

# Business Analyst Desktop 10 Tutorial

September 2010

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# Business Analyst Desktop 10 Tutorial

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- **Exercise 2**
- **Exercise 3**

## Introduction

An easy way to familiarize yourself with the basics of Esri Business Analyst is to complete the simple exercises in this tutorial. You should complete the tutorial in sequence, since the software methods build on those introduced in the initial exercises and assume you understand those concepts.

## Overview of the tutorial exercises

The tutorial is divided into a series of exercises:

- Exercise 1 introduces the Business Analyst toolbar, window, and map documents. You will familiarize yourself with the interface before getting started on the software methods.
- Exercise 2 introduces the basics and site evaluation. You will geocode store and customer data, then create trade areas and summary reports.
- Exercise 3 focuses on nationwide data processing. You will load competitor business locations to build trade areas and append demographic data, then refine your results.

## Exercise 1

In this exercise, you will familiarize yourself with Business Analyst by opening the application and its toolbars and windows.

### Start Business Analyst and familiarize yourself with the application

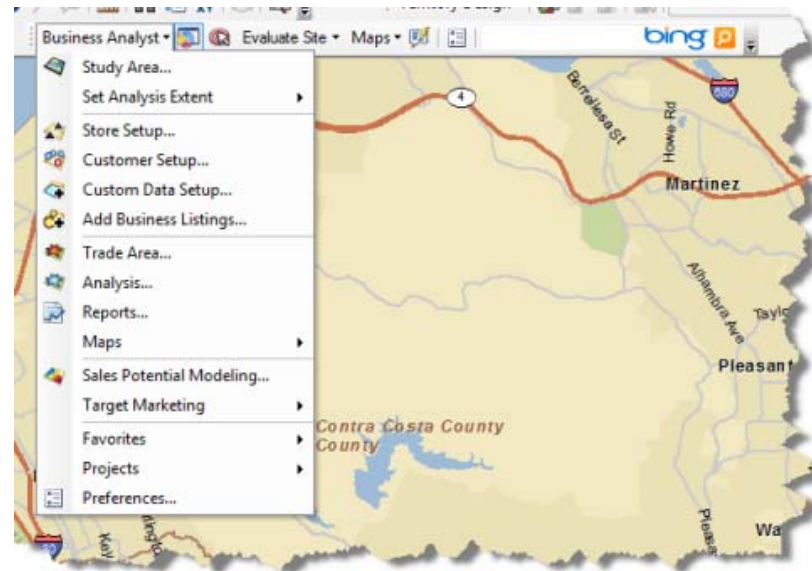
To begin, you will open the Business Analyst toolbar in ArcMap. Two map documents (MXDs) are prepared for you and optimized for using Business Analyst. These are great starting points. These MXDs can be launched from the desktop as program shortcuts or directly from C:\Program Files\ArcGIS\Desktop10x\Business Analyst\Data.

The two MXDs are

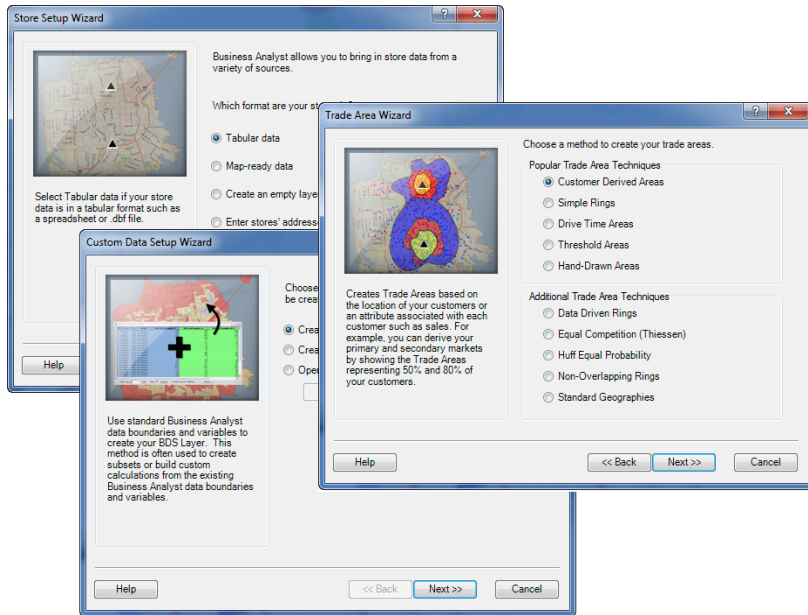
- **Business Analyst.mxd**—This is a customizable and cartographically enhanced MXD containing locally installed vector data. All shopping center, business point, and demographic Business Analyst data source (BDS) layers are loaded.
- **Business Analyst Web.mxd**—This is a quick-drawing MXD containing a default background map service and demographic BDS layers. You must be connected to the Internet to use this MXD.



### Steps

1. Click the *Business Analyst* desktop shortcut to start Business Analyst.
2. Review Business Analyst Message Center. This message center is a centralized location for many common features, such as license status, blog entries, version number, and recent MXDs. Close the Message Center.
3. Find the Business Analyst toolbar.



The toolbar consists of a drop-down menu with all the major commands and other features on the toolbar itself. Each of the commands opens guided, wizard-based dialog boxes to walk you through Business Analyst processes. Open some of the wizards and familiarize yourself with the format.




For more advanced users, Business Analyst tools are available through the ArcToolbox and Python buttons  .

If the toolbar is not present, on the main menu, click *Customize > Toolbars > Business Analyst*.

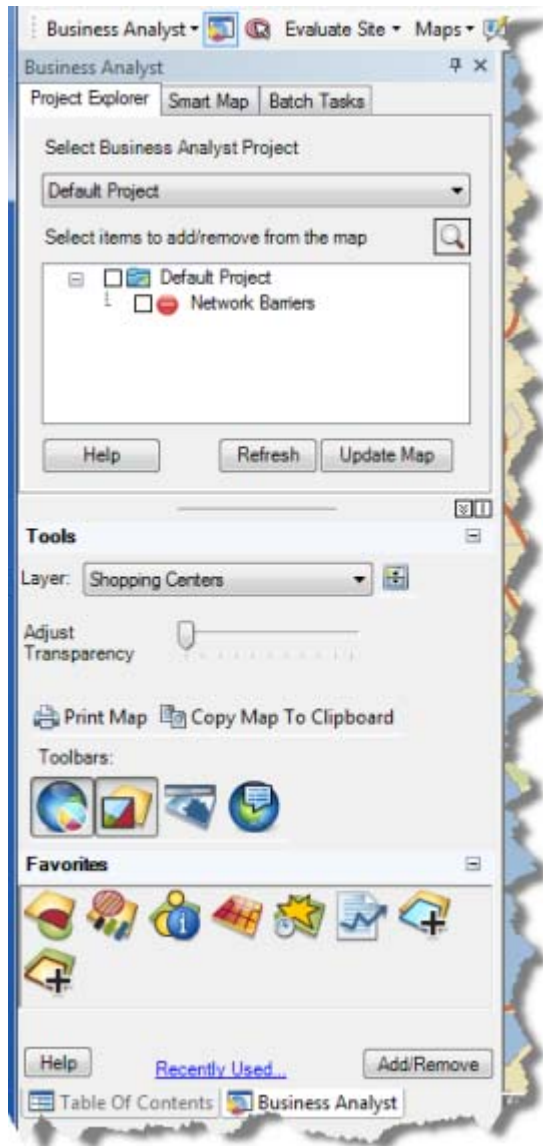
## Open and review the Business Analyst window

The Business Analyst window is a dockable ArcMap window that contains several common Business Analyst features and functions. Use this window as a central workspace as you work with Business Analyst.

### Steps

1. Click the *Business Analyst* toolbar and click the *Toggle Business Analyst Window* button .

You can dock or undock the Business Analyst window. In this exercise, it is docked below the Table Of Contents window as a tab.



As a quick review, the following tabs and sections are housed in the Business Analyst window:

- Project Explorer—For organizing and retrieving your work
- Smart Map—For finding suitable locations based on your criteria
- Batch Tasks—For running your work in batched sessions
- Tools—For common map functions and toolbars included with Business Analyst
- Favorites—For a customizable section of common command shortcuts

Two other common toolbars for Business Analyst are the Territory Design toolbar and the Color-Coded Maps toolbar. You can open these from the Toolbars section of the Business Analyst window.



As a quick review, these toolbars are used for the following:

- Territory Design—For creating and automatically balancing sales and service territories
- Color-Coded Maps—An optimized way to thematically map data variables

## Exercise 2

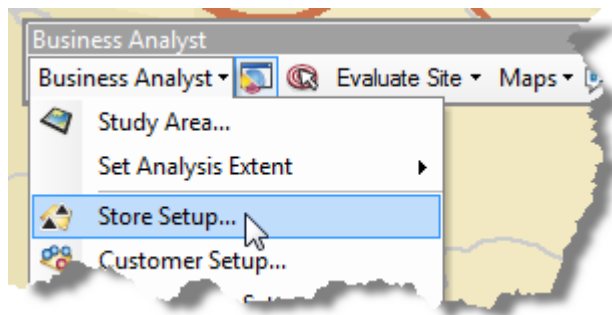
In this exercise, you will geocode store and customer data onto the map, create trade areas to visualize your customer base, and create a report to understand your market.

### Geocode your stores and customers

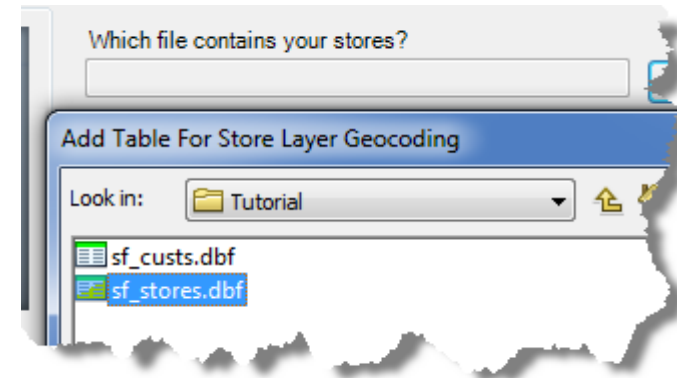
#### Steps

1. With either of the Business Analyst MXDs open, click *Business Analyst* on the Business Analyst toolbar and click *Store Setup*.

The Store Setup wizard opens.



2. Click *Create New Store Layer > Tabular data > In a file on my computer*, then navigate to *C:\Program Files\ArcGIS\Desktop10.0\Business Analyst\Datasets\Tutorial\* and add *sf\_stores.dbf*.

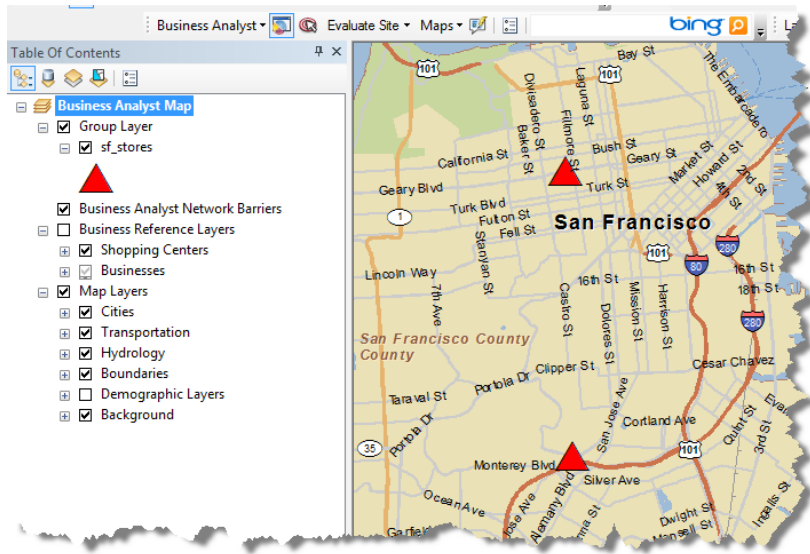


Business Analyst automatically finds the relevant fields for geocoding (address, city, state, ZIP, etc.). It also looks for the appropriate name and ID fields. Choose the defaults in each of the remaining dialog boxes.

3. On the final Store Setup wizard dialog box, keep the default name of *sf\_custs.dbf* and click *Finish*.

The store locations are geocoded and added to the map. They are also saved in your My Output Data directory. You can open the Business Analyst window and see that the new layer is saved in Project Explorer. There are a variety of ways to create store layers in Business Analyst, such as from existing feature classes or by creating new empty layers. The benefits of setting up stores are that the layers are easily retrievable from Project Explorer, the relevant fields are easily identified throughout the Business Analyst wizards, and the store layers are automatically included in projects that are shared or backed up.

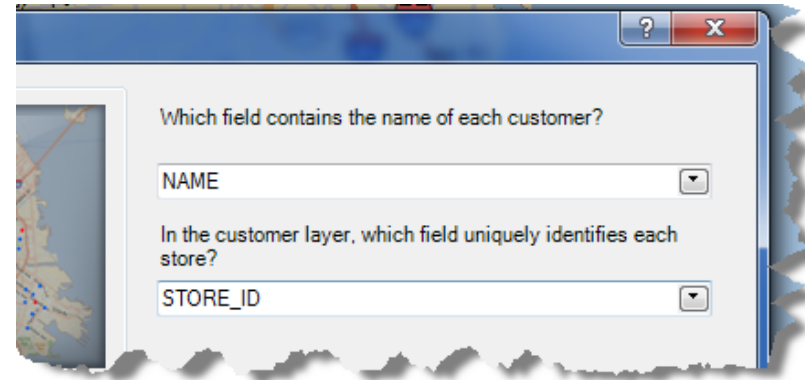




Once the stores are added, you can geocode customers. Having customer data linked to stores will allow you to understand how your customer base is distributed among your store locations. Customer data is often gathered through point-of-sale systems, loyalty card programs, or situations where addresses are gathered (such as signing up for the local gym).

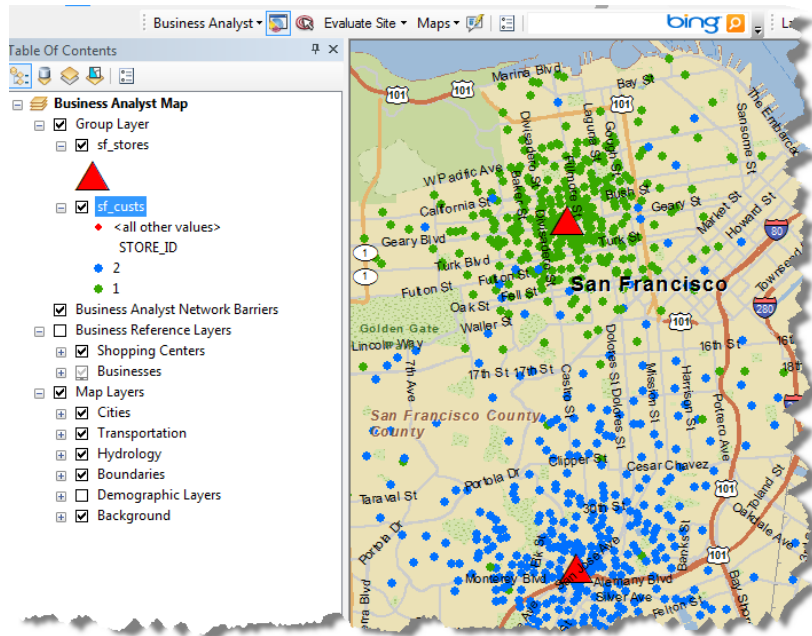
4. Click *Business Analyst* on the Business Analyst toolbar and click *Customer Setup*.
5. Click *Create New Customer Layer > Tabular data > In a file on my computer*, then navigate to `C:\Program Files\ArcGIS\Desktop10.0\Business Analyst\Datasets\Tutorial\` and add `sf_custs.dbf`.

6. Ensure that the customer layer `STORE_ID` field is selected to uniquely identify each store. This ID assigns customers to the store where each shopped.



7. On the final Customer Setup wizard dialog box, keep the default name of `sf_custs` and click *Finish*.

The customer locations are geocoded and added to the map. They are also saved in your My Output Data directory. You can open the Business Analyst window and see that the new layer is saved in Project Explorer.



With your store and customer layers added, you can now create trade areas around them to better understand how your customers are distributed in the market.

## Create a trade area and a demographic report

### Steps

1. Click *Business Analyst* on the Business Analyst toolbar and click *Trade Area*.

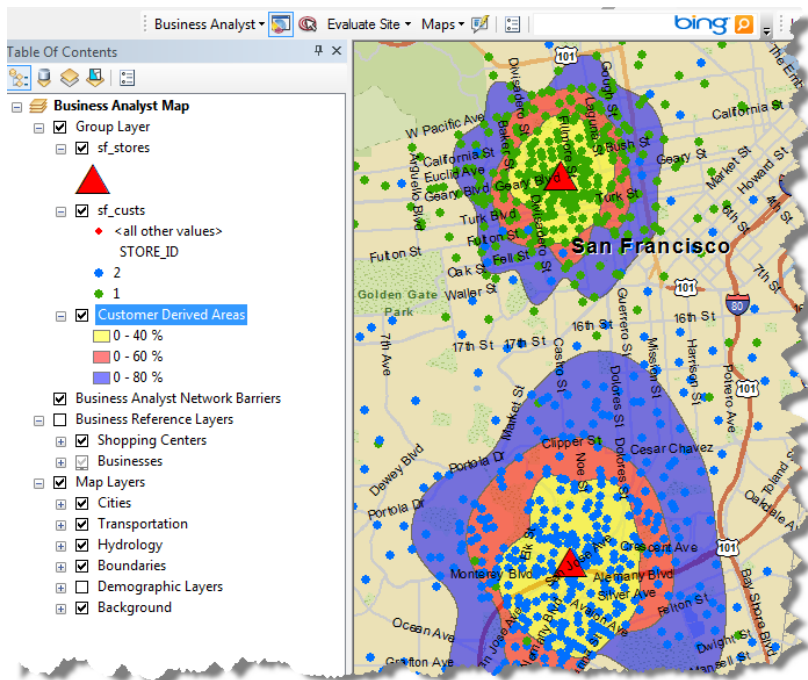
The Trade Area wizard opens.

2. Click *Create New Trade Area > Customer Derived Trade Areas* and click *Next*.

Customer derived trade areas create bands around defined percentages of your customers. These bands identify your core and secondary customers by location. You can choose various options such as weighting customers by total dollars spent by store or by closest location.

3. Click *sf\_stores* as the layer that contains your stores, leave the defaults, then click *Next*.
4. Click *sf\_custs* as the layer that contains your customers and leave the defaults. The trade area is created by assigning the stores to customers; in this case, use *STORE\_ID*. Click *Next*.
5. Choose the *By the number of customers* option and click *Next*.
6. Choose the default of three trade area bands and keep the percentages as 40, 60, and 80. Click *Next*.
7. Choose the *Detailed With Smoothing* option and click *Next*. This option takes into account the shape and pattern of customer distributions. Keep the default name *Customer Derived Areas* and click *Finish*.

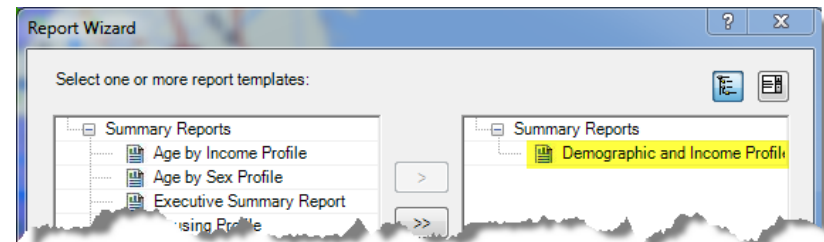
The trade areas are added to the map. They are also saved in your My Output Data directory. You can open your Business Analyst window and see that the new layer is saved in Project Explorer.



With the trade areas identified, you can now extract demographic information from them. You'll do this in the form of the prebundled reports that are included with Business Analyst.

## Steps

1. Click *Business Analyst* on the Business Analyst toolbar and click *Reports*.
- The Reports wizard opens.
2. Click *Run Reports > Run Summary/Demographic Reports* and choose Customer Derived Areas. Choose For Individual Features, click *Demographic and Income Profile Report > View the reports on screen*, then click *Finish*.



The report is created and viewed on-screen as a PDF. The Demographic and Income Profile report is a summary of several of the key demographic, household, and income variables for each band (40 percent, 60 percent, and 80 percent of your customers) of the trade area. The statistical information in the report represents figures within the trade area only. Essentially, the report information is "chunked" out for the trade areas to produce the most accurate results.

Demographic and Income Report - Customer Derived Areas\_0 (Modern).pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 12 75.8% Find

**esri** Demographic and Income Profile

Customer Derived Areas  
STEINER ST & GEARY BLVD, SAN FRANCISCO, CA, 94115  
CustomerDerivedAreas: 40 radius

Prepared By Terry Tutorial  
Latitude: 37.784298  
Longitude: -122.434607

Summary	2000	2010	2015
Population	24,827	25,861	26,625
Households	13,201	13,346	13,680
Families	4,025	4,103	4,168
Average Household Size	1.83	1.88	1.89
Owner Occupied Housing Units	2,301	2,354	2,431
Renter Occupied Housing Units	10,900	10,992	11,249
Median Age	35.9	37.7	37.9

Trends: 2010 - 2015 Annual Rate	Area	State	National
Population	0.58%	0.7	0.76%
Households	0.50%	0.63	0.78%
Families	0.31%	0.55	0.64%
Owner HHs	0.65%	0.68	0.82%
Median Household Income	4.93%	2.59	2.36%


Households by Income	2000		2010		2015	
	Number	Percent	Number	Percent	Number	Percent
<\$15,000	2,911	21.9%	2,090	15.7%	1,602	11.7%

You can now return to the Reports wizard and select other available reports. Run them on the customer derived areas to familiarize yourself with the different types.

Another easy way to understand your market is to use the Evaluate Site tool. This tool allows you to click on the map, create a trade area, and output a report in one wizard session. This provides a simple method to gather information about a potential site. You'll now try this by creating a drive-time trade area.

## Evaluate a site and create a report

### Steps

1. Click *Evaluate Site*  Evaluate Site on the Business Analyst toolbar and click on the map (with Evaluate Site enabled, click anywhere between the two San Francisco store locations).

The Evaluate Site wizard opens.

2. Choose the Drive Time option and click *Next*.
3. Change the number of drive-time trade areas from three to one. Keep the value at 5. This will create a five-minute drive-time trade area around the point clicked on the map. Click *Next*.
4. Type a name for your new trade area and check *Create Reports*. Click *Next*.
5. Choose *For Individual Features*, choose any or all reports, then click *Finish*.

The drive time is added to the map, and the reports appear on-screen.

**Tip:** You can change the default cartographic outputs of the Business Analyst tools by modifying the Business Analyst style file. To do so, click **Customize > Style Manager > Business Analyst.style** and modify any of the ramps or symbols.

## Exercise 3

In this exercise, you will create a study area, add businesses to the entire United States, then run a data append and refine your analysis in Smart Map Search.

### Create a study area and add business listings

#### Steps

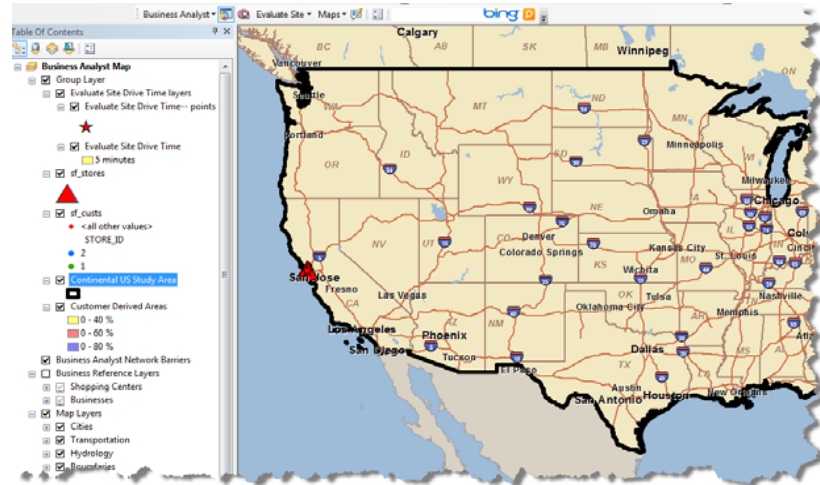
1. With either of the Business Analyst MXDs open, click *Business Analyst* on the Business Analyst toolbar and click *Study Area*.

The Study Area wizard opens.

A study area allows you to limit your analysis to defined geographic areas. Doing so can improve the speed of processes, especially when using local or regional study areas.

2. Click *Create Study Area*, choose *By Continental US*, type the name *Continental US Study Area*, then click *Finish*.

The study area is added to the map. It is also saved in your My Output Data directory. You can open the Business Analyst window and see that the new layer is saved in Project Explorer. Any further analysis will now be limited to the continental United States. In this case, the benefit of a continental U.S. study area is that you can exclude Hawaii and Alaska from your analysis.



You can have more than one study area in the map, but only one is active at a time. The active study area name is bolded with a thick black border in the table of contents. Multiple study areas can be managed through the Set Analysis Extent section of the Business Analyst menu.

With the study area defined, you can now add business listings to the map. Adding businesses allows you to examine your competitor locations or help determine the economic impact certain industries have in a given area. In this exercise, you will load grocery store locations nationwide, then create trade areas to later append demographic statistics for analysis.

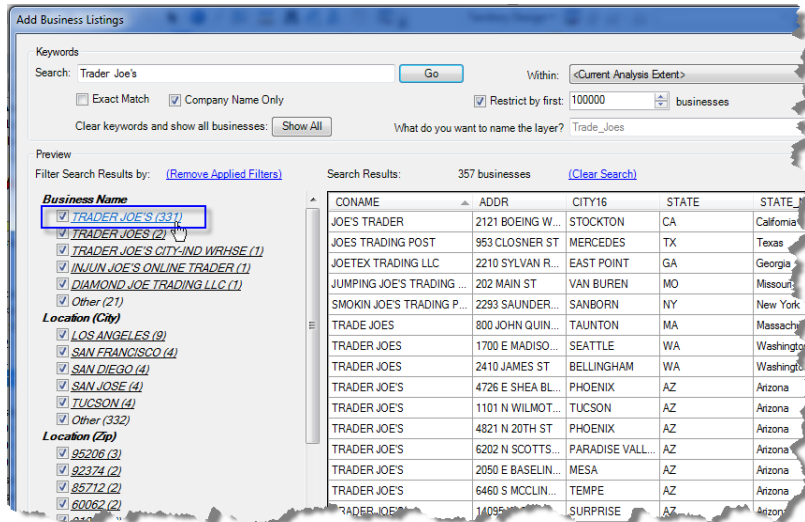
3. Click *Business Analyst* on the Business Analyst toolbar and click *Add Business Listings*.

The Add Business Listings wizard opens.

4. Search for businesses. Type *Trader Joe's* into the Search box. Leave the default settings and click *Go*.

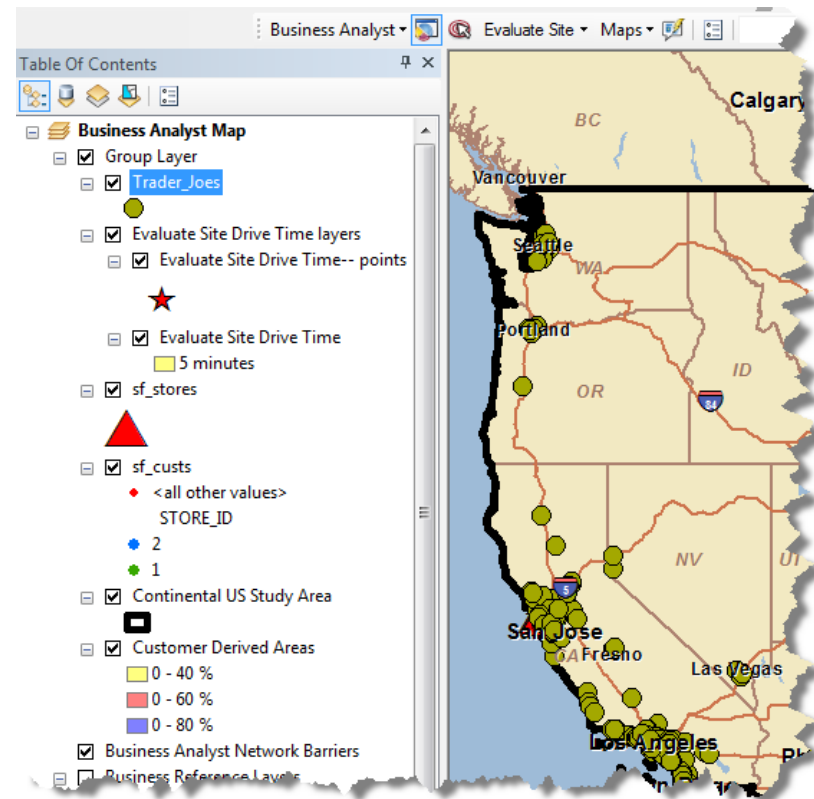
The relevant business listings are found, but several more are included than are actually needed. This is okay, because you can remove the unwanted records before exporting to a permanent feature class. The Add Business Listings dialog box contains several easy filtering options to limit your search. You can right-click records in the table to remove selected businesses or check off businesses by location or industry. In this exercise, you will filter by name.

5. Click the top entry under Business Name: *TRADER JOE'S*. This filters entries only for the company name of *Trader Joe's* and removes the other candidates, such as *Jumping Joe's Trade Shows* and *Joe's Trading Post*.



6. Click *Finish*.

The business listing locations are added to the map. They are also saved in your My Output Data directory. You can open the Business Analyst window and see that the new layer is saved in Project Explorer under Custom Data.



With the nationwide business locations saved, you can now create trade areas and append demographic data to each.

## Create simple ring trade areas, run a spatial overlay, and refine your results with Smart Map Search

### Steps

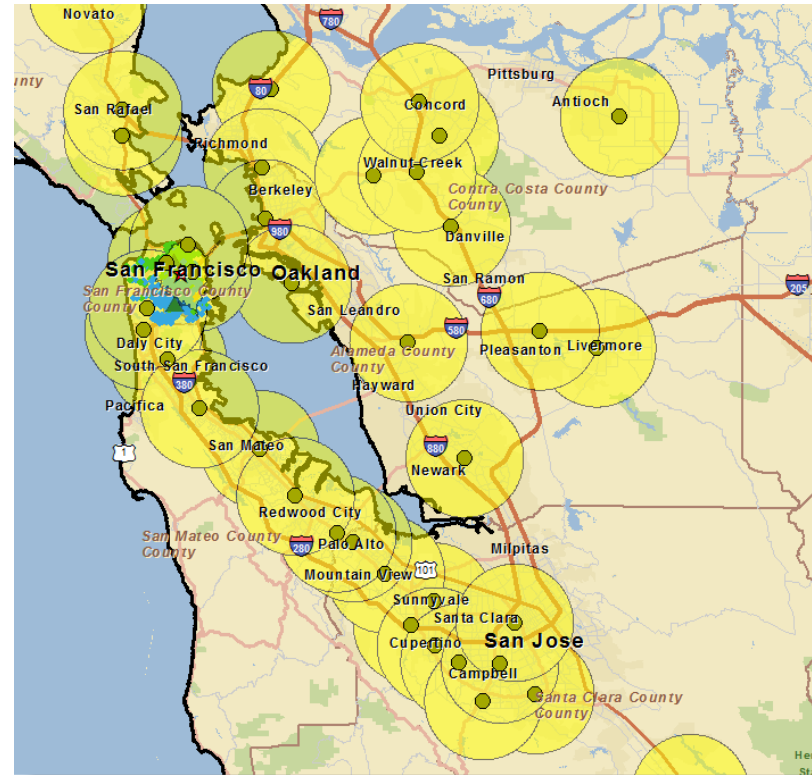
1. Click *Business Analyst* on the Business Analyst toolbar and click *Trade Area*.


The Trade Area wizard opens.

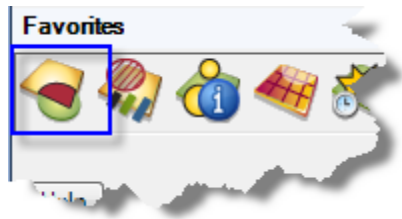
2. Click *Create New Trade Area* and click *Next*.
3. Click *Simple Rings* and click *Next*.
4. Click the drop-down menu and choose *Trader\_Joes* as the store layer. Choose *LOCNUM* as the store ID. Choose *All Stores* and click *Next*.
5. Choose one ring and type 5 so that each ring is five miles around each business. Click *Next*.
6. Type *Trader Joe's 5 Mile Rings* as the layer name and click *Finish*.

The five-mile simple ring trade areas are created around each of the business locations. The purpose of the five-mile simple rings is to define equally sized markets around every site. The five-mile distance is typical of how far a customer would travel to each local store. These polygons will allow easy benchmarking between store locations nationwide. For example, you can compare each of the stores to determine which store has the highest population within five miles or which has the lowest diversity. This becomes important when analyzing why certain stores are performing better than others. To view these

demographics, you will now append the data to each of the ring locations.

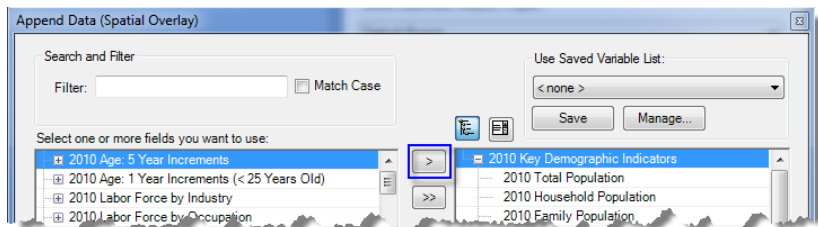


7. Click the *Business Analyst Window* button  on the Business Analyst toolbar.  
The Business Analyst window opens.
8. Click the *Append Data (Spatial Overlay)* button in the Favorites section.



The Business Analyst window opens. This shortcut method is a quick way to access tools otherwise available through the Business Analyst menu. You can load more shortcuts using the Add/Remove button. The Append Data (Spatial Overlay) command can also be accessed through the Business Analyst menu's Analysis wizard.

9. Choose *Standard Business Analyst Data* as your input data layer. This will ensure that the Esri demographic data is used as the source layer. If you created your own custom BDS data through the Custom Data Setup wizard, the layer appears in this menu.
10. Choose *Trader Joe's 5 Mile Rings* as the overlay layer. You will join the underlying demographics to this layer. Click *Next*.
11. Select the current year Key Demographics category and add it to the selected fields pane by clicking the right arrow button. Click *Next*.



12. Type *Trader Joe's Demographics* as the layer name and click *Finish*.

The appending process finishes, and the attribute table is automatically opened. Take a moment and review the table. The demographic variables are calculated for each of the rings.

Now that the trade area ring layer has demographics appended, you can refine your results using Smart Map Search.

### Steps

1. In the Business Analyst window, click the *Smart Map* tab. Click the Layer name arrow, expand *Group Layer*, then choose *Trader Joe's Demographics*.

Default variables populate the Smart Map window.

2. Click *Change Variables* to customize the variables used to refine the search.

Remove the existing selected variables and add the following:

- Diversity Index
- Per Capita Income
- Total Households

3. Alter the floor values in each of the demographic variables.

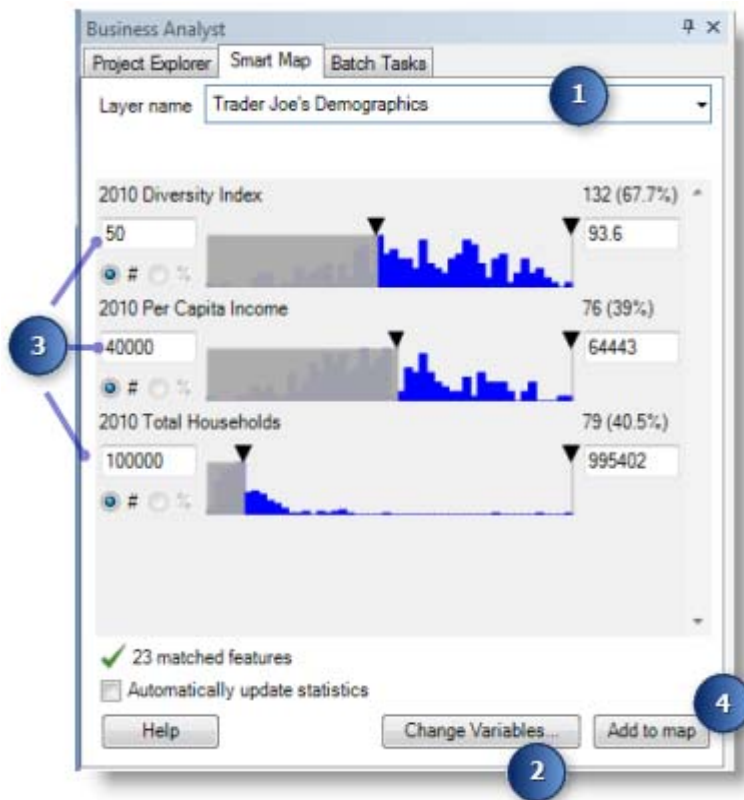
- Diversity Index—Type 50.
- Per Capita Income—Type 40,000.
- Total Households—Type 100,000.

Entering the above floor values allows you to refine your search for highly diverse stores that have large numbers of potential



affluent shoppers. Notice that the matches have reduced from over 300 to around 30.

4. Click *Add to map* to view your refined results as a map layer. The layer is added to the table of contents as Search Map Search Layer.



5. Zoom in and around the map to view the areas that meet your search criteria.

