**Documentation for the Urban Institute's Census Place–Level Summary Files
of the LEHD Origin-Destination Employment Statistics (LODES)**

LODES data provide a unique source of national fine-grain data over time by describing the number of jobs by place of work and place of residence. It includes tabulations for many characteristics of workers (race and ethnicity, education, income, and gender) and firms (industry, age, and size). The US Census Bureau has published LODES data for most states at the block level annually from 2002 to 2017 (see table below for exceptions).

Urban researchers have used LODES to analyze capital flows in Detroit (PDF) and create scores for Opportunity Zones (PDF). The National Neighborhood Indicators Partnership (NNIP) has also compiled many examples from their member organizations on the NNIP website, including an analysis of neighborhood change in Minneapolis and of opportunity in the Kansas City region (PDF).

To make these data accessible to more analysts, the Urban Institute has published files summarized at the census-place level for public use. This is a brief description of the source and data provided by Urban. For more information on the source data, see the full census documentation (PDF).

The LODES data are derived from the Longitudinal Employer-Household Dynamics (LEHD) microdata. LEHD data link employee and employer data by combining administrative state unemployment insurance wage records with the American Community Survey and other administrative data. The source data are aggregated to the block level and adjusted when necessary to protect confidentiality.

The unit of observation for the LEHD data is a job, as opposed to a person. As such, the system captures multiple records when a person has more than one job. The "primary" job for an individual is defined as the job that earned them the most money. The Census Bureau publishes files for all jobs and for primary jobs.

The Urban Institute has published a total of eight datasets derived from LODES, drawn from the following core datasets:

- Residence Area Characteristics (RAC): the number of jobs by census place where the employee lives
- Workplace Area Characteristics (WAC): the total number of jobs by the census place where the employee works

For these two categories, we have produced the following four files:

- All jobs: includes multiple jobs per worker, excluding federal employment, for 2002-2017
- Primary jobs: includes primary jobs (i.e., one job per worker), excluding federal employment, for 2002–17
- All federal jobs: includes all federal jobs in most agencies (PDF) for 2010–15
- Primary federal jobs: includes federal jobs in most agencies (PDF) that are classified as primary jobs for 2010–15

The Census Bureau publishes a third file not summarized by Urban at this time—the Origin-Destination (OD) file, which lists, at the census-block level, the number of jobs for which a person works in one census block and lives in another census block.

Notes on definitions and changes in variables

The LODES system primarily contains civilian jobs included in the Unemployment Insurance program. Thus, it does not include the military, self-employed workers, informally employed people, and several other specific classes of workers.

Datasets for 2009 to 2017 contain additional variables (race, ethnicity, education, and sex) on the RAC and WAC files that are not available in other years of data. And datasets for 2011 to 2015 contain additional variables (firm age and firm size) on the WAC file.

For 2010 to 2015, the US Census Bureau also received data on federal jobs from the Office of Personnel Management (OPM), which were unavailable for 2016 and 2017. Federal employee numbers might change between 2014 and 2015 in a given geography because OPM released guidance exempting additional federal job categories from being counted in LODES. The magnitude of the change led to a 14 percent decline in federal counted jobs in LODES from 2014 to 2015. For more detail, see the Census Bureau's LODES data note (PDF).

Notes on years and geography

The US Census Bureau released data for 2016 and 2017 in August 2019, and there is currently no public information about the next release.

Some states are missing data for some years, as listed in the table below.

State-Year Combinations without OD/WAC Data

Alaska	2017
Arizona	2002–03
Arkansas	2002

District of Columbia	2002–09
Massachusetts	2002–10
Mississippi	2002–03
New Hampshire	2002
South Dakota	2017
Puerto Rico	All years
US Virgin Islands	All years

The data are enumerated with 2010 census blocks. We merged the data files for all years with the most recent version of the census-provided geographic crosswalk by the 2010 Census tabulation block code (tabblk2010—the primary identifier) to obtain the most recent definitions of legal, statistical, or administrative areas. We then summarized by the census-place code provided.

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U.S. Census Bureau. LEHD Origin-Destination Employment Statistics Data (2002–2017) [computer file]. Washington, DC: US Census Bureau, Longitudinal-Employer Household Dynamics Program [distributor], accessed on August 28, 2019 at https://lehd.ces.census.gov/data/lodes/LODES7/LODESTechDoc7.4.pdf [version]