

LEHD Public Use Data Schema for J2J app V4.2a-draft

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([Printable version](#))

**Important**

This document is not an official Census Bureau publication. It is compiled from publicly accessible information by Lars Vilhuber ([Labor Dynamics Institute, Cornell University](#)). Feedback is welcome. Please write us at lars.vilhuber@cornell.edu.

1 Purpose

The public-use Job-to-Job Flows (J2J) data provided by the Longitudinal Employer-Household Dynamics Program are accessible through the J2Japp. This document provides information on the schema used to format files downloaded through that app.

2 Additional information

The complete LEHD schema is documented in [lehd_public_use_schema.pdf](#). LEHD-provided SHP files are separately described in [lehd_shapefiles.pdf](#). The naming conventions of the data files is documented in [lehd_csv_naming.pdf](#).

3 Extends

This is the first version for the J2J App.

4 Supersedes

No prior version.

5 Basic Schema

Each data file is structured as a CSV file. The first columns contain [\[identifiers\]](#), subsequent columns contain [\[indicators\]](#), followed by [status flags](#).

5.1 Generic structure

Column name
[Identifier1]
[Identifier2]
[Identifier3]
[...]
[Indicator 1]
[Indicator 2]
[Indicator 3]
[...]
[Status Flag 1]
[Status Flag 2]
[Status Flag 3]
[...]

Note: The J2J app provides a COMPLETE THIS. The complete LEHD schema is documented in [lehd_public_use_schema.pdf](#).

5.2 Identifiers

Records, unless otherwise noted, are parts of time-series data. Unique record identifiers are noted below, by file type. Identifiers without the year and quarter component can be considered a series identifier.

5.2.1 Mapping for Identifiers

([lehd_mapping_identifiers.csv](#))

Each of the released files has a set of variables uniquely identifying records (*Identifiers*). The table below relates the set of identifier specifications to the released files. The actual CSV files containing the identifiers for each set are listed after this table. Each identifier can take on a specified list of values, documented in the section on [Categorical Variables](#).

identifiers	QWI	NQWI	J2J	J2JR	J2JOD	LODES
lehd_identifiers_qwi	1	1				
lehd_identifiers_j2j			1	1		
lehd_identifiers_j2jod					1	

5.2.2 Identifiers for j2j

(lehd_identifiers_j2j.csv)

Variable	Type	label
periodicity	Char(1)	Periodicity of report
seasonadj	Char(1)	Seasonal Adjustment Indicator
geo_level	Char(1)	Group: Geographic level of aggregation
geography	Char(8)	Group: Geography code
ind_level	Char(1)	Group: Industry level of aggregation
industry	Char(5)	Group: Industry code
ownercode	Char(3)	Group: Ownership group code
sex	Char(1)	Group: Gender code
agegrp	Char(3)	Group: Age group code (WIA)
race	Char(2)	Group: race
ethnicity	Char(2)	Group: ethnicity
education	Char(2)	Group: education
firmage	Char(1)	Group: Firm Age group
firmsize	Char(1)	Group: Firm Size group
year	Num	Time: Year
quarter	Num	Time: Quarter
agg_level	Num	Aggregation Level Indicator

5.2.3 Identifiers for j2jod

([lehd_identifiers_j2jod.csv](#))

Variable	Type	label
periodicity	Char(1)	Periodicity of report
seasonadj	Char(1)	Seasonal Adjustment Indicator
geo_level	Char(1)	Group: Geographic level of aggregation of destination job
geography	Char(8)	Group: Geography code of destination job
ind_level	Char(1)	Group: Industry level of aggregation of destination job
industry	Char(5)	Group: Industry code of destination job
ownercode	Char(3)	Group: Ownership group code of destination job
sex	Char(1)	Group: Gender code
agegrp	Char(3)	Group: Age group code (WIA)
race	Char(2)	Group: race
ethnicity	Char(2)	Group: ethnicity
education	Char(2)	Group: education
firmage	Char(1)	Group: Firm Age group
firmsize	Char(1)	Group: Firm Size group
year	Num	Time: Year
quarter	Num	Time: Quarter
agg_level	Num	Aggregation Level Indicator
geo_level_orig	Char(1)	Group: Geographic level of aggregation of origin job
geography_orig	Char(8)	Group: Geography code of origin job
ind_level_orig	Char(1)	Group: Industry level of aggregation of origin job
industry_orig	Char(5)	Group: Industry code of origin job
ownercode_orig	Char(3)	Group: Ownership group code of origin job
firmage_orig	Char(1)	Group: Firm Age group of origin job
firmsize_orig	Char(1)	Group: Firm Size group of origin job

5.2.4 Identifiers for qwi

([lehd_identifiers_qwi.csv](#))

Variable	Type	label
periodicity	Char(1)	Periodicity of report
seasonadj	Char(1)	Seasonal Adjustment Indicator
geo_level	Char(1)	Group: Geographic level of aggregation
geography	Char(8)	Group: Geography code
ind_level	Char(1)	Group: Industry level of aggregation
industry	Char(5)	Group: Industry code
ownercode	Char(3)	Group: Ownership group code
sex	Char(1)	Group: Gender code
agegrp	Char(3)	Group: Age group code (WIA)
race	Char(2)	Group: race
ethnicity	Char(2)	Group: ethnicity
education	Char(2)	Group: education
firmage	Char(1)	Group: Firm Age group
firmsize	Char(1)	Group: Firm Size group
year	Num	Time: Year
quarter	Num	Time: Quarter

5.3 Indicators

The following tables and associated mapping files list the indicators available on each file. The '*Indicator Variable*' is the short name of the variable on the CSV files, suitable for machine processing in a wide variety of statistical applications. When given, the '*Alternate name*' may appear in related documentation and articles. The '*Status Flag*' is used to indicate publication or data quality status (see [Status Flags](#)). The '*Indicator Name*' is a more verbose description of the indicator. The '*Base*' indicates the denominator used to compute the statistic, and may be 1. '*Units*' identify the type of variable: counts, rates, monetary amounts.

([variables_j2japp.csv](#))

Indicator Variable	Alternate Name	Status Flag	Indicator Name	Units	Base
MHire	all_doma2	sMHire	Hires	Count	1
MSep	all_doms2	sMSep	Separations	Count	1
MJobStart	first_dome	sMJobStart	Main Job Starts	Count	1
MJobEnd	last_domb	sMJobEnd	Main Job Ends	Count	1
EEHire	ee_doma2	sEEHire	Job-to-Job Hires (Continuous Employment)	Count	1
EESep	ee_doms2	sEESep	Job-to-Job Separations (Continuous Employment)	Count	1
AQHire	aq_doma2	sAQHire	Job-to-Job Hires (Brief Nonemployment)	Count	1
AQSep	aq_doms2	sAQSep	Job-to-Job Separations (Brief Nonemployment)	Count	1
J2JHire	j2j_doma2	sJ2JHire	Job-to-Job Hires	Count	1
J2JSep	j2j_doms2	sJ2JSep	Job-to-Job Separations	Count	1
NEHire	ne_doma2	sNEHire	Hires from Nonemployment	Count	1
ENSep	en_doms2	sENSep	Separations to Nonemployment	Count	1
NEPersist	ne2_doma2	sNEPersist	Hires from Persistent Nonemployment	Count	1
ENPersist	en2_doms2	sENPersist	Separations to Persistent Nonemployment	Count	1
NEFullQ	ne2p_doma2	sNEFullQ	Hires from Full-Quarter Nonemployment	Count	1
ENFullQ	en2p_doms2	sENFullQ	Separations to Full-Quarter Nonemployment	Count	1
MainB	domB	sMainB	Employment (Beginning of Quarter)	Count	1
MainE	domE	sMainE	Employment (End of Quarter)	Count	1

6 Categorical Variables

Categorical variable descriptions are displayed above each table, with the variable name shown in parentheses. Unless otherwise stated, every possible value/label combination for each categorical variable is listed. Please note that not all values will be available in every table.

6.1 agegrp

([label_agegrp.csv](#))

agegrp	label
A00	All Ages (14-99)
A01	14-18
A02	19-21
A03	22-24
A04	25-34
A05	35-44
A06	45-54
A07	55-64
A08	65-99

6.2 education

([label_education.csv](#))

education	label
E0	All Education Categories
E1	Less than high school
E2	High school or equivalent, no college
E3	Some college or Associate degree
E4	Bachelor's degree or advanced degree
E5	Educational attainment not available (workers aged 24 or younger)

6.3 ethnicity

([label_ethnicity.csv](#))

ethnicity	label
A0	All Ethnicities
A1	Not Hispanic or Latino
A2	Hispanic or Latino

6.4 firmage

([label_firmage.csv](#))

firmage	label
0	All Firm Ages
1	0-1 Years
2	2-3 Years
3	4-5 Years

firmage	label
4	6-10 Years
5	11+ Years
N	Firm Age Not Available For Public-Sector Firms

6.5 firmsize

([label_firmsize.csv](#))

firmsize	label
0	All Firm Sizes
1	0-19 Employees
2	20-49 Employees
3	50-249 Employees
4	250-499 Employees
5	500+ Employees
N	Firm Size Not Available For Public-Sector Firms

6.6 ownercode

([label_ownercode.csv](#))

ownercode	label
A00	All (1-5)
A01	Federal government
A05	All Private (5)

6.7 periodicity

([label_periodicity.csv](#))

periodicity	label
A	Annual data
Q	Quarterly data

6.8 quarter

([label_quarter.csv](#))

quarter	label
1	1st Quarter of the Year (January-March)
2	2nd Quarter of the Year (April-June)
3	3rd Quarter of the Year (July-September)
4	4th Quarter of the Year (October-December)

6.9 race

([label_race.csv](#))

race	label
A0	All Races

race	label
A1	White Alone
A2	Black or African American Alone
A3	American Indian or Alaska Native Alone
A4	Asian Alone
A5	Native Hawaiian or Other Pacific Islander Alone
A6	Some Other Race Alone (Not Used)
A7	Two or More Race Groups

6.10 seasonadj

([label_seasonadj.csv](#))

seasonadj	label
S	Seasonally adjusted
U	Not seasonally adjusted

6.11 sex

([label_sex.csv](#))

sex	label
0	All Sexes
1	Male
2	Female

6.12 stusps

([label_stusps.csv](#))

geography	stusps
01	AL
02	AK
04	AZ
05	AR
06	CA
08	CO
09	CT
10	DE
11	DC
12	FL
13	GA
15	HI
16	ID
17	IL
18	IN
19	IA
20	KS
21	KY
22	LA
23	ME
24	MD
25	MA
26	MI

geography	stusps
27	MN
28	MS
29	MO
30	MT
31	NE
32	NV
33	NH
34	NJ
35	NM
36	NY
37	NC
38	ND
39	OH
40	OK
41	OR
42	PA
44	RI
45	SC
46	SD
47	TN
48	TX
49	UT
50	VT
51	VA
53	WA
54	WV
55	WI
56	WY
72	PR
78	VI

6.13 Industry

6.13.1 Industry levels

([label_ind_level.csv](#))

ind_level	label
A	All Industries
S	NAICS Sectors
3	NAICS Subsectors
4	NAICS Industry Groups

6.13.2 Industry

([label_industry.csv](#))

Only a small subset of available values shown. The 2012 NAICS (North American Industry Classification System) is used for all years. QWI releases prior to R2015Q3 used the 2007 NAICS classification (see [Schema v4.0.1](#)). For a full listing of all valid 2012 NAICS codes, see <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012>.

industry	label
00	All NAICS Sectors
000	All NAICS Subsectors
0000	All NAICS Industry Groups
11	Agriculture, Forestry, Fishing and Hunting
111	Crop Production
1111	Oilseed and Grain Farming
1112	Vegetable and Melon Farming
...	
2382	Building Equipment Contractors
2383	Building Finishing Contractors
2389	Other Specialty Trade Contractors
31-33	Manufacturing
311	Food Manufacturing
3111	Animal Food Manufacturing
3112	Grain and Oilseed Milling
3113	Sugar and Confectionery Product Manufacturing
...	

6.14 Geography

6.14.1 Geographic levels

Geography labels for data files are provided in separate files, by scope. Each file *label_geography_SCOPE.csv* may contain one or more types of records as flagged by *geo_level*. For convenience, a composite file containing all geocodes is available as *label_geography.csv*. The 2015 vintage of *Census TIGER/Line geography* is used for all tabulations as of the R2015Q4 release.

Shapefiles are described in a [separate document](#).

(*label_geo_level.csv*)

<i>geo_level</i>	<i>label</i>	<i>description</i>	<i>sourceurl</i>
B	Metropolitan (complete)	Identifies 5-digit CBSA code for metropolitan areas provided by the Census Bureau's Geography Division	http://www.census.gov/population/metro/
C	Counties	Identifies 5-digit FIPS code	https://www.census.gov/geo/reference/codes/cou.html
M	Metropolitan/Nonmetropolitan (state part)	Identifies 7-digit code constructed from the 2-digit state FIPS code and the 5-digit CBSA code provided by the Census Bureau's Geography Division	http://www.census.gov/population/metro/
N	National (50 States + DC)	Custom code using 00 to denote national scope	
S	States	Identifies 2-digit FIPS code (also called "ANSI" codes)	https://www.census.gov/geo/reference/ansi_statetables.html
W	Workforce Investment Areas	2-digit state FIPS code and the 6-digit WIA identifier provided by LED State Partners	

6.14.2 National and state-level values

(*label_fipsnum.csv*)

The file *label_fipsnum.csv* contains values and labels for all entities of *geo_level* N or S, and is a summary of separately available files.

<i>geographylabel</i>	<i>geo_level</i>
00 National (50 States + DC)	N
01 Alabama	S
02 Alaska	S
04 Arizona	S
05 Arkansas	S
06 California	S
08 Colorado	S
...	
45 South Carolina	S
46 South Dakota	S
47 Tennessee	S
48 Texas	S
49 Utah	S
50 Vermont	S
51 Virginia	S
53 Washington	S

6.14.3 Detailed state and substate level values

Note: cross-state CBSA, in records of type `geo_level = M`, are present on files of type `label_geography_XX.csv`. A particular cross-state CBSA will appear on multiple files.

Scope	Format file
US	<code>label_geography_us.csv</code>
METRO	<code>label_geography_metro.csv</code>
States	
AK	<code>label_geography_ak.csv</code>
AL	<code>label_geography_al.csv</code>
AR	<code>label_geography_ar.csv</code>
AZ	<code>label_geography_az.csv</code>
CA	<code>label_geography_ca.csv</code>
CO	<code>label_geography_co.csv</code>
CT	<code>label_geography_ct.csv</code>
DC	<code>label_geography_dc.csv</code>
DE	<code>label_geography_de.csv</code>
FL	<code>label_geography_fl.csv</code>
GA	<code>label_geography_ga.csv</code>
HI	<code>label_geography_hi.csv</code>
IA	<code>label_geography_ia.csv</code>
ID	<code>label_geography_id.csv</code>
IL	<code>label_geography_il.csv</code>
IN	<code>label_geography_in.csv</code>
KS	<code>label_geography_ks.csv</code>
KY	<code>label_geography_ky.csv</code>
LA	<code>label_geography_la.csv</code>
MA	<code>label_geography_ma.csv</code>
MD	<code>label_geography_md.csv</code>
ME	<code>label_geography_me.csv</code>
MI	<code>label_geography_mi.csv</code>
MN	<code>label_geography_mn.csv</code>
MO	<code>label_geography_mo.csv</code>
MS	<code>label_geography_ms.csv</code>
MT	<code>label_geography_mt.csv</code>
NC	<code>label_geography_nc.csv</code>
ND	<code>label_geography_nd.csv</code>
NE	<code>label_geography_ne.csv</code>
NH	<code>label_geography_nh.csv</code>
NJ	<code>label_geography_nj.csv</code>
NM	<code>label_geography_nm.csv</code>
NV	<code>label_geography_nv.csv</code>
NY	<code>label_geography_ny.csv</code>
OH	<code>label_geography_oh.csv</code>
OK	<code>label_geography_ok.csv</code>
OR	<code>label_geography_or.csv</code>
PA	<code>label_geography_pa.csv</code>
RI	<code>label_geography_ri.csv</code>
SC	<code>label_geography_sc.csv</code>
SD	<code>label_geography_sd.csv</code>
TN	<code>label_geography_tn.csv</code>
TX	<code>label_geography_tx.csv</code>
UT	<code>label_geography_ut.csv</code>
VA	<code>label_geography_va.csv</code>
VT	<code>label_geography_vt.csv</code>
WA	<code>label_geography_wa.csv</code>

Scope	Format file
WI	label_geography_wi.csv
WV	label_geography_wv.csv
WY	label_geography_wy.csv

6.15 Aggregation level

([label_agg_level.csv](#))

Measures within the J2J and QWI data products are tabulated on many different dimensions, including demographic characteristics, geography, industry, and other firm characteristics. For Origin-Destination (O-D) tables, characteristics of the origin and destination firm can be tabulated separately. Every tabulation level is assigned a unique aggregation index, represented by the `agg_level` variable. This index starts from 1, representing a national level grand total (all industries, workers, etc.), and progresses through different combinations of characteristics. There are gaps in the progression to leave space for aggregation levels that may be included in future data releases.

agg_level is currently reported only for J2J data products.

The following variables are included in the [label_agg_level.csv](#) file:

Variable	Description
<code>agg_level</code>	index representing level of aggregation reported on a given record
<code>worker_char</code>	demographic (worker) characteristics reported on record
<code>firm_char</code>	firm characteristics reported on record. These will be the characteristics of the destination firm in O-D tabulations
<code>firm_orig_char</code>	characteristics of origin firm reported on record (O-D tabulations only)
<code>j2j</code>	Flag: Aggregation level available on J2J counts tables
<code>j2jr</code>	Flag: Aggregation level available on J2J rates tables
<code>j2jod</code>	Flag: Aggregation level available on J2J O-D tables
<code>qwi</code>	Flag: Aggregation level available on QWI

The characteristics available on an aggregation level are repeated using a series of flags following the standard schema:

- [geo_level](#) - geographic level of table
- [ind_level](#) - industry level of table
- `by_` variables - flags indicating other dimensions reported, including ownership, demographics, firm age and size.

A shortened representation of the file is provided below, the complete file is available in the link above.

<code>agg_level</code>	<code>worker_char</code>	<code>firm_char</code>	<code>firm_orig_char</code>	<code>j2j</code>	<code>j2jr</code>	<code>j2jod</code>	<code>qwi</code>	<code>geo_level</code>
1				1	1	1	0	N
2	Sex			1	1	1	0	N
3	Age			1	1	1	0	N
4	Sex * Age			1	1	1	0	N
5	Race			1	1	1	0	N
9	Ethnicity			1	1	1	0	N
13	Race * Ethnicity			1	1	1	0	N
...								
129		Firm Size		1	1	1	0	N
257		NAICS Sector		1	1	1	0	N
258	Sex	NAICS Sector		0	0	0	0	N

agg_level	worker_char	firm_char	firm_orig_char	j2j	j2jr	j2jod	qwi	geo_level
...								
1029	Race	State		1	1	1	0	S
1033	Ethnicity	State		1	1	1	0	S
1037	Race * Ethnicity	State		1	1	1	0	S
...								

7 Status flags

([label_flags.csv](#))

Each status flag in the tables above contains one of the following valid values. The values and their interpretation are listed in the table below.



Important

Note: Currently, the J2J tables only contain status flags *-1* and *1*. Status flags with values 10 or above only appear in online applications, not in CSV files.

flag	label
-2	no data available in this category for this quarter
-1	data not available to compute this estimate
1	OK
5	Value suppressed because it does not meet US Census Bureau publication standards.
6	Value calculated from other released measures - no significant distortion
7	Value calculated from other released measures - some of which have significantly distorted data
9	Data significantly distorted - fuzzed value released
10	Aggregate of cells - no significant distortion
11	Aggregate of cells not released because component cells do not meet U.S. Census Bureau publication standards
12	Aggregate of cells - some of which have significantly distorted data

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