

# ON THE MAP – USER GUIDE

**On The Map** is an online mapping application that shows, in high definition, the geographic relationship between where people live and where they work. The database and software were developed through a unique partnership between the US Census Bureau and its LED Partner states. Users begin by defining a custom geographic study area using one of several area selection tools and a live map viewer. Based on that study area, maps are produced showing where workers live who are employed in that area or where workers are employed who live in that area. The application also provides access to workforce profile reports and additional analysis tools.

This guide is intended to help users get acquainted with the application's features, mapping tools and reports.

## MINIMUM SYSTEM REQUIREMENTS

**On The Map** works with any standard Internet Browser and a personal computer capable of accessing information via the Internet. Make sure you have loaded the most current versions of your browser and operating system software. You will need to enable "Pop-Up Windows" and "Java Scripts" in your browser settings in order to generate overlays and reports from within the application.

This application produces detailed maps and reports. You will achieve the best performance using a computer equipped with at least 256MB of RAM, a high performance graphics card, and a monitor capable of displaying higher resolution graphics (1280 by 1024 pixels or higher). The application has been optimized for use with the following browsers: Firefox (v.5.0 or higher), Netscape (v.7.1 or higher) and Internet Explore (v.6.0 or higher).

Network-based users will typically have no problems accessing the application. **On The Map** uses no permanent cookies and requires no plug-in applets that could potentially be rejected by a network's security settings.

In support of our visually impaired users, a text-only version of the application is available by clicking on the **Text-based Tool** tab option at the upper right corner of the application window. Here, county and city labor market reports can be generated without the need to interface with the dynamic map viewer.

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## QUICK START EXAMPLE

**On The Map** is designed to provide fast access to labor market information. In just a few keystrokes a user can zoom to a particular geographic area, define a specific area for analysis,

and produce maps and reports specific to that area. The example that follows serves as a step-through guide for creating a labor market map and report.

## **Travel Shed Map and Report – Irvine, California**

- a. On the **Place Name Lookup** screen that appears when you enter the application, type in the name “Irvine” and press Enter. You should not add “City of” or “County” to the place name unless it is part of the actual name.
- b. On the confirmation screen that appears next, use your mouse to highlight “City of Irvine, California” and then press the City Map button just to the right. The application’s live map viewer will be displayed and Irvine will be centered in the mapping frame.
- c. From the **Background Map Tools** located just above the map viewer, resize the map by pressing the Out button and then drawing a drag box on the map. See the Page 6, Background Map Tools section for help in creating a drag box. The geographic coverage of the map expands and the center of the drag box becomes the center of the new map view.
- d. Now, from the **Map Overlay Tools** group, press the Create/Change Overlay button on the toolbar at the top of the map. Choose Create Travel Sheds from among the options presented. Fill in the travel shed settings concluding with item #5. Additional help, if you need it, is available by clicking on the “?” button at the upper right corner of the selection box.
  1. Year – Choose to view data for 2002 or 2003.
  2. Job Type – Choose between four different employment definitions.
    - a. All Jobs – All public and private non-farm sector jobs
    - b. All Primary – The primary jobs (based on earning) of all workers
    - c. Private Jobs – All private, non-farm jobs
    - d. Private Primary – The primary jobs of all private non-farm workers
  3. Live or Work -- Choose “Labor Shed (Selects an employment area and map where workers live).” This is the setting for a labor shed map.
    - a. Commute Shed (Selects a home area and maps where workers are employed)
    - b. Labor Shed (Selects an employment area and maps where workers live)
  4. Reports – Choose “Shed Report”. Add a descriptive title in the input box that will appear on the report. Note that the title, while optional, is the only place on the report where you can identify the selection area. Once a title is added, it will remain active until you change it. Other settings include options for saving the report to your local hard drive as a PDF or spreadsheet accessible (CSV) file. Currently, the only option available is the HTML. Other options will be available in a future version.
  5. Selection Tools -- Choose “Layer Selection” from among the selection tool options. The options include the following:
    - a. Re-use Selection - Recalls the most recent selection you made.
    - b. Freehand – Define an area by drawing a polygon directly on the map.
    - c. Layer Selection – Choose a map features by dragging the mouse on it.
    - d. Buffered Selection – Create a corridor study area by drawing a line along a highway or road.
    - e. Circle Selection – Click on a map location to create a study area ring around it.
- e. The **Layer Selection** settings window will appear with options specific to that tool. Choose “Cities & Towns.” Now, using your mouse, drag a single line on the map over Irvine. Note that all cities that are touched by the line will be included in the resulting selection area. The

boundary of Irvine will be highlighted as will the census block groups whose centers fall inside the city boundary. (See the User Guide, page 9, [Area Selection Tools](#) for help in using any of the selection tools.)

- f. Look at the **Display Options** group on the toolbar on top of the map; the application will be processing the requested labor shed map. The icons will change from X's to rotating hourglasses while the request is being processed and then change again to checkmarks when processing is completed. Do not attempt to interrupt this processing once it is underway. When the processing has finished (checkmarks are displayed), click on [Points](#) to see a map showing the labor shed for Irvine. You can also click on the [Thermals](#) and [Both](#) options in turn to see other ways to display the places where workers employed in Irvine live. (See the User Guide, page 13, [Map Display Options](#) for a description of these display choices.)
- g. Press the [Report](#) button also in the **Display Options** group. A new browser window will appear and the labor shed report will be created. The report will take a short time to process during which the screen may go blank. The report includes the number of establishments in the selection area, the workers employed there, and a rank ordered list of cities and counties where these workers live. Note that if you had chosen the "Selection Area Profile" report in the [Create Travel Sheds](#) setting window that report would display here. See the User Guide, page 13, [Tabular Reports](#) for descriptions of all reports. Close the reports window when you are finished or keep the window active for comparing this area with others.
- h. From the **Map Overlay Tools** group, press the [Clear](#) button to remove the overlay. Repeat the process for a Commute Shed map – the only difference is you choose "Commute Shed: (Select a residential area and map where people work)" in the [Create Travel Shed](#) window.

## STEP-BY-STEP USER GUIDE

### SELECTING A STARTING POINT ON THE MAP

LED Pilot States "On The Map"

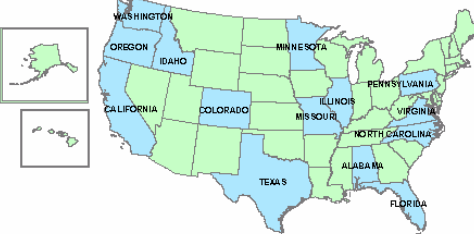
**ON THE MAP** is a live mapping demonstration project that shows in high definition the geographic relationships between where people live and where they work. Users begin by defining custom study areas using a freehand drawing tool or by simply clicking on a standard geography (e.g. city, county, zip code areas, census area, etc.). Then, based on the selected area, maps are produced showing where workers come from that are employed in the selected area (labor shed) or where workers are employed that live in the selected area (commute shed). This application also provides access to work force profile reports and additional analysis tools.

There are fourteen LED pilots states in the Continental US in this demonstration project. The map to the left shows which states are involved.

**START HERE:**

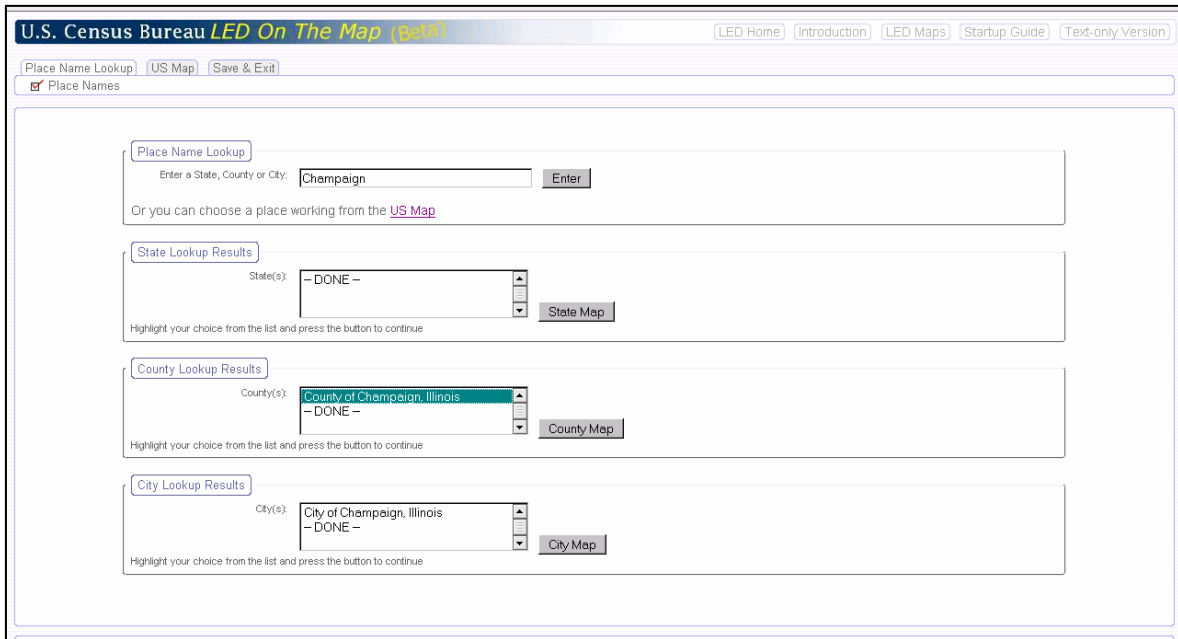
Enter a State, County or City:

Or you can choose a place working from the [US Map](#)



#### a. Place Name Lookup

The **Place Name Lookup** screen (above) is the entry page for the application. It provides a shortcut for users interested in a particular geographic area (i.e., state, county, or city). Simply type in a place name and press the [Enter](#) button. The place you choose must be located in one of the 14 On The Map pilot states shown in blue on the map. If you are not sure how a name is spelled, just type in part of the name. Do not type "City of" or "County" unless its part of the name. A confirmation screen appears offering place name options.

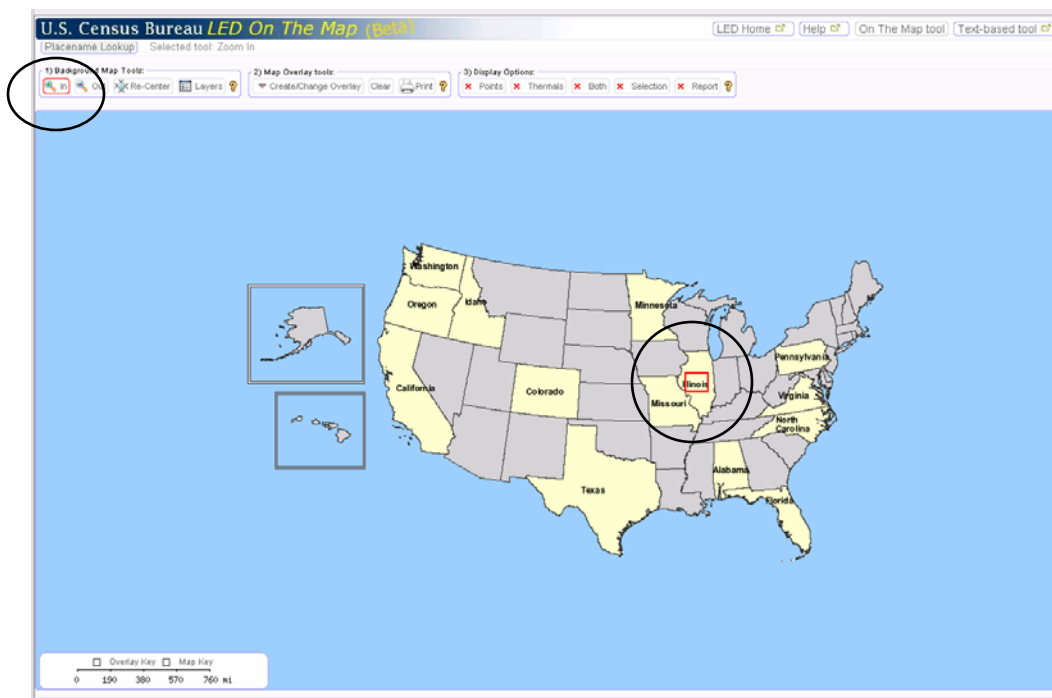


Depending on the name entered on the **Place Name Lookup** page, users may be presented with several location options. The list may extend below the view window. Use the scroll bar in the particular box to see all options. *Highlight the desired place name option in the state, county or city lookup box, then press the map button to the side of the highlighted name.* If none of the choices fit your needs, you can re-enter a name in the lookup box at the top or press the **US Map** tab to move to the US Map page.

## b. **US Map**

A US Map is accessed from the **Place Name Lookup** page by choosing the “US Map” link under the **Enter** button, clicking on the small map on the same page, or by pressing the **US Map** tab at the top of the page. Users can also get there by clicking on the **Place Name Lookup** tab anywhere else in the application – which takes you back to the entry page.

### US Map Window



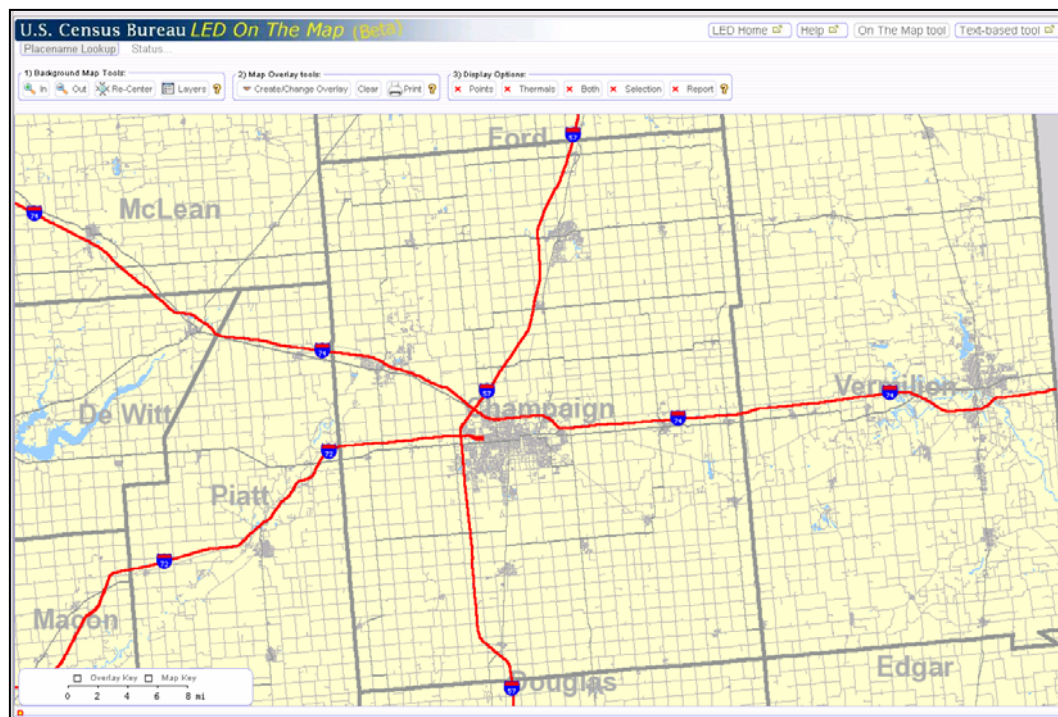
The US Map is a good place to start if you don't have a place name in mind or want to produce larger regional overlay maps. The states shaded in yellow indicate the 14 LED Pilot States available in **On The Map** (Version 1.0). Use the **Background Map Tools** to navigate in to a particular geographic area or region. The map (below) shows the use of the **Zoom In** navigation tool to zoom into an small area of central Illinois. The specific area is selected using your mouse to create a red box directly on the map. Once you release your mouse button, the application takes you in to that area on the map. (See the next section of this guide for more help in using the navigation tools.)

### **Troubleshooting Questions and Answers – Selecting a Starting Point on the Map:**

- **I typed in a place name but nothing showed up on the verification screen. Why not?**  
There could be several reasons why nothing appeared. One possibility is that the name was spelled wrong. Try typing in the first few letters in the name and see if the place you are looking for shows up as an option. The problem could also be that you inadvertently put a space after the name or you typed in “City of” or “County” along with the name. Finally, it is possible that a city name is valid but is not in the place name database. The list includes cities defined as “Places” in the 2000 US Census. As an option, try typing in another place name in the same geographic area and navigate to the location you want.
- **I found the place name on the confirmation screen and pressed the “City Map” button, but no map came up. What did I do wrong?**  
Remember to highlight the place name (by clicking on it with your mouse) before pressing the map button. This is necessary even if only one place name option is listed. Also, remember to press the map button situated alongside the selected name. You should not simply hit your keyboard enter/return key. Finally, make sure that your browser is set to permit Java Scripts and Popup Windows for this application.

## **NAVIGATING INSIDE THE MAP VIEWER**

### **Map Viewer – Champaign County, Illinois**

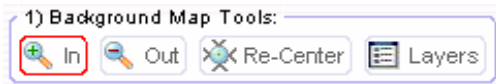


When you enter a place name on the entry page, the map viewer takes you to that place and frames it in the map window. The map viewer is the canvas for the labor market map overlays. The map viewer is dynamic, meaning that users can determine what map layers to display and at what scale. Note that a map scale is placed at the lower left corner of the map. **In addition, a check box on the map scale will turn on or off a map legend corresponding to the visible map layers.**

### **Background Map Tools**

The **Background Map Tools** at the upper left of the map frame are used to change and manipulate the highway map on the viewer. The tool set includes three navigation tools and a map layer settings tool.

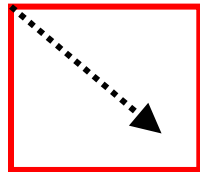
#### **a. Zoom In**



The Zoom In tool is used to zoom in to (or move closer into) the map. Press on the In icon (a red border is placed around the button) and, using your mouse, drag a box over the place on the map where you want to move in closer. The outline of the box locates the map border for a new map. (A text box next to the upper tier of buttons on the screen indicates that the Zoom In tool is selected.)

#### *Navigation Draw Boxes*

*Create a Drag Box by holding down the control button on your mouse (usually the button on the left) and dragging it down and to the right on the map. Try to keep the shape of the box similar in proportion to the map display on your screen. The center of the box becomes the center of the resulting map display.*



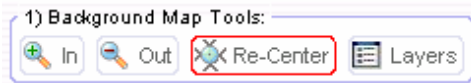
#### **b. Zoom Out**



Select this tool when you want to zoom out (or move further out) from the map. It operates the same way as the Zoom In tool – but in reverse. Press on the Out icon (a red border is placed around the button) and, using your mouse, drag a box over an area of the map that you want to become the center of your new map. The size of the drag box determines how far out the map will zoom. A small box will cause the map to move out a large distance while a larger box will cause the map to move out a small distance. The map is redrawn with the map zoomed out. The center of the map will be located where the center of the box was. (When this tool is in use, a text box at the upper right of the map viewer indicates that the “Zoom Out” tool is selected.)

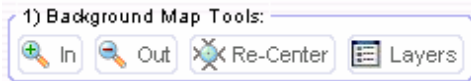


### c. Re-Center



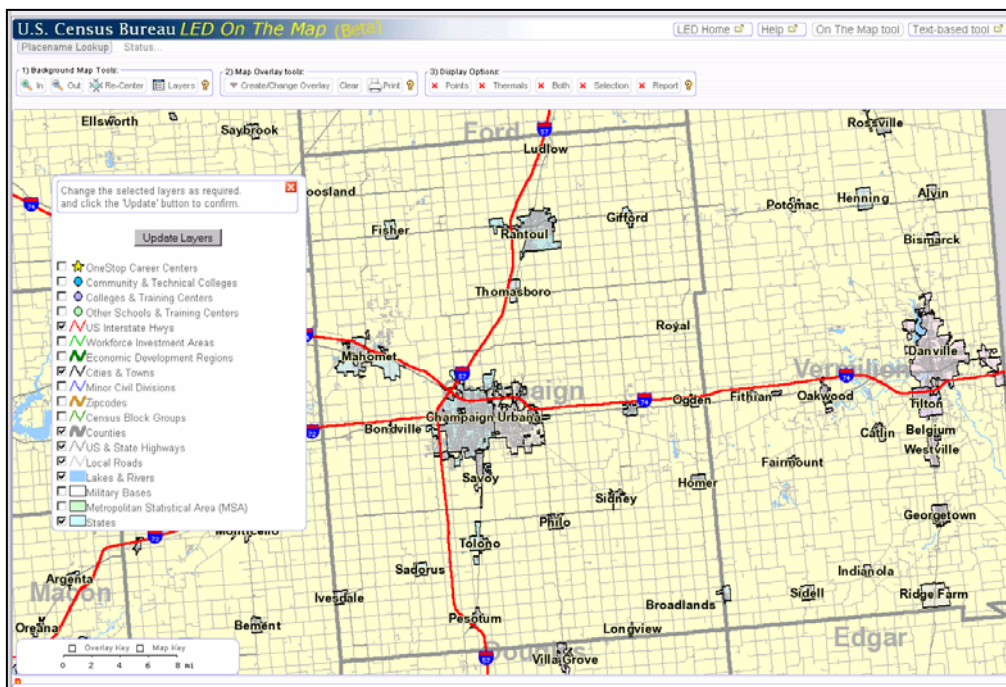
This tool shifts the map in any direction laterally while maintaining the current map scale. Press the Re-Center icon (a red border is placed around the button) and then click on a particular location on the map. The location you pick becomes the new center of the map view. (A text box at the upper right of the map viewer indicates that the Re-Center tool is selected.)

### d. Layers



The map's layer settings box is displayed by clicking on the Layers button. A window appears that shows the geographic map layers that are currently displayed and others that are available for display. Check or uncheck the boxes by each item depending on the layers you want to have displayed on the map. Click on the Update Layers button in the setting box to update the map or click on the "x" to close the box if no changes are needed. Note that check boxes have been added to the scale bar at the bottom left of the map viewer that turn on or off a map layer key and an overlay map key.

### Champaign County, Illinois with City & Towns Layer Activated



### Troubleshooting Questions and Answers – Navigating Inside the Map Viewer

- *When I click on the map using the “Zoom In” tool I end up zooming in way too close – down to where a single street fills the screen. What’s going on?*

By just clicking on the map, you are telling the application to zoom in to the smallest scale possible. You need to draw a box on the map to indicate how far in you want go into the map. The borders of the box you draw on the map indicate what geographic area you want filling the screen.

- *I've used the Layer button to add new map layers (e.g., cities and towns) but the map doesn't always change. What am I doing wrong?*

A few of the map layers are set up so that they do not display above a certain map scale. This is done to keep these layers from rendering the map unreadable. Local streets and city labels would completely cover the map if displayed at the state or regional level. If you zoom closer in, these layers will eventually appear.

- *Other mapping applications on the Web put arrows on the four sides and four corners of the map for shifting the map one way or another. Why don't you use that approach here?*

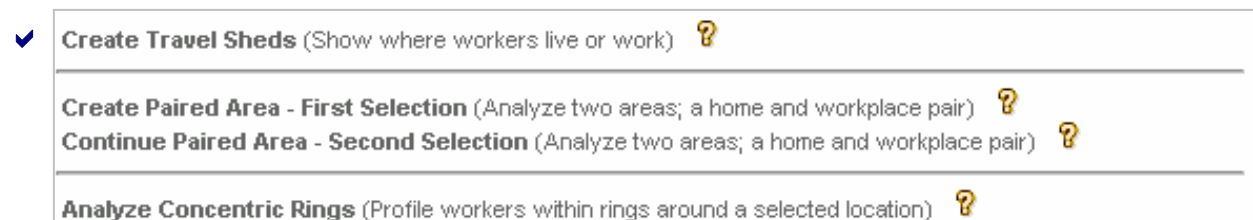
That approach and others were considered in the design of this mapping application. In the end, the “Re-Center” button was selected because it provides much more precision. Rather than shifting the map in increments one direction or another, the “Re-Center” button permits the user to define a new center point to the map. The map shifts in whatever direction is needed to bring the selected point to the center of the map.

## **PRODUCING MAP OVERLAYS AND REPORTS**

Map overlays are geographic layers of information displayed on top of the background map. The application uses these overlays to show selection areas and to show worker travel patterns. The overlay tools, provided with this application, enable users to define and analyze geographic labor markets in many different ways.



The “**Create/Change Overlay**” tool is the command center for generating map overlays. Here the user sets the type of analysis to be done, the data to be used in the analysis, the tools to be employed in defining a selection area, and the kinds of maps or reports to be produced. When the Create/Change Overlay button is pressed, a window comes up offering three different types of analyzes:



**Creating Travel Sheds** – Click on the Create Travel Sheds option to display maps showing where workers in a selected area live or work. A settings box is displayed that shows the available data, display and report options. There are two types of travel shed maps. A “**labor shed**” shows where workers live that are employed in a selected employment area. A “**commute shed**” shows where people in a selected residential area work.

Following a sequence of steps, users decide what information they wish to have displayed. These include the data reference year and employment definition, the direction of the worker



flow (e.g., selecting a workplace area and mapping where workers live, or selecting a residential area and mapping where the residents work), the type of report to be generated, and the tool to be used in defining the study area. Based on these choices, the user picks a study area and displays an overlay map showing the worker travel patterns associated with that area.

**Travel Shed Analysis:** ✕

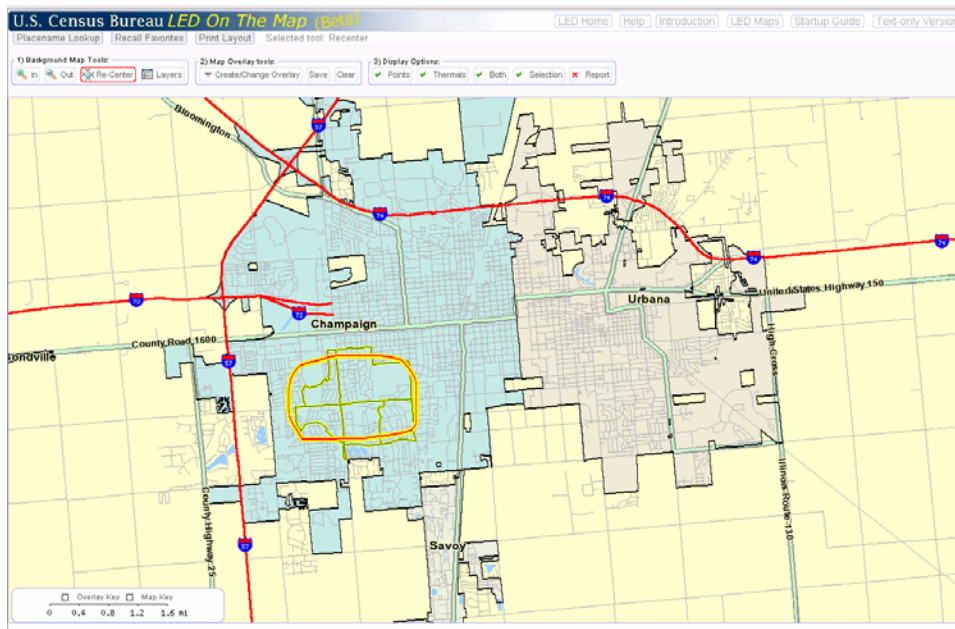
Select the required options from left to right. After you make a selection in step 5 this window will close, and you can select the required area on the map. The overlay will be calculated after you finish drawing your selection area.

<p>1) Year:</p> <p><input checked="" type="radio"/> 2003</p> <p><input type="radio"/> 2002</p>	<p>2) Job Type:</p> <p><input type="radio"/> All Jobs</p> <p><input checked="" type="radio"/> All Primary</p> <p><input type="radio"/> Private Jobs</p> <p><input type="radio"/> Private Primary</p>	<p>3) Live or Work:</p> <p><input checked="" type="radio"/> Commute shed (Selects a home area and maps where people work)</p> <p><input type="radio"/> Labor shed (Selects an employment area and maps where workers live)</p>	<p>4) Report Type:</p> <p><input checked="" type="radio"/> Shed report</p> <p><input type="radio"/> Area profile report</p> <p><input type="radio"/> QW/I report</p> <p>Name: <input style="width: 100%;" type="text"/></p>	<p>4a) Format:</p> <p><input checked="" type="radio"/> HTML</p> <p><input type="radio"/> PDF</p> <p><input type="radio"/> CSV</p>	<p>5) Selection Tool:</p> <p><input checked="" type="checkbox"/> Re-use selection</p> <p><input type="checkbox"/> Freehand</p> <p><input type="checkbox"/> Layer Selection</p> <p><input type="checkbox"/> Buffered Selection</p> <p><input type="checkbox"/> Circle Selection</p>
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- a. **Area Selection Options** – These tools are used to define a geographic study area. Four selection tools are supported along with a button that permits users to reuse their last area.

**Freehand** – A freehand area is drawn directly on the map. Select a spot on the map to begin drawing. Hold down the left (or control) mouse button and drag along the map in the shape of the area desired. Release the button when the desired shape is achieved. (Note that the freehand tool will not process a straight line or single point so be sure to drag the line into a shape that forms a polygon.) Simpler shapes process more quickly. Complex shapes may not fully process due to limits set within the application software.

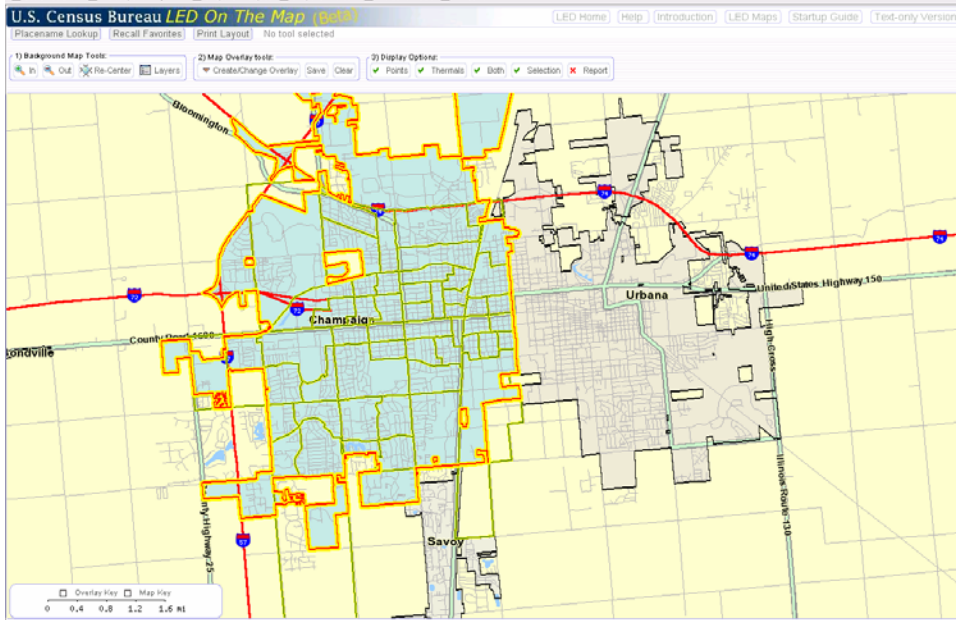
Freehand Selection Area (user defined area in Champaign, IL)



The map viewer returns a rendering of your freehand area along with yellow and green highlighted polygons within the freehand area. These polygon areas are US Census block groups. They define the true geography area used by the application in producing the worker home-to-work map overlays. A block group is selected if the center point of that polygon falls within the drawn area. Note that if no block group center point exists within the selection area, no overlay map will be produced. A message to that effect will be shown on the status bar at the top of the application.

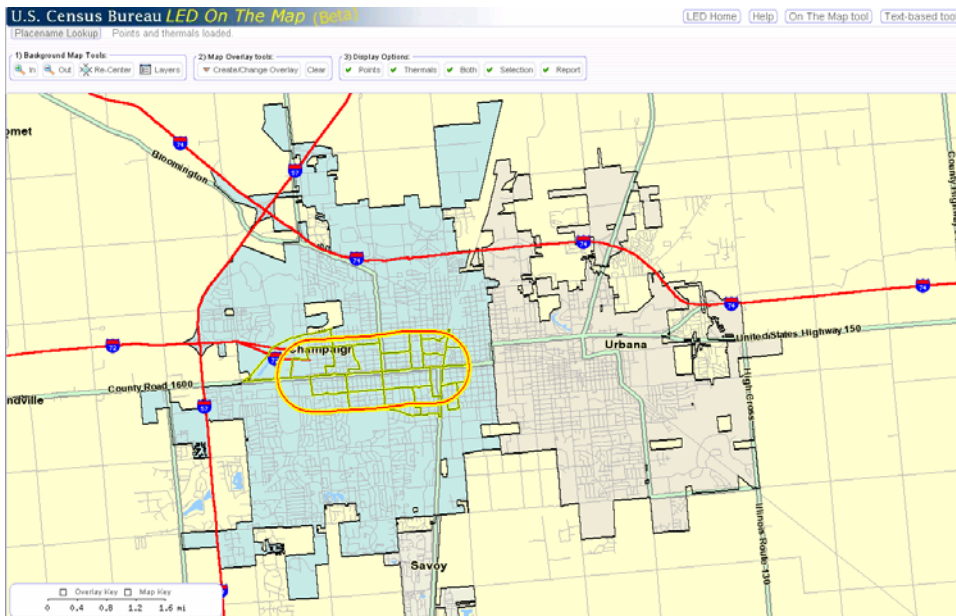
**Layer Selection** – This tool is used to select one or more standard geographies (e.g., cities, counties, WIB areas, etc.) as a study area. When the Layer Selection option is pressed a window will appear with a list of available layers. Choose one of the layers and then drag your mouse along the map (a simple line is satisfactory). All features (e.g., cities) that are touched by the line become part of the resulting selection area.

**Layer Selection Area (City of Champaign, IL)**



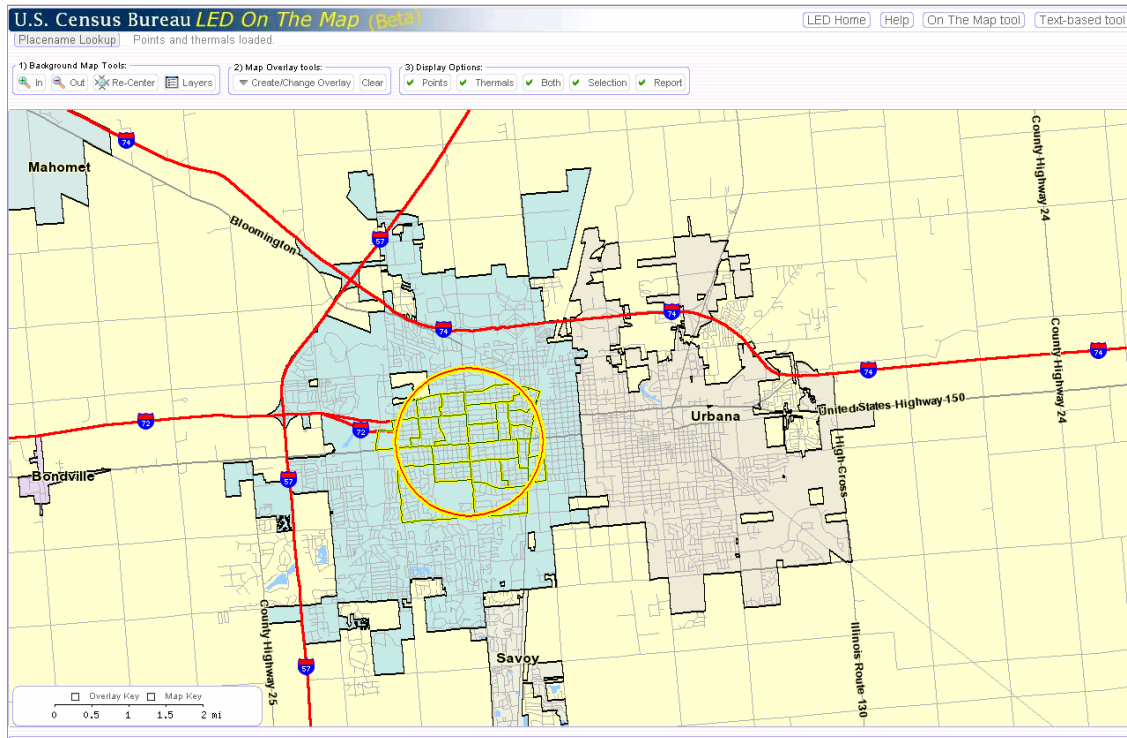
**Buffered Selection** – This tool is used to define a ring of equal distance around a specific *line* segment (such as a street or highway) on the map. When the Buffered Selection option is pressed, a settings box appears where the user can set the size (radius) of the ring. Then, draw a line on the map and a buffered selection area will be displayed.

**Buffered Selection Area (half-mile corridor along IL Hwy 10)**



**Circle Selection** – This tool is used to define a ring of equal distance around a specific *point* (such as a street intersection or building site) on the map. When the **Circle Selection** option is pressed, a settings box appears where the user can set the size (radius) of the ring. Then, click on the map to display a ring around the selected point.

**Circle Selection Area (One-mile ring: Intersection of Prospect and IL Hwy 10)**

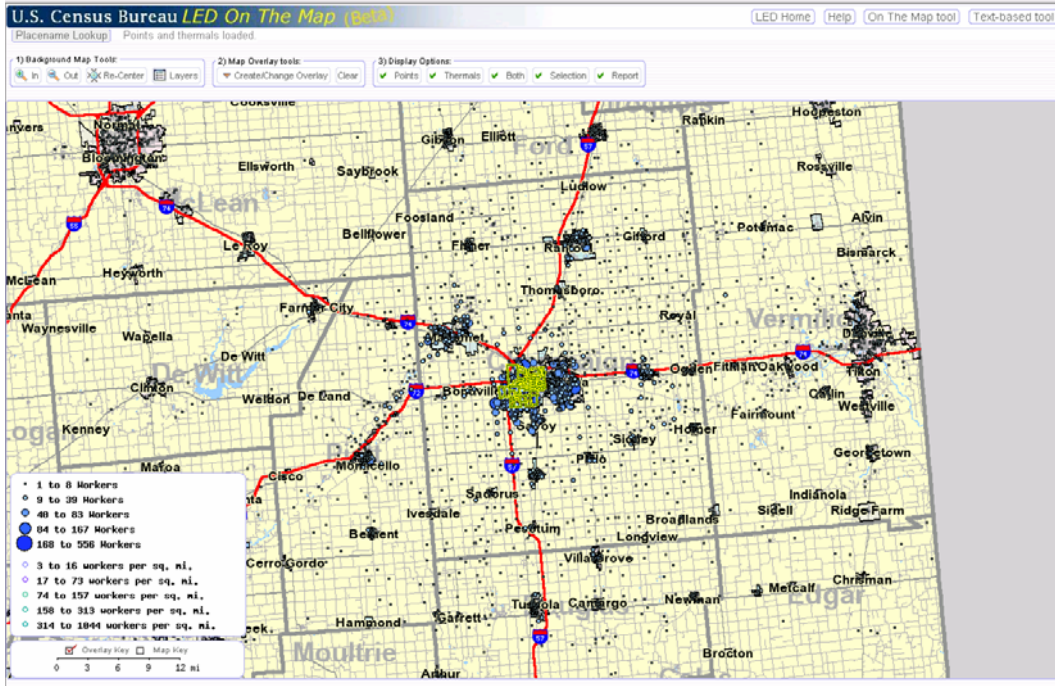


**Re-use Selection** – This button permits the user to recall the last selection area rather than having to reproduce the area using one of the four selection tools. Do not clear the previous selection if you wish to use the Re-use Selection option.

- b. **Travel Shed Maps** – There are two distinct kinds of workforce travel maps. A **Labor Shed** map is generated when the user chooses the option to “select an employment area and map where these workers live.” A **Commute Shed** map is produced when the user chooses to “select a residential area and map where residents are employed.” These two options are presented as choices inside the Travel Shed Analysis options box described above.

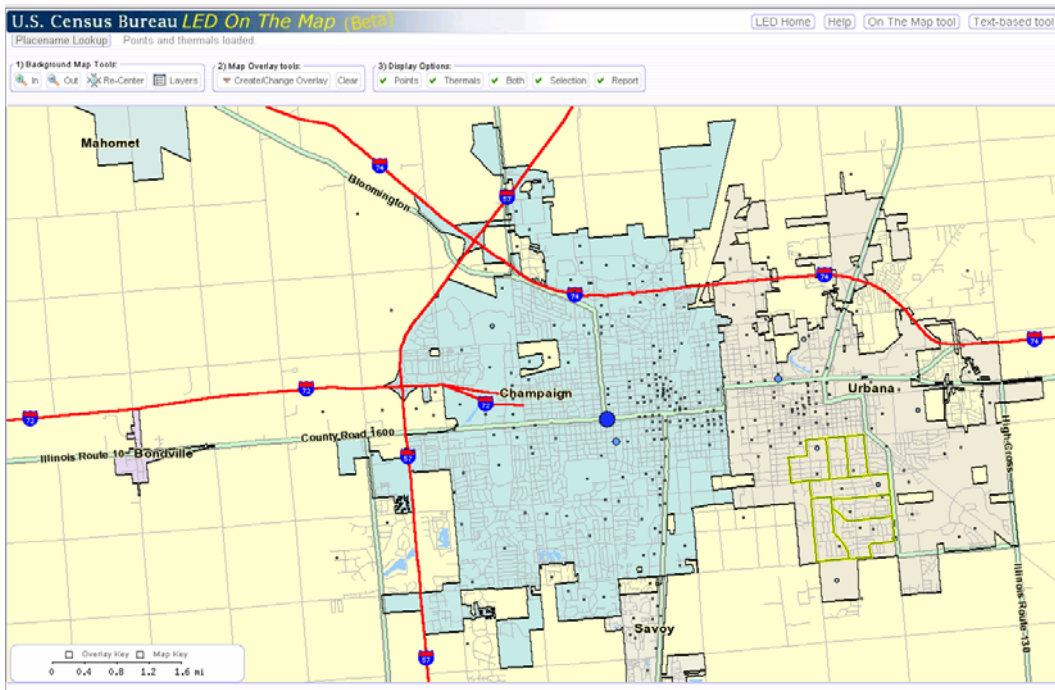
Two sample maps are displayed below showing Labor Shed and Commute Shed maps for the Champaign/Urbana, Illinois area. Note that the selection areas are highlighted in yellow, while the places where workers live (or work) are shown as blue dots. The dots are placed at the middle of each census block area and are sized based on the number of workers that live in the same census block -- the larger the dot the more workers from the selection area either live or work in that block location. (A key to the dots is available by clicking on the Overlay Map check box right above the map scale bar.)

Labor Shed Example (Where workers live that are employed in Champaign, Illinois)



*Map Overlay Criteria:* Data displayed reflect all private sector workers (2<sup>nd</sup> Quarter 2003) working in those Census block groups defined by the city boundaries of Champaign, Illinois. The “Layer Select” option was used to define the selection area (highlighted in yellow in the map). Home locations are shown as blue dots sized based on the number of workers employed in Champaign and living in specific Census blocks.

Commute Shed Map (Where residents in an Urbana, IL neighborhood work)





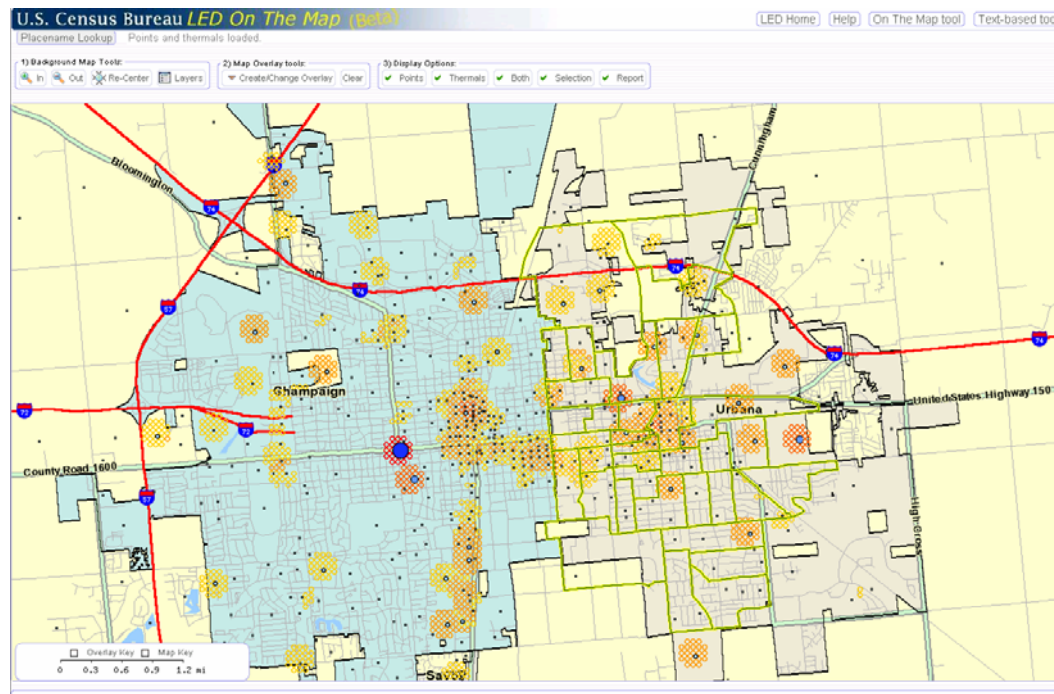
*Map Overlay Criteria:* Data displayed on this map cover all primary, private sector jobs held by workers (in 2<sup>nd</sup> Quarter, 2003) residing in the selected census block groups in a specific area of Urbana, Illinois. The “Freehand” tool was used to define the selection area (highlighted in yellow in the map). Workplace locations are shown as blue dots that are sized based on the number of workers employed within specific census blocks. Note that the large blue dot in the center of Champaign references the University of Illinois’ main campus.

- c. **Map Display Options** – Travel Shed overlays can be displayed using Points (as shown in the previous map overlay examples), Thermals, or Both at the same time. The point display is very helpful in defining the extent of the labor market area as well as areas where clustering occurs. The “thermal” map display shows areas of highest density – measured by workers per acre. The thermal has several levels of shading – density being higher where the shading is darker. Only areas of higher density are displayed.



Users can toggle between the Points, Thermals or Both options by simply selecting a different button. The sample map below shows the same map with both the points and thermals displayed.

City of Urbana, IL Commute Shed Map (Both Point and Thermal Overlays)



- d. **Tabular Reports** – Each of the overlay maps has at least one associated report. There are three specific reports that support the travel shed maps described above. The user specifies the desired report in the Travel Shed settings box and produces the report by clicking on the Report button on the Display Tool Bar. The report options include the following:



*Travel Shed Report* – This report provides employment counts (by type of job) for both 2002 and 2003. It also provides counts and distributions of workers based on city (and county) of origin in the case of Labor Shed analyses or workplace destinations by city (and county) for Commute Shed analyses.

Commute Shed Report – City of Urbana, Illinois Selection Area

U.S. Census Bureau *LED On The Map (Beta)*

Commute Shed Report - Where Residents in the Selection Area are Employed

	2003		2002	
	Count	Share	Count	Share
<b>Number of Jobs Held by Residents</b>				
* All Jobs	10,263	100.0%	10,687	100.0%
* All Jobs (Private Sector Only)	6,715	65.4%	7,009	65.6%
* All Primary Jobs (Worker's highest paying job)	9,423	91.8%	9,746	91.2%
* All Primary Jobs (Private Sector Only)	6,088	59.3%	6,327	59.2%
<b>WHERE AREA WORKERS ARE EMPLOYED</b>				
	2003		2002	
	Count	Share	Count	Share
Total Workers (Primary Jobs - Private Sector)	6,088	100.0%	6,327	100.0%
<b>Cities/Towns Where Residents are Employed</b>				
* Champaign	1,980	32.5%	2,173	34.3%
* Urbana	1,621	26.6%	1,717	27.1%
* Unincorporated Areas	475	7.8%	508	8%
* Chicago	151	2.5%	132	2.1%
* Rantoul	120	2%	114	1.8%
* All Other Locations	1,741	28.6%	1,683	26.6%
<b>Counties Where Residents are Employed</b>				
* Champaign	4,245	69.7%	4,586	72.5%
* Cook	406	6.7%	384	6.1%
* DuPage	187	3.1%	162	2.6%
* McLean	157	2.6%	168	2.7%
* Sangamon	99	1.6%	94	1.5%
* All Other Locations	994	16.3%	913	14.4%

Definitions and Disclaimers

Source:  
LED Worker Origin/Destination Database (2nd Quarter 2002 and 2003)

*Selection Area Profile Reports* – This report provides a demographic profile of workers in the user selected area. The report shows counts of workers for both 2<sup>nd</sup> Quarter 2002 and 2003 and also includes by worker age, earnings and in each of the 20 two-digit NAICS industry categories. The Area Profile report for the Urbana commute shed example is shown below.

## Selection Area Profile Report – Urbana Neighborhood Selection Area

U.S. Census Bureau <i>LED On The Map</i> (Beta)				
Selection Area Profile - Characteristics of Resident Workers				
Query ID:				
	2003		2002	
	Count	Share	Count	Share
<b>Number of Jobs Held by Resident Workers</b>				
* All Jobs	10,263	100.0%	10,687	100.0%
* All Jobs (Private Sector Only)	6,715	65.4%	7,009	65.6%
* All Primary Jobs (Worker's highest paying job)	9,423	91.8%	9,746	91.2%
* All Primary Jobs (Private Sector Only)	6,088	59.3%	6,327	59.2%
	2003		2002	
	Count	Share	Count	Share
<b>Total Workers (Primary Jobs - Private Sector)</b>				
	6,088	100.0%	6,327	100.0%
<b>Workers by Age</b>				
* Age 30 or younger	2,527	41.5%	2,749	43.4%
* Age 31 to 54	2,895	47.6%	2,954	46.7%
* Age 55 or older	666	10.9%	624	9.9%
<b>Workers by Earnings Paid</b>				
* \$1,200 per month or less	2,341	38.5%	2,568	40.6%
* \$1,201 to \$3,400 per month	2,741	45%	2,832	44.8%
* More then \$3,400 per month	1,006	16.5%	927	14.7%
<b>Workers by Primary Industry (2-digit NAICS)</b>				
* Agriculture, Forestry, Fishing and Hunting	11	0.2%	10	0.2%
* Mining	0	0%	0	0%
* Utilities	17	0.3%	18	0.3%
* Construction	258	4.2%	243	3.8%
* Manufacturing	635	10.4%	666	10.5%
* Wholesale Trade	230	3.8%	281	4.4%
* Retail Trade	1,079	17.7%	1,046	16.5%
* Transportation and Warehousing	187	3.1%	178	2.8%
* Information	219	3.6%	289	4.6%
* Finance and Insurance	201	3.3%	207	3.3%
* Real Estate and Rental and Leasing	128	2.1%	149	2.4%
* Professional, Scientific, and Technical Services	385	6.3%	366	5.8%
* Mgmt of Companies and Enterprises	84	1.4%	111	1.8%
* Admin. & Support, Waste Mgmt and Remediation	325	5.3%	322	5.1%
* Educational Services	77	1.3%	78	1.2%
* Health Care and Social Assistance	1,111	18.2%	1,064	16.8%
* Arts, Entertainment, and Recreation	74	1.2%	96	1.5%
* Accommodation and Food Services	815	13.4%	981	15.5%
* Other Services (excl. Public Admin.)	252	4.1%	222	3.5%
* Public Administration	0	0%	0	0%
Definitions and Disclaimers				
<b>Source:</b> LED Worker Origin/Destination Database (2nd Quarter 2002 and 2003)				

*QWI Report* – This report is available only for workplace selection areas. The information in this report is drawn from the Quarterly Workforce Indicators produced by the US Census Bureau. The report provides information on the number of employers and workers in the selection area as well as several job growth indicators (e.g., job gains and

losses, new hires and separations). A QWI Report for the City of Urbana, IL is shown below.

QWI Report – City of Urbana, IL Selection Area

	2003:Q2	2002:Q2
<b>QWI Indicators - Private Sector Jobs</b>		
* Employment (Beginning-of-2nd quarter)	14,495	14,361
* Employment Stable Jobs	12,805	12,660
* Separations Stable Jobs	1,145	1,144
* New Hires Stable Jobs	994	1,090
* Firm Job Gains	876	924
* Firm Job Loss	476	514
* Employment (reference quarter)	17,458	17,425
* Average Monthly Earnings Stable Jobs	\$ 2,988	\$ 2,953
* Average Monthly Separations from Stable Jobs	\$ 1,109	\$ 926
* Average Monthly Earnings New Hires Stable Jobs	\$ 1,891	\$ 1,891

**Mapping Paired Areas**

- Create Travel Sheds (Show where workers live or work) ?

---

- ✓ Create Paired Area - First Selection (Analyze two areas; a home and workplace pair) ?
- Continue Paired Area - Second Selection (Analyze two areas; a home and workplace pair) ?

---

- Analyze Concentric Rings (Profile workers within rings around a selected location) ?

Click on the Create Paired Areas – First Selection option under the Create/Change Overlay tab to start a two-step process showing the interdependencies between specific home and workplace area pairs. This analysis module is an extension of the commute shed and labor shed overlays described above. Using our Champaign and Urbana city examples, the paired analysis will look at the number of Downtown Champaign workers that live in the selected Urbana neighborhood.

**Paired Areas Analysis.** ✕

**First Selection:** Select the required options from left to right. After you make a selection in step 4 this window will close, and you can select the required area on the map. Then re-open this window to continue with the Second Selection.

1) Year:

2003

2002

2) Job Type:

All Jobs

All Primary

Private Jobs

Private Primary

3) Live or Work:

Commute shed (Selects a home area and maps where people work)

Labor shed (Selects an employment area and maps where workers live)

4) Selection Tool:

Freehand

Layer Selection

Buffered Selection

Circle Selection

The overlay map is produced in two stages. In the First Selection box (shown above), the user defines the selection settings for the first of the Paired Areas. The user chooses the “Select employment area and map where workers live” option and the “Freehand” selection tool. After the selection tool is chosen, the box disappears. A freehand polygon is drawn by the user around downtown Champaign to indicate a stage one employment area. The application produces a labor shed overlay map just as it does for a Labor Shed analysis. Note that once the overlay has been processed, the user must go back and select the Second Paired Area settings box. No report is processed until both pairs are set.

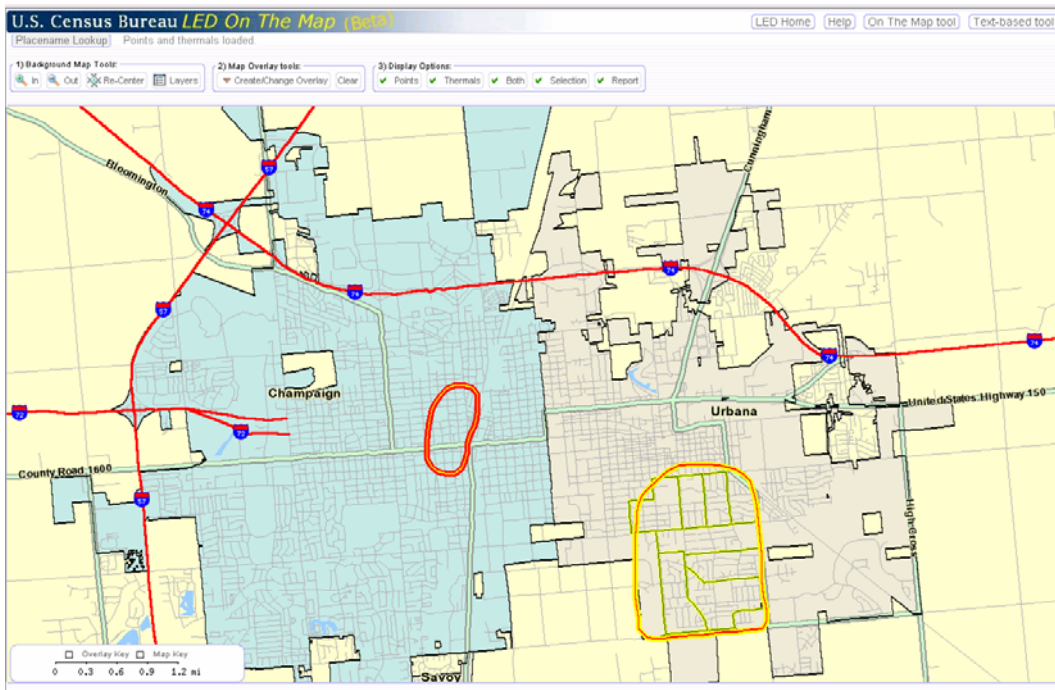
**Paired Areas Analysis.** ✖

**Second Selection:** Select the required options from left to right. After you make a selection in step 5 this window will close, and you can select the required area on the map. The overlay will be calculated after you finish drawing your selection area.

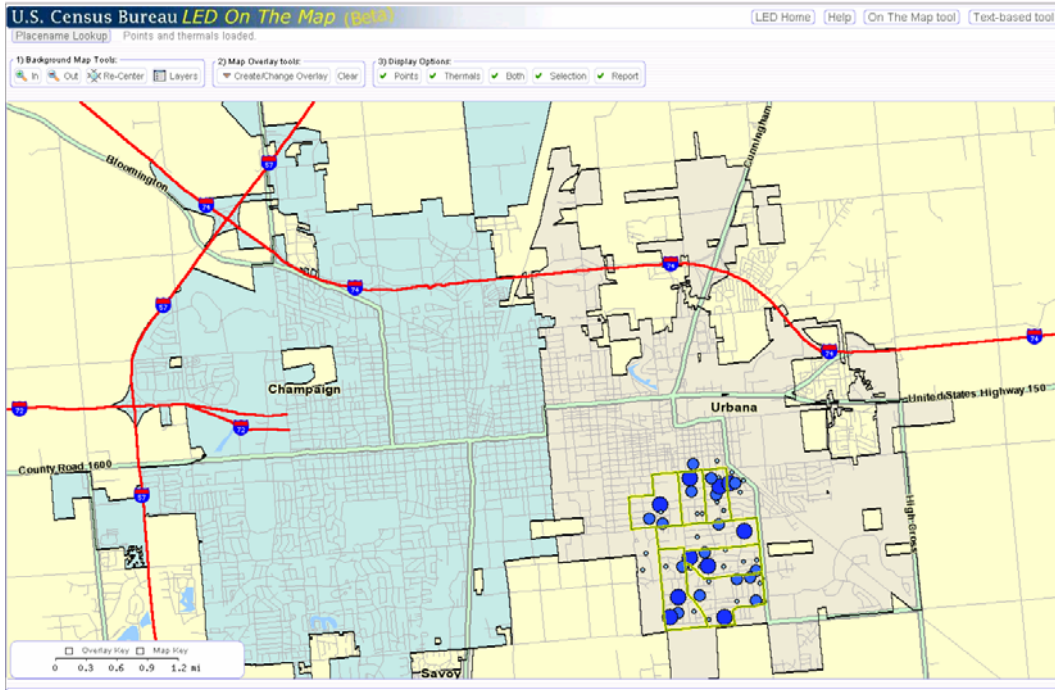
<p>1) Year:</p> <input type="radio"/> 2003 <input type="radio"/> 2002	<p>2) Job Type:</p> <input type="radio"/> All Jobs <input type="radio"/> All Primary <input type="radio"/> Private Jobs <input type="radio"/> Private Primary	<p>3) Live or Work:</p> <input checked="" type="radio"/> Commute shed (Selects a home area and maps where people work) <input type="radio"/> Labor shed (Selects an employment area and maps where workers live)	<p>4) Report Type:</p> <input checked="" type="radio"/> Paired area report Name: <input type="text"/>	<p>4a) Format:</p> <input checked="" type="radio"/> HTML <input type="radio"/> PDF <input type="radio"/> CSV	<p>5) Selection Tool:</p> <input checked="" type="radio"/> Freehand <input type="radio"/> Layer Selection <input type="radio"/> Buffered Selection <input type="radio"/> Circle Selection
--	--	---	--	--	--

In the Second Selection box, the user defines the settings for selecting the second of the Paired Areas. Note that the first three boxes are pre-filled reflecting the user’s first stage selections. For this example, the user selects the “Paired Area report” and the “Freehand” selection tool. The box disappears and the user delineates the Urbana neighborhood boundaries as the stage two selection area. The resulting overlay and report are shown below. The report shows the number of workers that work in the first area and live in the second. This type of analysis permits users to produce very specific home and workplace comparisons.

Paired Area Overlay Map – Downtown Champaign workers that live in a southside Urbana neighborhood. (The two Paired Area Selections)



Paired Area Overlay Map – Downtown Champaign employment originating in a southside Urbana neighborhood. (Downtown workers living in a Southside Urbana Neighborhood



Paired Area Analysis Report – Workers Employed in Downtown Champaign and residing in the selected Urbana Neighborhood

**U.S. Census Bureau LED On The Map (beta)**

Paired Area Report - Characteristics of Workers that Work in Selection Area #1 and Live in Area #2

User Supplied Label

WORKERS EMPLOYED IN SELECTION AREA #1		2003	
	Count	Share	
<b>Jobs Held by Employed Workers</b>			
* All Jobs	16,127	100.0%	
* All Jobs (Private Sector Only)	3,220	100.0%	
* All Primary Jobs (Worker's highest paying job)	15,209	100.0%	
* All Primary Jobs (Private Sector Only)	2,943	100.0%	
WORKERS FROM AREA #1 THAT LIVE IN AREA #2		2003	
	Count	Share	
<b>Jobs held by Workers of Area #1 Living in Area #2</b>			
* All Jobs	1,064	6.6%	
* All Jobs (Private Sector Only)	84	2.6%	
* All Primary Jobs (Worker's highest paying job)	1,022	6.7%	
* All Primary Jobs (Private Sector Only)	74	2.5%	

Definitions and Disclaimers

**Source:**  
LED Worker Origin/Destination Database (2nd Quarter 2002 and 2003)



## Analyzing Concentric Rings

Create Travel Sheds (Show where workers live or work) ?

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Create Paired Area - First Selection (Analyze two areas; a home and workplace pair) ?

Continue Paired Area - Second Selection (Analyze two areas; a home and workplace pair) ?

---

✓ Analyze Concentric Rings (Profile workers within rings around a selected location) ?

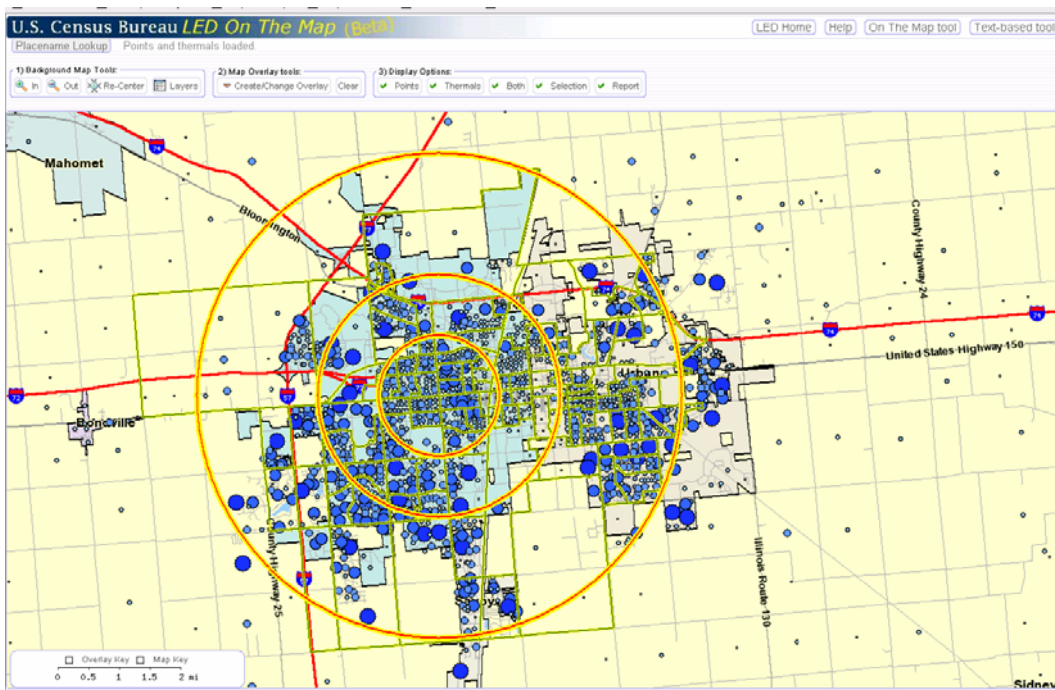
Click on the Analyze Concentric Rings option under the Create/Change Overlay tab to create maps profiling the workforce in rings around a selected location. A settings box appears where you can set your mapping and report requirements.

**Concentric Ring Analysis:** Select the required options from left to right. After you click 'Pick Point' in step 5 this window will close, and you can select the required area on the map. The overlay will be calculated after you pick a point on the map.

1) Year: <input checked="" type="radio"/> 2003 <input type="radio"/> 2002	2) Job Type: <input type="radio"/> All Jobs <input type="radio"/> All Primary <input type="radio"/> Private Jobs <input type="radio"/> Private Primary	3) Live or Work: <input type="radio"/> Commute shed (Selects a home area and maps where people work) <input checked="" type="radio"/> Labor shed (Selects an employment area and maps where workers live)	4) Report Type: <input checked="" type="radio"/> Concentric Ring report Name: <input type="text"/>	4a) Format: <input checked="" type="radio"/> HTML <input type="radio"/> PDF <input type="radio"/> CSV	5) Selection Tool: Ring 1 <input type="text" value="1"/> miles - + Ring 2 <input type="text" value="2"/> miles - + Ring 3 <input type="text" value="3"/> miles - + <input type="button" value="Go"/>
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The layout of the Concentric Rings options box is similar to those associated with the Travel Shed and Paired Area overlays. Follow the same left-to-right sequence in completing the form. Choose the year for the displayed data, the job definition, shed type, and report. The selection tool for concentric circles is different. Users choose three rings and set the radius for each ring working from the largest to the smallest. Radius distances are entered by clicking on the + and - boxes to the right. Once the ring distances are set, click on the Go button at the bottom of the box; the settings box disappears and the user must click on a desired location on the map to produce the concentric ring overlay. The displayed overlay is based on the largest of the concentric rings.

### Concentric Ring Map – 1, 2, and 4 mile rings (Champaign, Illinois)



The map (above) shows a Concentric Ring overlay map based on one, two, and four-mile rings around a highway intersection in Champaign, IL. The overlay uses the largest ring and, for this example, shows where workers live that are employed within a four-mile circle.

The Concentric Ring report is shown below. The report provides a 2003 profile of workers employed within one, two and four mile increments of the selected Champaign, Illinois intersection. A 2002 profile would have been generated if 2002 has been chosen in the setup box. The Concentric Circle module is particularly useful for analyzing labor market demographics around a selected employment area.

### Concentric Ring Report – Intersection of Prospect and IL Hwy 10

U.S. Census Bureau <i>LED On The Map</i> (beta)							LED Home	Help
CONCENTRIC RING REPORT - EMPLOYMENT								
2003 Employment Profile --"User Supplied Label"								
	4 Mi. Radius		2 Mi. Radius		1 Mi. Radius			
	Count	Share	Count	Share	Count	Share		
<b>Number of Employers (Beginning of 2nd Quarter)</b>	2,563		1,458		563			
<b>Number of Jobs:</b>								
* All Jobs	67,800	100.0%	41,682	100.0%	10,300	100.0%		
* All Jobs (Private Sector Only)	48,836	72%	25,048	60.1%	9,565	92.9%		
* All Primary Jobs (Worker's highest paying job)	62,649	92.4%	38,672	92.8%	9,346	90.7%		
* All Primary Jobs (Private Sector Only)	44,840	66.1%	22,974	55.1%	8,637	83.9%		
	4 Mi. Radius		2 Mi. Radius		1 Mi. Radius			
	Count	Share	Count	Share	Count	Share		
<b>Total Jobs (All Jobs - Private Sector)</b>	48,836	100.0%	25,048	100.0%	9,565	100.0%		
<b>Jobs by Worker Age</b>								
* Age 30 or younger	17,932	36.7%	8,961	35.8%	4,114	43%		
* Age 31 to 54	25,342	51.9%	13,114	52.4%	4,381	45.8%		
* Age 55 or older	5,562	11.4%	2,973	11.9%	1,070	11.2%		
<b>Jobs by Earnings Paid</b>								
* \$1,200 per month or less	19,026	39%	9,745	38.9%	4,597	48.1%		
* \$1,201 to \$3,400 per month	19,838	40.6%	10,350	41.3%	3,381	35.3%		
* More than \$3,400 per month	9,972	20.4%	4,953	19.8%	1,587	16.6%		
<b>Jobs by Primary Industry (2-digit NAICS)</b>								
* Agriculture, Forestry, Fishing and Hunting	25	0.1%	0	0%	0	0%		
* Mining	0	0%	0	0%	0	0%		
* Utilities	128	0.3%	0	0%	0	0%		
* Construction	2,280	4.7%	1,363	5.4%	296	3.1%		
* Manufacturing	5,562	11.4%	1,468	5.9%	339	3.5%		
* Wholesale Trade	1,878	3.8%	674	2.7%	157	1.6%		
* Retail Trade	7,631	15.6%	2,947	11.8%	1,289	13.5%		
* Transportation and Warehousing	975	2%	449	1.8%	113	1.2%		
* Information	1,918	3.9%	1,122	4.5%	655	6.8%		
* Finance and Insurance	1,687	3.5%	948	3.8%	598	6.3%		
* Real Estate and Rental and Leasing	1,054	2.2%	645	2.6%	470	4.9%		
* Professional, Scientific, and Technical Services	2,672	5.5%	1,002	4%	434	4.5%		
* Mgmt of Companies and Enterprises	509	1%	481	1.9%	409	4.3%		
* Admin. & Support, Waste Mgmt and Remediation	1,909	3.9%	980	3.9%	454	4.7%		
* Educational Services	368	0.8%	247	1%	149	1.6%		
* Health Care and Social Assistance	9,289	19%	7,279	29.1%	1,487	15.5%		
* Arts, Entertainment, and Recreation	670	1.4%	176	0.7%	13	0.1%		
* Accommodation and Food Services	8,335	17.1%	4,185	16.7%	2,276	23.8%		
* Other Services (excl. Public Admin.)	1,946	4%	1,082	4.3%	426	4.5%		
* Public Administration	0	0%	0	0%	0	0%		

[Definitions and Disclaimers](#)

**Source:**

LED Worker Origin/Destination Database (2nd Quarter 2002 and 2003)

## GLOSSARY OF TERMS

The following terms were referenced in this guide:

- **All Jobs** – One of four job definitions used in this mapping application. This is a count of all public and private (non-farm) jobs held by residents or employees in a selected geographic area and time period.
- **All Primary** - One of four job definitions used in this mapping application. A count of all primary, public and private (non-farm) jobs in a selected geographic area and timeframe. A “primary job” is defined as the highest paying job held by an individual over a specified time period. Primary jobs equates to number of workers in an area.
- **Analyze Concentric Rings** – A map overlay option where three concentric rings are drawn around a location defined by the user on the map. The area covered by the largest ring defines the reference area used for the overlay maps and reports.
- **Area Selection Tools** – A set of four tools (freehand, layer, buffered, and circle) used for defining geographic selection areas. Selection areas are the basis for the accompanying overlay maps and reports.
- **Background Map Tools** – Tools used for controlling display characteristics of a digital base map. Included are tools for turning geographic layers on or off and for navigating within the map view.
- **Both** – A map overlay display option where both points and thermals are shown at the same time.
- **Browser** – A generic terms used to describe computer software used to access Internet-based Websites. Example browsers include Microsoft Internet Explore, Netscape, and Firefox. Applications, such as On The Map, are designed to perform equally well across multiple browsers.
- **Buffered Selection Tool** – One of four Area Selection Tools. This tool defines a selection area based on a ring (or buffer) drawn around a line drawn on the map. The size of the ring is based on a user-specified radius in miles from the line on the map. The radius for the ring is set in the Buffered Selection settings box.
- **Circle Selection Tool** – One of four Area Selection Tools. This tool defines a selection area based on a ring drawn around a selected location on the map. The size of the ring is based on a user-specified radius from the selected location. The radius for the ring is set in the Circle Selection settings box.
- **Clear** – One of several Map Overlay Tools. The Clear button deletes (or clears) all current map overlays.
- **Commute Shed Map** – A map showing where workers who live within a specified area are employed. The selection area (their residence area) appears as a yellow-green area on the map. Their employment locations and job concentrations appear as points and/or thermals on the maps, depending on options selected by the user.
- **Concentric Circle Map** – A map showing where workers work who live in a selected area (commute shed) or where workers live that are employed in a selected area (labor shed). The selection area includes three nested rings set at user defined distances from a specific location.
- **Create Paired Area** – A map overlay module that permits two selection areas to be defined concurrently by the user. One must be a home area and the other a workplace location.

A map is drawn showing the two selection areas and a report is produced showing the number of workers that live in the home area and are employed in the workplace location.

- **Create Travel Sheds** – A map overlay module that permits users to map the home-to-work travel patterns for workers in a selected geographic area. Based on a user-defined selection area, an overlay map is produced using points and thermal shading to show home origins (labor sheds) or workplace destinations (commute sheds). Shed Reports are produced that summarizes travel patterns by city and county.
- **Create/Change Overlay** – The primary toolbar button for producing map overlays. Available modules permit the user to create travel sheds, perform paired area studies, and analyze concentric rings.
- **CSV** – A comma delimited data file format that permits On The Map reports to be imported into an external spreadsheet program (e.g., EXCEL). This format is not active at present.
- **Display Options** – One of three toolbar groups within the On The Map application. This group controls how overlay maps are displayed and triggers production of tabular reports.
- **Drag Box** – A rectangular outline produced by holding down the left (or control) button of a mouse and dragging the mouse across a map viewer in a diagonal pattern (from the upper left to lower right) and then releasing the button. Drag boxes are used in changing the scale of a background map.
- **Freehand Selection Tool** – One of four Area Selection Tools. This tool defines a selection area by drawing a freehand polygon on the map. With the left (or control) button on the mouse depressed, a user drags the cursor across the map forming the outline of a polygon.
- **HTML** – Hypertext Markup Language is the authoring software language used on the Internet's World Wide Web. HTML is used for creating World Wide Web pages.
- **Labor Shed Map** - A map showing where workers live that are employed in a user-defined selection area. The selection area (the area in which workers are employed) appears as a yellow-green area on the map. The location of their residences appear as points and/or thermals on the maps, depending on options selected by the user.
- **Layer Selection Tool** – One of four Area Selection Tools. This tool defines a selection area by picking one or more features in a background layer on the map. The user chooses the layer type (Zip Codes areas, Cities & Towns, Minor Civil Divisions, Counties, Workforce Investment Areas, or Military Bases) from a list and drags his or her mouse across the map to select the place(s) to be included in the analysis.
- **Layers** – Background Map Tool used for turning specific street map layers on or off.
- **Map Key** – Check box positioned on the lower left corner of the map viewer adjacent to the Map Scale and Overlay Key check box. The Map Key displays the line and polygon colors that correspond to the background map layers. The Map Key can be toggled on or off by clicking on the check box.
- **Map Overlay Tools** – Tools used for creating and controlling the map overlays found in the On The Map application.
- **Map Scale** – Scale indicating distances in miles on the background map. The scale changes as the user changes the area displayed in the map viewer.
- **Map View** – The geographic extent of the base map as displayed in the map viewer. The map view expands as the user zooms out of the map and contracts when the user zooms in.

- **Map Viewer** – The live mapping display frame employed in the On The Map application.
- **Navigation Tools** – The tools (Zoom In, Zoom Out, and Re-Center) used to change the map view.
- **Overlay Key** - Check box positioned on the lower left corner of the map viewer alongside the Map Scale and Map Key check box. The Overlay Key provides a numeric translation for the points and thermals displayed in the overlay map. Points are sized based on concentration of workers (shown in five ranges) while the thermals show worker density measured in workers per square mile (again in five ranges). The Overlay Key can be toggled on or off by clicking on the check box.
- **Overlay Map** – An overlay placed on top of the geographic street map showing demographic travel patterns and worker concentrations. Users have significant control over the information displayed on the overlay maps.
- **PDF** – Download file format that permits reports to be saved and printed just as it appears in the application. Users cannot change contents of .pdf documents unless they have specific software that has this capability.
- **Place Name Lookup** – The entry page to On The Map that provides an overview of the application and an entry point into the map viewer. Users are instructed to enter a place name or choose a link into a US map page. The [Place Name Lookup](#) page can also be accessed from within the map viewer so that users can quickly shift to a different area or restart a mapping session.
- **Points** – A map overlay display option where worker home or workplace locations are identified by dots on the map. Dots are located at the center points of census blocks. The size of each dot is based on the number of workers located on that block. Blocks with no workers are not displayed.
- **Private Jobs** - One of four job definitions used in this mapping application. A count of all private sector (non-farm) jobs held by residents or employees in a selected geographic area and time period.
- **Private Primary Jobs** - One of four job definitions used in this mapping application. A count of all primary, private sector (non-farm) jobs held by residents or employees in a selected geographic area and time period. A primary job is the highest paying job for an individual worker for that period. Primary, private jobs are the same as the number of private sector (non-farm) workers.
- **QWI Report** – An optional report that is associated with a workplace selection area. The report provides employment growth measures for the selected employment area including jobs shifts, new hires, separations and the average earning of new hires and separations. This report is accessible from the Travel shed overlay module.
- **Re-Center** – A Background Map tool that permits the user to reposition the map view without changing the scale of the map. The user picks a new center point on the map and the map is redrawn with the chosen location at the center of the map.
- **Re-use Selection** – A selection area option that permits the user to recall the previous selection area. This permits the user to run a series of maps and reports without having to redraw or reselect the geographic area.
- **Report (button)** – A button in the Display Options toolbar that initiates creation of a tabular report based on the current overlay map. The specific report type is established, prior to this point, in the Create/Change Overlay settings boxes.



- **Selection (button)** – A button in the Display Options toolbar that permits the user to toggle between a view of the overlay map and the original selection area polygon.
- **Selection Area** – A user defined geographic area that serves as the basis for the map overlays and reports. These areas are defined using freehand, layer, buffered, or circle selection tools.
- **Selection Area Profile Report** – One of several reports associated with the travel shed and concentric circle overlays. This report provides a demographic profile of workers employed in the selection area (Labor Shed option) or living in the selection area (Commute Shed option). The profile shows a breakout of works by age, earnings and industry groupings (2-digit NAICS codes).
- **Settings Box** – An input box for a specific tool or function, that appears at various points in a mapping session, when users are required to choose between different mapping and report options. The box disappears when the choices are made or the box is closed.
- **Text-based Tool** – A text-only version of the application accessible from a tab at the upper right corner of the On The Map application. This utility permits users to produce Travel Shed Reports, Area Profile Reports, and QWI Reports for any city or county without having to interact with the map viewer.
- **Thermals** - A map overlay display option that highlights areas of particularly high worker concentration. The shaded thermal clusters use a spatial modeling and area averaging technique that calculates workers per square mile across adjacent blocks and neighborhoods. A thermal has several levels of shading – density being higher where the shading is darker. Only areas of higher density are displayed.
- **Toolbar** – The line of buttons positioned just above the map viewer that control all database and mapping functions in the application. The toolbar is organized into groups that control the background map, the overlay maps, and the display options.
- **Travel Shed** – A technique for mapping the practical labor market served by employers and workers in a particular area. A travel shed map depict where employers, located in a particular area, are actually drawing their workers (a Labor Shed) or the range that workers, living in a particular area, are currently commuting for work (a Commute Shed).
- **Travel Shed Analysis** – One of three analysis modules. Users define a selection area and map the Labor Shed or Commute Shed travel patterns.
- **Travel Shed Report** – A tabular report showing what cities and counties are providing workers for employers in a selected area (Labor Shed) and what cities and counties are providing jobs to workers living in a selected area (Commute Shed).
- **Zoom In** – A Background Map Tool that permits users to change the scale of the map permitting users to see close-in map detail. The application permits users to view US regional maps or zoom down to a city or neighborhood and perform the same type of labor market analysis at any level.
- **Zoom Out** – A Background Map Tool that permits the user to view a map from further out. Users can define specific employment centers, for example, and then back out to see the Labor Shed patterns for that area at a regional or even statewide level.