**QWI and Job-to-Job Flow Shapefile Data**

Shapefiles used to provide mapping functionality in QWI Explorer and Job-to-Job Explorer are created by transforming input shapefiles sourced from TIGER/Line. Text below decribes the inputs, transformations, and the output shapefiles.

INPUTS

Source: TIGER/Line 2015 shapefiles (<https://www.census.gov/geo/maps-data/data/tiger-line.html>).

Input shapefiles:

* tl\_2015\_us\_state
* tl\_2015\_us\_county
* tl\_2015\_us\_cbsa
* tl\_2015\_[ST]\_place (for creation of WIA/WIB shapefile)
* tl\_2015\_[ST]\_cousub (for creation of WIA/WIB shapefile)

**LARS: please add unique (unchanging?) URLs to these files, possibly as a separate file (shp\_provenance.csv}**

TRANSFORMATIONS

The following major transformations are applied to the input files:

* All geographies are reprojected to WGS-1984 Geographic Coordinate System.
* Shoreline water has been clipped out to provide a more recognizable depiction of the coastlines.
* Each layer is given internal point coordinates (stored as double) based on the WGS-1984 projection (decimal degrees).
* Each layer is run through a “simplify polygon” procedure to remove unnecessary complexity from the features.
* Features from Guam, American Samoa, and the Northern Mariana Islands have been removed. **(LARS: maybe say “… because not currently used in any LEHD tabulations”)**
* Each shapefile is given the same six fields: STUSPS, GEOGRAPHY, NAME, LABEL, INTPTLAT and INTPTLON. The exception is the national CBSA file from which the STUSPS field has been removed. **LARS: is this standard practice, or could a “STUSPS = --” be added.**

**LARS: STUSPS needs legal values/schema (this is defined in the FIPS codes as well, should be copied here as label\_stusps.csv)**

**LARS: Are all “geography,.., label” combinations identical to the (partial) contents of the label\_geography\_{xx}.csv files? They should be!**

**LARS: Define a “variables\_shp.csv” file that describes these shapefiles.**

OUTPUTS

Output shapefiles – grouped by paired products – are listed below. Each shapefile includes specific notes on its preparation.

**LARS: General note on below: could all of these be “lehd\_{something}.shp” and a separate table listing where they are applied? {lehd\_state, lehd\_county, lehd\_stcbsa, lehd\_cbsa}**

**QWI Geographies**

State (qwi\_state.shp)

* No transformations occur to this layer other than those listed above.

County (qwi\_county.shp)

* STUSPS is added to the NAME field so that county names read: "Cook, IL" for example.

CBSA - within State (qwi\_cbsa.shp)

* All features are split into state-specific CBSA features by intersecting each feature with the state shapefile features.
* The STUSPS field is added during the intersect with the state shapefile.
* STFIPS (i.e. numeric nationally unique state code) is prepended to the GEOGRAPHY field to distinguish state-parts of the same CBSA (i.e. make them nationally unique).
* “([STUSPS] part)” is added to the end of the NAME field only for those CBSA features that are split by state lines.
* **LARS: the label\_geography\_xx.csv files also list a state remainder, labeled “Nonmetropolitan, nonmicropolitan” - this label is different than the “CBSA National” one mentioned below.**

Workforce Investment Board Areas (qwi\_wib.shp)

* The WIA/WIB shapefiles are built from the Place, County Subdivision, and County shapefiles from TIGER/Line based on definitions provided by the LED state partners.

**Job-to-Job Flow Geographies**

State (qwi\_state.shp)

* No transformations occur to this layer (the same state file is used for QWI and J2J applications).

CBSA - National (j2j\_cbsa.shp)

* The state remainder areas are added to the shapefile as new features. They are assigned unique codes ([STUSPS]+999) and names (“Not in metro/micro area, [STUSPS]”).