OnTheMap: Data Overview (LODES Version 6)

Longitudinal Employer-Household Dynamics

Paired with the release of OnTheMap Version 6 is Version 6 of the LEHD Origin-Destination Employment Statistics (LODES)[1]. LODES are the job data that are delivered in the OnTheMap application. This document describes the contents of the LODES dataset in the context of the OnTheMap application.

Overview

As with previous versions of data released in OnTheMap, LODES Version 6 is a partially synthetic dataset that describes geographic patterns of jobs by their employment locations and residential locations as well as the connections between the two locations. These data and marginal summaries are tabulated by several categorical variables. More detailed information on the variables and scope of the data follows.

Job Definition

In the context of LODES and OnTheMap, a job is counted if a worker is employed with positive earnings during the reference quarter as well as in the quarter prior to the reference quarter. This is called a "beginning of quarter" job because the assumption is that the worker was employed on the first day of the reference quarter.

Years

LODES Version 6 includes data for 2002-2010, for which Quarter 2 (April – June) is the reference period in each year. Not all states have data available for each year and not every variable is available in each year.

States

LODES Version 6 is includes 50 states and territories, including new releases New Hampshire and the District of Columbia. The following lists state/year combinations for which data are available:

- Arizona – Data available for 2004-2010 only.
- Arkansas – Data available for 2003-2010 only.
- District of Columbia – Data available for 2010 only.
- Mississippi – Data available for 2004-2010 only.
- New Hampshire – Data available for 2003-2010 only.
- Massachusetts, Puerto Rico, and U.S. Virgin islands – No data available.
- **All other states – Data available for 2002-2010.**

---

[1] Formerly, the LODES data was referred to as "OnTheMap data." "OnTheMap" now refers only to the internet application produced by Census Bureau.

Geographical Vintage

LODES Version 6 and OnTheMap use 2010 census blocks, defined for the 2010 Decennial Census, as their base geography. Data released in previous versions of LODES and OnTheMap used 2000 census blocks as the geographical base. For data previously released in 2000 census blocks, the LODES data has been "crosswalked" or "transformed" into the base of 2010 census blocks. Further information on how OnTheMap and LODES implement the 2010 census blocks can be found in [OnTheMap: Updating the Base Geography](#).

Data Structure

The data structure of LODES Version 6 remains similar to that of previous versions. The origin-destination (OD) matrix is made available by 10 different "labor market segments." The area characteristic (AC) data (summary margins by residence block and workplace block) contain additional variables including age, earnings, and industry plus the newer variables outlined below.

In OnTheMap, the OD data are used to produce the Destination, Distance/Direction, Inflow/Outflow, and Paired Area analyses. The AC data are used to produce the Area Profile and Area Comparison analyses.

Variables

The age, earnings, and industry variables will continue to be implemented as they have been in the last few releases of the LODES data. Additional variables were introduced beginning with Version 5 of LODES. All variables available as part of LODES Version 6 are described below. In addition, Table 1 lists all the possible categories for each variable.

Age, Earnings, and Industry

These are the original variables released in OnTheMap. Age and Earnings serve as both "labor market segments" and as "area characteristics". Industry is report in two separate aggregations: The Industry Sectors are the 20 top-level NAICS sectors and these are part of the area characteristics data. The Industry Groups are 3 aggregations of the Industry Sectors and are part of the labor market segments. More detailed information on the difference between Industry Sectors and Industry Groups is in Table 1.

Sex, Race, Ethnicity, and Education

The race, ethnicity, and education (REE) variables were released with LODES Version 5 and are available in Version 6. The Race and Ethnicity variables conform to OMB standards for publication of data on race and ethnicity. Further information about OMB standards can be found at http://www.whitehouse.gov/omb/fedreg_1997standards/. The REE variables are only available in the area characteristic data and not on the OD files. With the release of Version 6, the REE variables will be available for 2009 and 2010 in all states with data in those years. Also new in Version 6 is the addition of the Sex variable, which – as the REE variables – will be available for 2009 and 2010 data and only in the area characteristics data.

Ownership, Job Dominance, and Job Type

In addition to the variables that appear explicitly as labor market segments and area characteristics, two other variables are used to classify job counts: ownership and job dominance. Ownership refers to the ownership class of the firm to which the job belongs. LODES and OnTheMap use only two ownership classifications, private and public, the latter of which consists of local, state, and Federal government employers. However, instead of reporting both private and public independently, LODES and OnTheMap release a "Private" count and an "All" count which totals private and public. The Public count can be constructed by subtracting Private from All.

Job dominance is a feature of the LODES data made available because the LEHD data infrastructure tracks jobs as its primary unit instead of people. As such, the system naturally captures more than one job per person when available in the data. The dominant (or primary) job for an individual is defined as the job that earned the individual the most money. Constructed this way, the number of primary jobs should be equal to the number of workers. LODES and OnTheMap release "Primary" jobs and "All" jobs so that "Non-primary" jobs can be can be calculated through subtraction.

Job Type is an auxiliary variable constructed by crossing the Ownership categories with the Job Dominance categories. LODES and OnTheMap report the data according to job type rather than by ownership or job dominance individually. The four Job Type categories are listed below:

		Ownership	
		All Ownership	**Private Jobs**
Job Dominance	**All Dominance**	All Jobs	All Private Jobs
	Primary Jobs	Primary Jobs	Private Primary Jobs

Coverage

Until this year, the LEHD program and – as a result – LODES/OnTheMap have been limited in coverage to unemployment insurance-covered jobs in partner states. With the release of Version 6 LODES data, the program will begin reporting data for Federal workers. In Version 6, only the 2010 data series contains Federal workers[2]. It is expected that future versions of LODES will add more historical data.

Variable Details

The following table provides a list of all the variables by which the LODES data are categorized. Not all variables are released on the origin-destination matrix or for the inclusion in the OnTheMap application. Unless otherwise stated, a "total" category is always available, in some cases at the exclusion of one other category for a certain variable. In these cases, the additional variable can always be calculated by complementarity.

---

[2] Civilian only, but not including agencies that are redacted for security reasons. A full coverage description will be forthcoming.

Table 1: Variable Details

Variable (Category Count)	Categories
Age (3)	29 or younger
	30 to 54
	55 or older
Earnings (3)	$1250/month or less
	$1251/month to $3333/month
	Greater than $3333/month
Industry Group (3)	Goods Producing industry sectors
	Trade, Transportation, and Utilities industry sectors
	All Other Services industry sectors
Industry Sectors (20)	20 categories, available at http://www.census.gov/eos/www/naics/
Race (6)	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
Ethnicity (2)	Not Hispanic or Latino
	Hispanic or Latino
Educational Attainment (4)	Not available (29 or younger)[3]
	Less than high school
	High school or equivalent, no college
	Some college or Associate degree
	Bachelor's degree or advanced degree
Sex (2)	Male
	Female
Job Dominance (2)	Primary Job
	Non-primary Job[4]
Ownership (2)	Private
	Public[5]

Further information about the construction of these new variables will become available at http://lehd.ces.census.gov/.

Questions or comments should be sent to CES.OnTheMap.Feedback@census.gov.

---

[3] Because educational attainment is dynamic for younger populations, LODES and OnTheMap only provides data for the Educational Attainment characteristic for workers age 30 or older. For example, if a user selects Age 29 and Younger as the Labor Market Segment for an Area Profile analysis, Educational Attainment data will be unavailable for that analysis. All other characteristic groups in this example (Age, Earnings, NAICS Industry Sector, Race, Ethnicity, and Sex) would contain data.

[4] Non-primary jobs are not released but can be calculated by subtracting Primary jobs from the Total.

[5] Public jobs are not released but can be calculated by subtracting Private jobs from the Total.