

DIY Mapping Exercises



Mapping a “Service Area”

- a) Identify a census tract number: [Address Search](#)
- b) Find data for the tract: [AFF Table](#)
- c) Locate the tract on a map / define your service area: [Reference Map](#)
- d) Find data for the service area and map the data: [Thematic Map](#)

OnTheMap

- Area Profile Analysis
- Area Comparison Analysis
- Distance / Direction Analysis
- Destination Analysis
- Inflow / Outflow Analysis
- Paired Area Analysis

Thematic Mapping of a “Service Area”

You want to find data for the area around a specific address. (Remember that data are protected for individuals as well as individual households and businesses.)

- (a) What is the 2010 census tract number for the United Way of Treasure Valley? The address is 2340 S. Vista Ave., Boise, ID 83705.**
- (b) What was the median household income (in 2011 inflation-adjusted dollars) for this census tract for the period 2007-2011, from the ACS Data Profile DP03, Selected Economic Characteristics?**
- (c) Make a reference map of this Census Tract 16, Ada County, Idaho to identify all the census tracts adjacent to Census Tract 16. This is your service area.**
- (d) Make a thematic map of your service area showing the median household income by census tract (2007-2011 ACS estimate). Customize the map to show two data classes, \$45,000 and below, and more than \$45,000 per year.**

Census.gov > Data tab (in header) > American FactFinder (AFF)
(Main tab, right column) Address Search = street address
(enter in street address box) 2340 s vista ave (city box) boise (state drop-down) Idaho (zip) 83705 = GO (Always double-check resulting address.)

Answer (a): Census Tract 16, Ada County, Idaho.

Click on the hyperlink for Census Tract 16, Ada County, Idaho.

After making certain the census tract appears in the Your Selections box, close the Geographies overlay (window).

(If something else remains in the Your Selections box, delete it by clicking on the “x”)

Click on the hyperlink for DP03 (Selected Economic Characteristics) from the dataset 2011 ACS 5-year estimates and scroll down the table until you find the answer.

Answer (b): In the period 2007-2011, the median household income in Census Tract 16, Ada County, in 2011 inflation-adjusted dollars , was \$47,127 (+/- \$5,100).

Instructions (c):

Scroll up and click on the grey bar, “Back to Advanced Search,” to the right of the table title Geographies filter bar > Map tab

Under Select Geographies, open the drop-down menu and select Census Tract Boundaries and Features > check Boundary and check Label for 2012 Census Tract (census tracts are only redefined once per decade, so the boundaries for 2010 tracts are the same)

Scroll to bottom of screen and click Update (don’t forget this step!)

(Zoom out one level so you can see the numbers for all the adjacent census tracts)

Mouse over the four icons representing selection tools -- in the blue box

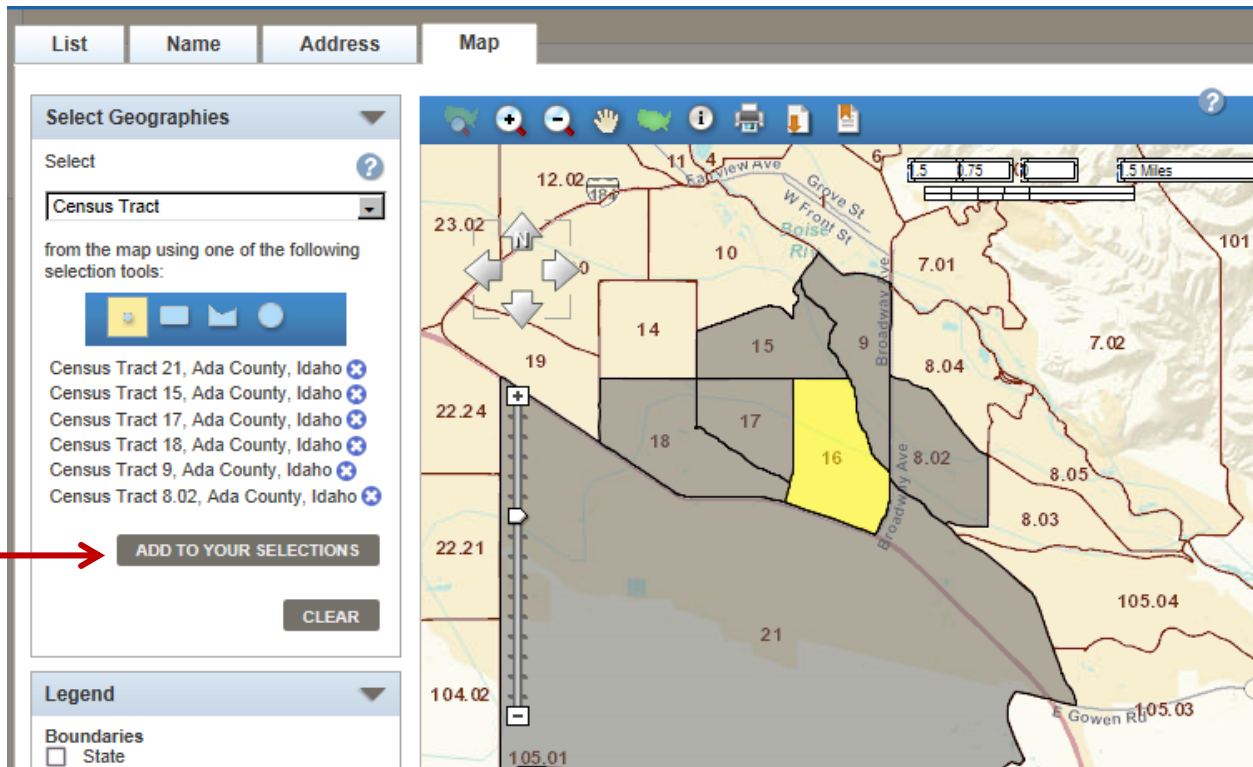
Select the first one, “select using a point,” the pointer tool

Click in each of the 6 adjacent census tracts: 17, 15, 9, 8.02, 21, 18

Each one will turn grey as selected

Note that one by one, they will also appear by name below the selection tool icons

See illustration below of result – this is a **Reference Map** (no data) of your service area



When you have all 6 census tracts listed there, click Add to Your Selections
They will join Census Tract 16 in the Your Selections box, upper left corner of screen

Instructions (d):

- Close geographies overlay
- Refine your search results text box, enter median household income > GO
- Click hyperlink for B19013, Median Household Income in the Past 12 Months (2007-2011 ACS 5-year estimates)
- Click Create a Map (It will be greyed out if you are not allowed to map data from this table)
- Click on value in the column for Census Tract 8.02, Estimate (value is \$47,274) > Show Map
- Thematic map displays with comparative percentages displayed by intensity of color
- To display tract numbers, you again must open Boundaries and Features
- Check Boundary and check Label for 2011 Census Tract > Update

See illustration next page

- Open Colors and Data Classes
- Number of classes = 2
- Classing method = User Defined
- Row 1, column 2 = enter 45,000
- Put cursor in row 2, column 1 and click enter > value autofills > GO

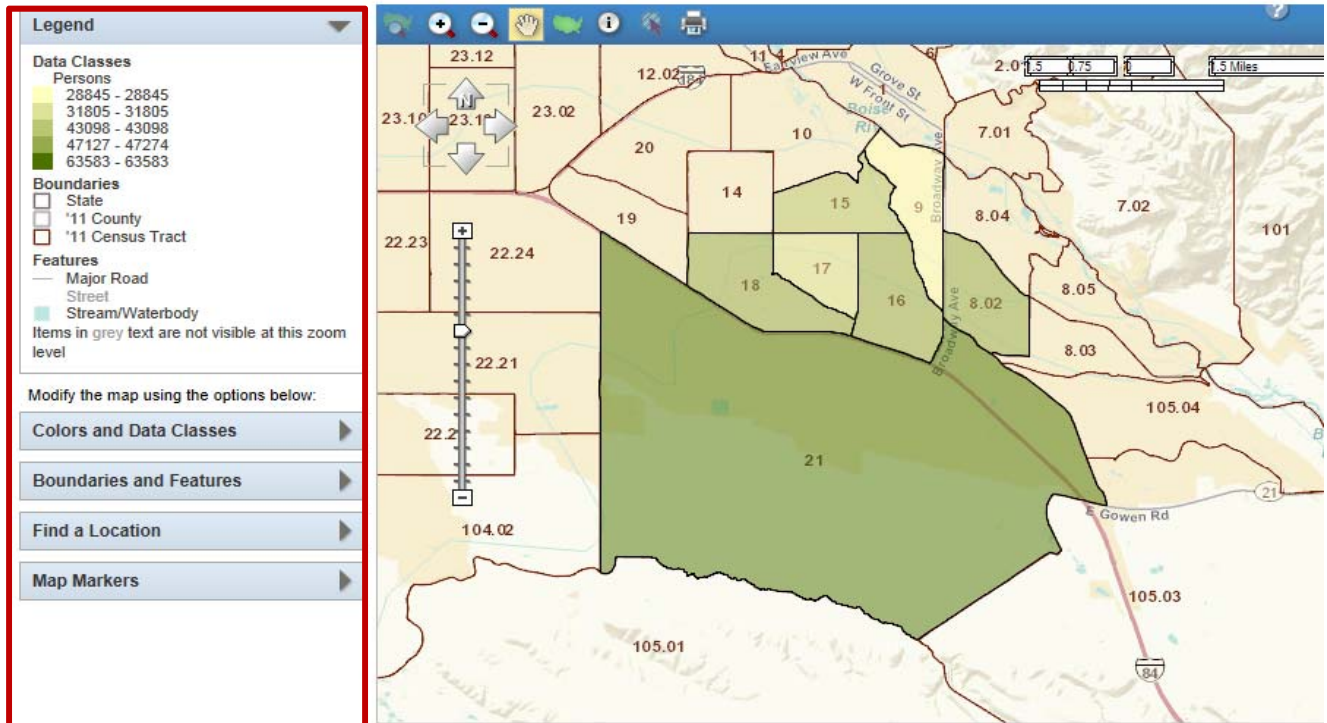
See illustration next page

Thematic Map Caveats

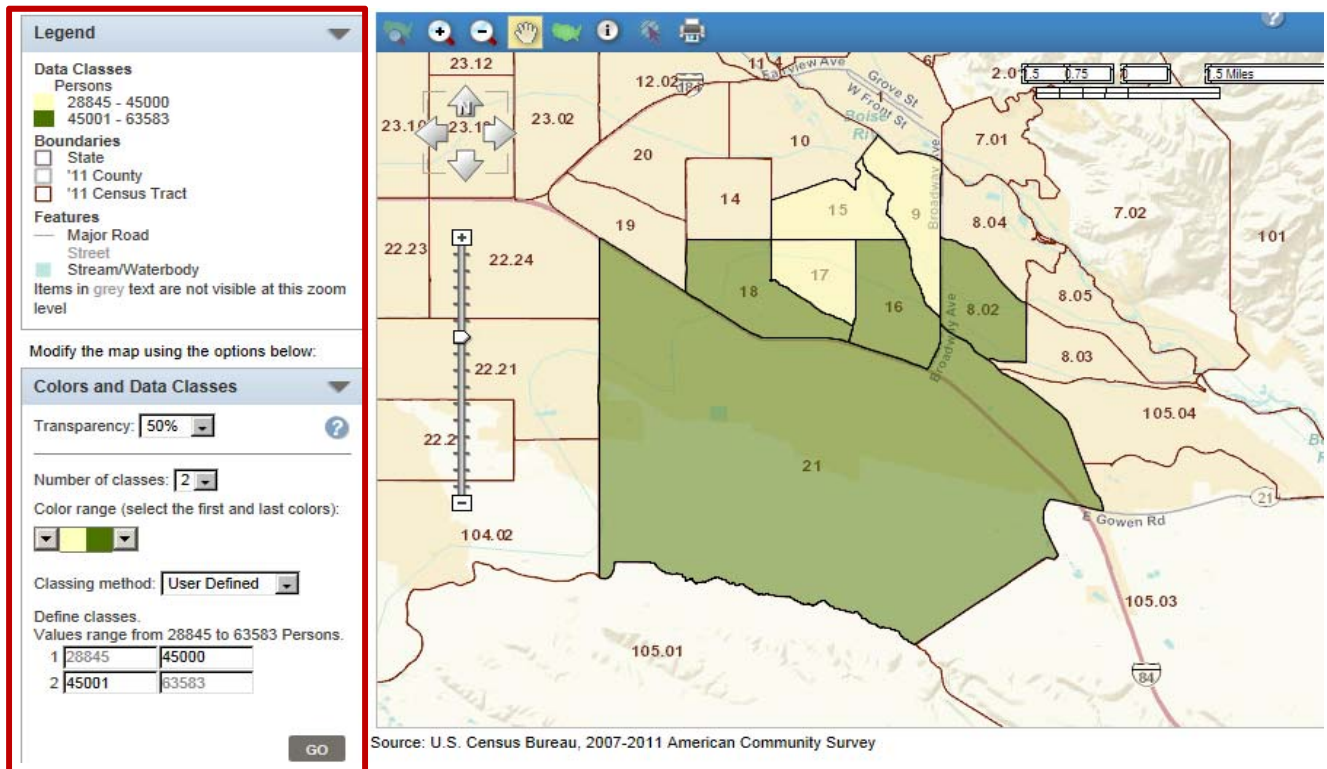
(1) Must start with a data table; (2) two or more same level geographies; (3) one theme only per map. If your data source is the ACS, margins of error do not display with the estimates.

**Thematic Map of Estimate; Median household income in the past 12 months (in 2011 inflation-adjusted dollars)
Geography: by Census Tract**

Thematic Map: 5 Data Classes, Natural Breaks Classing Method



Thematic Map: 2 Data Classes, User Defined Classing Method



Back to Advanced Search and clear all selections.

Area Profile Analysis

Local Employment Dynamics

What are the distribution and characteristics of workers* employed in Boise, ID?

*Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the **Applications** section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **boise** in the Search text box of the Start tab and click **Search**.

Select **Boise City city, ID** under the Places (Cities, CDPs, etc.) heading by clicking on the name.

After the map of Boise appears, click **Perform Analysis on Selection Area** in the Selection Area popup.

Analysis Settings

Home/Work Area (first column): Work

Analysis Type (second column): **Area Profile**

Labor Market Segment: All Workers

Year (third column): 2011

Job Type (fourth column): Primary Jobs

Click **Go!** at the bottom right corner of the popup window to generate the analysis.

Results

When the application finishes processing, overlays of points, thermals, and a selection outline will appear on top of the base map in the map viewer.

The Results tab is now active in the control panel (left column), containing the following dropdown options: (1) Display Settings; (2) Map Controls; (3) Report / Map Outputs; (4) Legends; and (5) Analysis Settings.

To the right of the map viewer is a set of pie charts (toggle to display data as bar charts) and a summary report.

In the resulting map, employment locations in Boise in 2011 are represented by the blue thermal density overlay showing jobs per square mile. Employment locations are also aggregated to census blocks in the Points Overlay with each block represented by a blue dot. A blue dot will not appear for census blocks with no employment.

Refer to the Legends section in the Results tab to see the estimated number of workers employed in each block for the selected year.

The summary report at the bottom of the panel on the right contains the count of workers employed in Boise for the selected year. The chart above the report displays miniature versions of the characteristic group pie charts.

Interpret the Results

The title under the four tabs (left column) reads “Work Area Profile Analysis,” which means the analysis highlights workers employed in the selected area.

Alternatively, if Boise had been selected as a home area in the Analysis Settings popup, the title would be “Home Area Profile Analysis,” profiling workers living in the city of Boise.

The **Map Controls** section of the Results tab contains a variety of tools for changing the overlay colors, turning overlays on/off, identifying individual points in the Points Overlay, clearing all overlays, centering the map on the selection area, and overlay animation. Clicking on the blue square next to **Color Key** will display a popup offering a variety of color options. Use the **Thermal** and **Point Overlay** checkboxes to toggle thermals and points on and off in the map viewer. The **Selection Outline** checkbox turns the yellow border on and off.

Use the **Identify** tool (in Map Controls) to see the count of jobs employed in an individual census block. After clicking **Identify**, immediately click in the center of one of the point features. The 15-digit block number and count of jobs will appear for each mapped year of data. The **Identify** button must be clicked each time before identifying a new block.

Summary Report (right column): The panel to the right of the map viewer contains additional information about the analysis. The summary report displays the count of jobs employed in the selection area and the chart displays miniature versions of each available pie or bar chart.

Selections made by clicking a link in the summary report display in the **Characteristic Filter**, top of Results tab, left column.

Change the **Characteristic Filter** by clicking a link in the **Summary Report** (right column, under the pie charts). Select **Earnings**, and then select **\$1,250 per month or less**. In addition to Earnings, other available characteristics include options for age, industry, race, ethnicity, educational attainment, worker sex, firm age, or firm size.

Place your cursor over the question mark after the Characteristic Filter to identify possible selections and the years for which they are available.

To see other years of data shown in the results components, select the **Change Settings** (bottom of left column). The Analysis Settings box will display and then you may select other desired year(s) from the Year column. Click **Go**. Note that the years you have selected will appear in the **Year** dropdown box.

Select **Age: 29 or younger** from the dropdown in the Results tab as the Characteristic Filter. The chart and summary report will update to display the share and total for each worker age segment. The colored boxes next to the characteristic categories in the summary report serve as the legend for the chart. As shown in the report and chart to the right, 22.5 percent of the workers employed in Boise in 2011 were aged 29 or younger.

Click **Detailed Report**, in the **Report/Map Outputs** section, to popup the full report results for the analysis. The Detailed Report contains data on all of the individual characteristics for all of the years selected in the **Analysis Settings** popup. The Detailed Report contains three options for exporting the analysis. Export this report to PDF, Excel (XLS), or HTML by clicking one of the links at the top of the window. Click Close lower right to close the Detailed Report window.

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Analysis Settings popup. Change the Analysis Type to view other types of information on Boise's workers, or change the Home/Work parameter to view information about where workers are living in Boise.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.

Area Comparison Analysis

Local Employment Dynamics

What are the distribution and characteristics of workers* employed in Boise ID, by Census Tract?

*Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the Quick Links section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **Boise** in the Search text box of the Start tab and click **Search**.

Select **Boise City city, ID** by clicking on the name under the Places (Cities, CDPs, etc.) heading.

After the map of Boise appears, click **Perform Analysis on Selection Area** in the Selection Popup Window.

Analysis Settings

Home/Work Area: Work

Analysis Type: Area Comparison

Areas to Compare: Census Tracts

Labor Market Segment: All Workers

Year: 2011

Job Type: Primary Jobs

Click **Go!** at the bottom right corner of the popup window to generate the analysis.

Results

When the application finishes processing, a thematic overlay and selection outline will appear on top of the base map in the map viewer. Display Settings, Map Controls, Report/Map Outputs, Legends, and Analysis Settings will appear in the control panel on the left as part of the Results tab. To the right of the map viewer is a bar chart and summary report.

The blue thematic overlays represent Employment locations, aggregated to the top 10 Census Tracts contained (wholly or partially) within the city of Boise ID, in 2011. Refer to the Legends section in the Results tab to see the count of Boise workers employed in each tract for the year of data active in the **Year** dropdown. (You have only selected 2011 to this point.)

The **Summary Report** contains the count of workers employed in each of Boise's Census Tracts. The bar chart above the report displays the top 10 Census Tracts' employment totals for simple comparisons.

Examining the Map, Chart, and Report

The title at the top of the Results tab reads "Work Area Comparison Analysis by Census Tracts," which means the results compare the counts of workers employed in each Census Tract in the selected area. Alternatively, if Boise had been selected as a home area in the Analysis Settings popup, the Area Comparison title would be "Home Area Comparison," comparing the count of workers living in the Census Tracts in the city of Boise.

At the top of the Results tab, using the Characteristic Filter dropdown menu, click **Total** and select **NAICS Industry Sector**, then arrow over to **Health Care and Social Assistance**. In addition to NAICS Industry characteristics, the Characteristic Filter dropdown includes options for age, earnings, race, ethnicity, educational attainment, and sex (not all characteristics are available for all years).

The Number of Results dropdown changes the number of Census Tract features shown in the map overlays, chart, and summary report. Change the number of results to **Top 50** to see all of the tracts contained in Boise displayed in all of the analysis results. If more than one year was selected in the Analysis Settings popup, other years of data can be activated using the Year dropdown.

The Map Controls section of the Results tab contains a variety of tools for changing the overlay colors, turning overlays on/off, identifying individual areas in the Thematic Overlay, clearing all overlays, centering the map viewer on the selection area, and overlay animation. Clicking on the blue square next to the Color Key will display a popup offering a variety of color options. Use the Thematic Overlay checkbox to toggle the thematic map overlays on and off in the map viewer. The Selection Outline checkbox turns the yellow border on and off.

The **Identify** tool allows you to view more details on a specific comparison area. After clicking **Identify**, immediately click inside a Census Tract. The **Identify** button must be clicked each time before identifying a new overlay feature.

The chart and summary report to the right of the map viewer provide an alternate presentation of the results, and allow users to click an individual area's name to highlight this location in the results. Click **1 (Ada, ID)**, and the tract is highlighted in the chart and report, and the map viewer zooms to the area's extent. To return to the standard view, click **All Census Tracts**.

In the Display Settings section of the Results tab, click the Sort Chart/Report by dropdown and select **Characteristic** to reorder the chart and report by the selected characteristic filter. The other sort options are Total, Area Name, and Filter Share. In addition to the tract totals, the chart and report display the job count and share of workers employed in the Health Care and Social Assistance industry section (controlled through the Characteristic Filter dropdown at the top of the Results tab).

The colored boxes next to the characteristic categories in the summary report serve as the legend for the bar chart. As shown in the report and chart to the right, 21.9 percent of the workers in tract 1 work in Health Care and Social Assistance.

Note that some of the tracts do not fall entirely within Boise city. These tracts are marked as "Partial" in the small and detailed reports as well as the bar chart in the upper right. Only the land in each tract that falls within the boundary of the selection area (Boise city) is included in the analysis.

Click **Detailed Report**, in the Report/Map Outputs section, to display the full report results for the analysis. The Detailed Report contains data on all of the individual worker and firm characteristics (Age, Earnings, NAICS Industry Sector, Race, Ethnicity, Educational Attainment, and Sex) for all of the tracts inside the city of Boise. The report shows data for the year selected in the Year dropdown at the top of the Results tab.

The Detailed Report contains three options for exporting the analysis. Export this report to PDF, Excel (XLS), or HTML by clicking one of the links at the top of the report

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Analysis Settings popup. Change the Analysis Type to view other types of information on Boise's workers, or change the Home/Work parameter to view information about where workers are living in Boise.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.

Distance / Direction Analysis

Local Employment Dynamics

From what distances and directions do Boise workers* commute?

* Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the Quick Links section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **Boise** in the Search text box of the Start tab and click **Search**.

Select **Boise City city, ID** by clicking on the name under the Places (Cities, CDPs, etc.) heading.

After the map of Boise appears, click **Perform Analysis on Selection Area** in the Selection Popup Window.

Analysis Settings

Home/Work Area: Work

Analysis Type: Distance/Direction

Year: 2011

Job Type: Primary Jobs

Click **Go!** at the bottom right corner of the popup window to generate the analysis.

Results

When the application finishes processing, overlays of points, thermals, and a selection outline will appear on top of the base map in the map viewer. The Results tab will become active in the control panel, containing Display Settings, Map Controls, Report/Map Outputs, Legends, and Analysis Settings sections. To the right of the map viewer is radar chart and summary report.

In the resulting map, residential patterns of workers employed in Boise, ID in 2011 are represented by the blue thermal density overlay showing jobs per square mile. Resident locations are also aggregated into census blocks in the Points Overlay – each block represented by one blue dot.

A blue dot will not appear for census blocks if no workers employed in Boise reside there. Refer to the Legends section in the Results tab to see the count of Boise workers living in each block for the selected year.

The summary report at the bottom of the panel on the right contains the count of workers employed in Boise, followed by job counts broken out by four distance categories. The chart above the report presents the four distance categories on a compass rose, displaying the relative distance **and** direction Boise workers commute from.

Examining the Map, Chart, and Report

The title at the top of the Results tab reads “Distance/Direction Analysis – Work to Home,” which means the analysis highlights the movement of workers from their workplaces (in the selection area – Boise, ID) to their homeplaces (symbolized by the Points and Thermals in the map viewer).

Alternatively, if Boise had been selected as a home area in the Analysis Settings popup, the Distance/Direction results would be “Home to Work,” illustrating the movement of workers from their homeplaces in Boise to wherever their workplaces may be.

The two dropdowns in the Display Settings section of the Results tab, Labor Market Segment and Year, offer the ability to change the data shown in each component of the Results tab. Using the Labor Market Segment Filter dropdown menu, click **All Workers** and select **Worker Age**, then arrow over to **Age: 29 or younger**. The map overlays, radar chart, and summary report update to display the commute distance and direction of Boise's young workers. In addition to age segments, the Labor Market Segment Filter dropdown includes options for earnings and industry segments. To view other years of data, simply select the desired year from the Year dropdown. Turn the segment filter back to **All Workers**.

The Map Controls section of the Results tab contains a variety of tools for changing the overlay colors, turning overlays on/off, identifying individual points in the Points Overlay, clearing all overlays, and overlay animation (if more than one year of data is processed). Click **Identify**, then immediately click a blue dot in the map viewer to see the specific count of workers living in that census block.

At the current zoom level only a small portion of Boise's “commute shed” is visible. Click the minus symbol at the bottom of the Scale Ladder tool (top left corner of the map viewer) two times to zoom out to a regional level.

Click the **Points Overlay** checkbox in the Map Controls section to remove the point overlay. The density of worker residences is symbolized by the varying darkness of the thermal overlay. As you can see, residences are concentrated primarily within the city of Boise, but also grouped around the nearby cities of Meridian, Garden City, and Eagle.

The distance and direction information shown in the panel on the right are calculated between every home/work census block pair involved in the analysis. The green and yellow colored boxes next to the four distance categories in the summary report serve as the legend for the radar chart. Home and Work blocks that are close to each other (i.e. Less than 10 miles) are the darkest shade of green, and occupy the most central section of the radar chart.

The other distance break totals stack on top of each other with the longest commutes stacked as the outmost ring. As shown in the chart to the right, a significant number of workers commute from all distances from the west and northwest. Additionally, more than 13,000 commuters from the north, east, and southeast are coming from over 50 miles away.

Each distance group in the summary report can be clicked in order to filter the analysis results to show only those jobs with home/work census block pairs falling within the selected distance range. Click **10 to 24 miles** to remove jobs outside of that distance range from the map overlays, chart, and report. Click **Total Primary Jobs** to remove the distance filter.

In the Results tab on the left, the Report/Map Outputs section contains three options for exporting the analysis results to a variety of formats. Click **Detailed Report** to display the full report results for the analysis. The Detailed Report provides nine sections of data – a section displaying the four distance breaks regardless of the direction, and a section showing the four distance breaks for each of the eight cardinal directions (North, Northeast, East, Southeast, South, Southwest, West, and Northwest). Adding the eight direction totals will equal the total at the top of the report.

The Detailed Report also includes data for every year selected in the Analysis Settings popup.

Export this report to PDF, Excel (XLS), or HTML by clicking one of the links at the top of the window. Click **Close** to exit out the Detailed Report view.

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Analysis Settings popup. Change the Analysis Type to view other types of information on Boise's workers, or change the Home/Work parameter to view information about where workers are living in Boise.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.

Destination Analysis – County Subdivisions

Local Employment Dynamics

What County Subdivisions do Boise ID workers* commute from (live in)?

* Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the Quick Links section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **Boise in** the Search text box of the Start tab and click **Search**.

Select **Boise City city, ID** by clicking the name under the Places (Cities, CDPs, etc.) heading.

After the map of Boise appears, click **Perform Analysis on Selection Area** in the Selection Area popup.

Analysis Settings

Home/Work Area: Work

Analysis Type: Destination

Destination Type: County Subdivisions

Year: 2011

Job Type: Primary Jobs

Click **Go!** at the bottom right corner of the popup window to generate the analysis.

Results

When the application finishes processing, a thematic map overlay and a selection outline will appear on top of the base map in the map viewer. The Results tab will become active in the control panel, containing Display Settings, Map Controls, Report/Map Outputs, Legends, and Analysis Settings sections. In the panel to the right of the map viewer is a pie chart and summary report.

In the resulting map, the top 10 county subdivisions where Boise, ID workers live are represented by the blue thematic overlay. The home/work relationship between the work area (Boise) and each home area (county subdivisions) can also be symbolized by an overlay of spokes (if **Spoke Overlay** is activated in the Map Controls) emanating outward from Boise to each county subdivision. Refer to the Legends section in the Results tab to see the count of Boise workers living in each county subdivision for the selected year.

The summary report at the bottom of the panel on the right contains the count of workers employed in Boise, followed by the count of workers residing in each of the top 10 county subdivisions. The chart above the report displays the top 10 county subdivisions as either a pie chart (percent of total) or a bar chart (total).

Examining the Map, Chart, and Report

The title at the top of the Results tab reads “Home Destination Analysis by County Subdivision,” which means the analysis highlights the movement of workers from their workplaces (in the selection area – Boise, ID) to their homeplaces (in county subdivisions).

Alternatively, if Boise had been selected as a home area in the Analysis Settings popup, the Destination results would be “Work Destinations,” illustrating the movement of workers from homeplaces in Boise to workplaces in county subdivisions.

The three dropdowns in the Display Settings section of the Results tab, Labor Market Segment, Number of Results, and Year, offer the ability to quickly change the data shown in each component of the Results tab.

Using the Labor Market Segment Filter dropdown menu, click **All Workers** and select **Worker Age**, then arrow over to **Age: 29 or younger**. The map overlays, chart, and summary report update to display Boise’s young workers commuting from county subdivisions. Ten segments of the labor force (including **All Workers**) are available for selection.

The Number of Results dropdown changes the number of county subdivision features shown in the map overlays, chart, and summary report. In addition to age segments, the Labor Market Segment Filter dropdown includes options for earnings and industry groups.

Change the number of results to **Top 50** to see the top 50 county subdivisions displayed in all sections of the analysis results. To view other years of data, simply select the desired year from the Year dropdown. Turn the segment filter back to **All Workers**.

The Map Controls section of the Results tab contains a variety of tools for changing the overlay colors, turning overlays on/off, identifying county subdivisions in the Thematic Overlay, clearing all overlays, and overlay animation. Click **Identify**, then immediately click inside the county subdivision bordering Boise to the south to view the count of Boise workers living in the area.

The identify popup shows 4,833 workers live in the Orchard CCD and work in Boise as of 2011 – accounting for 3.4 percent of all Boise workers. The age, earnings, and industry characteristics of these workers are also shown in the Identify popup.

The panel to the right of the map viewer contains additional information about the analysis. The destination results are displayed as a pie or bar chart and in tabular form as a summary report. The number of county subdivisions shown in the chart and report is controlled by the Number of Results dropdown near the top of the Results tab. The colored boxes next to the county subdivision names in the summary report serve as the legend for the chart.

The Pie Chart visually shows each county subdivision as a share of the top 50 total, but has labels showing the percent share of all workers employed in Boise. Click the arrow in the **View as** dropdown, and select **Bar Chart** to change the chart type. As shown in the chart to the right, only three county subdivisions provide more than 5,000 workers to Boise's workforce. The rest of the county subdivisions provide a gradually decreasing share of the city's workers.

At the current zoom level only a small portion of Boise's county subdivision "commute shed" is visible. Click the minus symbol at the bottom of the Scale Ladder tool (top left corner of the map viewer) several times to zoom out to a regional level (or click **All County Subdivisions** at the top of the summary report). As expected, the thematic coloring of county subdivisions gradually lightens as you move away from the city. As you can see, it appears that residences are concentrated from the north to the south on the west side of the city of Boise.

Each area name in the summary report can be clicked in order to highlight this destination in the results. Click **Orchard CCD (Ada, ID)**, and the map viewer will automatically zoom to Orchard and the chart will highlight the 3.4% of Boise workers residing in this county subdivision.

In the Results tab on the left, the Report/Map Outputs section contains three options for exporting the analysis results to a variety of formats. Click **Detailed Report** to display the full report results for the analysis

The Detailed Report provides two sections of data – a section displaying the total count and share of jobs employed in the selection area, and a section showing the count and share of jobs for each of the top 50 county subdivisions where Boise workers live.

Each year of data that was selected in the Analysis Settings popup is provided in the Detailed Report. Export this report to PDF, Excel (XLS), or HTML by clicking one of the links at the top of the window.

Click **Close** to exit out the Detailed Report view.

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Analysis Settings popup. Change the Analysis Type to view other types of information on Boise's workers, or change the Home/Work parameter to view information about where workers are living in Boise.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.

Inflow/Outflow Analysis

Local Employment Dynamics

What are the characteristics of workers* who commute in, out, and within Boise, ID? Is Boise primarily a labor force supplier or a magnet for employment?

* Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the Quick Links section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **Boise** in the Search text box of the Start tab and click **Search**.

Select **Boise City city, ID** by clicking the name under the Places (Cities, CDPs, etc.) heading.

After the map of Boise appears, click **Perform Analysis on Selection Area** in the Selection Area popup.

Analysis Settings

Home/Work Area: Work

Analysis Type: Inflow/Outflow

Year: 2011, 2010, 2009

Job Type: Primary Jobs

Click **Go!** at the bottom right corner of the popup window to generate the analysis.

Results

When the application finishes processing, an overlay of flow arrows and a selection outline will appear on top of the base map in the map viewer. The Results tab will become active in the control panel, containing Display Settings, Map Controls, Report/Map Outputs, Legends, and Analysis Settings sections. In the panel to the right of the map viewer is a Venn diagram and summary report.

In the map, worker flow dynamics are symbolized by the green arrows:

- Workers employed in Boise but living outside the city are represented by the arrow entering the city.
- Workers employed outside the city but living in Boise are represented by the arrow leaving the city.
- Workers that live and work in Boise are represented by the circular arrow surrounding the selection marker.

The arrows are labeled with the count of workers involved in each type of flow. Note: The flow arrows do not indicate geographic directionality of worker flows. Users should perform a [Distance/Direction Analysis](#) to view results showing geographic distribution of worker commutes.

The summary report at the bottom of the panel on the right contains two sections – one containing job counts viewed from the perspective of Boise as a labor force hub and one containing job counts from the perspective of Boise as a labor force provider. The chart above the small report displays a Venn diagram highlighting the amount of workers living in Boise (the light green circle) and amount of workers employed in Boise (the dark green circle). The intersection of the two circles represents the count of workers living and working in Boise.

Examining the Map, Chart, and Report

The title at the top of the Results tab reads “Inflow/Outflow Analysis,” which means the analysis highlights the movement of workers commuting in and out of the city of Boise. The city is being analyzed as both a labor force source and destination.

The two dropdowns in the Display Settings section of the Results tab, Labor Market Segment and Year, offer the ability to quickly change the data shown in each component of the Results tab. Using the Labor Market Segment filter dropdown menu, click **All Workers** and select **Industry Segment**, then arrow over to **Industry: Goods Producing**. The map overlays, radar chart, and summary report update to display worker flows of Boise's goods producing workers. In addition to industry segments, the Labor Market Segment Filter dropdown includes options for worker age and earnings. To view other years of data, simply select an available year from the Year dropdown. Turn the segment filter back to **All Workers**.

The Map Controls section of the Results tab contains a variety of tools for changing the overlay colors (not available in this analysis), turning overlays on/off, identifying overlay features, clearing all overlays, centering the map on the selection area, and overlay animation. Due to the nature of the overlay in this analysis, the **Identify** button will not return any results.

Click the **Animate Overlays** button to see all processed years of flow overlay data sequentially displayed in the map viewer. Click **Stop Animation** to close the animation window.

The panel to the right of the map viewer contains additional information about the analysis. The summary report provides information on the counts and percentages of Boise's workers and residents that flow in and out of the city. The relative sizes of the two Venn diagram circles represent the amount of workers living and working in Boise. The size of the intersection area represents the count of workers that are employed and live in Boise.

As shown in the summary report:

- 70.0 percent of Boise's residents also work in Boise ("**Living and Employed in the Selection Area**")
- 43.8 percent of Boise's workers ("**Employed and Living in the Selection Area**") live in Boise.

Each flow type in the summary report can be clicked to interact with the map, chart, and report. Click **Employed in the Selection Area** and the results will automatically update to show the relevant flow arrow(s) and highlight the relevant section of the Venn diagram.

Click **Reset Highlighting** at the bottom of the summary report to return to the default view.

In the Results tab on the left, the Report/Map Outputs section contains three options for exporting the analysis results to a variety of formats. Click **Detailed Report** to display the full report results for the analysis. The Detailed Report (shown below) provides a significant amount of data, including flow counts and percentages from the employment and labor force perspectives.

Age, earnings, and industry characteristics are displayed for each type of flow represented by the flow arrow overlays – external residents flowing in to Boise to work, Boise residents flowing out of the city to work, and workers that are employed and live in Boise.

Each year of data that was selected in the Analysis Settings popup is provided in the Detailed Report. Export this report to PDF, Excel (XLS), or HTML by clicking one of the links at the top of the window. Click **Close** to exit out the Detailed Report view.

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Analysis Settings popup. Change the Analysis Type to view other types of information on Boise's workers, or change the Home/Work parameter to view information about where workers are living in Boise.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.

Paired Area Analysis

Local Employment Dynamics

**How many workers* employed in Minneapolis, MN live in St. Paul, MN?
What are the characteristics of these workers?**

* Represented as primary jobs covered under the state unemployment insurance system.

Analysis Steps

Go to the Quick Links section at <http://lehd.ces.census.gov> and choose **OnTheMap**.

Enter **Minneapolis** in the Search text box of the Start tab and click **Search**.

Select **Minneapolis city, MN** by clicking on the name under the Places (Cities, CDPs, etc.) heading.

After the map of Minneapolis appears, click **Add Advanced Selection** at the bottom of the Selection Area popup to activate the Advanced tab in the Control Panel. Use the mouse to pan the map viewer to the east until the city of St. Paul is visible.

Click **Draw Point(s)** in the Drawing Tools section of the Advanced tab, then click once with your mouse inside the boundary of St. Paul to drop a pink point in the map viewer. In the Add Layer Selection dropdown, select **Places (Cities, CDPs, etc.)** from the list, and click **Confirm Advanced Selection**.

When the Advanced Selection Area popup appears, click **Perform Paired Area Analysis** to display the Paired Analysis Settings popup.

In the Paired Analysis Settings popup, keep the default parameters for Home/Work Area, Year, and Job Type. Click **Go!** at the lower right corner of the popup window to generate the analysis.

Results

When the application finishes processing, overlays of points, thermals, and a selection outline will appear on top of the base map in the map viewer. The Results tab will become active in the control panel, containing Display Settings, Map Controls, Report/Map Outputs, Legends, and Analysis Settings sections. To the right of the map viewer is a set of pie charts and summary report.

In the resulting map Minneapolis, employment locations of workers living in St. Paul are represented by the blue thermal density overlay that displays jobs per square mile.

Employment locations are also aggregated into census blocks in the Points Overlay with each block represented by a blue dot. A blue dot will not appear for census blocks with no employment. Refer to the Legends section in the Results tab to see the estimated number of Minneapolis workers living in each block for the selected year.

The summary report at the bottom of the panel on the right contains the count of workers employed in Minneapolis **and** living in St. Paul for the selected year. The chart above the report displays miniature versions of the Labor Market Segment group pie charts.

Examining the Map, Chart, and Report

The title at the top of the Results tab (“Paired Area Analysis”) means the analysis highlights the movement of workers from a constrained workplace location (Minneapolis) to a constrained home location (St. Paul). If the **Swap** button had been clicked in the Home/Work Area section of the Paired Analysis Settings popup, the results would analyze Minneapolis as the home area and St. Paul as the work area.

The options in the Display Settings section of the Results tab, Labor Market Segment, Year, and Map Where Workers, offer the ability to change the data shown in each component of the Results tab. A Labor Market Segment filter can be enabled by clicking a segment in the summary report. If more than one year was selected in the Analysis Settings popup, other years of data can be activated using the Year dropdown. The final dropdown allows users to toggle whether home or work overlays are active in the map viewer.

Click the Map Where Workers dropdown and change the setting from **Work** to **Live**. The point and thermal overlays will move from inside the city of Minneapolis (the area selected as the work area) to St. Paul (the area selected as the residence area).

The Map Controls section of the Results tab contains a variety of tools for changing the overlay colors, turning overlays on/off, identifying individual points in the Points Overlay, clearing all overlays, centering the map on the selection areas, and overlay animation.

Click the Map Where Workers dropdown and change the setting from back to **Work**. Click the **Identify** button, then immediately click a blue dot in the map viewer to see the count of workers living in that census block and working in Minneapolis.

The chart and summary report to the right of the map viewer provide an alternate view of the results, and allow users to filter to results by one of the available worker or firm characteristics.

Scroll down to the earnings section of the report and click **Age 29 or younger**. The map overlays update to show points and thermals for only jobs held by young workers (that share the selected paired area), and the chart and report update to display information on worker age characteristics.

In addition to age segments, the summary report includes options for earnings and industry groups. The colored boxes next to the characteristic categories in the summary report serve as the legend for the pie and bar charts. As shown in the report and chart to the right, 24.3% of the workers employed and living in the selected paired area are aged 29 or younger. Click **All Workers** in the summary report to remove the worker age filter from the results.

In the Results tab on the left the Report/Map Outputs section contains three options for exporting the analysis results to a variety of formats. Click **Detailed Report** to display the full report results for the analysis. The Detailed Report (shown below) provides job counts and characteristics for the Paired Area, as well as the Home Area only (regardless of where residents work) and the Work Area only (regardless of where workers live) for comparison. Also included are sections showing job counts by worker age, earnings, and industry segment. The Detailed Report includes data for only the year selected in the Year dropdown in the Results tab.

Export this report to PDF, Excel spreadsheet, or HTML by clicking one of the links at the top of the window. Click **Close** to exit out the Detailed Report view.

The Report/Map Outputs section of the Results tab contains two more export options. The map overlays (including the selection area) can be exported to KML, Shapefile, or CSV (census blocks in the Selection Area) file by clicking **Export Geography**.

Alternatively, the map overlays and chart can be saved as a composite PDF or as a collection of high-quality PNG images by clicking the **Print Chart/Map** button at the bottom of the section.

Further Analysis

The analysis results often prompt further labor force questions. OnTheMap was designed to allow users to quickly revise and resubmit a new analysis.

Click **Change Settings** to return to the Paired Analysis Settings popup. Swap the Home/Work Area setting to view information on workers living in Minneapolis and working in St. Paul, or cancel the Advanced Selection to view information on other home locations for workers employed in Minneapolis.

Alternatively, resubmit a new analysis clicking the Start tab and searching for a new area, or clicking the Selection tab to change the selection area using the available selection tools.