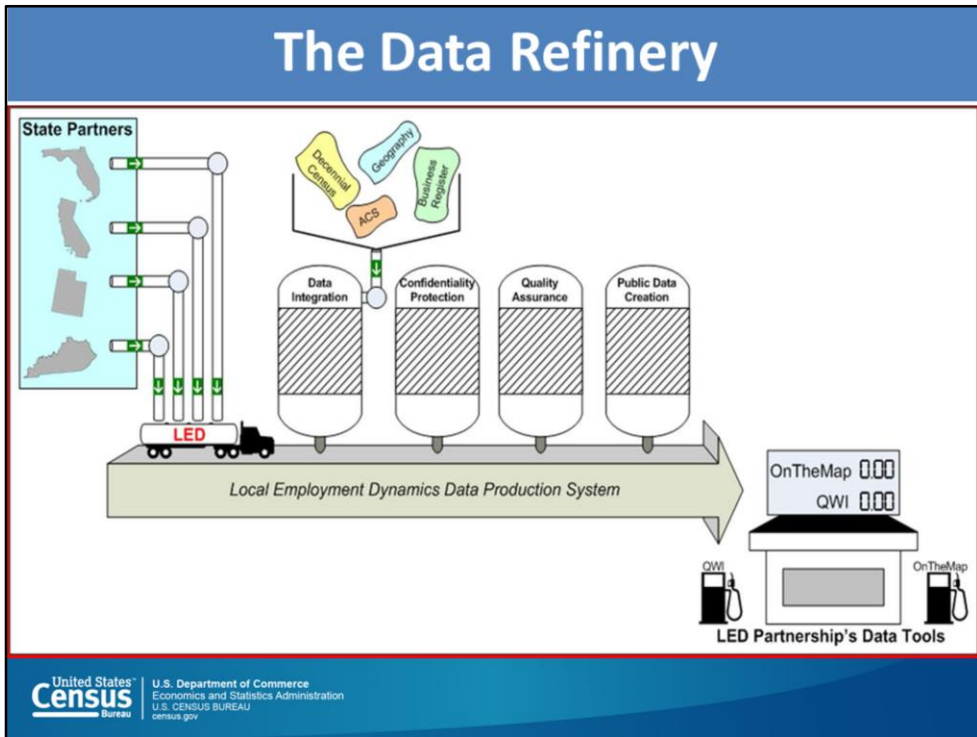
- **State records** are combined with other admin/census/survey data from the **Census Bureau** and **other Federal agencies**
- We can then create public statistics on:
 - Firms & Establishments
 - Jobs & Workers
 - By Firm and Person Characteristics
- Without new or additional respondent burden

These statistics provide information about trends in employment, hiring, job creation and destruction, and earnings, with unprecedented detail on geography, age, sex, and industry going as far back as 1990.



The slide summarizes the data sources by type and how they contribute to the data products available to the public.

The jobs data cover 95% of all private employment and most state, local, and federal jobs. This information is available from 1990 through 2015, though the start year varies by state and the end date is rolling.



This graphic illustrates the same process in a simple way.

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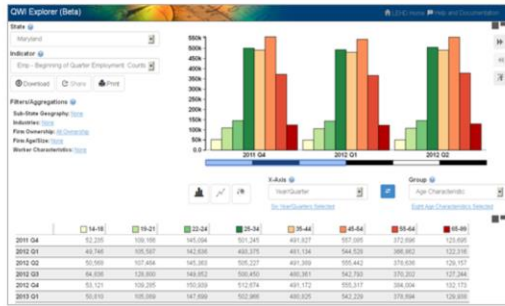
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Now that you know what LED is, let's explore some of the tools available for accessing the data. The best browsers to use with these tools are Chrome or Firefox.

To begin, the Quarterly Workforce Indicators (or QWI) is a web-based analysis tool that enables comprehensive access to the full depth and breadth of the Quarterly Workforce Indicators (QWI) dataset. Through charts, maps and interactive tables, users can compare, rank and aggregate QWIs across time, geography, and/or firm and worker characteristics. The application's intuitive interface uses pivot tables and charts/maps to analyze labor-force indicators such as employment, job creation and destruction, hires, and wages across a wide range of geographies and firm and worker characteristics.

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



- ✓ 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)

The Quarterly Workforce Indicators (QWI) is the flagship LED data product. It provides information about trends in employment, hiring, job creation and destruction, and earnings, with unprecedented detail on geography, age, sex, and industry going as far back as 1990.

Descriptions of the 32 indicators can be found in the LED Extraction tool. This reference is helpful because the indicator names are not necessarily intuitive within QWI Explorer. Here is the web address for the LED Extraction Tool: ledextract.ces.census.gov, which we'll discuss more later.

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, residential patterns of the workforce, or relationship between worker employment and home locations	Less detailed firm/person characteristics; significant data lag (temporary)
J2J	You need to understand transitions of workers among jobs	Data product still under development

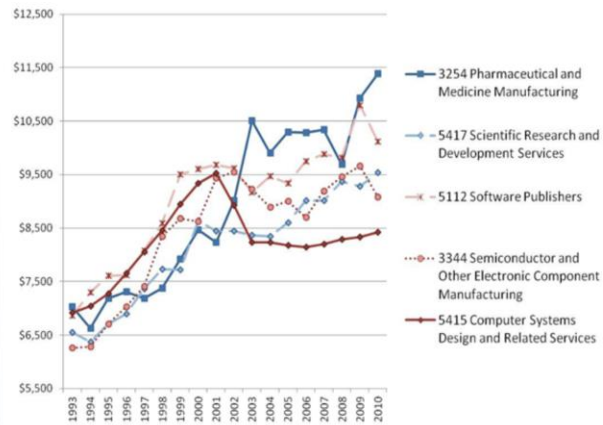
In addition to QWI, there are two other products providing helpful information. The LEHD Origin-Destination Employment Statistics (LODES) provides annual employment statistics linking home and work locations at the Census block-level. And there is a new LED product, Job-to-Job Flows (J2J) (currently in Beta release), which provides an unprecedented look at worker flows between states, industries, and non-employment.

This table summarizes the value of each, as well as the limitations.

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

Starting wages college educated men in high-tech industries in CA



There are many ways to look at the data... information can be displayed by worker characteristics (e.g., sex, educational attainment), firm characteristics (e.g., industry), etc.

For example, this graph shows the starting wages for college educated men in high tech industries.

Let's go online now and work in the QWI tool. Here is the web address: qwexplorer.ces.census.gov. Remember that Chrome or Firefox are the browsers recommended when using these tools.

QWI Explorer

Geography Level: California

Indicator: Emp - Beginning of Quarter Employment: C

Filters/Aggregations: Time: X-AXIS, Geography: **None**, Industries: None, Firm Ownership: All Ownership, Firm Age/Size: None, Worker Characteristics: None

Set Filters/Aggregations

Geography Type: Counties

Search: san

Check All | Check None | Invert Selection

- 06069 San Benito, CA
- 06071 San Bernardino, CA
- 06073 San Diego, CA
- 06075 San Francisco, CA
- 06077 San Joaquin, CA
- 06079 San Luis Obispo, CA
- 06081 San Mateo, CA

OK

Year	Value
2010 Q4	176,351
2011 Q1	165,698
2011 Q2	156,092
2011 Q3	171,510

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As a first step, let's specific San Diego County as the geographic area of interest by clicking on None beside Geography and searching for San Diego or scrolling down.

The screenshot shows the QWI Explorer interface. On the left, the 'Filters/Aggregations' section is visible with the following settings:

- Time: X-Axis
- Counties: [San Diego](#)
- Industries: [None](#) (indicated by a red arrow)
- Firm Ownership: [All Ownership](#)
- Firm Age/Size: [None](#)
- Worker Characteristics: [None](#)

Below the filters is a table showing employment data for various quarters:

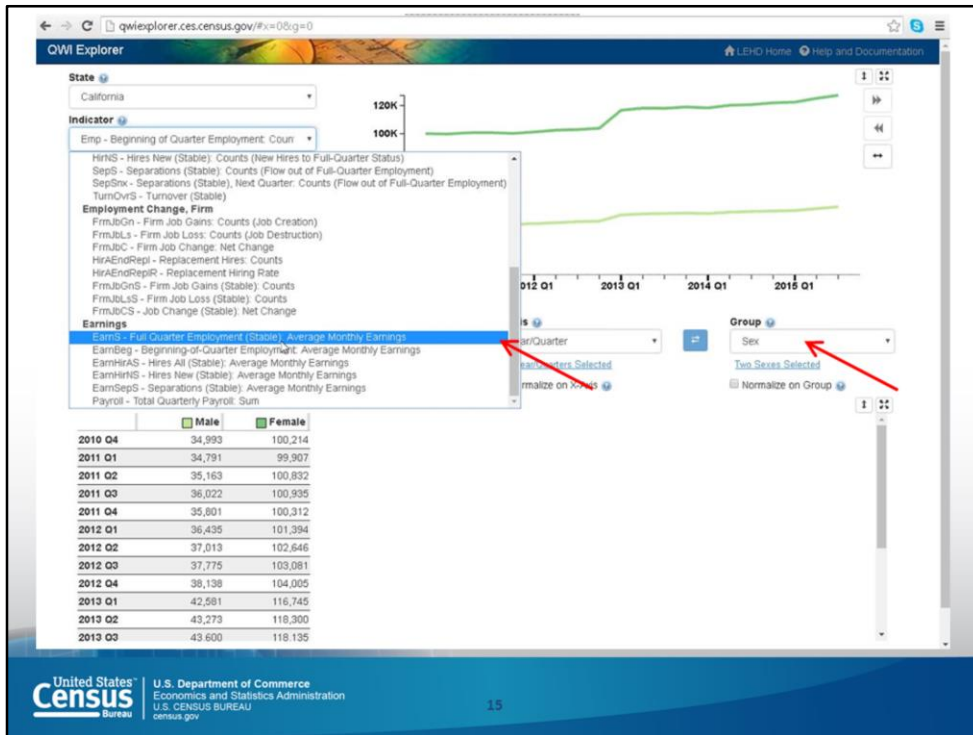
Year	Quarter	Employment
2010	Q4	14,243
2011	Q1	13,642
2011	Q2	12,678
2011	Q3	13,557

On the right, the 'Set Filters/Aggregations' dialog box is open. It has the following fields and options:

- Industry Detail Level: NAICS Sectors
- Search: (indicated by a red arrow)
- Buttons: [Check All](#) | [Check None](#) | [Invert Selection](#)
- List of NAICS Sectors with checkboxes:
 - 11 Agriculture, Forestry, Fishing and Hunting
 - 42 Wholesale Trade
 - 48-49 Transportation and Warehousing
 - 54 Professional, Scientific, and Technical Services
 - 62 Health Care and Social Assistance (indicated by a red arrow)
 - 81 Other Services (except Public Administration)
- OK button

At the bottom of the interface, the United States Census Bureau logo and contact information are displayed, along with the page number 14.

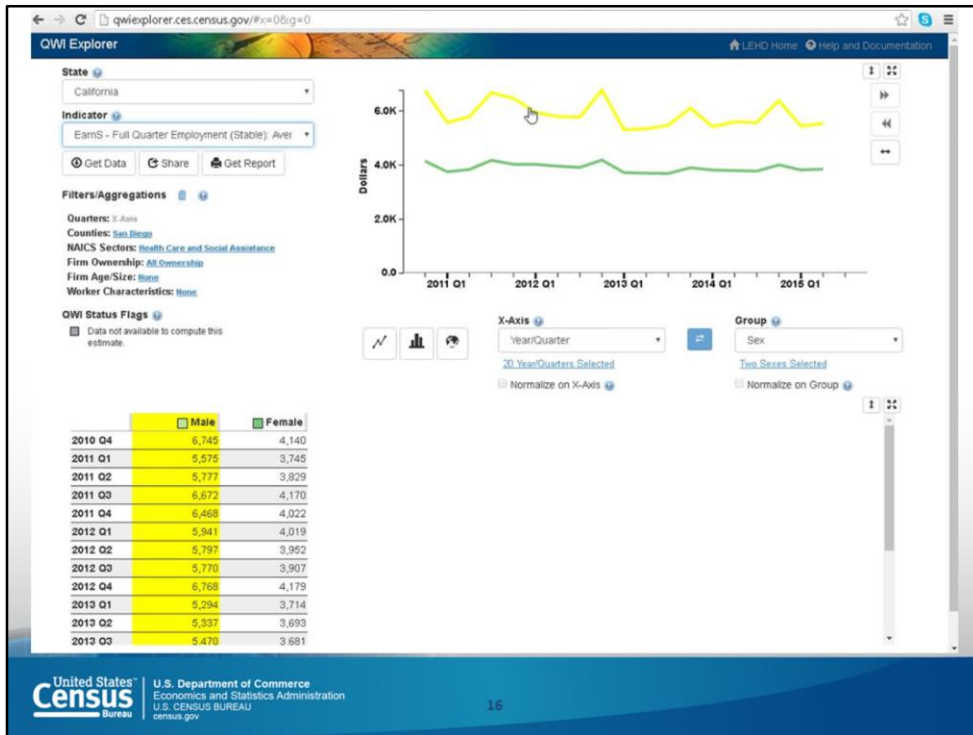
Let's say we are interested specifically in the health care industry. The same process is used. Simply click on None beside Industries and search for Health Care or scroll through the choices.



Let's look at the differences in earnings for men and women.

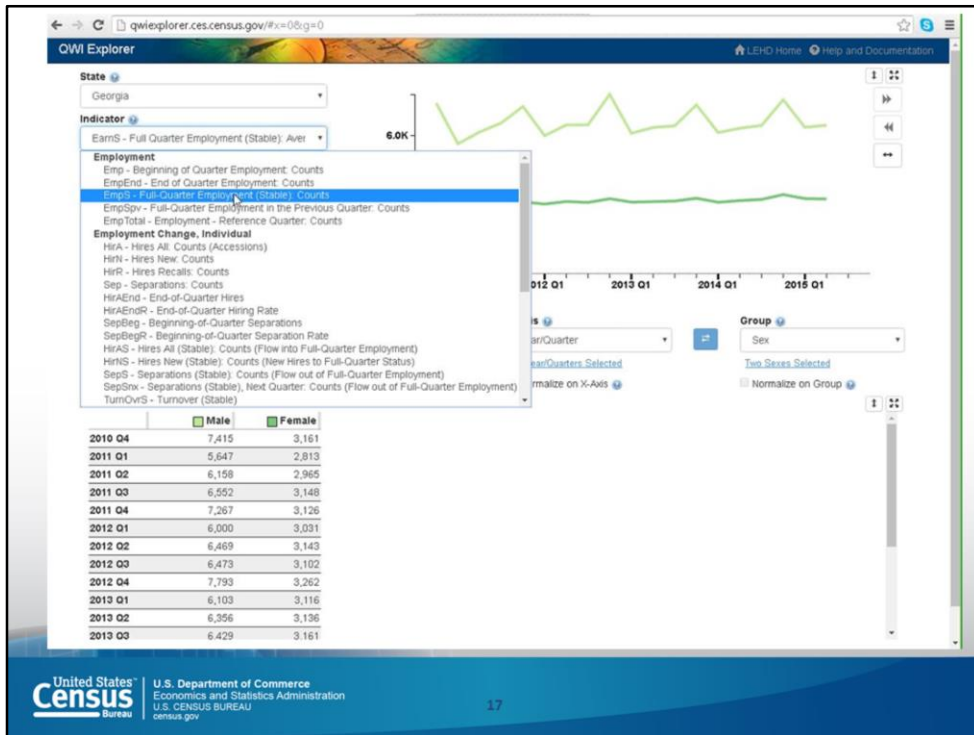
To specify earnings, click on the arrow in the box under Indicator and go down here to Earnings, and choose Full Quarter Employment (Stable). The word stable in parentheses means this group of people worked the full quarter, January 1st thru March 31st.

To analyze the data by sex, choose Sex in the box under Group.

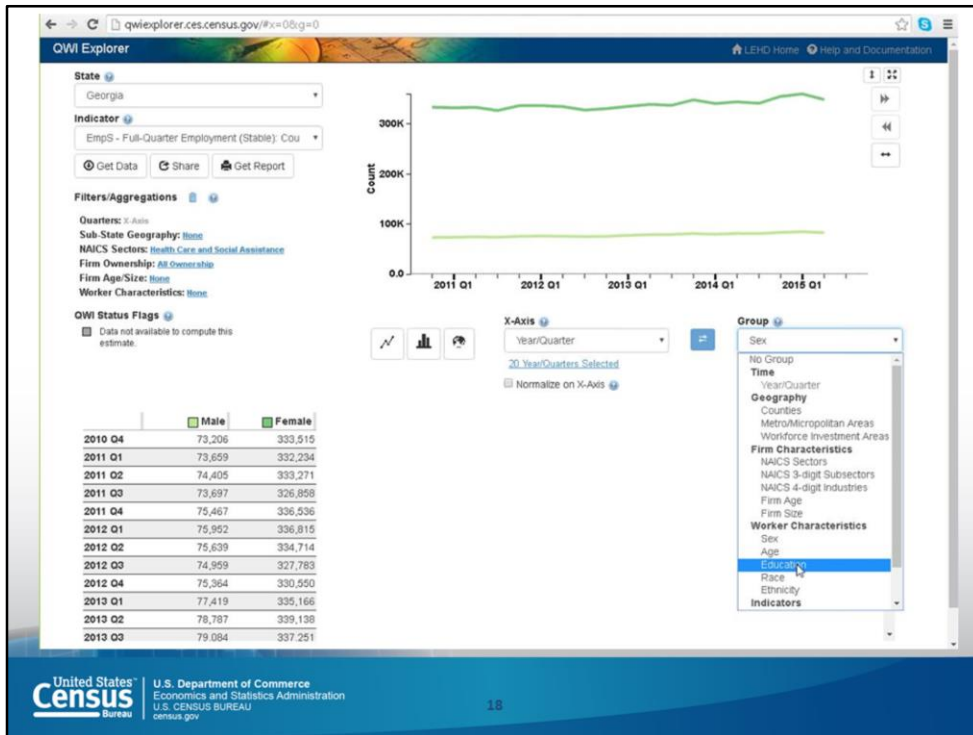


So here are the differences in earnings in San Diego in the healthcare industry between males and females. The little spikes in the male line show bonuses. It seems that females are not receiving bonuses.

To compare, we can look at another state and see if that's true there too. Let's see the same information for Arizona and Georgia. (NOTE: The screen shots are not included in this PowerPoint.) It's pretty consistent across states.

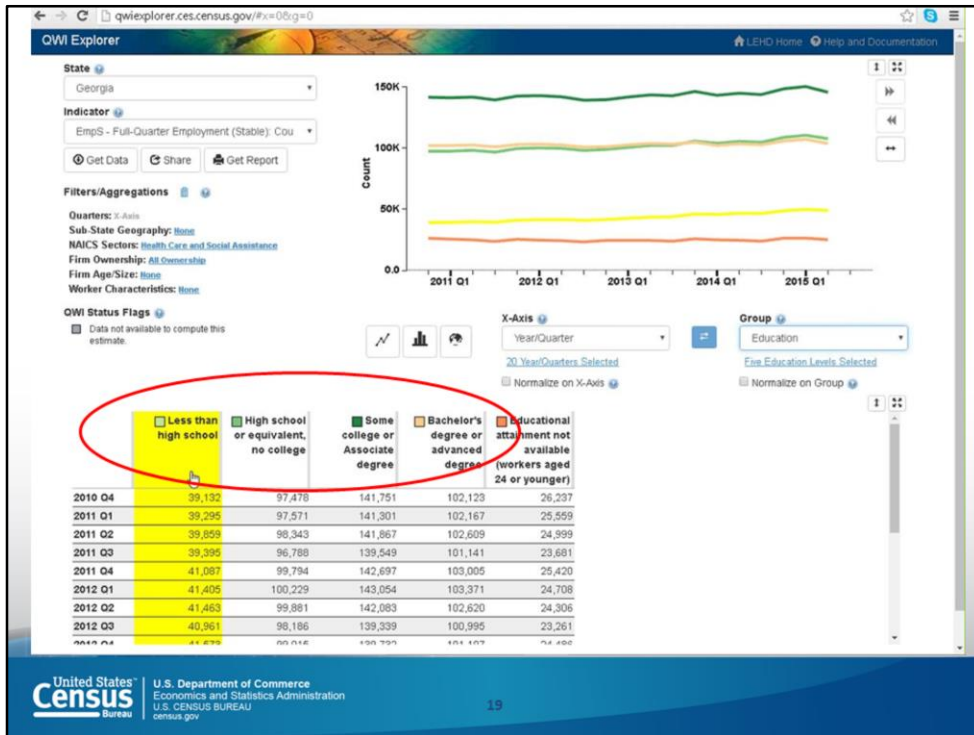


Maybe there are more males than females in the industry. We can look at that by changing the indicator to Employment and choosing Full-Quarter Employment (Stable) Counts. This indicator shows the actual numbers between males and females.

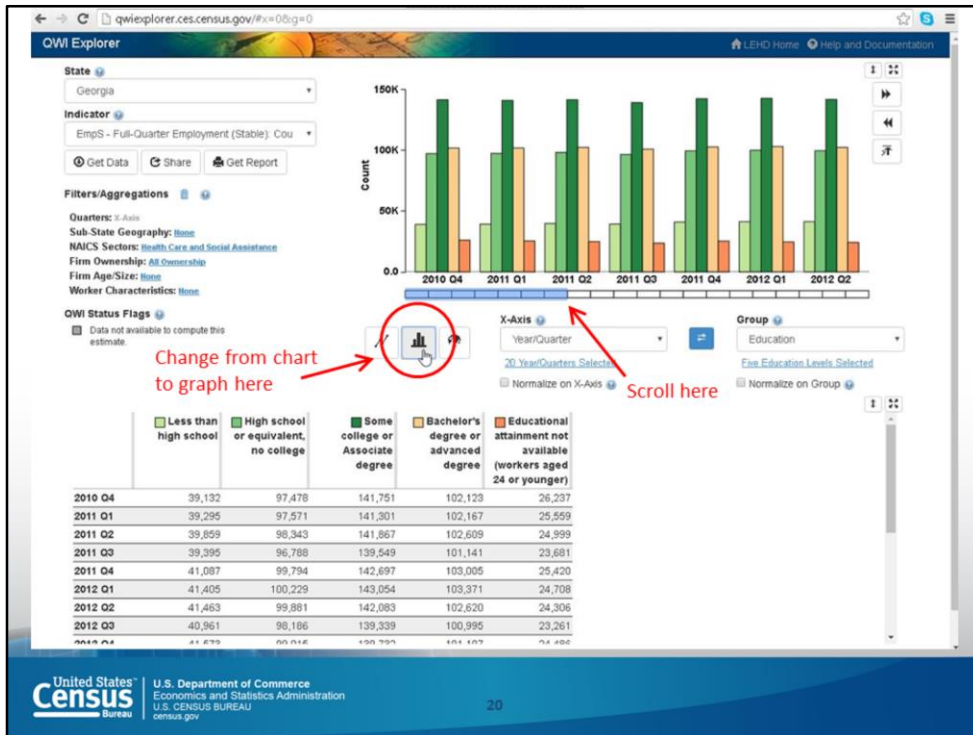


Hum. Interesting. There are a lot more females than males. So it has nothing to do with numbers.

How about education? Go back under Group and select Education.



And here you see the categories: less than high school, high school or equivalent, some college or associate degree, and bachelor's degree.



There's another way to display the data. By clicking on the bar chart symbol the new format immediately changes.

For this format, a scroll bar is shown so you can move through the quarters.

QW Explorer

State: Georgia

Indicator: EmpS - Full-Quarter Employment (Stable) Cou

Get Data | Share | **Get Report**

Filters/Aggregations

Quarters: 1: All
 Sub-State Geography: None
 NAICS Sectors: Health Care and Social Assistance
 Firm Ownership: All Ownership
 Firm Age/Size: None
 Worker Characteristics: None

QW Status Flags
 Data not available to compute this estimate.

X-Axis: Year/Quarter
 20 Year/Quarters Selected
 Normalize on X-Axis

Group: Education
 Five Education Levels Selected
 Normalize on Group

	Less than high school	High school or equivalent, no college	Some college or Associate degree	Bachelor's degree or advanced degree	Educational attainment not available (workers aged 24 or younger)
2010 Q4	39,132	97,478	141,751	102,123	26,237
2011 Q1	39,295	97,571	141,301	102,167	25,559
2011 Q2	39,859	96,343	141,867	102,609	24,999
2011 Q3	39,395	96,788	139,549	101,141	23,681
2011 Q4	41,087	99,794	142,697	103,005	25,420
2012 Q1	41,405	100,229	143,054	103,371	24,708
2012 Q2	41,463	99,881	142,083	102,620	24,306
2012 Q3	40,961	96,186	139,339	100,995	23,261
2012 Q4	41,879	99,016	139,791	101,187	24,402

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You can download everything as a PDF report using this icon.

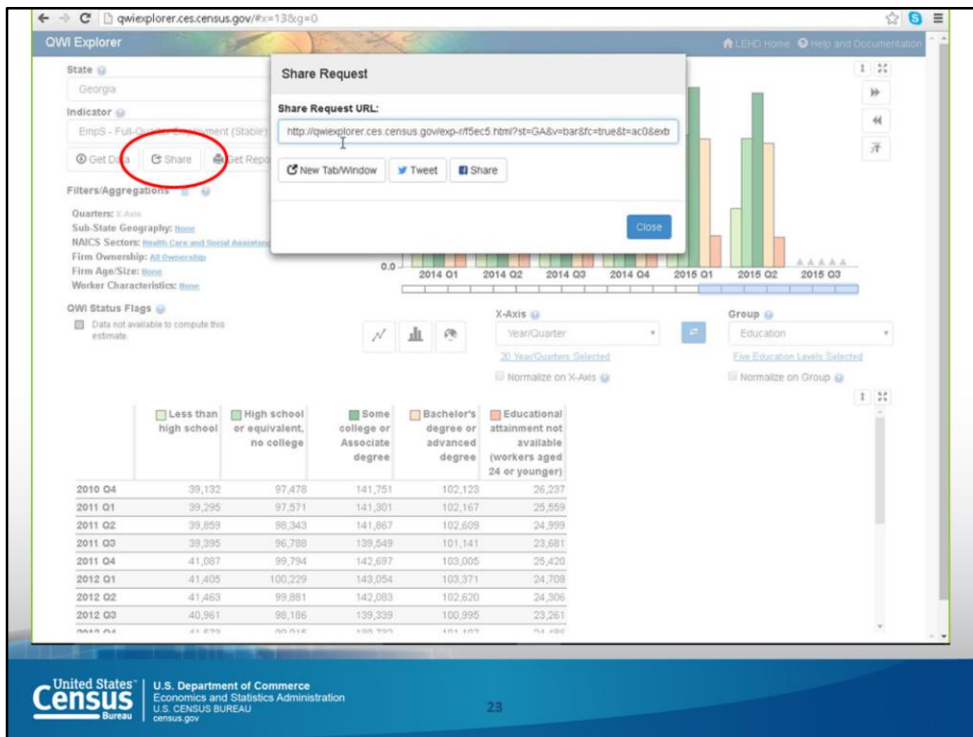
The screenshot shows the QWI Explorer interface for the state of Georgia. A 'Download' dialog box is open, providing the following options:

- Download Data**
 - Download Table as XLSX (includes Table, Chart, Settings, and Metadata)
 - Download Table as ZIP (includes CSV, Settings, and Metadata)
 - Download Raw Data as ZIP (includes CSV, Labels, and Metadata)
 - Download Shapefile as ZIP (includes SHP, SHX, DBF, and Metadata)
- Download Chart/Map Image**
 - Download Chart/Map as SVG
 - Download Chart/Map as PNG

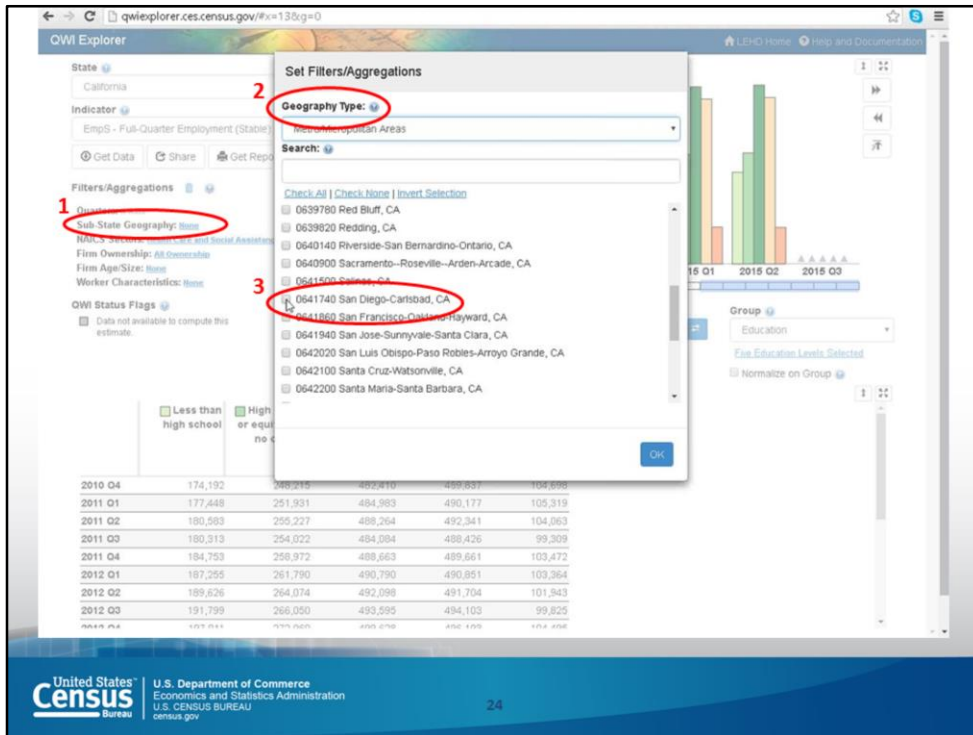
The background interface includes a navigation menu with 'Get Data' circled in red, a bar chart for the years 2015 Q1, 2015 Q2, and 2015 Q3, and a data table below.

Year/Quarter	Less than high school	High school or equivalent, no college	Some college or Associate degree	Bachelor's degree or advanced degree	Educational attainment not available (workers aged 24 or younger)
2010 Q4	39,132	97,478	141,751	102,123	26,297
2011 Q1	39,295	97,571	141,501	102,167	25,559
2011 Q2	39,859	98,343	141,867	102,609	24,599
2011 Q3	39,395	96,788	139,549	101,141	23,681
2011 Q4	41,087	99,794	142,697	103,005	25,420
2012 Q1	41,405	100,229	143,054	103,371	24,708
2012 Q2	41,463	99,881	142,083	102,620	24,306
2012 Q3	40,961	98,186	139,339	100,995	23,261
2012 Q4	41,679	99,016	139,793	101,107	23,492

Also, by clicking on Get Data you can download the data into an Excel file or a ZIP file or you save the chart or map as an SVG or PNG image.



And you can share this information by clicking share to grab the URL to use in an email, tweet, or on Facebook. This URL will save you from doing all these steps again whenever you want to replicate the same analysis.



How about we look at educational attainment some more? People with higher educational attainment make more money, right? That's general knowledge. Does anyone want to look at a specific county or industry?

Answer: How about science and technology?

Okay, and at what geographic level?

Answer: Below San Diego level.

Unfortunately, for the San Diego region, the county boundaries are the smallest level of geography available in QWI Explorer. However, in a moment, I'll show you other tools where you can look at areas within the county.

Still, let's check out the metropolitan area by clicking on the current geographic areas specified and changing the Geography Type to Metro/Metropolitan Areas and choosing San Diego-Carlsbad. .

(NOTE: The geographic boundaries for this area are the same as for San Diego County, which is not always the case in other areas across the nation.)

QW Explorer

State: California

Indicator: EmpS - Full-Quarter Employment (State)

Filters/Aggregations

Quarters: 5 data

NAICS Sectors: **Health Care and Social Assistance**

Firm Ownership: [All Firms](#)

Firm Age/Size: [None](#)

Worker Characteristics: [None](#)

QW Status Flags

Data not available to compute this estimate.

Less than high school | High or equivalent

Set Filters/Aggregations

Industry Detail Level: NAICS Sectors

Search:

[Check All](#) | [Check None](#) | [Invert Selection](#)

- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)
- 92 Public Administration

OK

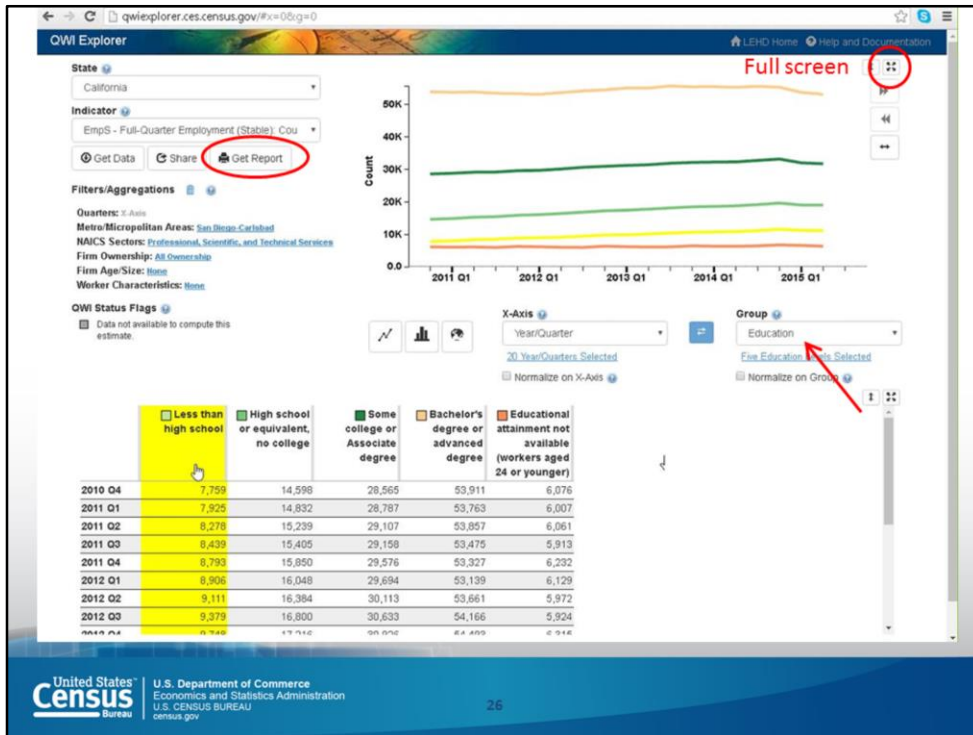
2010 Q4	14,657	20,739	40,075	39,971	9,822
2011 Q1	14,695	20,858	40,001	40,002	9,386
2011 Q2	14,907	21,118	40,294	40,132	9,194
2011 Q3	14,952	21,155	40,099	40,088	8,811
2011 Q4	15,433	21,525	40,318	39,766	9,306
2012 Q1	15,777	22,024	41,018	40,503	9,279
2012 Q2	15,963	22,060	41,002	40,383	9,170
2012 Q3	16,158	22,487	41,526	41,083	9,052
AVER. PER	15,670	21,581	41,076	40,708	9,215

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To specify science and technical services as the industry, click on NAICS Sectors and choose 54 as specified on this slide.



We already have Education selected over here and the distribution automatically displays. So now we can look at employment in this field of those with less than high school, high school degree, some college or an associate degree, and as you can see there's an advantage to bachelor's degree or advanced degree.

If you want to see a larger version of the chart, click in the top right corner to expand it to full screen. And if you click on "Get Report," you can download a PDF file with the chart and table, as well as a documentation of the data source.

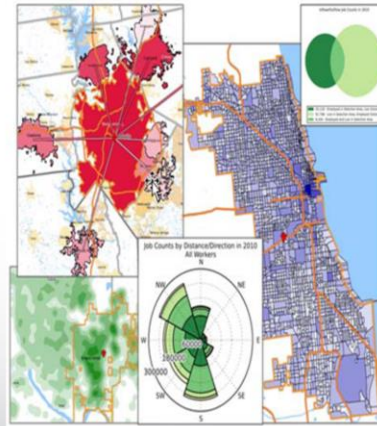
Overview

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 - **On The Map**
 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

Moving on to the next tool: On The Map.

On The Map

- On The Map is an online mapping and reporting application that shows where people work and where workers live.
- Easy to use application
- Provides companion reports on worker characteristics



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On The Map has several impressive features.

First, the coverage is comprehensive with Census block-level data for home and work areas in 49 partner states with consecutive years of data from 2002 to 2010 and including the following characteristics: worker age, earnings, industry sector, worker race, worker ethnicity, worker educational attainment, and worker sex.

The analysis tools are powerful. There are six different analysis types available for users to analyze, compare, and summarize a vast amount of labor force data for user-defined or Census-standard geographic areas. Each set of results are presented through interactive maps, charts, and reports.

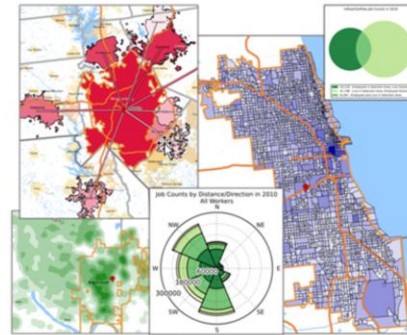
The outputs are versatile. Results can be exported to a report (PDF, HTML, XLS), to a map (KML or Shapefile), or to other forms (PNG images or composite PDF). Users can also save their analysis settings for future use in OnTheMap.

Online documentation, including tutorials and walkthroughs, is available at <http://lehd.ces.census.gov/led/datatools/onthemap.html>.

OnTheMap

Recognized by United Nations as a major
U.S. statistical innovation

- ✓ Where do workers live?
- ✓ Where do residents work?
- ✓ What are the commuter flows of a particular area?
- ✓ Analyze/report by worker demographics: age, earnings, race, ethnicity, educational attainment, and sex
- ✓ Analyze/report by firm characteristics: NAICS Sector, firm age, and firm size



- ✓ 2002-2014 annual data
- ✓ 50 states available (plus DC)
- ✓ User-selected areas
- ✓ Based on Census Blocks
- ✓ Disclosure protection
- ✓ Flexible Inputs/Outputs

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OnTheMap includes a visual mapping component to demonstrate some of the information referenced in the QWI explorer, as well as commuting patterns. It is the Census Bureau's most robust mapping tool, and provides an unmatched ability to locate worker data down to the block group and industry data down to a block level. One point to note is that you can examine where workers live or where residents work, not both together.

Let's go online now and work in the tool. Here is the web address:
onthemap.ces.census.gov.

Remember that Chrome or Firefox are the browsers recommended when using these tools.

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Longitudinal Employer-Household Dynamics

Main | Applications | Data | Learn More | Research | State Partners | Partner with Us | LED in Action

Applications

- [OnTheMap](#)
- [OnTheMap for Emergency Management](#)
- [LED Extraction Tool](#)

Useful Links

- [Center for Economic Studies](#)
- [QW Data](#)
- [LODES Data](#)
- [LED Workshop](#)

Contact Information

Email us: CES.Local.Employment.Dynamics@cen.gov

or

Call us at (301)763-8300

[Further contact information](#)

[Join an LEHD mailing list](#)

The newly released Job-to-Job Flows (J2J) data and several LEHD research papers are highlighted in the 2015 Economic Report of the President demonstrating the great value of the LEHD state partnership.

[View full summary](#)

[View full Economic Report](#) (450 MB)

What's New?

- 06/15/16 [OnTheMap for Emergency Management 4.3 Release \(New ACS and LODES data\)](#)
- 06/09/16 [LEHD Public Use Data Schema Updates](#)

[View all announcements](#)

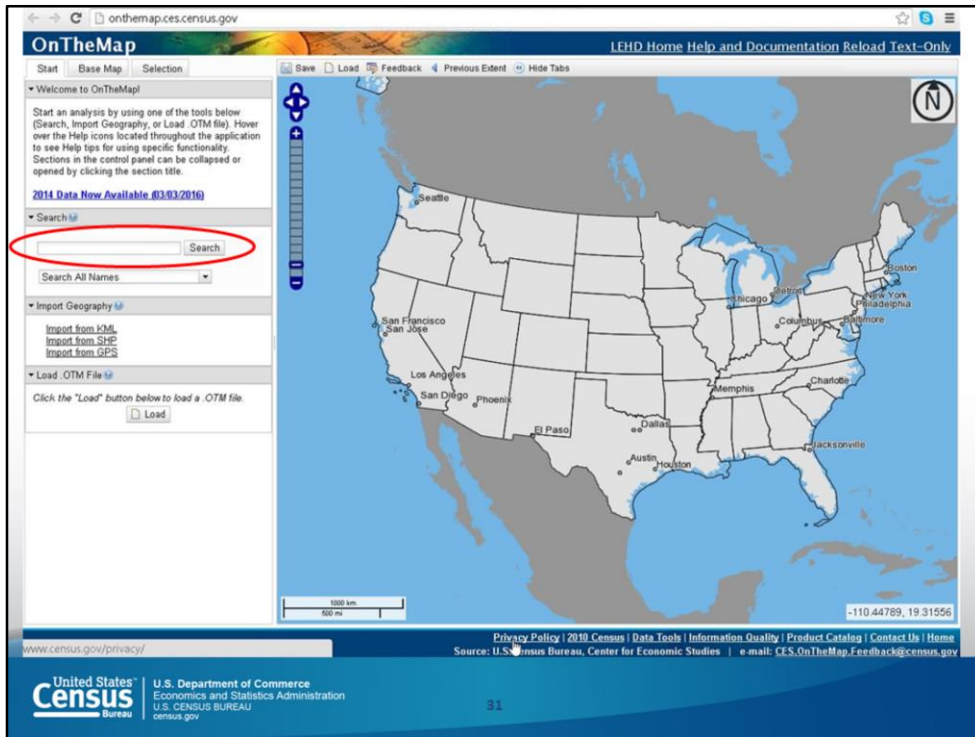
About Us

The Longitudinal Employer-Household Dynamics (LEHD) program is part of the [Center for Economic Studies](#) at the [U.S. Census Bureau](#). The LEHD program produces new, cost effective, public-use information combining federal, state and Census Bureau data on employers and employees under the [Local Employment Dynamics \(LED\) Partnership](#). State and local authorities increasingly need detailed local information about their economies to make informed decisions. The LED Partnership works to fill critical data gaps and provide indicators needed by state and local authorities.

Under the LED Partnership, states agree to share Unemployment Insurance earnings data and the Quarterly Census of Employment and Wages (QCEW) data with the

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From the LEHD page, you can click on the OnTheMap link on the right. Or you can go directly to the tool at this address: onthemap.ces.census.gov



The initial page shows a map of the United States. To begin, search for a geography by typing San Diego in the search box.

Places (Cities, CDPs, etc.)

- San Diego Country Estates CDP, CA
- Rancho San Diego CDP, CA
- San Diego city, CA
- San Diego city, TX

ZIP Codes (ZCTA)

- No results found.

Metropolitan/Micropolitan Areas (CBSA)

- San Diego-Carlsbad, CA

Workforce Investment Areas (WIA)

- 42 San Diego County WIB

County Subdivisions

- Camp Pendleton CCD (San Diego, CA)
- Alpine CCD (San Diego, CA)
- San Diego CCD (Duval, TX)
- Jamul CCD (San Diego, CA)
- Palomar-Julian CCD (San Diego, CA)
- Borrego Springs CCD (San Diego, CA)
- Mountain Empire CCD (San Diego, CA)
- Laguna-Pine Valley CCD (San Diego, CA)
- Valley Center CCD (San Diego, CA)
- San Diego CCD (San Diego, CA)
- Ramona CCD (San Diego, CA)
- Fallbrook CCD (San Diego, CA)
- Oceanside-Escondido CCD (San Diego, CA)
- Pauma Valley CCD (San Diego, CA)

114th Congressional Districts

- No results found.

Census Block Groups

- 1 (Tract 135.05, San Diego, CA)
- 1 (Tract 170.21, San Diego, CA)

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

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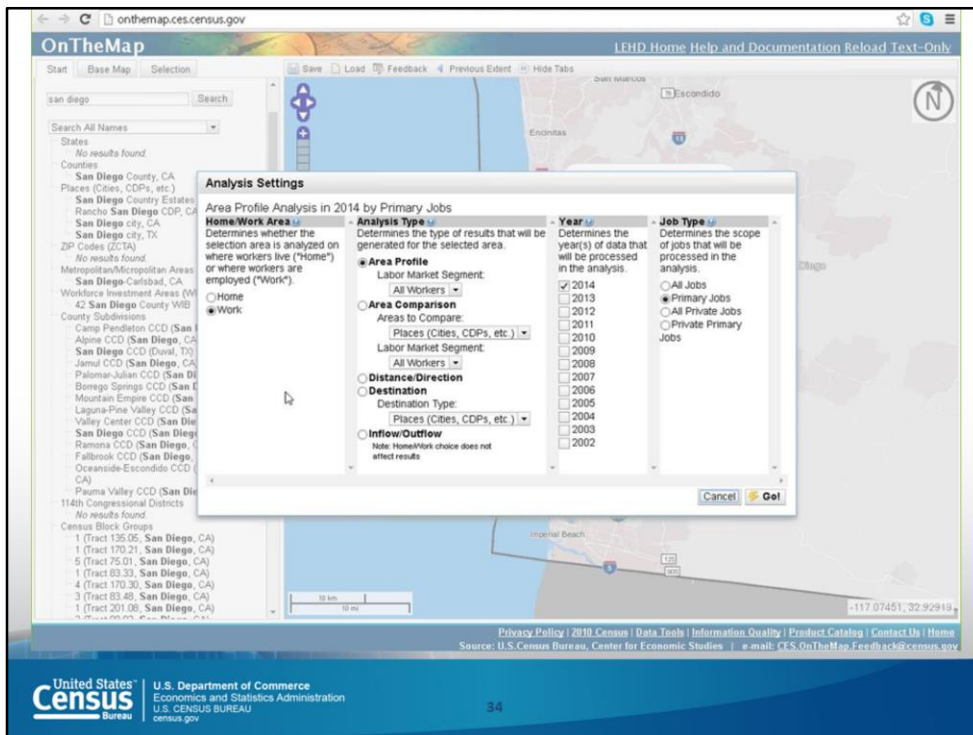
The result shows all the options with San Diego in it, including other parts of the country (e.g., there's a San Diego city in Texas). You can scroll through all the choices.

You'll notice some acronyms (the Census Bureau uses a lot of them). The one circled on this slide stands for Census Designated Place, which means it's an unincorporated city.

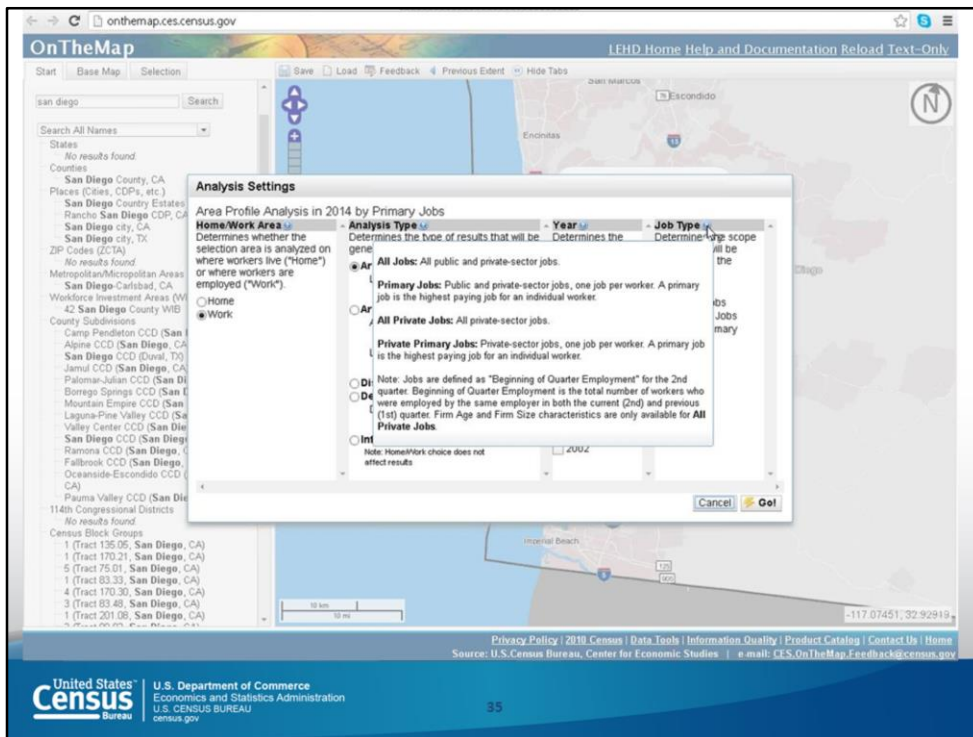
For this example, let's select San Diego city, California.

The screenshot shows the OnTheMap web application interface. The browser address bar displays 'onthemap.ces.census.gov'. The page title is 'OnTheMap' and the navigation bar includes 'LEHD Home Help and Documentation Reload Text-Only'. The main interface is divided into a search panel on the left and a map on the right. The search panel shows a search for 'san diego' with a list of results including 'San Diego County, CA', 'San Diego city, CA', and various census tracts. The map shows the San Diego region with a red selection area around the city center. A tooltip for this area displays 'San Diego city, CA' and 'Selection Area: 372,394 Sq. Mi.'. A red circle highlights the 'Perform Analysis on Selection Area' button in the tooltip. The bottom of the page features the United States Census Bureau logo and contact information.

To do some analysis, click on Perform Analysis on Selection Area.

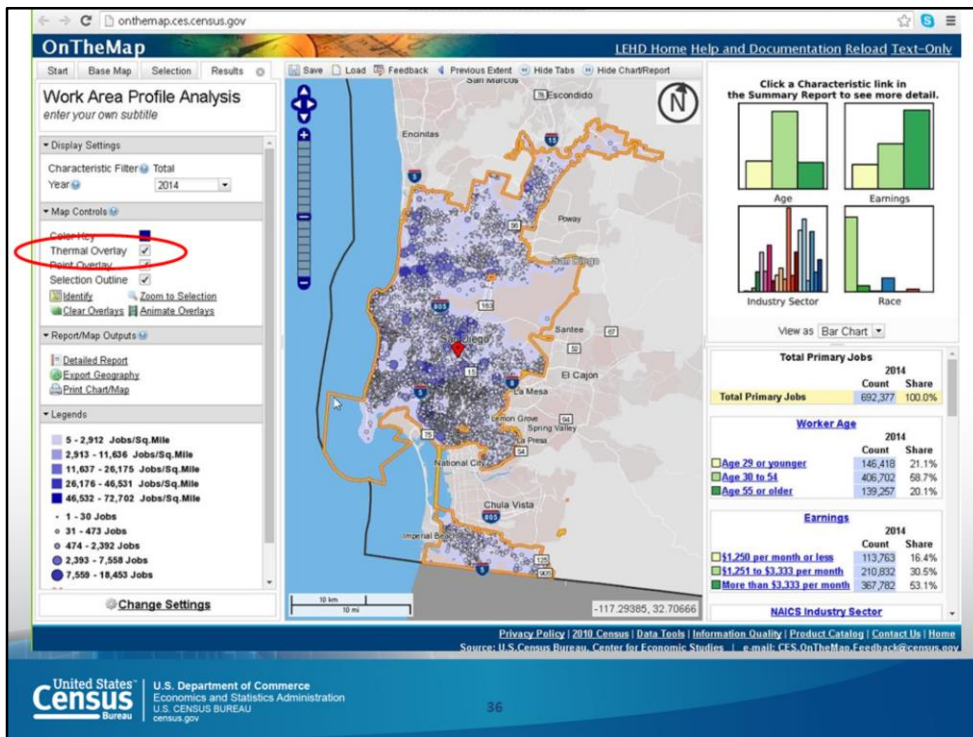


Now four panes pop up. You can look at Home or Work, conduct four different kinds of analysis, and choose the year of interest. The latest data available is 2014. The final area allows you to specify the type of jobs to be included.



By hovering over the question mark with the mouse, descriptions are provided for each topic. For example, by hovering over the question mark by Job Type, we see that All Jobs are all public and private sector jobs, Primary Jobs are public and private sector jobs with one job per worker. Specifically, it is the highest paying job for an individual worker. So for those people who have multiple jobs, they use the one with the highest pay for this analysis.

When you are happy with your specifications, click Go.



Once you have specified the data to show, you can modify the display by zooming in, turning on and off the map controls (for example, deselecting the Thermal Overlay).

This slide shows the concentration of jobs. There are caveats to keep in mind. These locations are where payroll is processed, even if the individuals work at a different place.

The screenshot shows the 'OnTheMap' interface with a 'Detailed Report View' overlay. A red circle highlights the 'Detailed Report' link in the legend. The report displays the following data for 2014:

Category	Count	Share
Total Primary Jobs	482,397	100.0%
Jobs by Worker Age		
Age 25 or younger	146,218	30.1%
Age 35 to 54	436,702	90.7%
Age 55 or older	139,267	28.9%
Jobs by Earnings		
\$1,250 per month or less	113,762	23.6%
\$1,251 to \$3,333 per month	203,022	42.1%
More than \$3,333 per month	365,712	75.8%
Jobs by NAICS Industry Sector		
NAICS Industry Sector	Count	Share
	7,832	16.2%
	3,832	7.9%
	7,702	15.9%

A detailed report is available showing more information than displayed on the map. By the option circled in red, this report comes up.

OnTheMap

LEHD Home Help and Documentation Reload Text-Only

Work Area Profile Analysis
enter your own subtitle

Display Settings

NAICS Industry Sector: Agricultural, Forestry, and Hunting

Year: 2014

Map Controls

Color Key

Thermal Overlay

Point Overlay

Selection Outline

Identify

Zoom to Selection

Clear Overlays

Animate Overlays

Report/Map Outputs

Detailed Report

Export Geography

Print Chart/Map

Legends

1 - 2 Jobs

3 - 12 Jobs

13 - 40 Jobs

41 - 95 Jobs

96 - 185 Jobs

Analysis Selection

Change Settings

Analysis Settings

Inflow/Outflow Analysis in 2014 by Primary Jobs

Home/Work Area

Determines whether the selection area is analyzed on where workers live ("Home") or where workers are employed ("Work").

Home

Work

Analysis Type

Determines the type of results that will be generated for the selected area.

Area Profile

Area Comparison

Distance-Direction

Destination

Areas to Compare:

Places (Cities, CDPs, etc.)

Labor Market Segment:

All Workers

Year

Determines the year(s) of data that will be processed in the analysis.

2014

2013

2012

2011

2010

2009

2008

2007

2006

2005

2004

2003

2002

Job Type

Determines the scope of jobs that will be processed in the analysis.

All Jobs

Primary Jobs

Private Primary Jobs

Inflow/Outflow

Note: Home/Work choice does not affect results.

Cancel

Go!

Job Counts by NAICS Industry Sector in 2014

Characteristic	Count	Percentage
Finance	19,474	2.8%
Rental and Leasing	27,839	4.0%
Real Estate and Rental and Leasing	14,776	2.1%
Professional, Scientific, and Technical Services	97,885	14.1%
Management of Companies and Enterprises	18,984	2.7%
Support, Maintenance, and Repair	46,453	6.7%
Administrative and Support and Waste Management and Remediation Services	71,933	10.4%
Arts, Entertainment, and Recreation	64,935	12.3%
Accommodation and Food Services	12,958	1.9%
Other Services (excluding Public Administration)	70,408	10.2%
Public Administration	23,029	3.3%
Health Care and Social Assistance	37,504	5.4%

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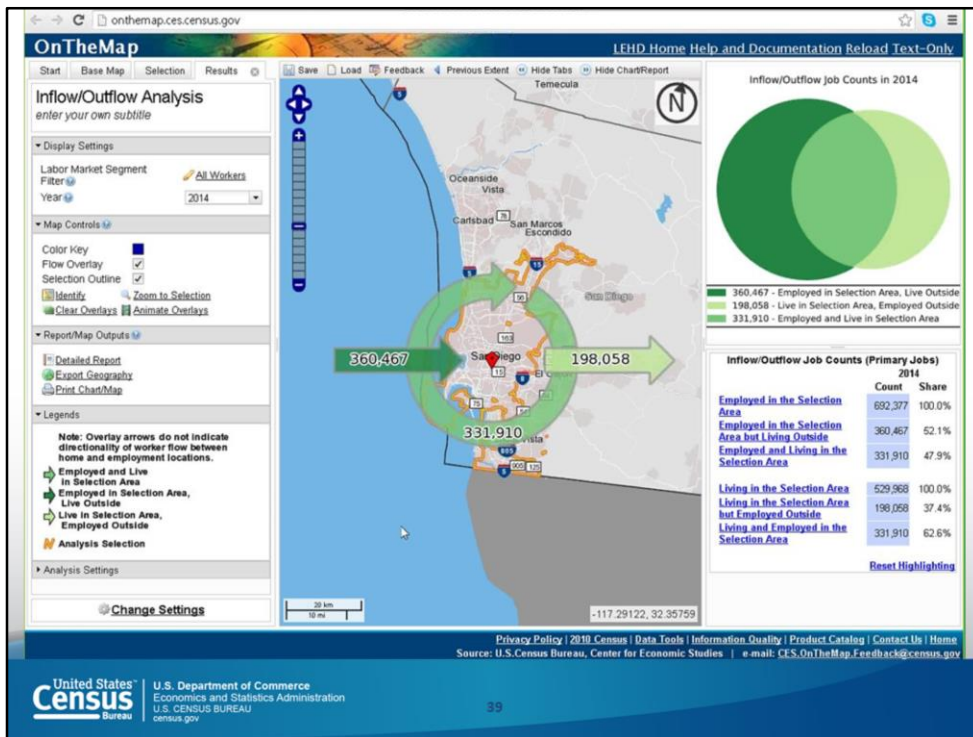
Source: U.S. Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov

United States Census Bureau

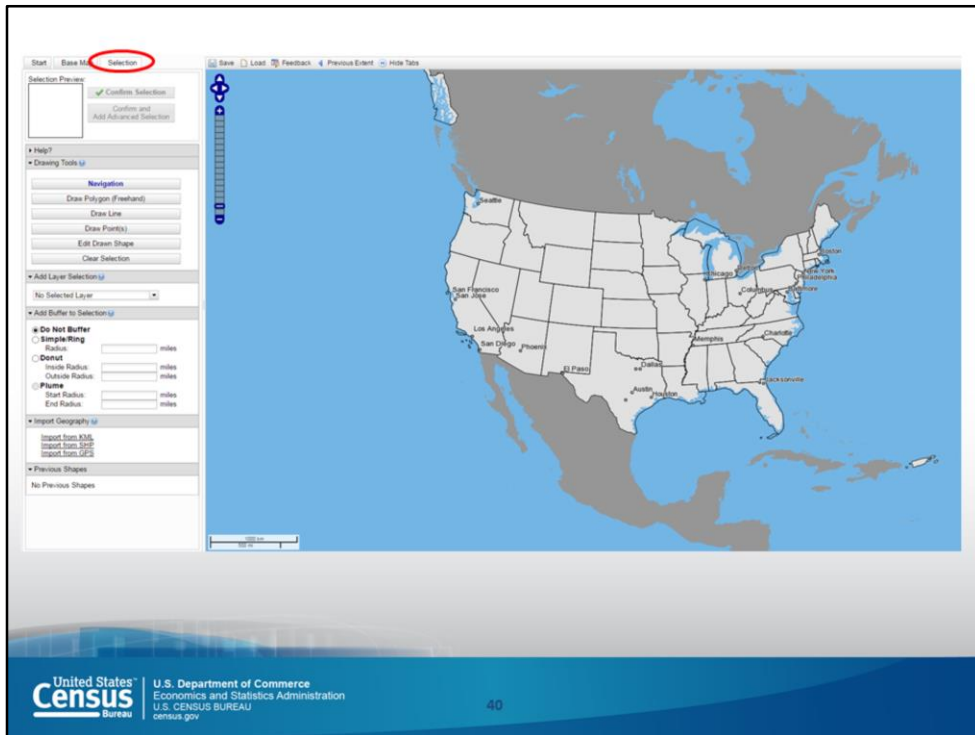
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

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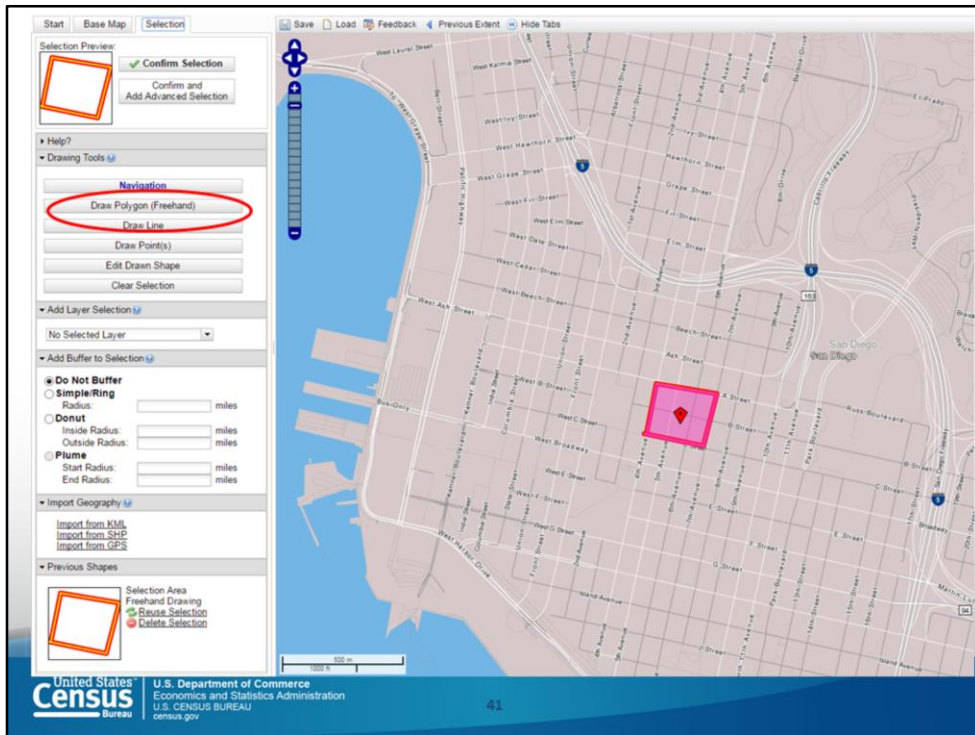
To modify the analysis, click on "Change Settings." For example, you might want to look at Inflow and Outflow.



This is the Inflow and Outflow diagram. It shows that there are 331,910 people that live and work in the City of San Diego, 360,467 come from somewhere else to work here, and 198,058 live here but work somewhere else.



Many of you probably want to look at a smaller area. Let's start fresh to show the steps. Exit out of On The Map and open it again and choose Selection. Zoom in as close as needed and to specify the exact area. Double clicking on the area is one way to slowly zoom into the map.



Click on Draw Polygon (Freehand). You'll set each point of the polygon yourself – you have to click to set it and move on to the next one.

In the example on this slide, we are looking at a few blocks in downtown.

The screenshot displays the OnTheMap web application interface. The main map shows a pink selection area in San Diego, CA. A tooltip for this area provides the following information:

- San Diego city, CA from Places (Cibes, CDPs, etc.)
- Selection Area: 372,394 Sq. Mi
- Census Blocks: 15,071

Two buttons are highlighted in red in the interface:

- Confirm Selection** (in the Selection Preview panel)
- Perform Analysis on Selection Area** (in the tooltip)

The right-hand side of the interface displays summary reports for the selected area:

Total Primary Jobs (2004)

Total Primary Jobs	Count	Share
	631,447	100.0%

Worker Age (2004)

Worker Age	Count	Share
Age 29 or younger	170,119	26.9%
Age 30 to 54	378,622	60.0%
Age 55 or older	82,706	13.1%

Earnings (2004)

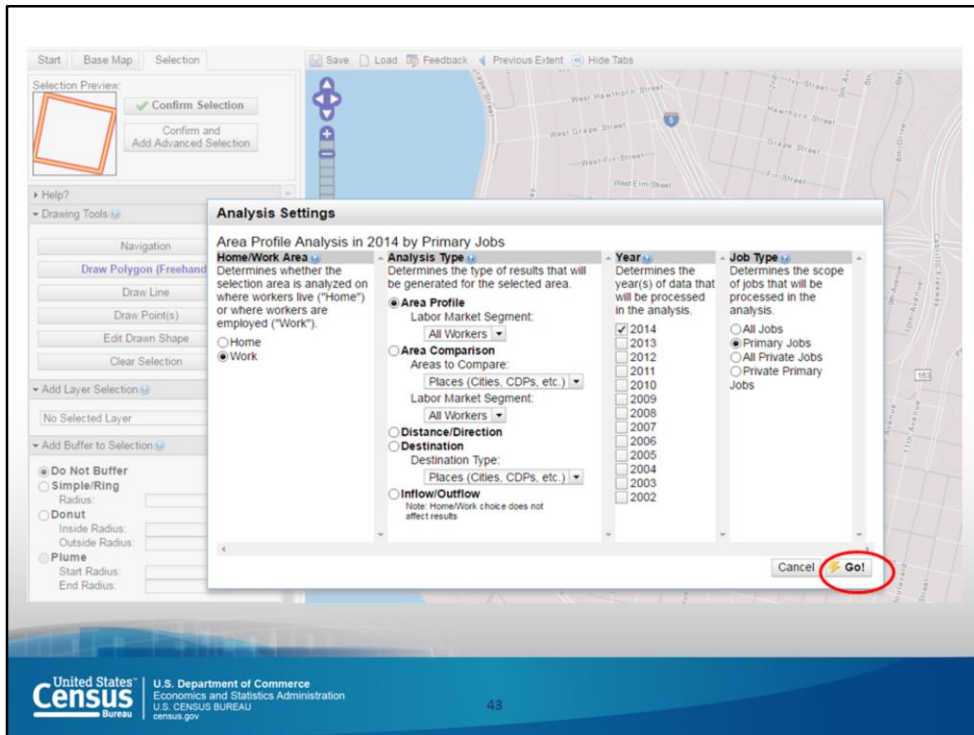
Earnings	Count	Share
\$1,250 per month or less	134,099	21.2%
\$1,251 to \$3,333 per month	295,576	37.3%
More than \$3,333 per month	261,773	41.5%

NAICS Industry Sector

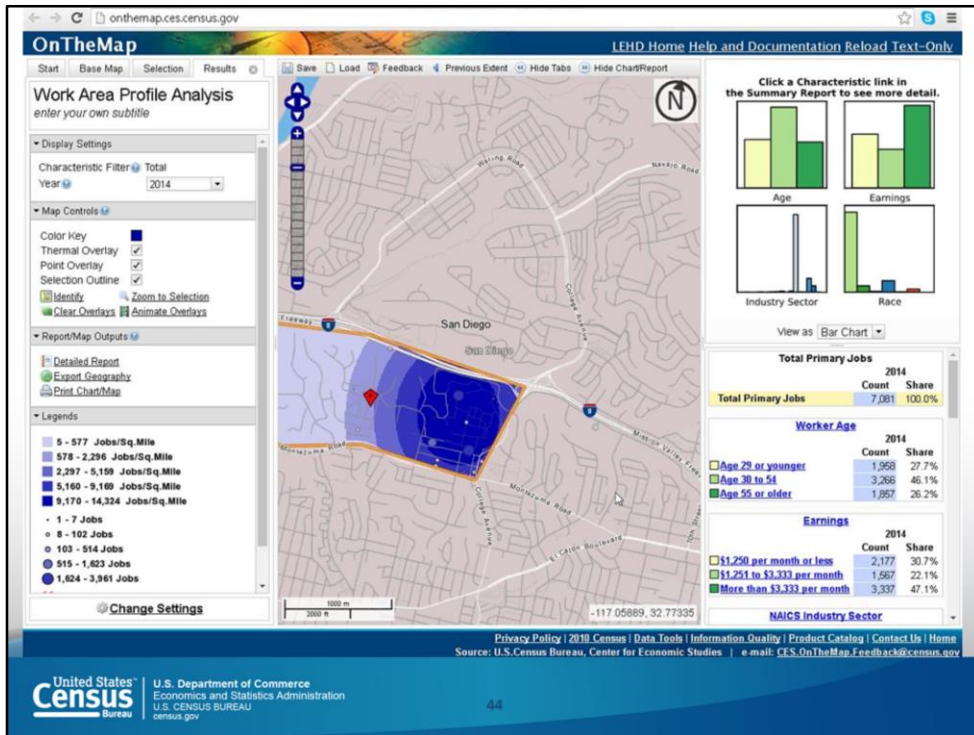
At the bottom of the interface, there is a footer with the following text:

United States Census Bureau | U.S. Department of Commerce Economics and Statistics Administration | U.S. CENSUS BUREAU census.gov | Privacy Policy | 2010 Census | Data Tools | Information Quality | Product Catalog | Contact Us | Home | Source: U.S. Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov

When you are finished, click on Confirm Selection and Perform Analysis on Selection Area.



You can just leave everything in the settings box on default and hit Go.



And from here you can look at the various data offered. And keep in mind that 2014 is the most recent data we have right now.

The screenshot shows the 'OnTheMap' application interface. The main window displays a map of an area with various data overlays. A dialog box titled 'Analysis Settings' is open in the center, allowing users to configure the analysis parameters. The 'Year' list in the dialog is circled in red, and a red arrow points from the 'Change Settings' button in the bottom left corner of the application to the dialog box.

Analysis Settings

Area Profile Analysis in 2014 by Primary Jobs

Home/Work Area
Determines whether the selection area is analyzed on where workers live ("Home") or where workers are employed ("Work").
 Home
 Work

Analysis Type
Determines the type of results that will be generated for the selected area.

Area Profile

- Labor Market Segment: All Workers
- Area Comparison: Places (Cities, CDPs, etc.)
- Labor Market Segment: All Workers
- Distance/Direction: Destination Type: Places (Cities, CDPs, etc.)
- Inflow/Outflow: Note: Home/Work choice does not affect results

Year
Determines the year(s) of data that will be processed in the analysis.

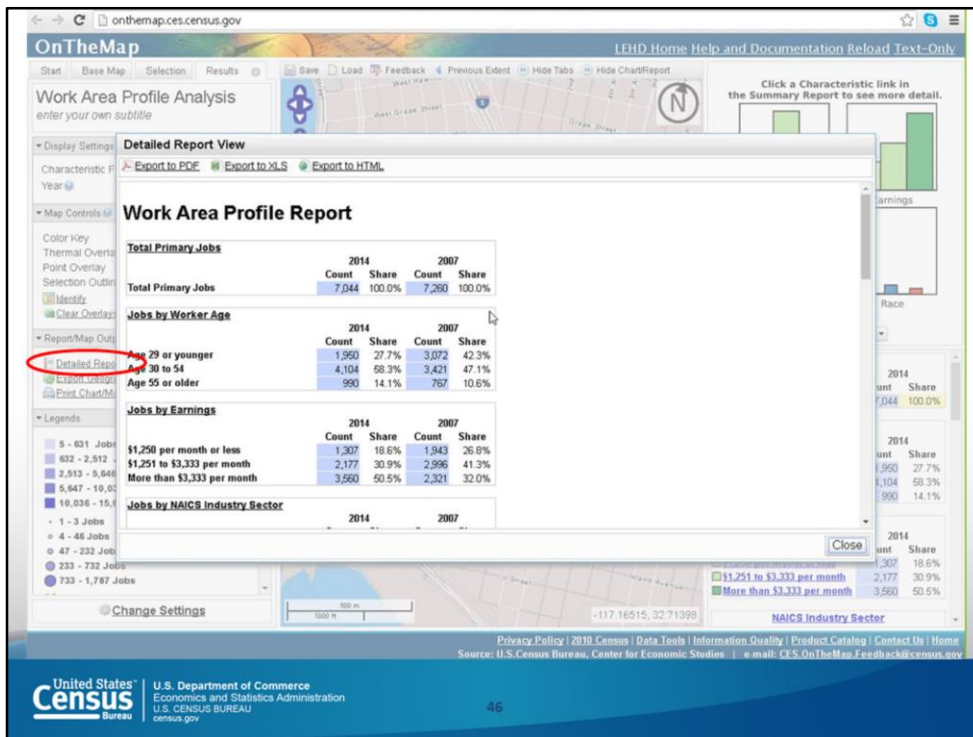
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002

Job Type
Determines the scope of jobs that will be processed in the analysis.

- All Jobs
- Primary Jobs
- All Private Jobs
- Private Primary Jobs

Change Settings

If you want to look at different years, choose Change Settings in the bottom left and specify the years that you want to compare.



If you pick more than one at a time you'll be able to see the comparisons under the detailed report.

Work Area Profile Report

Total Primary Jobs

	2014		2007	
	Count	Share	Count	Share
Total Primary Jobs	7,044	100.0%	7,260	100.0%

Jobs by Worker Age

	2014		2007	
	Count	Share	Count	Share
Age 29 or younger	1,960	27.7%	3,072	42.3%
Age 30 to 54	4,104	58.3%	3,421	47.1%
Age 55 or older	990	14.1%	767	10.6%

Jobs by Earnings

	2014		2007	
	Count	Share	Count	Share
\$1,250 per month or less	1,307	18.6%	1,943	26.8%
\$1,251 to \$3,333 per month	2,177	30.9%	2,996	41.3%
More than \$3,333 per month	3,560	50.5%	2,321	32.0%

Jobs by NAICS Industry Sector

	2014		2007	
	Count	Share	Count	Share
\$1,251 to \$3,333 per month	2,177	30.9%	2,996	41.3%
More than \$3,333 per month	3,560	50.5%	2,321	32.0%

If you want to download or save the data, this detailed report has a few options at the top. You can export to a PDF file, export to an Excel file, or export to an HTML file. Simple click on the one that you want and it'll download.

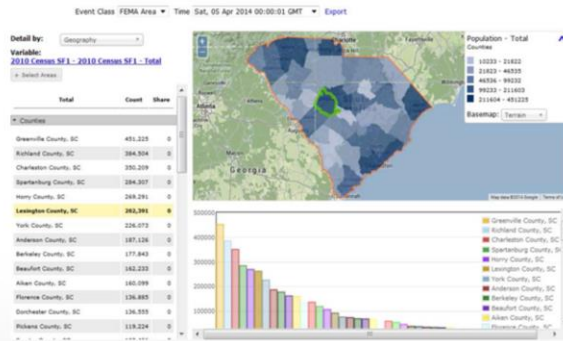
Overview

- What Is LED?
- Applications and Data Analysis Tools
 - Quarterly Workforce Indicators (QWI)
 - On The Map
 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

In addition to the general On The Map tool, we have a version especially designed for emergency management.


On The Map for Emergency Management

- Public data tool
- Intuitive web-based interface
- **Popular uses:**
 - Retrieve reports on detailed labor force
 - Population
 - Housing characteristics for potential and affected areas of natural disasters



On The Map for Emergency Management is a public data tool that provides an intuitive web-based interface for viewing the potential effects of disasters on the U.S. workforce and population. Users can easily retrieve reports containing detailed workforce, population, and housing characteristics for hurricanes, floods, wildfires, winter storms, and federal disaster declaration areas.

On The Map for Emergency Management

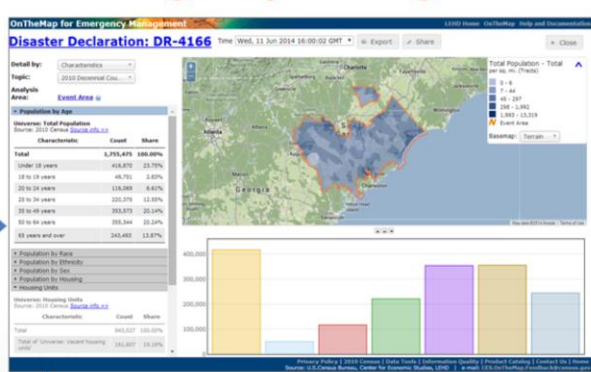


Hurricanes, Floods, Winter Storms

Disaster Areas

Wildfires

Demographic & Economic Data



Disaster Declaration: DR-4166

Time: 10:00, 11 Jun 2014 16:00:02 GMT

Detail By: Characteristics

Topic: 2010 Decennial Cens...

Analysis Area: Event Area


Characteristic	Count	Share
Total	4,205,475	100.00%
Under 18 years	416,475	9.90%
18 to 19 years	48,751	1.16%
20 to 24 years	1,162,899	27.65%
25 to 34 years	1,052,379	25.03%
35 to 44 years	583,373	13.87%
45 to 64 years	375,344	8.93%
65 years and over	245,402	5.84%

Population by Race, Population by Ethnicity, Population by Sex, Population by Housing Units

Source: U.S. Census Bureau, Center for Economic Studies, IPEDS

New Public Data Service for Emergency Preparedness & Response

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



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OnTheMap for Emergency Management automatically incorporates real time data updates from the National Weather Service's (NWS) National Hurricane Center, Department of Interior (DOI), Department of Agriculture (DOA), and the Federal Emergency Management Agency (FEMA). The following list summarizes the types of analysis available through this tool.

Assessing Workforce Impacts

- Identify the number and location of affected workers
- Examine workforce demographics
- Identify affected Industries
- Visualize where affected workers live

Assessing Population & Housing Impacts

- Identify the number and location of affected residents
- Examine population demographics of affected areas
- Identify vulnerable population groups
- Examine housing characteristics of affected areas

Emergency Preparedness & Response Planning

- Where should response efforts concentrate?
- Are there special or vulnerable population segments?
- Uncover surrounding communities with secondary affects to workforce

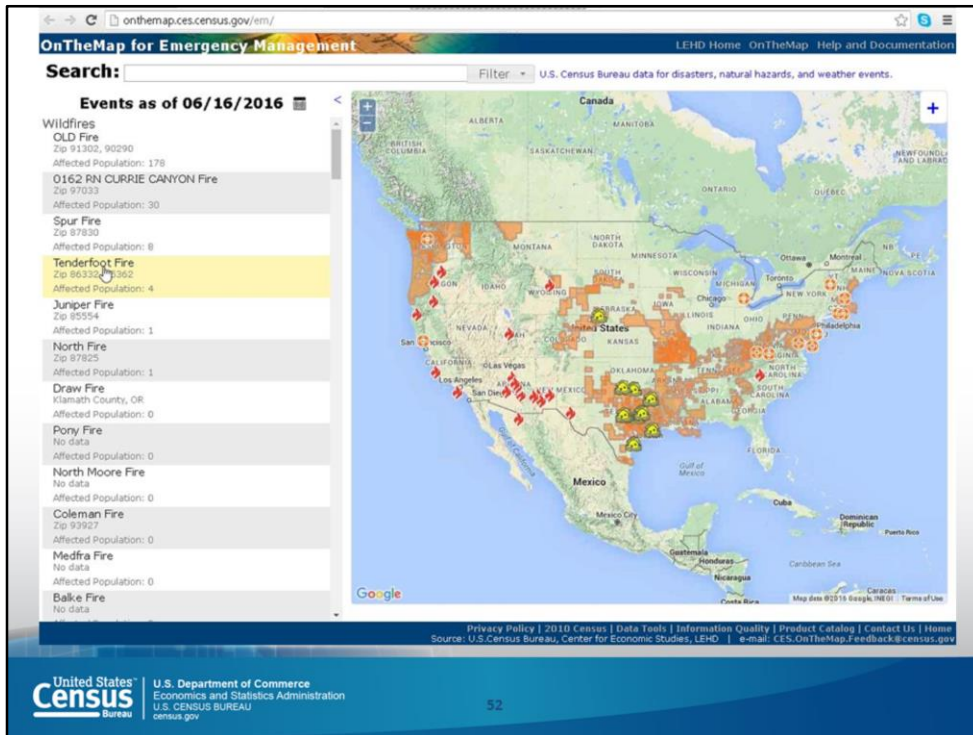
The screenshot shows the LEHD website with the following content:

- Header:** United States Census Bureau logo, navigation menu (Topics, Geography, Library, Data, About the Bureau, Newsroom), and search bar.
- Page Title:** Longitudinal Employer-Household Dynamics
- Navigation:** Main, Applications, Data, Learn More, Research, State Partners, Partner with Us, LED in Action.
- Applications:**
 - OWI Explorer
 - OnTheMap
 - **OnTheMap for Emergency Management** (highlighted with a red circle)
 - LED Extraction Tool
- Useful Links:**
 - Center for Economic Studies
 - OWI Data
 - LODES Data
 - LED Workshop
- Contact Information:**
 - Email: CES.Local.Employment.Dynamics@census.gov
 - Call us at (202) 763-8300
 - Further contact information
 - Join an LEHD mailing list
- What's New:**
 - 06/15/16 OnTheMap for Emergency Management 4.3 Release (New ACS and LODES data)
 - 06/08/16 LEHD Public Use Data Schema Updates
- About Us:**

The Longitudinal Employer-Household Dynamics (LEHD) program is part of the Center for Economic Studies at the U.S. Census Bureau. The LEHD program produces new, cost effective, public-use information combining federal, state and Census Bureau data on employers and employees under the Local Employment Dynamics (LED) Partnership. State and local authorities increasingly need detailed local information about their economies to make informed decisions. The LED Partnership works to fill critical data gaps and provide indicators needed by state and local authorities.
- Figure 3-21:** Trends in Hires and Separations, 1995-2012. A line graph showing the Percent of Total Employment for Hires and Separations from 1995 to 2012. The Y-axis ranges from 0 to 35. The X-axis shows years from 1995 to 2011. Data points are labeled: 1995 Hires (23.0%), 2001 Hires (23.0%), 2001 Separations (19.5%), 2005 Hires (20.5%), 2005 Separations (19.5%), 2012 Q1 Hires (20.5%), and 2012 Q1 Separations (19.5%).

To access On The Map for Emergency Management, go back to the landing page (lehd.ces.census.gov) and click on OnTheMap for Emergency Management, using Chrome or Firefox. The specific address for this tool is: <http://onthemap.ces.census.gov/em.html>

The tool is the result of a collaboration between federal and private organizations. Things like NOAA and the National Weather Service, and the National Hurricane Center, Department of Interior and Department of Agriculture, and FEMA.



The link immediately takes you to this map of the U.S. displaying all the federal disasters, which is updated every 4 to 8 hours. In addition, historical data is included that you can get to through the search bar.

Data from the American Community Survey provides details regarding age and race in the areas that are affected. This information is used to look at places that are more susceptible to damage, like mobile home parks as opposed to brick and mortar houses.

The search bar can also be used to search on specific locations (e.g., to look at the path of a hurricane and who might be affected by it, like children or older people). You can also use this tool to see how many people were impacted by a disaster.

Overview

- What Is LED?
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 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

Moving on to the Extraction Tool.

LED Extraction Tool

- The LED Extraction Tool enables streamlined access to raw public-use data produced by the Local Employment Dynamics Partnership. This tool provides comma separated-value files (CSV) for the exact variable and characteristics requested by the users.

You'll want to use this tool to download data for analysis in other applications.

LED Extraction Tool Highlights

- **Comprehensive QWI Data Coverage** – Access 32 indicators, all available years/quarters, all firm/worker characteristics, the Beta release of National QWI data, and all 50 states (plus the District of Columbia).
- **Intuitive Interface** – Streamlined interface walks users through the process of selecting the data they need and ignoring the data they don't. Complex and confusing choices are made invisible to the user by not allowing false combinations and graying-out unavailable options.
- **Quick Results** – Data queries are processed quickly through a sequential job queue, then CSV and/or ZIP files (complete with metadata) are available for download. All completed data queries from a user's current session are saved for easy access in a query results list.

The tool provides access to the raw data for all 32 quarterly workforce indicators, across years. And it is fast and easy to use. Let's check it out now.

The screenshot shows the LEHD website landing page. At the top, there is a navigation bar with the United States Census Bureau logo and a search box. Below this is a secondary navigation bar with links for Topics, Geography, Library, Data, About the Bureau, and Newsroom. The main heading is "Longitudinal Employer-Household Dynamics". A horizontal menu below the heading includes links for Main, Applications, Data, Learn More, Research, State Partners, Partner with Us, and LED in Action.

On the left side, there are three sections: "Applications" with links for OWI Explorer, OnTheMap, OnTheMap for Emergency Management, and LED Extraction Tool (which is circled in red); "Useful Links" with links for Center for Economic Studies, OWI Data, LODES Data, and LED Workshop; and "Contact Information" with email and phone details.

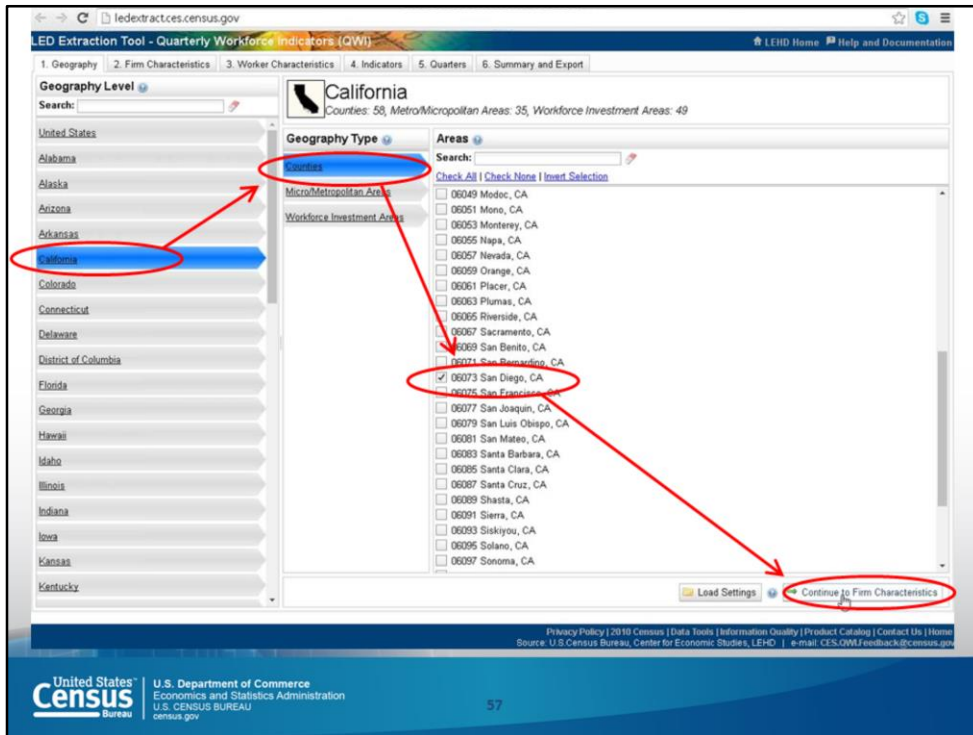
The main content area features a blue box with the text: "The newly released Job-to-Job Flows (J2J) data and several LEHD research papers are highlighted in the 2015 Economic Report of the President demonstrating the great value of the LEHD state partnership." Below this text are links for "View full summary" and "View full Economic Report (4.9 MB)".

To the right of the blue box is a line graph titled "Figure 3-21 Trends in Hires and Separations, 1998-2012". The graph plots the "Percent of Total Employment" on the y-axis (0 to 35) against years on the x-axis (1993 to 2011). It shows four data series: LEHD Hires (blue line), LEHD Separations (orange line), CPS Hires (green line), and CPS Separations (red line). The LEHD Hires line shows a steady increase from approximately 20% in 1998 to over 30% by 2012. The LEHD Separations line shows a steady increase from approximately 15% in 1998 to over 20% by 2012. The CPS Hires and Separations lines are lower and more stable, with CPS Hires around 10-12% and CPS Separations around 8-10%.

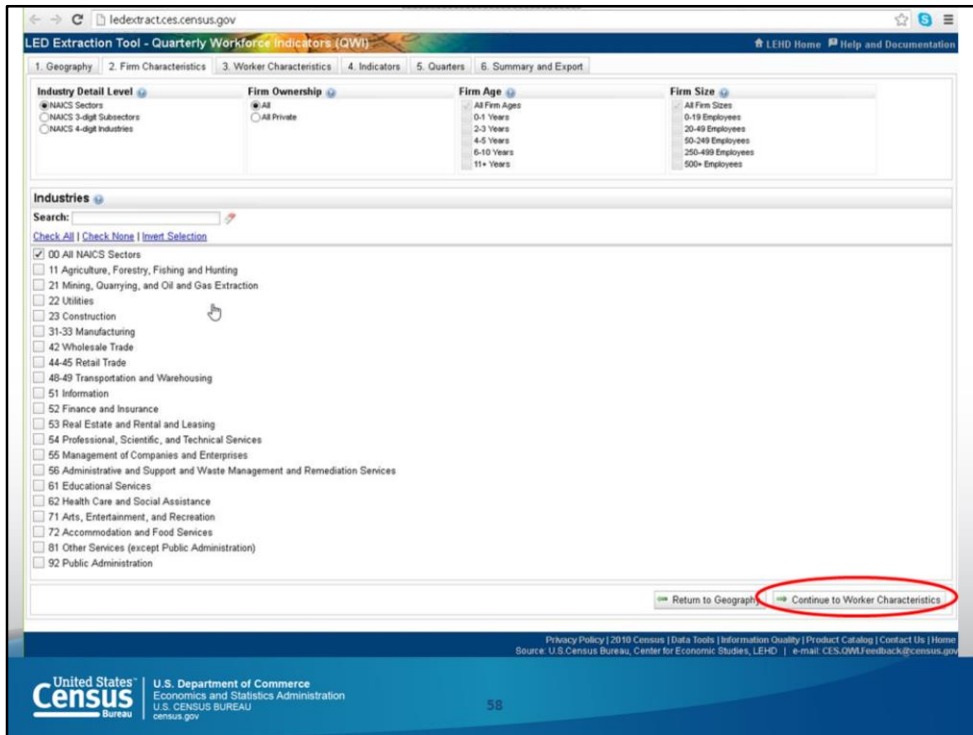
Below the graph is a "What's New?" section with two bullet points: "06/15/16 OnTheMap for Emergency Management 4.3 Release (New ACS and LODES data)" and "06/08/16 LEHD Public Use Data Schema Updates". There is also a link for "View all announcements".

At the bottom of the page, there is an "About Us" section with a paragraph describing the LEHD program as part of the Center for Economic Studies at the U.S. Census Bureau, and a footer with the United States Census Bureau logo and website address.

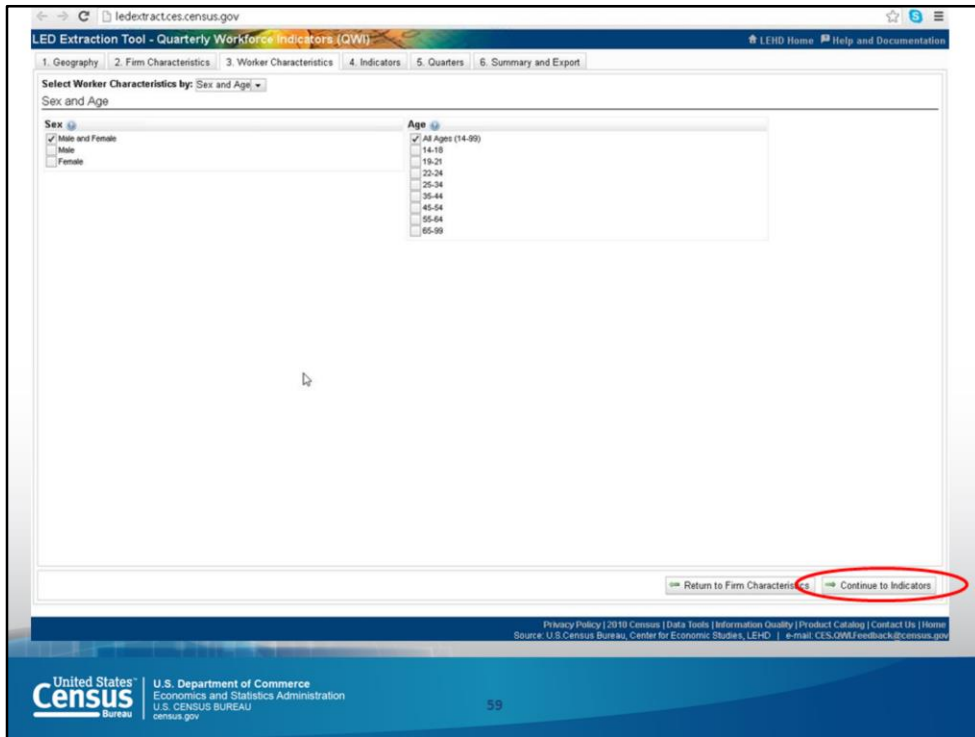
Using Chrome or Firefox, go to the landing page (lehd.ces.census.gov) and choose LED Extraction Tool or go directly to the site at this address: ledextract.ces.census.gov



The first step is to pick a state. From there you can refine your query to the relevant county, micro/metropolitan area, or workforce investment area. Let's look at San Diego then Continue to Firm Characteristics.



Now, we can select a specific industries (by NAICS code), firm ownership, age and size. Let's keep all the default settings and Continue to Worker Characteristics.



Next, we are given the opportunity to restrict the analysis by gender and age. Again, let's accept the default settings and press Continue to the Indicators.

ledextract.ces.census.gov

LED Extraction Tool - Quarterly Workforce Indicators (QWI) LEHD Home Help and Documentation

1. Geography 2. Firm Characteristics 3. Worker Characteristics 4. Indicators 5. Quarters 6. Summary and Export

Select one or more Quarterly Workforce Indicators by clicking the checkboxes below. The set of currently selected indicators can be seen in the column to the right. To open or collapse one of the four indicator categories, simply click the text of the category heading. Standard and Technical Descriptions for each indicator can be displayed by clicking the checkboxes at the bottom of the page. For more information about the indicators, please see the [QWI 101](#) [PDF, 203K] document.

Indicator	Description	Selected Indicators
<input checked="" type="checkbox"/> Emp Beginning of Quarter Employment: Counts	Estimate of the total number of jobs on the first day of the reference quarter. Beginning-of-quarter employment counts are similar to point-in-time employment measures, such as the OCEW (see www.bls.gov/bcew).	Emp
<input type="checkbox"/> EmpEnd End of Quarter Employment: Counts	Estimate of the number of jobs on the last day of the quarter.	
<input type="checkbox"/> EmpS Full-Quarter Employment (Stable): Counts	Estimate of stable jobs, i.e., the number of jobs that are held on both the first and last day of the quarter with the same employer. This is often, but not necessarily, the same as being employed for a full quarter (e.g., an on-call substitute teacher may have earnings in each of three consecutive quarters, but intermittently).	
<input type="checkbox"/> EmpSpv Full-Quarter Employment in the Previous Quarter: Counts	Estimate of stable jobs in the quarter before the reference quarter. This measure is provided for certain special-purpose analyses.	
<input type="checkbox"/> EmpTotal Employment - Reference Quarter: Counts	This is a count of people employed in a firm at any time during the quarter. It is not a count of jobs. This measure may also be referred to as "flow" employment.	
<p>Employment Change, Individual</p> <p>Employment Change, Firm</p> <p>Earnings</p>		

Show Descriptions Show Technical Descriptions

[Return to Worker Characteristics](#) [Continue to Quarters](#)

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Source: U.S. Census Bureau, Center for Economic Studies, LEHD | e-mail: CES.QWI.Feedback@census.gov

United States Census Bureau U.S. Department of Commerce Economics and Statistics Administration U.S. CENSUS BUREAU census.gov 60

This next page provides the definition of the indicators before providing the data. To move on, click on Continue to Quarters.

LED Extraction Tool - Quarterly Workforce Indicators (QWI)

1. Geography | 2. Firm Characteristics | 3. Worker Characteristics | 4. Indicators | 5. Quarters | 6. Summary and Export

Select the desired quarters of data by clicking the checkboxes below. Click the green check icons to select an entire year or entire set of quarters. The availability of historical quarters is determined by the state(s) selected in the **Geography** tab (click [here for the data loading status](#) for each state). Not all measures will be available in all quarters. Data by Firm Age or Firm Size are not available in the most recent quarter.

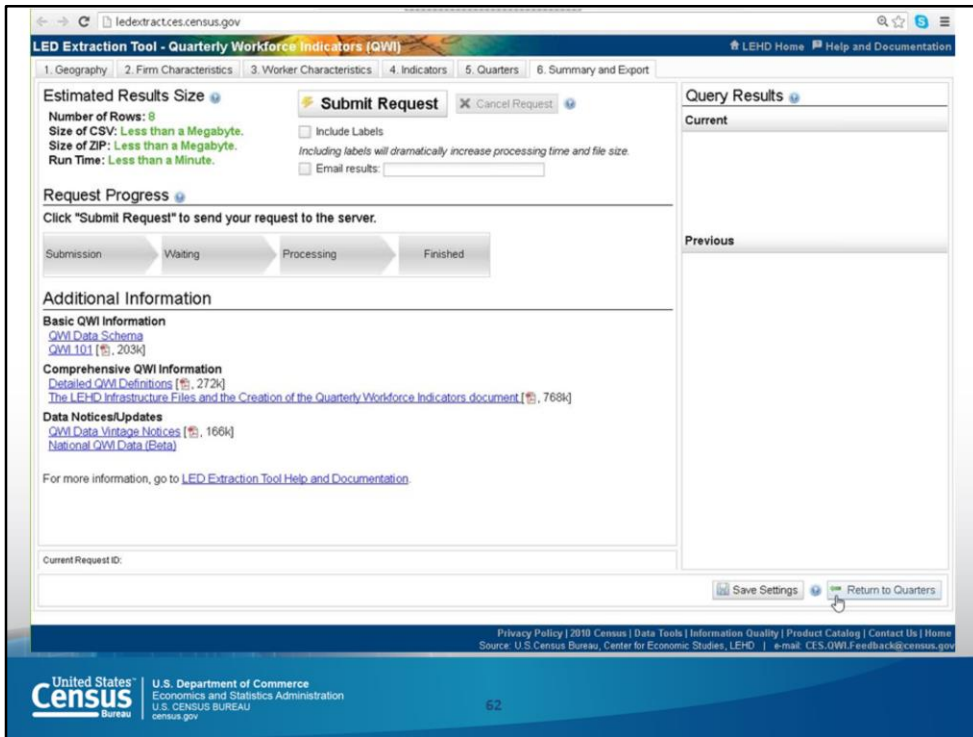
	Q1	Q2	Q3	Q4
2015	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2013	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2012	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2011	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2010	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2009	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2008	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2007	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2006	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2005	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2004	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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2001	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1999	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1998	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1997	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1995	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1994	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1993	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1992	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1991	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Return to Indicators | **Continue to Summary and Export**

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The default is the most recent data, which (as of today) is last quarter of 2014 and the last three quarters of 2015. For now, click on Continue to Summary and Export.



At this point, enter your email address and the data should arrive in your inbox within a few seconds.

Overview

- What Is LED?
- Applications and Data Analysis Tools
 - Quarterly Workforce Indicators (QWI)
 - On The Map
 - On The Map for Emergency Management
 - LED Extraction Tool
- Real World Examples

Before ending this workshop, I'll share some real world examples of the data from these tools are used.

Real World Examples

- [Learn More - Longitudinal Employer-Household Dynamics](#)
 - Annual LED Conference
 - Application and Documentation
 - Learning Guides
 - Technical User Guides
 - Webinars
- [Council for Community and Economic Research](#)
 - **If You Build It Will They Come?** Examining Urban Economic Growth and Development from Sports Stadiums and Arenas
 - **The Spatial Structure of American Employment**
 - **Job-to-Job (J2J):** An Introduction to Using the Data
 - **Using LODES Data** for Outcome Tracking and Community Engagement in the Promise Zones Initiative
 - **Using LEHD Data** to Analyze Economic Development Districts

The Census Bureau convenes an annual workshop with state partners, federal agencies, and public and private organizations with shared interest every calendar year. The purpose of the annual workshop is to review progress, showcase use of data and analyses, solicit input and ideas, explore new concepts and uses, and discuss research and development directions for the coming years.

The Census Bureau also conducts training for workforce investment boards (WIBs) to help them use the Local Employment Dynamics information they need for decision-making.

The Council for Community and Economic Research (C2ER) is a membership organization that promotes excellence in community and economic research by working to improve data availability, enhance data quality, and foster learning about regional economic analytic methods. C2ER accomplishes this mission through the following.

- Conducting training, advocacy, and research
- Delivering innovative products and services for researchers
- Developing professional networks

This slide lists the ways they use the data discussed today.



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If you have further questions, feel free to contact me using the information on this slide.