## Is there a way to create a custom study area without using rings, drive times, or donuts?

In Esri's Business Analyst software, creating a custom study area without using rings, drive times, or donuts may not be straightforward because these are some of the primary methods for defining custom areas based on spatial criteria. However, you can still create a custom study area by manually selecting individual geographic features or using other data manipulation techniques. Here are some alternative methods you can consider:

Polygon Drawing: You can use the drawing tools within Esri Business Analyst to create a custom polygon by manually drawing the area you want to study. This polygon can then be used as your custom study area.

To create a polygon market area within Business Analyst, go to Define Area and select Draw Polygon. From the workflow page, select Polygon, rather than Freehand and begin drawing your polygon. As you advance your mouse the lines will follow and you can draw something very detailed or simple. Double click once your drawing is complete and that will complete your polygon. You can now run reports on this area just like you would a radius or drivetime. View video tutorial <https://www.youtube.com/embed/woPYhc1AoBU>.

## Where can I find Median Household Income, Total Population & Population Density as a color-coded layer on the map?

View tutorial video <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_7b19kjh4>.

## How do I access Infographics inside Business Analyst?

Business Analyst infographics present location information in a visually compelling form. You can create, modify, and export infographics that are included with Business Analyst, infographics shared with you by others, and custom infographics that you create. Infographics can be viewed in the app or exported and shared with others.

To run infographics, do the following:

1. On the **Reports** tab, click **Run reports** and click **Run infographics**.

The **Infographics** tab appears. If you have sites open on the **Maps** tab, they are selected in the **Selected sites** drop-down list.

1. Click **Add sites**.

The **Add sites** window appears.

1. In the **Add sites** window, choose sites from the following tabs: **Recent**, **Currently on map**, **From layers**, **From projects**, and **Neighboring geographies**. Optionally, click **Search** Search to find sites using a search term. Check the check boxes for the sites to include in the infographic.
2. Click **Apply**.

The sites are added to the **Selected sites** list.

1. Optionally, expand the **Selected sites** drop-down menu to review the sites. Click **Remove site** Close next to a site to remove it from the selection.
2. Under **Select infographics to run**, view the available infographics in the following sections. Click **Expand** Expand to view the contents of a section.
   * **My infographics**—Lists your custom infographics. Hover over an infographic for options to edit, share, or delete.
   * **Shared infographics**—Lists infographics shared with you by others. Hover over an infographic for the option to save it.
   * **Standard infographics**—Lists ready-to-use infographics.

For more information, watch this tutorial video. <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_j9w1l4vl>

## **How can I compare sites side by side using Infographics within Business Analyst?**

Watch the following video tutorial <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_j9w1l4vl>.

What type of data is in Business Analyst.

Analyze current-year estimates and five-year projections of demographic data and extensive consumer spending and business data. With this data, you can generate reports and maps for your study area.

Esri updates the data annually so that you have access to the most current and accurate data. Because Business Analyst Web App is hosted by Esri, you don't have to worry about managing data or technology updates.

With Business Analyst Web App, you can

* Analyze trade areas.
* Identify new store locations.
* Find new customers.
* Refine marketing messages.
* Evaluate sites.
* Reveal untapped markets.

## Credits

Credits are the currency used in ArcGIS. In Business Analyst Web App, credits are used for specific actions, such as exporting reports in PDF and Excel formats, exporting infographics in PDF and Dynamic HTML formats, and creating sites with defined drive times. Some actions do not use credits—for example, using Esri standard basemaps and imagery do not use credits. You can add credits from the [Esri Store](https://www.esri.com/en-us/arcgis/products/credits/buy).

Credit-consuming processes in Business Analyst Web App are listed in the table below.

| Workflow | Details | Credits used |
| --- | --- | --- |
| Points of interest search | Export to Excel, save as layer, or share as web map. | 10 credits per 1,000 records. |
| Import file | Match addresses to locations on the map (geocoding) when importing Excel or .csv files. | 40 credits per 1,000 geocodes. |
| Create drive times or walk times | In Find location, Import file, Web maps and layers, Setup layer workflows. | 0.5 credits per drive time or walk time. For example, to create a 5-minute and 10-minute drive time around 10 points, the result is (0.5\*2)\*10 = 10 credits used. |
| Comparison reports | Export to Excel. | 10 credits per 1,000 attributes (data variables multiplied by total feature records—that is, 10 variables \* 10 sites \* 3 study areas = 300 attributes). |
| Suitability analysis | Export to Excel or save as layer. | 10 credits per 1,000 attributes (data variables multiplied by total feature records—that is, 10 variables \* 10 sites \* 3 study areas = 300 attributes). |
| Point layer options: Walk time and drive time calculation for the distance to the nearest point. | 0.5 credits per 1,000 input origin and destination pairs. |
| Void analysis | Export to PDF. | 10 credits. |
| Except when using a custom layer, export to Excel, or export to PDF with the **Include individual business locations** check box enabled. | 10 credits per 1,000 records. |
| Threshold areas | Create a drive-time threshold area. | 0.5 credits per drive time iteration + 0.01 credit. A drive-time threshold area takes approximately 6 to 12 iterations to reach one drive-time polygon. For example, if you create two drive-time threshold areas for a location, each area may need 10 iterations, resulting in ((0.5\*10) + 0.01)\*2 = 10.02 credits used. |
| Create a ring threshold area. | 0.01 credit per ring threshold area. For example, if you create three ring threshold areas for a location, the result is 0.01\*3 = 0.03 credits used. |
| Color-coded maps and smart map search | Pan, zoom, and identify. | 10 credits per 1,000 map requests (pan, zoom, and identify).  Credits are used for map requests only when a color-coded map or smart map is present on the map. |
| Run infographics | View infographics. | 10 credits per 1,000 views.  Selecting a different site in the infographic, or adding sites or geographies to compare, are counted as additional views. |
| Infographic exports | Export infographics in PDF, Excel, or HTML format. | 10 credits per export (PDF, Excel, or HTML).  Credits are not used for views of an exported infographic. |
| Run reports | Run PDF or Excel reports. | 10 credits per report. |
| Create PDF or image | Generate a PDF. | 10 credits for each PDF created. |
| ArcGIS Dashboards | Create a dashboard with multiple sites and one infographic. | 10 credits per dashboard + 0.01 credit per site. For example, for a dashboard with 5 sites, the calculation is 10 + (0.01\*5) = 10.05 credits.  No additional credits are used for views of a dashboard and the infographics in it. |
| Create a dashboard with one site and multiple infographics. | 10 credits per infographic + 0.01 credit per infographic view. For example, to create a dashboard with 4 infographics, the calculation is (10\*4) + (0.01\*4) = 40.04 credits. |
| ArcGIS StoryMaps | Create a story. | For a story that doesn’t include infographics, no credits are used.  For a story that includes at least one infographic, the calculation is 10 credits + 0.01 per infographic. For example, if 2 sites are selected, with 3 infographics configured for the first site and 4 for the second, the number of credits used for that story is 10 + (0.01\*3) + (0.01\*4) = 10.07.  No additional credits are used for views of a story and any infographics in it. |
| Facts | View facts about sites in Business Analyst Mobile App. | 10 credits per 1,000 attributes (data variables multiplied by total feature records—that is, 10 variables \* 10 sites \* 3 study areas = 300 attributes). |

## Take guided tours of the app

Guided tours allow you to familiarize yourself with Business Analyst functionalities and workflows. Tours are organized in five levels, from introductory to advanced. You earn points when you complete a tour or review related material. When you complete all tours in a level, you earn additional points and a badge and proceed to the next level.

You can [set preferences for guided tours](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm#ESRI_SECTION1_C56C7D5F0EF44C409BC96FD2C2BE1240) in the application preferences. You can turn expanded tips on or off and reset all tours. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To take a guided tour, do the following:

1. On the **Maps** tab, expand the **Account details** drop-down menu and click **Guided tours**.

The **Guided tours** window appears.

1. Hover over a tour to view a ToolTip with a brief description. To open a tour, click **Go**. To start a tour in a locked level, click **Unlock**.

The tour opens, displaying the first step.

1. Follow the tour instructions.

Actions that are required to complete steps may vary, including the following:

* + In some steps, you can return to the previous step by clicking **Back**.
  + Some steps require that you click a specific place.
  + Some steps only provide more information about the workflow. When you finish reading, click **Next** to proceed to the next step.

When you complete a tour, your updated progress in the current level is displayed, along with other material related to the completed tour.

# **Create sites**

In ArcGIS Business Analyst Web App, a site is an area where analysis is performed. To create sites, you can place a point on the map, select from standard geography levels (such as states or counties), or draw a polygon. Once you have created a site, you can modify it, analyze it, or remove it from the map using [the site menu and the action menu](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_51E804DDE9A7452E94F72CE168177068). By default, sites are stored in the project under **Point locations (sites)**, **Polygons (sites)**, and **Geographies (sites)**.

##### **Note:**

Depending on the country or region selected, sites may be affected by geographic boundaries. Infographics and reports may only display data from the selected country's dataset.

## Place a point on the map

To create a site, you can place a point on the map and define an area around it.

1. Do one of the following:
   * From the [map tools](https://doc.arcgis.com/en/business-analyst/web/use-map-tools.htm), select **Pin** Pin. If necessary, pan and zoom to change the map extent. Click anywhere on the map to place the pin.
   * Type an address or latitude and longitude coordinates in the application [search bar](https://doc.arcgis.com/en/business-analyst/web/use-map-tools.htm#ESRI_SECTION1_C30D73392D964D51A8B606128A8A6E8F). Press Enter or select a suggested address. A pin appears on the map.
   * On the **Maps** tab, click **Define areas** and select **Find location**. The **Find location** workflow pane appears.

Type an address in the text field or click **or enter a Lat/Long** and provide coordinates in the text fields. Click **Go**. The point appears on the map. Optionally, name the location by providing a name in the corresponding text field and clicking **Apply**.

1. From the site menu (a pop-up menu that appears at the point on the map), you can add or modify the site name, move the point, remove the point, or create a site. Click **Create site**.
2. Choose how the site area around the point is measured.
   * **Rings**—Create up to three rings around the point using specified distances. You can use non-whole numbers, such as .1, .3, and .5, for ring sizes. The limit for ring size is 1,000 miles or kilometers.
   * **Drive time**—Create drive-time areas around the point using specified times or based on road networks. These areas represent the distance traveled to or from the site in a given time. The limit for drive-time size is 300 minutes, 300 miles, or 482.8 kilometers.
   * **Walk time**—Create walk-time areas around the point using specified times or distances based on paths and roads that allow pedestrian traffic. The limit for walk-time size is 300 minutes, 27 miles, or 43.45 kilometers. The default walking speed is 5 kilometers per hour.
3. Set the unit of measurement using the drop-down menu and change the distances or times using the **Radius** or **Time** text box.

You must specify at least one buffer around the point to create a site. You can set up to three buffers around the point, measured according to distance or time.

For any of the buffer options, you can check the **Use bands** check box. Bands create concentric areas that do not overlap. For example, checking **Use bands** and specifying values of 5, 10, and 15 miles results in bands that are 0-5, 5-10, and 10-15 miles from the point location.

1. Optionally, for **Drive time**, click **More options** and specify the following:
   * From the drop-down menu, choose a driving mode: **Driving time**, **Rural driving time**, or **Trucking time**.
   * Choose a travel direction option: **Away from facility** or **Toward facility**.
   * Check the **Use traffic** check box. Choose **Live traffic** to calculate time based on the current traffic conditions. Use the slider to factor live traffic conditions up to 12 hours from the current time. Live traffic is not available for all countries.

Choose **Traffic based on typical conditions for** to set a day of the week and time of day on which to base traffic calculations. You can set times for typical conditions by 15-minute intervals for the entire day and night.

1. Click **Apply**.

If you are using the **Find location** pane, use the check boxes in the **Apply rings**, **Apply drive time**, or **Apply walk time** window to select the location of the site you want to create. You can create sites for multiple points at one time, choosing from all the points on the map. Points that do not yet have sites created are selected by default. Click **Apply**.

The site is created and displayed on the map with the specified buffers. The site is saved in the project pane under **Point locations (sites)** under **My point locations** or in the target layer you specified.

1. If you are using the **Find location** pane, click **Next** to view options for working with sites you created. To close the workflow, click **I'm done**.

## Select a geographic boundary

You can select a geographic boundary, such as a state or county, to create a site.

1. On the **Maps** tab, click **Define areas** and select **Select geography**.

The **Select geography** workflow pane appears.

1. Choose a method of selection.
   * **Search**—Enter a city, county, ZIP Code, block groups, census tracts, and so on. You can also enter part of a name or number to search.
   * **Select from map**—Click a geographic area on the map to select it.
   * **Select from full list**—Browse a full list of all geographic areas.
2. If you chose **Search**, do the following:
   1. Provide geographic information in the **Search for your geography** field and click **Search** Search.

The search results appear, showing the first 100 results.

* 1. Check any search result check boxes. Use the **Selected items** drop-down menu to modify the selections.

Checked items appear shaded on the map and are added to **Selected items** in the workflow pane.

1. If you chose **Select from map**, do the following:
   1. Click a geographic boundary type from the list.

The selected geographic boundaries and labels appear on the map.

* 1. Click a geographic area on the map to select it.

You can select multiple geographic areas.

Selected areas appear shaded on the map and are added to **Selected items** in the workflow pane. Use the **Selected items** drop-down menu to modify the selections.

1. If you chose **Select from full list**, do the following:
   1. Click a geographic boundary type from the list.
   2. Use the drop-down menus and check boxes to select geographic areas. For example, to select **ZIP Codes**, use the **Select state** and **Select county** drop-down menus to view a list of relevant ZIP Codes.

Selected areas appear shaded on the map and are added to **Selected items** in the workflow pane. Use the **Selected items** drop-down menu to modify the selections.

1. By default, selected areas are combined into one site.
2. To create individual sites for each selected area, click **No** for **Combine selected geographies into one site?** When you finish selecting geographic areas, click **Next**.

The site is created and displayed on the map. The site is saved in the project pane under **Geographies (sites)** under **My geographies** or in the target layer you specified.

The workflow pane displays options for working with sites you created.

1. To exit the workflow, click **I'm done**.

## Draw a polygon

You can draw a polygon to create a site.

1. On the **Maps** tab, click **Define areas** and select **Draw polygon**.

The **Draw polygon** pane appears.

1. Choose a drawing method.
   * **Polygon**—Draw a polygon with straight edges by placing points on the map.
   * **Freehand**—Draw a polygon of any shape using the pointer.

Optionally, click the **Fill** and **Border** swatches to modify the polygon colors.

1. If you chose **Polygon**, do the following:
   1. Click the map to start drawing, move to the next point, and click.
   2. Continue clicking at each corner of the shape until you create the polygon. A minimum of three points are required to create a polygon.

While drawing, the **Clear last** button becomes active. Click **Clear last** to remove the most recently drawn point.

* 1. Double-click to stop drawing.

1. If you chose **Freehand**, do the following:
   1. Click and drag the cursor to draw a shape.
   2. To stop drawing, release the mouse button.

The site is created and displayed on the map. The site is saved in the project pane under **Polygons (sites)** under **My polygons** or in the target layer you specified.

1. To edit a polygon, click **Edit** in the workflow pane. Click a polygon to show its points and edit it.
2. Click and drag the points to edit the polygon. Click **Undo** to discard the most recent edit. When the edits are complete, click **Stop edit**.

## Work with sites

Once the sites are created, there are several ways to work with them. You can use a site's menu to modify the site or start a workflow. You can also access actions for a site from its **Action menu** Options in the project pane.

### **Use a site's pop-up menu**

To access a site's pop-up menu, click its location on the map. The options differ based on the type of site selected (point, geography, or polygon). Choose any of the following options:

* **Edit** Edit—Provide a different name for the site.
* **Attributes** Expand—For point locations, provide site attributes for the default fields specified when creating the project.
* **Infographics** Infographics—Run the default infographic template for the site.
* **Reports** Reports—Select and run a report for the site. If you select multiple sites, click **Download reports** to download the reports for all the sites.
* **Comparisons** Comparisons—Run the default comparison report for the site.
* **Edit area** Edit—Alter the buffers around a point or the boundaries of a geography or polygon.
* **Add photo** Add photo—For point locations, view site attributes, add an image to the site attributes, and view reports run on the site.
* **Details** Menu—For polygon and geography locations, view reports run on the site. For point locations, view site attributes, add an image to the site attributes, and view reports run on the site.
* **Options** Preferences—Alter colors for site fill and border and adjust color transparency. Click **Clear site** to remove the site from the map, but keep it in the project contents.

For point locations, you can also turn labels on or off and use the **Symbol** drop-down menu to edit the site symbol. Click **Import custom symbol** to upload a symbol in GIF, PNG, or JPG format. The recommended image size is 120x120 pixels or less.

### **Use a site's action menu**

To access a site's action menu, locate the site in the project pane and click its **Action menu** Options. Choose any of the following options:

* **Show details**—View site attributes for point locations, as well as reports run for a specified site.
* **Zoom to site**—Zoom the map extent to view the site on the map.
* **Rename item**—Provide a new name for the site.
* **Run reports**—Select and run a report for the site.
* **Run infographics**—Run the default infographic template for the site.
* **Edit site**—Alter the buffers around a point or the boundaries of a geography or polygon.
* **Move item**—Move the site to a different layer in the same section of the project. You can also move the site to a different project. To keep a copy of the site in the current project, check the **Keep a copy** check box.
* **Delete item**—Delete the site.

## Set preferences

You can set preferences for Business Analyst Web App in the [application preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). You can specify preferences for the appearance of sites on the map, as well as values and settings for rings, drive times, and walk times. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To set the workflow preferences, do the following:

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **Maps** section, expand the **Define areas** section, and click **Find location**, **Select geography**, or **Draw polygon**.
2. You can set the following preferences for the **Find location** workflow. Select **Rings**, **Drive time**, or **Walk time** and do any of the following:
   * Set values for the site areas in the **Default values** fields.
   * Use the check boxes to turn the fill and border off or on.
   * Click the **Fill** and **Border** color swatches to select colors. Use the sliders to adjust color transparency.
   * Use the **Thickness** drop-down menu to specify the weight of the border.
   * Check the **Edit and set bands** check box to use bands for site areas.
   * Use the **Show labels** check box to turn labels on or off.
   * For **Drive time**, create preferences for driving options.

You can restore the default settings by clicking **Restore defaults**.

1. You can set the following preferences for the **Select geography** and **Draw polygon** workflows:
   * Use the check boxes to turn the fill and border off or on.
   * Click the **Fill** and **Border** color swatches to select colors. Use the sliders to adjust color transparency.
   * Use the **Thickness** drop-down menu to specify the weight of the border.

You can restore the default settings by clicking **Restore defaults**.

1. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Measure

The **Measure** tool Measure allows you to measure the distance between points on the map and the area of a polygon. To use the tool, do the following:

1. In the map tools, click **Measure** Measure.
2. In the **Measure** window, click **Distance** or **Area**.
   * To measure a straight-line distance, click a place on the map and double-click to stop drawing. You can also click the map once for every vertex of the line you want to measure, then double-click to complete the line.
   * To measure an area, click a place on the map and click to create more points. Double-click to stop drawing.
   * Optionally, check the **Show grids** check box to apply grid lines to the map. Choose **Automatically resize** to use automatically generated grid lines based on the zoom level. Choose **Manual** to set a grid size. Customize grid lines using the **Width** drop-down menu and **Color** swatch.

The measurement appears next to the pointer and in the text box in the **Measure** window.

1. To view the measurement in different units, use the drop-down menu next to the text field to select a unit of measurement.
2. Click **Clear** to remove all measurements. Click **Done** to close the **Measure** window.

ls to search the map, create a pin, pan and zoom the map, select items, view the map legend, and more. The map tools described below are available in ArcGIS Business Analyst Web App. Only one map tool can be enabled at a time. The enabled map tool is highlighted in gray.

## Search

The **Search** tool allows you to search for an address, location, area, business, or web map. Search options vary based on the [country or region](https://doc.arcgis.com/en/business-analyst/web/manage-app-settings.htm#ESRI_SECTION1_260A7D614D2E454881907BD261AB14D1) you selected. To use the **Search** tool, do the following:

1. In the **Maps** tab, in the **Search** bar, click the drop-down menu to select a search type.
2. Select **Add a pin**, **Add a boundary**, **Zoom to an area**, **Points of interest search**, or **Web maps search**.
3. Provide search terms in the **Search** bar. Press Enter, click **Search** Search, or click one of the suggestions.
   * For **Add a pin**, provide an address, location, or latitude and longitude coordinates.
   * For **Add a boundary** or **Zoom to an area**, provide a geographic boundary such as a ZIP Code, city, county, or state.
   * For **Points of interest search**, provide a business or facility name or type.
   * For **Web maps search**, provide keywords to search for web maps.

If you used **Add a pin** or **Add a boundary**, the location appears on the map as a pin or boundary. You can use the location's pop-up menu to [create a site](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm) and perform further actions.

If you used **Zoom to an area**, the map zooms to the specified area.

If you used **Points of interest search**, the [points of interest search](https://doc.arcgis.com/en/business-analyst/web/points-of-interest-search.htm) workflow pane appears.

If you used **Web maps search**, the [Web maps and layers](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm) window appears showing the search results.

## Pin

The **Pin** tool Pin defines a point on the map and is used to create sites for analysis. For detailed instructions on how to use the **Pin** tool, see [Create sites](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_C30D73392D964D51A8B606128A8A6E8F).

## Pan and zoom

The **Pan and zoom** tool Pan allows you to pan the map and click features on the map to select them. You can also combine these features to create one site. To use the **Pan and zoom** tool, do the following:

1. In the map tools, click **Pan and zoom** Pan.
2. Do any of the following:
   * Hover over a feature to view a pop-up with attributes.
   * Click and drag to pan the map.
   * Click a feature on the map to select it. This also deselects any other selected features.
   * Press Shift or Ctrl while clicking a feature to select and add it to any other selected features.
   * Press Shift while clicking and dragging to zoom to an area of the map.

## Select

The **Select** tool Select allows you to select features on the map such as points, polygons, heat maps, color-coded maps, smart map search results, or features on a web map. You can also combine these features to create one site. To use the **Select** tool, do the following:

1. In the map tools, click **Select** Select.
2. Do any of the following:
   * Hover over a feature to view a pop-up with attributes.
   * Click a feature on the map to select it.
   * To select multiple features, click and drag to draw a rectangle around the features.
   * Press Shift while clicking, or press Shift while clicking and dragging to select and add features to the currently selected features.
   * Press Ctrl while clicking, or press Ctrl while clicking and dragging to change the selection.
   * Press Ctrl+Shift while clicking or press Ctrl+Shift while dragging to remove items from the selection area.

If you select multiple features, you can combine them to create one site.

1. On the sites' combined pop-up menu, confirm the selections by scrolling through the selected sites using the arrows. Click **Create site for combined areas**.

The selected features are combined into one site and saved in **My Polygons** under **Polygons (sites)** in the project pane.

## Zoom in and Zoom out

The **Zoom in** tool Zoom in and **Zoom out** tool Zoom out allow you to specify a map extent to zoom to. To use the tools, do the following:

1. In the map tools, click **Zoom in** Zoom in or **Zoom out** Zoom out to enable the tool.
2. Click and drag to draw a rectangle specifying where to zoom in or out, or click the map to zoom in or out.
3. Optionally, click **Previous map extent** Undo or **Next map extent** Redo to undo or redo the zooming action.

## Measure

The **Measure** tool Measure allows you to measure the distance between points on the map and the area of a polygon. To use the tool, do the following:

1. In the map tools, click **Measure** Measure.
2. In the **Measure** window, click **Distance** or **Area**.
   * To measure a straight-line distance, click a place on the map and double-click to stop drawing. You can also click the map once for every vertex of the line you want to measure, then double-click to complete the line.
   * To measure an area, click a place on the map and click to create more points. Double-click to stop drawing.
   * Optionally, check the **Show grids** check box to apply grid lines to the map. Choose **Automatically resize** to use automatically generated grid lines based on the zoom level. Choose **Manual** to set a grid size. Customize grid lines using the **Width** drop-down menu and **Color** swatch.

The measurement appears next to the pointer and in the text box in the **Measure** window.

1. To view the measurement in different units, use the drop-down menu next to the text field to select a unit of measurement.
2. Click **Clear** to remove all measurements. Click **Done** to close the **Measure** window.

## Add annotation

The **Add annotation** tool Annotate allows you to add text, shapes, drawings, and images to the map. To use the tool, do the following:

1. In the map tools, click **Add annotation** Annotate.

The **Add annotation** window appears.

1. Click **Text**, **Shape**, **Draw**, or **Image**.
2. Create an annotation:
   * **Text**—Provide text and style the font, size, and color. Use bold, italic, or underline. Check the **Preview styled text** check box to preview the text before adding it to the map.
   * **Shape**—Select a shape and format its fill and border.
   * **Draw**—Select the polygon or freehand tool for your drawing and format its fill and border. Draw a polygon of any shape using the cursor.
   * **Image**—Click **Browse** and browse to and select the image on your computer. Use the **Transparency** slider to set the transparency. You can use .png, .jpg, and .gif files. The recommended image file size is 20 KB.

Check the **Constant size** check box to specify that the annotation remains the same size at all zoom levels.

1. Click **Add to map**.

The annotation appears on the map.

1. Optionally, click and drag the annotation to reposition it or click the annotation to edit it. Use the rotation handle on the annotation to rotate it.
2. Click **Close**.

## Clear map

The **Clear map** tool Remove allows you to remove items from the map. Items added through the map tools—such as annotations, boundaries, and measurements—are removed permanently. All other items removed from the map are still accessible in the project. To use the tool, do the following:

1. In the map tools, click **Clear map** Remove.

The **Clear map** window appears.

1. Use the check boxes to select items to remove from the map. Check the **All** check box to select all items.
2. Click **Clear**.

The items are removed from the map. You can add them to the map again by checking their check boxes in the project pane.

## Share map to ArcGIS

The **Share map to ArcGIS** tool Share allows you to share sites, layers, and maps in ArcGIS Online. For detailed instructions on how to share maps, see [Share web maps and layers](https://doc.arcgis.com/en/business-analyst/web/share-maps.htm).

## Create PDF or image

The **Create PDF or image** tool Create PDF allows you to take a screen capture of a map and save it as a PDF or save the current view as an image file. For detailed instructions on how to create these types of shareable files, see [Create a PDF or image](https://doc.arcgis.com/en/business-analyst/web/pdf-or-image.htm).

## Map legend

The **Map legend** tool Legend provides information about the sites and layers on the map. To use the legend, do the following:

1. In the map tools, click **Map legend** Legend.

The **Legend** window opens.

1. Click **Legend** to view the symbology and edit the labels for the sites and layers.
   * Click **Expand** Expand to expand or collapse any part of the legend.
   * Click **Options** Options. Click **Edit labels** Edit to rename the element. Click **Refresh** Reset to restore the original label. Click **Remove** Remove to remove the item from the legend.
   * Click **Legend options** Options and select **Present legend** to switch to a view without legend controls.
2. Click **Map contents** to customize how sites and layers are displayed on the map.
   * Drag any item to reorder the map contents.
   * Click **Options** Options. Click **Move up** Up or **Move down** Down to adjust the order. Hover over **Transparency** Transparency to view and use the slider to adjust an item's transparency. For layers, you can click **Remove layer** Remove to remove the item from the legend.
3. Click **Close**.

## Historical traffic data

The **Historical traffic data** tool Historical traffic data allows you to view traffic count data on the map. To use the tool, do the following:

1. In the map tools, click **Historical traffic data** Historical traffic data.

The **Historical traffic data** window opens and all available traffic counts for the current map extent are displayed.

1. Turn off the **Show on map** toggle button to temporarily remove the traffic counts from the map.
2. Click **Filters** to specify the traffic displayed on the map.
   * Use the **Count type** drop-down menu to select **All traffic counts**, **Annual daily traffic**, **Average Daily Traffic**, **Annual weekday traffic**, or **Average weekday traffic**.
   * Provide a location in the **Street name or location** text box.
   * Use the **Traffic counts** and **Years of count** sliders to set the ranges for these parameters.
   * Use the **Road type** drop-down menu to specify **All roads**, **Highways**, or **Minor and major roadways**. Click **zoom to enable** to zoom to the appropriate map extent for displaying a road type.
3. Click **Style** to customize the way the traffic data is displayed.
   * Use the drop-down menu to select a drawing style.
   * Use the **Theme** and **Colors** drop-down menus to change color styling.
   * Use the **Size** slider and text fields to specify the range of symbol sizes.
   * Use additional styling options to modify the map, if available.
4. Click **Legend** to view symbology for the selected map style.
5. Click **Close**.

## Boundaries and labels

The **Boundaries and labels** tool Boundaries and labels allows you to display administrative boundaries and labels on the map. To use the tool, do the following:

1. In the map tools, click **Boundaries and labels** Boundaries and labels.

The **Boundaries and labels** window appears. The boundaries and labels available depend on [the country selected](https://doc.arcgis.com/en/business-analyst/web/manage-app-settings.htm#ESRI_SECTION1_260A7D614D2E454881907BD261AB14D1).

1. Use the check boxes to turn boundaries and labels on or off. Click **Zoom to enable** for geographies that are too small to display at the current map extent.

The boundaries and labels appear on the map as you check them.

1. Click **Close**.

## Basemaps

A basemap provides a background, or visual context, for the data in a map. For example, a basemap showing streets can provide context for address data. Business Analyst includes several types of basemaps that you can use, including aerial imagery, terrain, streets, and topographic data. You or your organization's administrator can [set preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm) for the default basemap displayed on the map.

To change the basemap, do the following:

1. Click **Basemaps** Basemap to display the basemap gallery.

The gallery shows thumbnails of available basemaps. Scroll up and down to browse the gallery.

1. In the gallery, select a basemap.

The map automatically displays the new basemap.

1. Click **Basemaps** Basemap to close the basemap gallery.

## Zoom levels

The **Zoom levels** tool allows you to zoom in and out of a map area. Click **Default extent** Default map view to return to the default map extent or **Find my location** Location to zoom to your current location on the map. To use the **Zoom levels** tool, do the following:

1. Click the **Zoom in** or **Zoom out** button or drag the slider handle.
2. Optionally, hover over the zoom tool.

A pop-up appears, indicating available zoom levels. Zoom levels are determined by the country, region, or data source you selected in the [Country/Region drop-down menu](https://doc.arcgis.com/en/business-analyst/web/manage-app-settings.htm#ESRI_SECTION1_260A7D614D2E454881907BD261AB14D1).

1. Click a zoom level to display it.

# **Create and use projects**

A project is a collection of content, such as [sites](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm), [layers](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION1_70FB206F7C5B4EAD8F2262C45E750FC1), and [reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm). Using projects, you can manage your work and group your content. You can organize sites using project layers, filter and find content in the project pane, and move or share sites between projects. Projects are stored as [groups](https://doc.arcgis.com/en/arcgis-online/share-maps/groups.htm) and folders in your organization. Project content can be accessed through any Business Analyst app—Web, Mobile, or the Pro extension—and as individual [items in your organization](https://doc.arcgis.com/en/business-analyst/web/content-in-your-organization.htm). For tutorial video, <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_sx1jelem>.

## Create a project

The first time you sign in to ArcGIS Business Analyst Web App, you are guided through the process of creating your first project. Subsequently, you create projects yourself. To create a project, you must be signed in to an account with the [privileges to create projects](https://doc.arcgis.com/en/business-analyst/web/administer.htm). If you do not have the required privileges, you can open projects shared with you.

##### **Note:**

Every project you create also creates a group in your organization. An organization can have a maximum of 512 groups. If you reach this limit, to create a project, you must first delete an existing project or leave a group. For more information, see [Business Analyst content in your organization](https://doc.arcgis.com/en/business-analyst/web/content-in-your-organization.htm).

To create a project, complete the following steps:

1. On the **Home** tab, click **Create new project**. Alternatively, on the **Maps** tab, click **All projects** Menu and click **Create project**.

The **Create project** window appears.

1. In the **Project name** field, enter a name for the project.
2. Optionally, expand **Customize project attributes** and add, remove, or modify project attributes. For more information, see the [Customize project attributes](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION2_1213148E873149A0A7F16AFFFD312840) section below.
3. Click **Create**.

The project is created. If you previously chose the option to open new projects right away, the project opens automatically.

1. Click **OK** to open the project. Optionally, check the **Open new projects as soon as they are created** check box.

### **Customize project attributes**

When creating a project, you can set project attributes. Attributes are the fields used to describe sites in a project. For example, if the project is related to real estate, you can set attributes to keep track of the square footage of buildings and access to parking at the sites. You can also add new attributes. Attributes appear in site information, reports, and infographics.

Setting attributes during project creation sets the attributes for all point layers in the project. To set the attributes for other layer types, you can [edit the attributes individually for each layer](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION1_25AA87AFE5674AE0A745996DC628019C).

Setting attributes during project creation sets the attributes for all **Point locations** layers in the project. Project attributes in one project do not carry over to other projects. However, administrators can view and [customize the default project attributes for the organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm#ESRI_SECTION1_E596C65FEC1C49E79472F90A506EB536).

## Open a project

When you sign in to Business Analyst Web App, your most recently used project is open. To open a different project, do the following:

1. On the **Home** tab, hover over a project and click **Open**. Alternatively, on the **Maps** tab, click **All projects** Menu, hover over a project, and click **Switch to this project**.

##### **Note:**

The **Home** tab displays the most recently used projects. Click **Show all projects** to view the **All projects** window.

The selected project opens.

1. If you have content (such as sites and layers) on the map, the **Clear map** window appears. Click **Yes** to remove items from the previous project.

##### **Note:**

The **Clear map** window only appears if the **Clear map when projects are switched** option in the project preferences is set to **Ask every time**.

## Project content

Once you have created a project, it is populated with layers to store your content. You can view your project content by clicking your project name and opening the project pane. Project layers are organized in sections. Sites and analysis results are stored in layers. Layers can be expanded to view their contents and turned on or off using the check boxes.

Project content is grouped in the following sections:

* Point locations (sites)—All layers containing point locations. By default, an empty layer named **My point locations** is also created.
* Polygons (sites)—All layers containing polygons. By default, an empty layer named **My polygons** is also created.
* Geographies (sites)—All layers containing geographies. By default, an empty layer named **My geographies** is also created.
* Threshold areas (sites)—All layers containing [threshold areas](https://doc.arcgis.com/en/business-analyst/web/threshold-areas.htm).
* Color-coded map layers—Layers created using the [color-coded maps](https://doc.arcgis.com/en/business-analyst/web/color-coded-maps.htm) workflow.
* Suitability analysis—All layers containing [suitability analysis](https://doc.arcgis.com/en/business-analyst/web/suitability-analysis.htm) results.
* Territories—All layers containing territories.
* Web maps and layers—All [web maps and layers](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm) added to the project.
* Other layers—All other layers, including [points of interest search](https://doc.arcgis.com/en/business-analyst/web/points-of-interest-search.htm) results, [smart map search](https://doc.arcgis.com/en/business-analyst/web/smart-map-search.htm) results, and [imported point files](https://doc.arcgis.com/en/business-analyst/web/import-file.htm) not converted to sites.
* Previously run reports—All [reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_4053F2F61B8A4E358C832AE869A2C468) run on sites in the project.

## Search and filter project content

You can search or filter a project's content to locate items or limit the view of its content.

To search and filter project content, complete the following steps:

1. In the project pane, click **Search** Search, enter search terms, and press Enter to search for items.

The search results display any project layer containing the search term.

1. To close the search, click **Close**.

The project pane displays all project content, with the layers containing your search terms automatically expanded.

1. In the project pane, click **Filter** Filter.

The filter pane appears, showing all sections of the project with toggle buttons.

1. Use the toggle buttons to turn sections of the project on or off. To restore all sections, click **Reset**.

##### **Tip:**

You can hover over a section and click **Hide others** to hide all sections except for the one selected.

When you turn a section off, its contents remain on the map but do not appear in the project pane. When filters are applied, the **Filter** button displays an **On** indicator.

1. Click **Close** to finish filtering.

## Share a project

Sharing projects with other users in your organization allows you to collaborate. From Business Analyst Web App, you can share projects with your organization or with specific users.

To share a project, complete the following steps:

1. In the project pane, click **Share project** Share. Alternatively, open the **All projects** Menu pane and click **Share the project with other users** for any project.
2. If the project is already shared, you can modify the sharing settings by clicking **Share project** Share.
3. Choose who to share the project with. Select **Add entire organization** or **Add individual users from your organization**.
4. If you selected **Add individual users from your organization**, use the check boxes to select users. You can use the **Search** button and **Sort by** drop-down menu to find users.
5. Click **Apply**.

The project is shared with the selected users. Shared projects are accessible through the **Projects shared with me** tab in the **All projects** window.

## Create a layer

By default, projects contain empty layers for point locations, polygons, and geographies called **My point locations**, **My polygons**, and **My geographies**. As you add sites to your project, they are stored in these layers depending on their type. For example, if you are working on a transit project, sites you create from the point locations of train stations are added to the **My point locations** layer in your project. In addition to the three default layers, you can create additional layers, which can be useful for organizing your sites. When you create a layer, you can set it as the target layer for all new sites you create.

To create a layer, complete the following steps:

1. In the project pane, click the **Action menu** Options next to the **Point locations (sites)**, **Polygons (sites)**, or **Geographies (sites)** section.
2. Click **Add new locations layer**, **Add new polygons layer**, or **Add new geographies layer** and enter a name for the new layer.
3. Check or uncheck the check box to specify whether the new layer should be the target layer.

The target layer is where all new sites of this type are automatically stored.

1. Click **Save**.

The new layer is saved in the corresponding section of the project pane.

## Work with layers

Project content is stored in layers, which you can modify and use to organize and learn more about your content.

To work with project layers, complete the following steps:

1. In the project pane, optionally expand a layer to view the sites it contains.
2. Check the check box next to a section, layer, or individual item, to add or remove it from the map.
3. Click the **Action menu** Options next to a layer and do any of the following:
   * **Make target**—Choose the target layer for new sites. The target layer is where sites you create are saved by default.
   * **Zoom to layer**—Zoom the map extent to the chosen layer.
   * **Zoom to web map**—Zoom to the web map extent. This option is available for web maps you add to the project.
   * **Rename item**—Rename the layer.
   * **Show attribute table**—Open the attribute table for the layer.
   * **Filter by attributes**—Filter the items in the layer based on the attribute values. To save the filtered version of the layer, click **Save as new layer**. When a filter is applied, a red dot appears next to the layer name, and you can turn the filter on and off.
   * **Edit attributes**—Edit the attributes and validation rules for the layer. See the [Edit layer attributes](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION1_25AA87AFE5674AE0A745996DC628019C) section below.
   * **Setup layer**—Set up a layer for use in analysis and reports. This option is available for data layers that are added to the project, for example, imported or saved points.
   * **Delete item**—Delete the layer. This option is available for layers you created.
   * **Remove from project**—Remove the layer from the project. This option is available for [web map layers](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm) you added to the project.
   * **Open map**—Open color-coded maps and smart map searches in the project.
   * **View in ArcGIS**—Open the item details page for a web map you added to the project.
   * **Share with project users / Unshare from project**—Share or unshare a web map you added to the project with other project users.

## Edit layer attributes

Attributes are the fields used to describe sites in a project. Attributes for sites are set at the layer level in your project and are applied to all sites in that layer. Attributes appear in site information, reports, and infographics.

When you create a project, you can set the attributes for all layers in the **Point Locations (Sites)** section, including the default **My point locations** layer, and any layers you create. Point locations include default attributes, including building area, site area, frontage, and parking. Once your project is created, you can customize attributes for each layer, including polygon- and geography-based layers.

To customize layer attributes, complete the following steps:

1. In the project pane, click the **Action menu** Options next to a layer and choose **Edit attributes**.
2. To add an attribute, click **Add attribute** and enter a name for your attribute.

##### **Note:**

Attribute names have a limit of 80 characters. Some attribute names are reserved. When adding an attribute using a reserved name, an underscore is automatically added to the end of the attribute name.

1. To specify the type of value for an attribute, use the drop-down menu next to the attribute name and choose **Number**, **Text**, or **Date**. Click **Edit** Edit to change the number type or text length.

The type of value for an attribute determines what information can be entered for this attribute.

1. To view attribute details, click **Expand** Expand.
2. To specify permitted values or a range of values for an attribute, use the **Set validation** drop-down menu. For the **Number** and **Date** fields, you can choose **Range** or **Preset values**. For the **Text** fields, you can choose **Preset values**.
   * For **Range**, enter values in the **Minimum** and **Maximum** fields to set the range.
   * For **Preset values**, enter a value in the **Value** field and a name for the value in the **Name** field. The value names appear as options in a drop-down menu. Click **Add value** to add more values.

##### **Note:**

Editing the validation rules may cause attribute values for existing sites in that layer to become invalid and result in errors for items you created in this project, such as infographics and reports. For example, if you create a site with a value of 250,000 for the Building Area attribute, then edit the validation rule to lower the maximum value to 230,000, that site will have an invalid attribute value.

1. To rename an attribute, hover over the attribute and click **Edit** Edit.
2. To delete an attribute, hover over the attribute and click **Delete**.
3. Click **Apply**. If you are customizing the attributes during project creation, click **Create** when you are done.

Once your layer attributes have been customized, any new sites you add to that layer include the configured attributes. Configured attributes do not apply to sites already added to the layer.

## Manage projects

You can rename, delete, and share projects in the **All projects** pane. You can also manage the items in projects in this pane. To manage projects, complete the following steps:

1. On the **Home** tab, click **Show all projects**. Alternatively, on the **Maps** tab, click **All projects**.

The **All projects** pane appears.

1. To rename a project, hover over it and click **Edit** Edit.
2. To delete a project, hover over it and click **Delete** Delete.
3. To share a project, hover over it and click **Share the project with other users** Share. Follow the instructions in the [Share a project](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION1_FF15976D012047AE9A5E73589FB9A283) section above.
4. To access the items in a project, hover over it, click **Manage items**, and do the following:
   1. Check the check box next to an item to add it to the map.
   2. Click the **Action menu** Options next to a layer for options.
   3. Click the **Action menu** Options next to a site to use site options. When available, you can use the **Move item** option to move an item to another layer within the same project or to a different project.

## Set preferences

You can set preferences for Business Analyst Web App in the [application preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). For creating and using projects, you can specify preferences for the projects page, opening new projects, clearing the map when switching projects, and the **Save created sites** window. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **General** section and click **Projects**.
2. Set the following preferences:
   * Use the **Show projects page on start** check box to display or skip the **All projects** window when you sign in to the application.
   * Use the **Open new projects as soon as they are created** check box to open a new project immediately when you create it. When this is unchecked, you must switch to a new project manually.
   * For **Clear map when projects are switched**, choose **Always**, **Never**, or **Ask every time**.
   * Check the **Show save created sites dialog for choosing layers** check box to open the **Save created sites** window when sites are created from imported points or polygons. This allows you to choose a layer where your sites are saved. If this check box is unchecked, created sites are saved to the default layer.
3. To restore the default settings, click **Restore defaults**.
4. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

# **Create sites**

In ArcGIS Business Analyst Web App, a site is an area where analysis is performed. To create sites, you can place a point on the map, select from standard geography levels (such as states or counties), or draw a polygon. Once you have created a site, you can modify it, analyze it, or remove it from the map using [the site menu and the action menu](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_51E804DDE9A7452E94F72CE168177068). By default, sites are stored in the project under **Point locations (sites)**, **Polygons (sites)**, and **Geographies (sites)**.

##### **Note:**

Depending on the country or region selected, sites may be affected by geographic boundaries. Infographics and reports may only display data from the selected country's dataset.

## Place a point on the map

To create a site, you can place a point on the map and define an area around it.

1. Do one of the following:
   * From the [map tools](https://doc.arcgis.com/en/business-analyst/web/use-map-tools.htm), select **Pin** Pin. If necessary, pan and zoom to change the map extent. Click anywhere on the map to place the pin.
   * Type an address or latitude and longitude coordinates in the application [search bar](https://doc.arcgis.com/en/business-analyst/web/use-map-tools.htm#ESRI_SECTION1_C30D73392D964D51A8B606128A8A6E8F). Press Enter or select a suggested address. A pin appears on the map.
   * On the **Maps** tab, click **Define areas** and select **Find location**. The **Find location** workflow pane appears.

Type an address in the text field or click **or enter a Lat/Long** and provide coordinates in the text fields. Click **Go**. The point appears on the map. Optionally, name the location by providing a name in the corresponding text field and clicking **Apply**.

1. From the site menu (a pop-up menu that appears at the point on the map), you can add or modify the site name, move the point, remove the point, or create a site. Click **Create site**.
2. Choose how the site area around the point is measured.
   * **Rings**—Create up to three rings around the point using specified distances. You can use non-whole numbers, such as .1, .3, and .5, for ring sizes. The limit for ring size is 1,000 miles or kilometers.
   * **Drive time**—Create drive-time areas around the point using specified times or based on road networks. These areas represent the distance traveled to or from the site in a given time. The limit for drive-time size is 300 minutes, 300 miles, or 482.8 kilometers.
   * **Walk time**—Create walk-time areas around the point using specified times or distances based on paths and roads that allow pedestrian traffic. The limit for walk-time size is 300 minutes, 27 miles, or 43.45 kilometers. The default walking speed is 5 kilometers per hour.
3. Set the unit of measurement using the drop-down menu and change the distances or times using the **Radius** or **Time** text box.

You must specify at least one buffer around the point to create a site. You can set up to three buffers around the point, measured according to distance or time.

For any of the buffer options, you can check the **Use bands** check box. Bands create concentric areas that do not overlap. For example, checking **Use bands** and specifying values of 5, 10, and 15 miles results in bands that are 0-5, 5-10, and 10-15 miles from the point location.

1. Optionally, for **Drive time**, click **More options** and specify the following:
   * From the drop-down menu, choose a driving mode: **Driving time**, **Rural driving time**, or **Trucking time**.
   * Choose a travel direction option: **Away from facility** or **Toward facility**.
   * Check the **Use traffic** check box. Choose **Live traffic** to calculate time based on the current traffic conditions. Use the slider to factor live traffic conditions up to 12 hours from the current time. Live traffic is not available for all countries.

Choose **Traffic based on typical conditions for** to set a day of the week and time of day on which to base traffic calculations. You can set times for typical conditions by 15-minute intervals for the entire day and night.

1. Click **Apply**.

If you are using the **Find location** pane, use the check boxes in the **Apply rings**, **Apply drive time**, or **Apply walk time** window to select the location of the site you want to create. You can create sites for multiple points at one time, choosing from all the points on the map. Points that do not yet have sites created are selected by default. Click **Apply**.

The site is created and displayed on the map with the specified buffers. The site is saved in the project pane under **Point locations (sites)** under **My point locations** or in the target layer you specified.

1. If you are using the **Find location** pane, click **Next** to view options for working with sites you created. To close the workflow, click **I'm done**.

## Select a geographic boundary

You can select a geographic boundary, such as a state or county, to create a site.

1. On the **Maps** tab, click **Define areas** and select **Select geography**.

The **Select geography** workflow pane appears.

1. Choose a method of selection.
   * **Search**—Enter a city, county, ZIP Code, block groups, census tracts, and so on. You can also enter part of a name or number to search.
   * **Select from map**—Click a geographic area on the map to select it.
   * **Select from full list**—Browse a full list of all geographic areas.
2. If you chose **Search**, do the following:
   1. Provide geographic information in the **Search for your geography** field and click **Search** Search.

The search results appear, showing the first 100 results.

* 1. Check any search result check boxes. Use the **Selected items** drop-down menu to modify the selections.

Checked items appear shaded on the map and are added to **Selected items** in the workflow pane.

1. If you chose **Select from map**, do the following:
   1. Click a geographic boundary type from the list.

The selected geographic boundaries and labels appear on the map.

* 1. Click a geographic area on the map to select it.

You can select multiple geographic areas.

Selected areas appear shaded on the map and are added to **Selected items** in the workflow pane. Use the **Selected items** drop-down menu to modify the selections.

1. If you chose **Select from full list**, do the following:
   1. Click a geographic boundary type from the list.
   2. Use the drop-down menus and check boxes to select geographic areas. For example, to select **ZIP Codes**, use the **Select state** and **Select county** drop-down menus to view a list of relevant ZIP Codes.

Selected areas appear shaded on the map and are added to **Selected items** in the workflow pane. Use the **Selected items** drop-down menu to modify the selections.

1. By default, selected areas are combined into one site.
2. To create individual sites for each selected area, click **No** for **Combine selected geographies into one site?** When you finish selecting geographic areas, click **Next**.

The site is created and displayed on the map. The site is saved in the project pane under **Geographies (sites)** under **My geographies** or in the target layer you specified.

The workflow pane displays options for working with sites you created.

1. To exit the workflow, click **I'm done**.

## Draw a polygon

You can draw a polygon to create a site.

1. On the **Maps** tab, click **Define areas** and select **Draw polygon**.

The **Draw polygon** pane appears.

1. Choose a drawing method.
   * **Polygon**—Draw a polygon with straight edges by placing points on the map.
   * **Freehand**—Draw a polygon of any shape using the pointer.

Optionally, click the **Fill** and **Border** swatches to modify the polygon colors.

1. If you chose **Polygon**, do the following:
   1. Click the map to start drawing, move to the next point, and click.
   2. Continue clicking at each corner of the shape until you create the polygon. A minimum of three points are required to create a polygon.

While drawing, the **Clear last** button becomes active. Click **Clear last** to remove the most recently drawn point.

* 1. Double-click to stop drawing.

1. If you chose **Freehand**, do the following:
   1. Click and drag the cursor to draw a shape.
   2. To stop drawing, release the mouse button.

The site is created and displayed on the map. The site is saved in the project pane under **Polygons (sites)** under **My polygons** or in the target layer you specified.

1. To edit a polygon, click **Edit** in the workflow pane. Click a polygon to show its points and edit it.
2. Click and drag the points to edit the polygon. Click **Undo** to discard the most recent edit. When the edits are complete, click **Stop edit**.

## Work with sites

Once the sites are created, there are several ways to work with them. You can use a site's menu to modify the site or start a workflow. You can also access actions for a site from its **Action menu** Options in the project pane.

### **Use a site's pop-up menu**

To access a site's pop-up menu, click its location on the map. The options differ based on the type of site selected (point, geography, or polygon). Choose any of the following options:

* **Edit** Edit—Provide a different name for the site.
* **Attributes** Expand—For point locations, provide site attributes for the default fields specified when creating the project.
* **Infographics** Infographics—Run the default infographic template for the site.
* **Reports** Reports—Select and run a report for the site. If you select multiple sites, click **Download reports** to download the reports for all the sites.
* **Comparisons** Comparisons—Run the default comparison report for the site.
* **Edit area** Edit—Alter the buffers around a point or the boundaries of a geography or polygon.
* **Add photo** Add photo—For point locations, view site attributes, add an image to the site attributes, and view reports run on the site.
* **Details** Menu—For polygon and geography locations, view reports run on the site. For point locations, view site attributes, add an image to the site attributes, and view reports run on the site.
* **Options** Preferences—Alter colors for site fill and border and adjust color transparency. Click **Clear site** to remove the site from the map, but keep it in the project contents.

For point locations, you can also turn labels on or off and use the **Symbol** drop-down menu to edit the site symbol. Click **Import custom symbol** to upload a symbol in GIF, PNG, or JPG format. The recommended image size is 120x120 pixels or less.

### **Use a site's action menu**

To access a site's action menu, locate the site in the project pane and click its **Action menu** Options. Choose any of the following options:

* **Show details**—View site attributes for point locations, as well as reports run for a specified site.
* **Zoom to site**—Zoom the map extent to view the site on the map.
* **Rename item**—Provide a new name for the site.
* **Run reports**—Select and run a report for the site.
* **Run infographics**—Run the default infographic template for the site.
* **Edit site**—Alter the buffers around a point or the boundaries of a geography or polygon.
* **Move item**—Move the site to a different layer in the same section of the project. You can also move the site to a different project. To keep a copy of the site in the current project, check the **Keep a copy** check box.
* **Delete item**—Delete the site.

## Set preferences

You can set preferences for Business Analyst Web App in the [application preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). You can specify preferences for the appearance of sites on the map, as well as values and settings for rings, drive times, and walk times. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To set the workflow preferences, do the following:

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **Maps** section, expand the **Define areas** section, and click **Find location**, **Select geography**, or **Draw polygon**.
2. You can set the following preferences for the **Find location** workflow. Select **Rings**, **Drive time**, or **Walk time** and do any of the following:
   * Set values for the site areas in the **Default values** fields.
   * Use the check boxes to turn the fill and border off or on.
   * Click the **Fill** and **Border** color swatches to select colors. Use the sliders to adjust color transparency.
   * Use the **Thickness** drop-down menu to specify the weight of the border.
   * Check the **Edit and set bands** check box to use bands for site areas.
   * Use the **Show labels** check box to turn labels on or off.
   * For **Drive time**, create preferences for driving options.

You can restore the default settings by clicking **Restore defaults**.

1. You can set the following preferences for the **Select geography** and **Draw polygon** workflows:
   * Use the check boxes to turn the fill and border off or on.
   * Click the **Fill** and **Border** color swatches to select colors. Use the sliders to adjust color transparency.
   * Use the **Thickness** drop-down menu to specify the weight of the border.

You can restore the default settings by clicking **Restore defaults**.

1. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

## Workflow videos

The following videos illustrate workflows for creating sites in ArcGIS Business Analyst Web App.

Create Site by Location Tutorial Video: <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_ah4f9rwi>

Create Site by Pre-defined Geography:  
<https://mediaspace.esri.com/embed/secure/iframe/entryId/1_216t6521>

Create Site by Drawing Polygon:  
<https://mediaspace.esri.com/embed/secure/iframe/entryId/1_216t6521>

### **Find location**

The Find location workflow allows you to enter an address or latitude/longitude coordinates to find a location on the map. You can add rings, drive times, walk times, and bands to this location.

# **Create infographics and reports**

Infographics and reports allow you to visualize and analyze key information about ArcGIS Business Analyst Web App sites. You can run predesigned templates or build custom [infographics](https://doc.arcgis.com/en/business-analyst/web/building-infographic-reports.htm) and [reports](https://doc.arcgis.com/en/business-analyst/web/building-reports.htm). When you run an infographic or report, it is populated with data from Esri demographic data portfolios, site attributes, and ArcGIS content. The resulting document can be exported, saved, and shared.

## Run infographics

Business Analyst infographics present location information in a visually compelling form. You can create, modify, and export infographics that are included with Business Analyst, infographics shared with you by others, and custom infographics that you create. Infographics can be viewed in the app or exported and shared with others.

To run infographics, do the following:

1. On the **Reports** tab, click **Run reports** and click **Run infographics**.

The **Infographics** tab appears. If you have sites open on the **Maps** tab, they are selected in the **Selected sites** drop-down list.

1. Click **Add sites**.

The **Add sites** window appears.

1. In the **Add sites** window, choose sites from the following tabs: **Recent**, **Currently on map**, **From layers**, **From projects**, and **Neighboring geographies**. Optionally, click **Search** Search to find sites using a search term. Check the check boxes for the sites to include in the infographic.
2. Click **Apply**.

The sites are added to the **Selected sites** list.

1. Optionally, expand the **Selected sites** drop-down menu to review the sites. Click **Remove site** Close next to a site to remove it from the selection.
2. Under **Select infographics to run**, view the available infographics in the following sections. Click **Expand** Expand to view the contents of a section.
   * **My infographics**—Lists your custom infographics. Hover over an infographic for options to edit, share, or delete.
   * **Shared infographics**—Lists infographics shared with you by others. Hover over an infographic for the option to save it.
   * **Standard infographics**—Lists ready-to-use infographics.
   * **Gallery infographics**—Lists infographics in the infographic gallery, if [enabled in app preferences](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35). This option is only available for Advanced users.
3. To select one or more infographics to run, use the following options:
   * Check the check box next to an infographic to add it to the Selected infographics table.
   * Click **Filter** Filter to filter the list by type. Use the toggle buttons to include or exclude categories of infographics in the list.
   * Click **Search** Search to search for infographics by name.
   * Hover over **Sample** Sample report for a sample view of the infographic.
   * Hover over **More information** Information next to an infographic to view a brief description.
   * Click **Add to favorites** Favorite next to an infographic to add it to your favorite infographics. To remove an infographic from your favorites, click the button again.
   * To run your favorite infographics, click **Run favorites**. Those infographics are added to the **Selected infographics** pane and run immediately.
   * To save a shared infographic to your account, hover over it and click **Save** Save.
   * Click **Refresh** Reset to refresh the infographic list at any time and see the most up-to-date list of shared infographics.

The selected infographics appear in the **Selected infographics** pane. To remove an infographic from **Selected infographics**, click **Remove** Remove.

By default, the **Export infographics** toggle button is turned off.

1. To run an infographic for a selected site, click **Run now** in the **Selected infographics** pane.

The infographic opens in the infographic viewer. The site name is displayed on the ribbon at the top, next to the site detail: geography, polygon, or buffer size. For location-based sites, the smallest buffer is initially selected. For example, for a 10-, 20-, and 30-minute drive-time site, the 10-minute drive time is selected.

1. Click the site detail to expand the drop-down menu with the following options:
   * For location-based sites, to view the infographic for one of the larger buffer sizes, select it in the list.
   * Click **Compare with geographies** to view a side-by-side comparison of the site with the geographies within which the site address is located. For sites in the United States, that includes ZIP Code, County, State, and USA. For polygon and geography sites, the centroid of the site determines the associated geographies.
   * Click **Add sites to compare** to open the **Select Site** window and add more sites to the side-by-side comparison.
   * Turn on the **Side by side comparison** toggle button to view a side-by-side comparison infographic for all the sites and buffers. In this mode, click **More options** Options for any site or buffer for the following options:
     + Click **Make benchmark** to make it a benchmark.
     + Click **Remove area from comparison** to remove the selected site from the side-by-side comparison.
2. Use any of the following options on the ribbon:
   * To view a different infographic for the site, click the infographic name to expand the infographics drop-down list and choose a different one.
   * To view the infographic for a different site, click **Change site** Change site next to the site name to open the **Select site** window.
   * Click **Share infographic** Share to share the infographic with others in the organization.
   * Click **Edit infographic** Edit to open the infographic template and edit it.
   * Click **Close** Close to close the infographic viewer.
3. To export the infographic, do the following:
   1. Click **Export infographic** Export on the ribbon to export the infographic.

The **Export Infographic** window appears.

* 1. From the **Export as** drop-down menu, choose **PDF**, **Image**, **Dynamic HTML**, or **Excel** as the export format.
  2. For PDF and image formats, do any of the following:
     + Check the check box for the **Add header and edit title**, **Add data source**, and **Add footer** options.
     + Check the check box for **Include interactive panels in export** to include any interactive panels in the infographic in the export.

##### **Note:**

When the **Include this panel in export** setting is enabled on the [interactive experience panel](https://doc.arcgis.com/en/business-analyst/web/building-infographic-reports.htm#ESRI_SECTION1_3318A1ABAAD1478887701ADB2670E803), this option is automatically selected.

* 1. For Dynamic HTML format, do any of the following:
     + Check the check box for **Enable interactive experience** to allow exploration of the variables in interactive panels in the infographic.
     + Check the check box for **Export maps as static images** to export a static map image instead of the dynamic map. This option can be used to export secured or private maps. Choosing this option significantly increases the export time.
     + Check the check box for **Enable dynamic feature service query from HTML files**. This option is available only when the infographic template you used includes one of the following:
       - A nearby table with a custom point feature layer.
       - An infographic element with attributes from layers currently on the map, except when such attributes were used to create custom variables or calculations.
  2. For Excel format, do any of the following:
     + Check the check box for **Include map image in the Excel file** to include a map image in the exported Excel file.
     + Check the check box for **Include interactive panels in export** to include all the data from the interactive panels in the infographic in the exported Excel file.
  3. When you are finished, click **Create** to export.

1. Optionally, you can run infographics in export mode by turning on the **Export infographics** toggle button on the **Run reports** screen and doing the following:

##### **Note:**

This is an alternative to viewing infographics in the infographic viewer.

* 1. Use the format drop-down menu to choose PDF, HTML, or Excel for each selected infographic. The default is PDF, which you can change in the [infographic preferences](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35).
  2. Click **Export** next to an infographic to run it. A **Processing** status appears and, when the infographic is ready, the status is replaced with **Open report**. Click **Open report** to view the infographic.
  3. Click **Export all** to run all the selected infographics (up to a maximum of 100). For a PDF, click **Open report** to open it. An infographic run in HTML format is downloaded, and you can open the dynamic HTML file from its location on your machine. You can download all the infographics as a .zip file in the [infographic preferences](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35).

## Panel display options

When you view an infographic, you can change the display options for maps, charts, and tables. This is useful for highlighting aspects of the data of particular interest to you, especially when you plan to export the infographic.

Below are display options for maps, charts, and tables. The display options available depend on the element type and the way it is configured by the infographic creator.

| Display option | Instructions |
| --- | --- |
| **Legend** Legend | For maps, you can turn the legend on or off. On the map, click **Show legend** to display or hide the legend. |
| **Settings** General settings | Click **View table** or **View chart** to switch between display methods.  Use the **View as** drop-down menu to select **Table**, **Horizontal bar chart**, **Vertical bar chart**, **Horizontal line chart**, **Vertical line chart**, **Pie chart**, **Donut chart**, or **Ring chart**. |
| Use the **Column** or **Row** drop-down menu to choose the series item or attribute to display.  Use the **Series in rows** check box to switch the rows and columns. |
| Use the **Group locations by attribute** drop-down menu to choose an attribute, such as NAICS code or city name, to group the data. |
| Use the **Show summary footer for attributes** check boxes to add summaries to the bottom of the table. |
| Click **Original sorting**, **Sort ascending**, or **Sort descending** to change the display order. |
| Under **Calculate totals**, use the check boxes to choose value totals or averages, displayed as the final row or column. |
| **Filter** Filter | Use the sliders to set value thresholds or use the drop-down menu to select a filter method. You can filter by **Top N** or **Bottom N** (where N is a number you choose), or by **Above average** or **Below average**. The values available in the filter pane adjust based on what has been selected in the settings pane. |

## Run reports

Business Analyst reports provide location information in several categories: business, consumer spending, demographics, maps, market potential, and Esri Tapestry Segmentation. You can create, modify, and export reports that are included with Business Analyst, reports shared with you by other users, and custom reports that you created. Reports can be formatted as PDF or Excel files.

To run reports, do the following:

1. On the **Reports** tab, click **Run reports** and click **Run classic reports**.

The report interface appears. If you have sites open on the **Maps** tab, they are selected in the **Selected sites** drop-down list.

1. Click **Add sites**.

The **Add sites** window appears.

1. In the **Add sites** window, choose sites for the report from the following tabs: **Recent**, **Currently on map**, **From layers**, **From projects**, and **Neighboring geographies**. Optionally, click **Search** Search to find sites using a search term. Check the check boxes for the sites you want to include in your report.
2. Click **Apply**.

The sites are added to the **Selected sites** list. The **Selected sites** drop-down list displays the selected sites. Expand the list to review the sites. Click **Remove site** Remove next to a site to remove it from the selection.

1. Under **Select reports to run**, the available reports are listed in the following sections. Click **Expand** Expand to view the contents of a section.
   * **My reports**—Custom reports you have created. Hover over a report for additional options to edit, share, or delete it.
   * **Shared reports**—Reports shared with you by other users. Hover over a report for the option to save it.
   * **Esri reports**—Ready-to-use reports included with Business Analyst Web App.
2. Select a report to run by checking its check box. Use the following options to find and work with reports:
   * Click **Filter** Filter to filter the report list by type. Use the toggle buttons to include or exclude categories of reports in the list.
   * Click **Search** Search to search for reports by name.
   * Click **Sample report** Sample report to open a sample view of the report in a new browser tab.
   * Hover over **More information** Information next to a report to view a brief description.
   * Click **Add to favorites** Favorite next to a report to add it to your favorite reports. To remove a report from your favorites, click the button again.
   * To run your favorite reports, click **Run favorites**. Those reports are added to the **Selected reports** pane and run immediately.
   * To save a shared report to your account, hover over it and click **Save** Save.
   * Click **Refresh** Reset to refresh the report list and see the most up-to-date list of shared reports.

The selected reports appear in the **Selected reports** pane. To remove a report from **Selected reports**, click **Remove** Remove.

1. Optionally, provide a subtitle for the report in the **Report subtitle** field.
2. Use the drop-down menu to choose **PDF**, **Excel**, or **Both** for the format. Click **Run now** next to a report to run that report individually. To run all the selected reports, click **Run all**. Optionally, if you have selected multiple reports, check the **Create an all-in-one PDF report** check box to create a single, combined report.

##### **Note:**

All-in-one PDF reports are only created for PDF files. If you create a report with both Excel and PDF reports, the Excel files are not included.

A **Processing** status is displayed. When the report is ready, it is replaced with **Open report**. When all reports are ready, the **PDF Reports Created** window appears.

1. Click **Open report** to view a report that has been run.
2. If you checked the **Create an all-in-one PDF report** check box, use the following additional options:
   * Optionally, use the **Share reports** window to specify other users with whom you want to share the all-in-one PDF report. Click **Apply**. All-in-one PDF reports can't exceed the 50 MB limit for sharing on ArcGIS Online.
   * When the **Create an all-in-one PDF report** check box is unavailable, it indicates that the report size limit has been exceeded. There is a limit of 10 map reports and a total report limit of 60 for an all-in-one PDF. Delete some reports so that neither limit is exceeded.
3. In the **PDF reports created** window, do any of the following to work with the reports. When you are finished, click **OK**.
   * Click an individual report name to open that report.
   * Click the **All-in-one report** link to open the all-in-one PDF report.
   * To copy a report link to the clipboard, click **Copy link** Link.
   * To copy all links to the clipboard, click **Copy all links**.

## Usage notes

See the following notes for running reports:

* Using map reports when creating all-in-one PDF reports results in large PDF files that take more time to run and download.
* There is no limit to the number of reports you can run, except when the **Create an all-in-one PDF report** check box is checked. Up to six reports can be processed simultaneously. If there are more than six reports in the **Selected reports** pane when you click **Run all**, the first six start processing first, with the rest queued in **Pending** status. When a report is ready, the next pending report starts processing.
* To run reports from [multiple data sources in the same country](https://doc.arcgis.com/en/business-analyst/web/data.htm#ESRI_SECTION1_EB94357965034083984A51B6A2CE49E1) (for example, ABS Census and Standard for Australia), you must enable that setting in the [report preferences](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB).
* Currency symbols displayed in reports are based on your [browser settings](https://doc.arcgis.com/en/business-analyst/web/system-requirements.htm#ESRI_SECTION1_443337167B964F10BDB52A41B5BBB7A8).

## Set infographic preferences

You can set preferences for Business Analyst Web App in the [app preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). For running infographics, you can specify preferences for nearby locations tables, the default infographic template, export settings, and geography comparison settings. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To set infographics preferences, do the following:

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **Reports** section, expand the **Overall settings** section, and click **Nearby locations**. Set the following preferences for nearby locations tables in infographics:
   * Use the **Choose a default symbol for nearby locations on maps** drop-down menu to set the default map symbol and its properties (for example, size) for nearby locations.
   * Use the **Maximum number of locations** field to specify the number of locations to display.
   * Use the check boxes to set preferences for the title, proportional size, and footer of nearby locations tables.
2. In the **Reports** section, expand the **Infographics** section, and click **Run infographics**. Set the following preferences:
   * Use the drop-down menu to select an infographic to display on site menus.
   * To set the display style, select **Show full page**, **View in stack mode**, **View in slide mode**, or **Compare all areas side by side**.
   * Use the check boxes to specify site menu and interactive experience settings.
   * Use the check boxes to specify which infographic categories to include in **Run infographics** menus: **Shared infographics**, **Standard infographics**, and **Gallery infographics**.

##### **Note:**

Gallery infographics are available for Advanced users only.

1. In the **Reports** section, expand the **Infographics** section, and click **Export infographics**. Use the check boxes to set export preferences for PDF and image, HTML, Excel, and infographic batches:
   * Optionally, for PDF and image exports, add a header, data source information, a footer, and choose to include interactive panels.
   * Optionally, for HTML exports, add interactive experiences, export maps as static images, enable dynamic query, and set the default display as **Auto**, **Show full page**, **View in stack mode**, **View in slide mode**, or **Compare all areas side by side**.

##### **Note:**

When exporting infographics to HTML through the Run Infographics interface, or sharing infographics through the [ArcGIS Dashboards](https://doc.arcgis.com/en/business-analyst/web/arcgis-dashboards.htm) and [ArcGIS StoryMaps](https://doc.arcgis.com/en/business-analyst/web/story-map.htm) workflows, the export settings that are used are from the HTML export preferences in this section.

* + Optionally, for Excel exports, include a map image and interactive panels.
  + For infographic batch exports, choose a default export format (PDF, HTML, or Excel), opt to download batches as .zip archives, and select a naming convention for the downloaded files.

1. In the **Reports** section, expand the **Infographics** section, and click **Comparison geographies**. Set the following preferences:
   * Click the color swatch next to a geography level to format its fill and border display settings.
   * Click **Change labels font** to format the label for the geography level.
2. To restore the default settings, click **Restore defaults**.
3. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

## Set report preferences

You can set preferences for Business Analyst Web App in the [app preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). For reports, you can specify preferences for the overall settings, logos, nearby locations, default report and export format, and favorites. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To set the workflow preferences, do the following:

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **Reports** section, expand the **Overall settings** section, and click **Settings**, **Logo**, or **Nearby locations**. Set the following preferences:
   * In the **Settings** section, use the **Report subtitle** field to provide a default subtitle for reports. Use the **Dialogs** check boxes to turn introductory pages, report ready, and sharing windows on or off. If you have created custom reports, click **Show all out-of-date reports** to view custom reports that have out-of-date variable year labels. You can use this link to launch the update process. This link is available only if you have at least one custom report or infographic that needs to be updated.
   * In the **Logo** section, click **Add logo** to upload a logo to use in reports.
   * In the **Nearby locations** section, use the **Symbol** drop-down menu to specify symbol shape, size, color, and border. Set the maximum number of nearby locations to include in reports.
2. In the **Reports** section, click **Classic reports**. Set the following preferences:
   * In the **Report and format** section, select a default report and report format included in the site menu. To run reports from [multiple data sources in the same country](https://doc.arcgis.com/en/business-analyst/web/data.htm#ESRI_SECTION1_EB94357965034083984A51B6A2CE49E1) (for example, ABS Census and Standard for Australia), check the **Allow reports to be run from multiple data sources in the same country** check box (this option is not available for the United States and Puerto Rico).
   * In the **Batch export options** section, use the check box to specify whether multiple files are downloaded as a .zip archive.
   * In the **All-in-One report options** section, use the check box to set creating all-in-one reports as the default behavior.
   * In the **Detailed data aggregation** section, use the check box to specify whether detailed data aggregation is used.
3. In the **Reports** section, click **Favorites**. Edit the list of favorite reports.
4. To restore the default settings, click **Restore defaults**.
5. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

# **Create comparison reports**

Comparison reports are data visualizations in Business Analyst Web App that can be displayed as charts or tables comparing two or more sites. Unlike standard PDF reports, comparison reports are interactive, allowing you to switch views and add sites or comparison categories. When you are satisfied with your report, you can share it with other Business Analyst users or export it to Excel.

Esri Comparison Reports contain sets of preselected variables that provide information about popular demographic categories: population, households, income, housing, and geography.

To create a comparison report, do the following:

1. In the **Reports** tab, click **Comparison reports**. Alternately, select **Comparisons** from a site's [pop-up menu](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION2_AE4A053C2A844F41990E897DD7D237BA).

The **Comparison reports** window appears. If you have already created a comparison report, the window displays your most recently used comparison report for the two most recently used sites. To modify a comparison report, you can [add or remove variables](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm#ESRI_SECTION1_736FC94E9A71421BBCA9728F8AD4B928) and [add or remove sites](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm#ESRI_SECTION1_F71EE8331DB24162AF12EDBB9B642660).

1. In the **Select report** drop-down menu, choose an Esri comparison report.
2. Click **Add sites** and select sites to compare.

Once you have selected sites, click **Apply**. The report appears as a table, with rows displaying site information and columns displaying variables.

1. Explore the report in table view by switching the rows and columns and expanding sites' rings, drive times, or walk times.

You can also view the comparison in chart view.

* + Click **Switch rows and columns** Switch rows and columns to view the sites in columns and the data variables in rows. You can also drag the rows and columns to modify their positions in the table.
  + Click the drop-down menu beneath a site name to select a different ring, drive time, or walk time to use in the comparison. Check the **Expand rings, drive time, or walk time** check box to include all rings, drive times, and walk times in the comparison table.
  + To compare all the sites in the comparison report with a particular site, click **Options** Options and click **Make benchmark**. By default, the values are classified by intervals with equal counts (quantile method). To modify the class break values, click **Edit ranges**.
  + To compare one site in the report with its census tract, ZIP Code, county, state, and country, click **Options** Options and click **Compare with geographies**. In the window that appears, click **Yes**. This removes all other sites from the comparison report and replaces them with the chosen site's nearby geographies.
  + Click the **Chart** tab to view the comparison as a chart. Hover the cursor over any bar in the chart, or any circle on the line graphs, to view the value of the associated variable. To change a variable's color, click the color thumbnail next to its name in the legend and choose a different color.

##### **Note:**

Chart view uses multiple visualizations to display different types of variables. Variables representing a count are displayed as a bar graph. Variables representing a percent or index are represented as line graphs with a separate, color-coded vertical axis.

1. To print your comparison report or save it as a PDF, click **Print** and follow instructions for your printer. To export your comparison report as an Excel file, click **Export**.

##### **Note:**

If you have added a benchmark to the report, this styling is not preserved when exporting to an Excel file.

## Add or remove variables

You can add and remove variables from any comparison report. Adding variables to an Esri Comparison report allows you to customize it and save it as a custom report. To modify the variables in a report, do the following:

1. Click **Add variables**.

The **Add variables** window appears.

1. [Use the data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm) to browse and search for variables. Select the check box next to the variable you want to add.

The **Selected variables** list updates to reflect all selected variables. To go back to the main data browser page, click **Categories** or **Add more variables**. You can remove variables from the **Selected variables** list by deselecting the check box next to the variable you want to remove.

1. When you are done adding variables, click **Apply**.

The comparison report now shows all the variables you selected. The title of the comparison report has been altered to reflect that the Esri comparison report has been edited.

1. To modify a variable from within the comparison report, click **Options** Options and do the following:
   * To replace a variable, click **Replace variable**.
   * To sort the sites in the comparison report based on a variable's value, click **Sort ascending** or **Sort descending**.
   * To remove a variable from the comparison report, click **Delete**.

## Add or remove sites

You can add and remove sites from any comparison report. To modify the sites in a report, do the following:

1. Click **Add sites**.

The **Add sites** window appears.

1. Choose sites from the following tabs: **Recent**, **Currently on map**, **From projects**, **Neighboring geographies**, or **Statistical comparisons**.
2. Check the check box for the sites that you want to add to the comparison report. To remove a site, uncheck its check box.
3. When you are done selecting sites, click **Apply**.

The comparison table or chart is updated to reflect the altered selection of sites, geographies, and statistical comparisons.

1. To modify a site from within the comparison report, click **Options** Options and do the following:
   * To replace a site, click **Replace site**.
   * To remove a site from the comparison report, click **Delete**.

## Create a custom comparison report

A custom comparison report consists of a set of variables you have chosen. Once you have created and saved your custom comparison report, you can run the comparison report on any sites in your projects. To create a comparison report, do the following:

1. Click **Create new report**.

If you were working on a report, the **Confirm** dialog box appears. Click **Yes**. The **Add variables** dialog box appears.

1. [Use the data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm) to browse and search for variables. Select the check box next to the variable you want to add.

The **Selected variables** list updates to reflect all selected variables. To go back to the main data browser page, click **Categories** or **Add more variables**. You can remove variables from the **Selected variables** list by deselecting the check box next to the variable you want to remove.

1. When you are done adding variables, click **Apply**.

The comparison report now shows all the variables you selected, along with your most recently used sites. To modify the sites in the comparison report, you can [add or remove sites](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm#ESRI_SECTION1_F71EE8331DB24162AF12EDBB9B642660).

1. Click **Save**.
2. In the **Save report** dialog box, enter a name for your comparison report and click **Save**.

Your comparison report is saved. You can view the report in the **Select report** drop-down menu under **My comparison reports**.

1. To delete, share, or rename a saved comparison report, hover the cursor over it and do any of the following:
   * Click **Delete report** Remove to delete the report.
   * Click **Share report** Share to share the report with others. You can share with all users in your organization or select the groups with which you want to share.
   * Click **Rename report** Edit to rename the report.

## Set preferences

You can set preferences for Business Analyst Web App in the [application preferences](https://doc.arcgis.com/en/business-analyst/web/set-preferences.htm). For comparison reports, you can specify preferences for the colors used to depict comparisons and the geography levels compared. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm).

To set the workflow preferences, do the following:

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window opens.

1. Expand the **Reports** section and click **Comparison reports**.
2. You can set the following preferences:
   * Use the **Benchmark colors** drop-down menu to select a color ramp for the results in the comparison when a benchmark is applied.
   * Select the geography levels to compare with selected sites. These geography levels are used when you open a site's **Options** Options menu and click **Compare with geographies**.

You can restore the default settings by clicking **Restore defaults**.

1. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Video Tutorial for Comparison Reports - <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_kvg52g8g>

Set preferences

You can customize ArcGIS Business Analyst Web App by setting preferences for the application, workflows, and reports and infographics. Save your settings and refresh the application to apply them. Administrators can [set preferences for the entire organization](https://doc.arcgis.com/en/business-analyst/web/administer.htm). The most recently saved change for any preference, whether set by you or the administrator, is reflected as your current setting.

Set general app preferences

You can set preferences for the general appearance and functionality of the app.

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **General** section and click **Settings**. Do any of the following:
   * Use the **Default country** drop-down menu to choose the preferred country for use in the app. If there is more than one data source for the chosen country, use the **Data source** drop-down menu to specify the source.
   * Use the **Default units** drop-down menu to choose miles or kilometers.
   * Use the **Default basemap** drop-down menu to choose a basemap.
   * Use the **Location pin symbol** drop-down menu to choose or upload the preferred symbol for point locations on the map.
   * In the **Points of interest data source** section, use the **Select data source** drop-down menu to choose a source for use in points of interest search, void analysis, and nearby locations when building reports.

Note:

The **Points of interest data source** preference is only available for countries with more than one [points of interest data source](https://doc.arcgis.com/en/business-analyst/web/data.htm#ESRI_SECTION1_BD33B79A360F4D619E39CC21E1C2D3A1) option.

* + In the **Default map location** section, provide an address in the **Zoom to location** field or pan and zoom the map in the **Location preview** window to set a preferred map extent for when the app opens.

1. Optionally, restore the default settings by clicking **Restore defaults**. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Set guided tour preferences

You can set preferences for [guided tours of the app](https://doc.arcgis.com/en/business-analyst/web/manage-app-settings.htm#ESRI_SECTION1_F608A4DA7AE840169BD2512DD673B27D).

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **General** section and click **Guided tours**. Do any of the following:
   * Use the **Always show tips** check box to turn expanded tips on or off when using guided tours.
   * Click **Reset all tours** to reset your progress in guided tours and start again from the beginning. This option resets all guided tours. You will also lose all points and badges earned so far. This action cannot be undone.
2. Optionally, restore the default settings by clicking **Restore defaults**. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Set project preferences

You can specify preferences for working with projects, including the projects page, opening new projects, clearing the map when switching projects, and the  **Save created sites**  window. See [Create and use projects](https://doc.arcgis.com/en/business-analyst/web/projects.htm#ESRI_SECTION1_B45E0CD3B05C464C9A29181919994216) for project preference instructions.

Set data aggregation preferences

You can set preferences for the levels of polygon generalization and data aggregation.

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **General** section and click **Data aggregation**. Do any of the following:
   * Under **Analysis polygons tolerance**, use the slider to specify the level of detail used for input polygons generalized for analysis, reports, and sharing. The slider presents a range between better performance and better precision. See [Polygon generalization](https://doc.arcgis.com/en/business-analyst/web/data.htm#ESRI_SECTION1_2126D2604E87419B9145B96C6775B207) for more information.
   * Under **Detailed data aggregation**, use the check box to specify whether detailed data aggregation is used. See [Data apportionment](https://doc.arcgis.com/en/business-analyst/web/data.htm#ESRI_SECTION1_A153BD69C09E4EA28770B1D6545F36E2) for more information.
2. Optionally, restore the default settings by clicking **Restore defaults**. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Set map detail preferences

You can set preferences for the borders, labels, and map legend that appear on your map. Border and label options vary depending on the country or region you've selected.

1. On the top ribbon, click **Preferences** Preferences.

The **Preferences** window appears.

1. Expand the **Maps** section, expand the **Map details** section, and click **Boundaries**. Do the following:
   1. Click a geographic area.
   2. In the **Labels** section, use the color swatch and text formatting drop-down menus to set the preferred text appearance.
   3. In the **Borders** section, use the color swatch, **Transparency** slider, and **Thickness** drop-down menu to set the preferred border appearance.
2. In the **Map details** section, click **Map legend**. Use the **Open the map legend by default** check box to turn the map legend on or off.
3. Optionally, restore the default settings by clicking **Restore defaults**. To save your changes, click **Save** or, optionally, click **Save and close** to close the **Preferences** window. To view your changes, refresh the app.

Set workflow preferences

You can set preferences for specific functionalities and workflows in Business Analyst Web App. For settings available in the **Preferences** window, refer to the tables below.

Add data

Learn more about workflow-specific preferences using the following links:

| [Web maps and layers](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52) | Specify preferences for the **Web maps and layers** window by adding another organization that appears in the **Choose source organization** drop-down menu. |
| --- | --- |
| [Import file](https://doc.arcgis.com/en/business-analyst/web/import-file.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Specify preferences for the colors and symbology of imported points and polygons. |
| [Custom data setup](https://doc.arcgis.com/en/business-analyst/web/custom-data-setup.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Turn the workflow intro page on or off and decide whether to show warning messages when custom data is accessed from multiple sources. |

Create maps

Learn more about workflow-specific preferences using the following links:

| [Color-coded maps](https://doc.arcgis.com/en/business-analyst/web/color-coded-maps.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52) | Set color, transparency, and border preferences for the map and choose preferences for data breaks. |
| --- | --- |
| [Smart map search](https://doc.arcgis.com/en/business-analyst/web/smart-map-search.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52) | Turn the workflow intro page on or off and set preferences for overlay transparency and color. |
| [Points of interest search](https://doc.arcgis.com/en/business-analyst/web/points-of-interest-search.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52) | Choose a symbol for search results and turn industry descriptions on or off. |

Define areas

Learn more about workflow-specific preferences using the following links:

| [Find location](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Specify preferences for the appearance of sites on the map, as well as values and settings for rings, drive times, and walk times. |
| --- | --- |
| [Select geography](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Specify preferences for the appearance of sites on the map. |
| [Draw polygon](https://doc.arcgis.com/en/business-analyst/web/create-sites.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Specify preferences for the appearance of sites on the map. |

Run analysis

Learn more about workflow-specific preferences using the following links:

| [Suitability analysis](https://doc.arcgis.com/en/business-analyst/web/suitability-analysis.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52) | Turn the workflow intro page on or off, set color defaults, and adjust the point layer influence to be positive or negative. |
| --- | --- |
| [Void analysis](https://doc.arcgis.com/en/business-analyst/web/void-analysis.htm#ESRI_SECTION1_E428221D0ED140AC9E926D6BCFC45DBA) | Turn the workflow intro page on or off, set calculation preferences for the reference area, and style the analysis and reference areas. |
| [Threshold areas](https://doc.arcgis.com/en/business-analyst/web/threshold-areas.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Turn the workflow intro page on or off, specify preferences for the threshold variable, threshold values, threshold type, map styling for rings and drive times, and other settings. |

Share results

Learn more about workflow-specific preferences using the following links:

| [Story map](https://doc.arcgis.com/en/business-analyst/web/story-map.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Turn the workflow intro page on or off. |
| --- | --- |
| [Dashboard](https://doc.arcgis.com/en/business-analyst/web/arcgis-dashboards.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Turn the workflow intro page on or off. |

Set reports and infographics preferences

You can set preferences for building and running reports and infographics in Business Analyst Web App. For settings available in the **Preferences** window, refer to the tables below.

Overall settings

Learn more about overall report and infographic preferences using the following links:

| [Settings](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Edit classic Esri report subtitle and specify preferences for intro pages and dialog boxes when running and building reports. |
| --- | --- |
| [Logo](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Add and preview logo images to appear on classic Esri reports. |
| Nearby locations | For [reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB), set symbol preference and maximum number of locations. For [infographics](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35), set symbol preference, maximum number of locations in tables, and other nearby location table preferences. |

Infographics

| [Run infographics](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35) | Select the infographic to display in the site menu, set default display preferences, and set other infographic preferences. |
| --- | --- |
| [Export infographics](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35) | Set preferences for exporting infographics to PDF and image, HTML, Excel, and for batches of infographics. |
| [Build infographics](https://doc.arcgis.com/en/business-analyst/web/building-infographic-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Select units of measurement used when building infographics. |
| [Comparison geographies](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_0B74B02989BB4FA9B9656C415B624A35) | Set color and label font preferences for display of comparison geographies in infographics. |
| [Interesting facts](https://doc.arcgis.com/en/business-analyst/web/work-with-interesting-facts-panels.htm#ESRI_SECTION1_15C11ACA186A4E56A9831D69E4FC9887) | Set preferences for the comparison geography, tables, word clouds, and threshold values when running interesting facts infographic panels. |

Classic reports

Learn more about classic report preferences using the following link:

| [Classic reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Select the report to display in the site menu and set preferences for batch exporting, all-in-one reports, and data aggregation. |
| --- | --- |

Comparison reports

| [Comparison reports](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Specify preferences for the colors used to depict comparisons and the geography levels compared. |
| --- | --- |

Favorites

| [Favorites](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_249FD1A002A04F7CB97111E022B3A6BB) | Select classic Esri reports as favorites, specify the preferred report format, and edit favorites list. |
| --- | --- |

# **Data in Business Analyst**

The business and demographic data available through the [data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm) encompasses a wide variety of datasets that are updated quarterly, semiannually, annually, and decennially.

[Esri Demographics](https://doc.arcgis.com/en/esri-demographics/) provides documentation about all included data:

* For information about the datasets included with your Business Analyst subscription, see [Esri U.S. data fact sheet](https://doc.arcgis.com/en/esri-demographics/data/us-data-fact-sheet.htm) and [Esri global data fact sheet](https://doc.arcgis.com/en/esri-demographics/data/global-data-fact-sheet.htm).
* To learn about the geographic boundaries available, see [Introduction to Esri demographic data](https://doc.arcgis.com/en/esri-demographics/latest/get-started/what-is-esri-demographics.htm).

## Browse data by category

Variables in the [data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm) are grouped into categories. Select a category to view popular variables, browse subcategories, or show all the variables in the category. Not all categories are available in every country and region.

For more information about data categories, see [Demographic data categories](https://doc.arcgis.com/en/esri-demographics/latest/data-browser/about-demographic-data-categories.htm).

## View the data source or set

In the [data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm), you can view the organization that created or curated the data—this is the source. For example, data that describes consumer spending behaviors is part of the Consumer Spending dataset, and the source is Esri and the U.S. Bureau of Labor Statistics.

To view the data source and other metadata, use the following options:

* In the **Refine results** pane of the data browser, use the check boxes in the **Source** section to select a data source. For example, to view all variables provided by the U.S. Census Bureau, select **U.S. Census**. The data browser filters the results to show variables available from this source.
* In the **Refine results** pane of the data browser, use the check boxes in the **Dataset** section to select a dataset. For example, to view all variables in the Market Potential dataset, select **Market Potential**. The data browser filters the results to show variables available from this dataset.
* Hover over **Info** Information for any variable. The **Info** pop-up displays all metadata for this variable, including the name, vintage, calculation information, data source, and variable definition.

## Demographic data sources

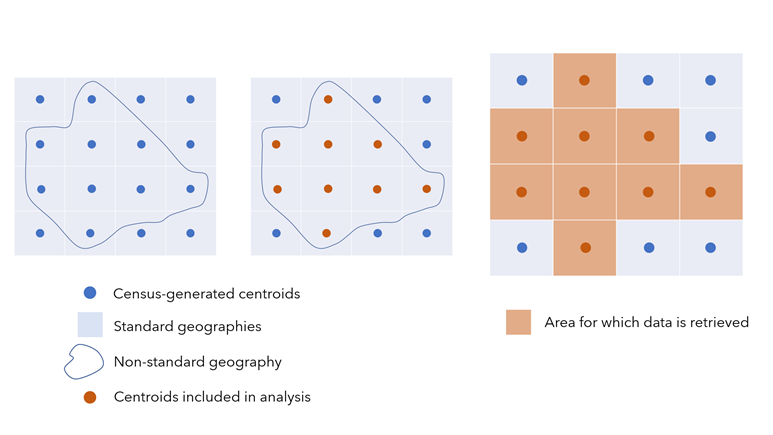
Some countries and regions have more than one demographic data source in Business Analyst Web App. These data sources include differing variables and geography levels. You can select a particular data source using the **Click for data source selections** button Click for data source selections in the [Country/Region drop-down menu](https://doc.arcgis.com/en/business-analyst/web/manage-app-settings.htm#ESRI_SECTION1_260A7D614D2E454881907BD261AB14D1).

## Data apportionment

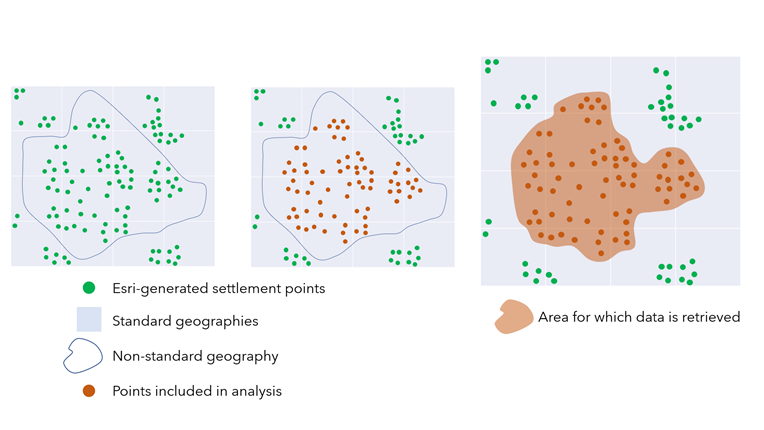
ArcGIS software uses a process called [GeoEnrichment](https://developers.arcgis.com/rest/geoenrichment/api-reference/geoenrichment-service-overview.htm) to provide demographic data about areas on the map. For standard geographies, such as census tracts and block groups, retrieving data is simple because the information is already reported in these units by the agency providing the data (for example, the U.S. Census Bureau). Areas that you create on the map—by drawing a polygon, importing a shapefile, or adding buffers around a site—are considered non-standard geographies, and the process of retrieving data for these areas is slightly more complex.

For non-standard geographies, data must be apportioned, or distributed and summarized, into different units than it was originally reported in. Data apportionment uses Esri-generated [settlement points](https://doc.arcgis.com/en/esri-demographics/latest/reference/data-allocation-method.htm#ESRI_SECTION1_B593150082484194B13463E8766193D8) to provide more detail for unique areas you create on the map.

To compare, an analysis that uses data available directly from the U.S. Census Bureau would rely on Census-generated centroids. A centroid is the representative center of a feature, marked by a single point. If the area you draw on the map includes a centroid, the analysis would retrieve data for the entire unit, resulting in imprecise data retrieval.



But where do people actually live within a standard geography? In most cases, they're not all clustered around the centroid. An analysis that uses Esri-generated settlement points apportions data to smaller units based on geographic settlement patterns. This results in data being retrieved for an area that more closely aligns with the shape drawn, based on people's actual locations.



### **Settlement points**

Settlement points are points representing the population density of a location. Settlement points are unique because they are weighted. They represent where people live within the standard geography unit, and they assign a weight to the point based on how many people likely live there. In contrast, Census centroids are broader measures that summarize the population of a standard geography—if the polygon you draw intersects with the centroid, the data for the whole geography is scooped into the data returned for your polygon. This means the data summarizes the entire geographic unit, even if your polygon only intersects with it a little bit.

Esri uses a few methods for plotting settlement points, depending on the country. To learn about the methodologies, see [How data apportionment works](https://developers.arcgis.com/rest/geoenrichment/api-reference/data-apportionment.htm#ESRI_SECTION1_206F094B25E540B3A01DB46E499EB08C).

### **Apportionment bases**

Settlement points are associated with two types of demographic counts: population data and households data. Population data reflects the number of individuals, while households data reflects the number of households people have residentially grouped themselves into. Because settlement points provide data at both the population and household level, other demographic variables can be apportioned using these bases. For example, education variables are based on the population, while household income variables are based on households.

# **Add web maps and layers**

A [web map](https://doc.arcgis.com/en/arcgis-online/reference/what-is-web-map.htm) is an interactive display of geographic information that you can use to tell stories, answer questions, and inform decisions. Web maps contain a basemap, a set of data [layers](https://doc.arcgis.com/en/arcgis-online/reference/layers.htm), and a map extent. You can add a web map or an individual layer to a project.

You can search, browse, and filter content to find and add web maps and layers within your organization and, if enabled by your administrator, in ArcGIS Online, ArcGIS Enterprise, and ArcGIS Living Atlas of the World. When relevant web maps or layers are added to a project, you can perform analyses.

To add web maps or layers, complete the following steps:

1. On the **Maps** tab, click **Add data** and choose **Web maps and layers**.

The **Web maps and layers** window appears. Content in the **Web maps and layers** window is grouped in tabs. By default, the **My content** tab is selected, showing all web maps and feature layers created by you. If your organization’s administrator has added a custom tab, it is the first tab and selected by default.

1. Click any of the tabs to browse content.

Your organization's administrator determines which tabs are available from the following:

* + **My content**—Content created by you.
  + **My groups**—Content created and shared by users of groups to which you belong.
  + **My organization**—Content created and shared by other users in your organization. If you belong to more than one ArcGIS organization and have [set preferences for web maps and layers](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm#ESRI_SECTION1_7DA97E2BFA804490A89B35B35132AE52), you can use the **Choose source organization** drop-down menu to switch organizations.
  + **Living Atlas**—Content from ArcGIS Living Atlas of the World.
  + **ArcGIS**—Publicly shared content on ArcGIS Online.
  + **Subscription layers**—If you have licenses for ArcGIS Marketplace content, those web maps and layers are listed under this tab.
  + **Recently added**—Recently added web maps and layers in the current project.

1. Click **List** List to browse content as a list. Click **Grid** Grid to return to the default grid view. Click **Refresh** Refresh to refresh the content. To find web maps and feature layers, do any of the following:
   * Sort content—By default, content is sorted by title. Use the **Sort by** drop-down menu to choose a different sorting method: recent, views, rating, or owner.
   * Search content—To search content on the currently selected tab, enter a search term and click **Search** Search or press Enter. You can also enter the URL or item ID of an ArcGIS Online web map or layer you want to add.
   * Filter content—By default, all content on the selected tab is displayed. You can apply one or more filters to further refine the displayed content. Check the **Filter by map extent** check box to limit the web maps and layers to those matching the current map extent. Depending on which tab is selected, you can filter by **Folders**, **Categories**, **Item type**, **Last modified date**, **Sharing status**, **Ratings**, **Tags**, **Groups**, and **Regions**.
2. To learn more about a web map or feature layer, hover over its thumbnail image.

A pop-up menu appears, showing information about who created it, when it was last modified, and what type of map or layer it is:

* + The **Web map containing variables** icon Polygon layer indicates that this web map contains variables that you can use to create maps using the [color-coded maps](https://doc.arcgis.com/en/business-analyst/web/color-coded-maps.htm) and [smart map search](https://doc.arcgis.com/en/business-analyst/web/smart-map-search.htm) workflows.
  + The **Web map layer** icon Point layer indicates that this web map contains layers that you can convert into sites.

1. To add a web map or feature layer to your current project, hover over its thumbnail image and click **Open**. To add multiple content items, check the item check boxes and click **Add selected**.

The selected web maps or layers are added to your project and opened on the map. The layers appear in the project pane in the **Web maps and layers** section or the **Territories** section (for territory layers). You can expand web maps to view the layers they contain and click the **Action menu** Options for additional actions.

1. Click the **Action menu** Options for a layer. Choose from the following options:
   * Click **Show attribute table** to view the data in a table format. Hover over a row in the table and the corresponding area on the map is highlighted. Click **Close** Close to hide the table.
   * Click **Filter by attributes** to choose filtering criteria. Choose an attribute in the **Select attribute** drop-down menu. For the selected attribute, use the **Select item to filter by** drop-down menu to choose from suggested items or enter text to search for an item.

##### **Tip:**

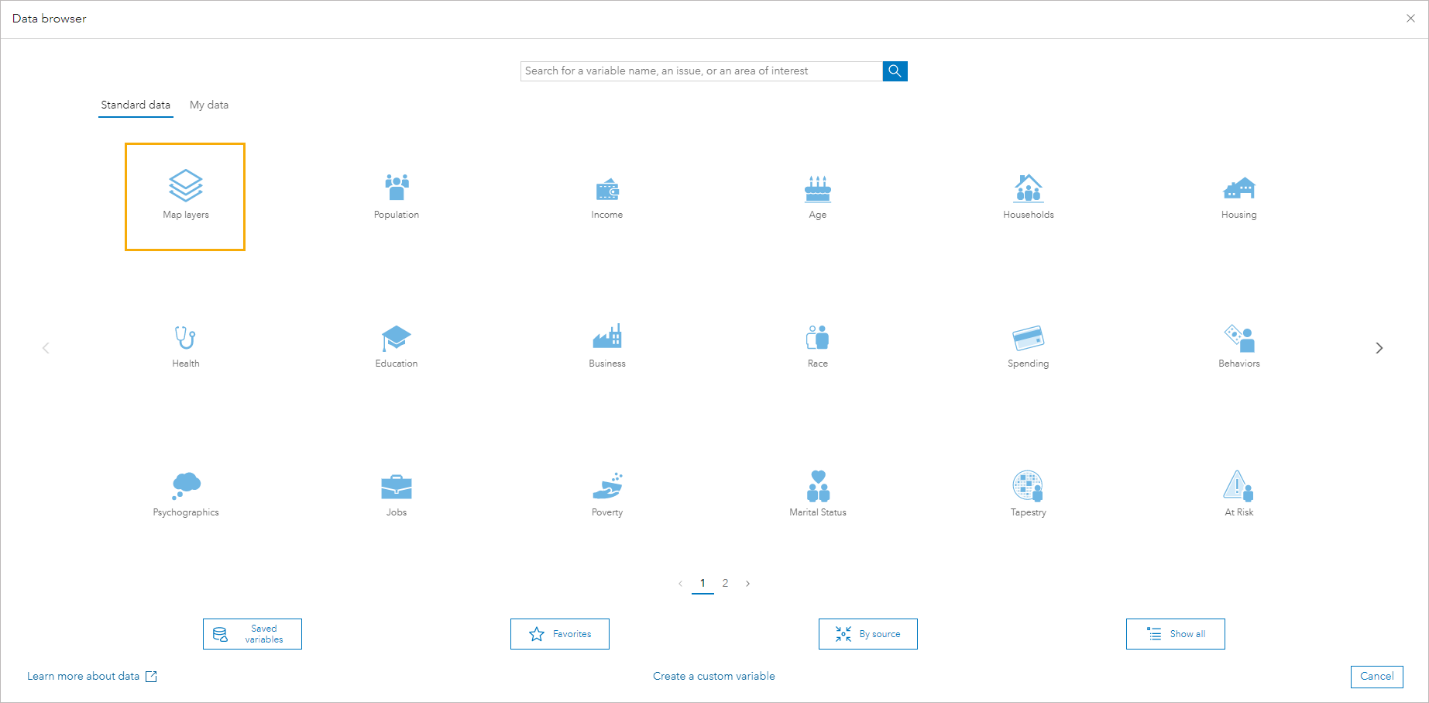
The suggested items in the **Select items to filter by** drop-down menu display the first 15 records in the attribute table. Enter text in this field to search for other items in the table.

* + Click **Setup layer** to set up the layer for use in analysis and reports. See the [Set up a layer](https://doc.arcgis.com/en/business-analyst/web/web-maps-and-layers.htm#ESRI_SECTION1_CBF80C7DA529492991B214B938E034E5) section below for instructions.

## Use variables from added layers

When you add a web map or territory layer that contains variables, you can use those variables in the [color-coded maps](https://doc.arcgis.com/en/business-analyst/web/color-coded-maps.htm) and [smart map search](https://doc.arcgis.com/en/business-analyst/web/smart-map-search.htm) workflows. In the [data browser](https://doc.arcgis.com/en/business-analyst/web/data-browser.htm), the variables for the layer are listed under **Standard data > Map layers**.

Click **Map layers** to view the available variables for the layers that are currently on the map.



##### **Note:**

To use variables from a layer that is not on the map, you must set up the layer using [custom data setup](https://doc.arcgis.com/en/business-analyst/web/custom-data-setup.htm). The added data is available in the data browser under **My data**.

## Set up a layer

You can use features from a web map or layer to define areas for analysis and reports without creating or saving any sites in the project. You must first set up the layer to use its features as sites in the current session. After setup, features from the layer can be used as sites in the current session and in the [run reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm), [comparison reports](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm), [suitability analysis](https://doc.arcgis.com/en/business-analyst/web/suitability-analysis.htm), and [void analysis](https://doc.arcgis.com/en/business-analyst/web/void-analysis.htm) workflows. Features from the layer you set up are available on the **From layers** tab in the **Add sites** window within these workflows.

To set up a layer, complete the following steps:

1. Open the project pane.
2. Find the layer you want to set up. Expand a web map or territory to view the layers in it.
3. Click **Action menu** Options on the point or polygon layer that you want to set up and click **Setup layer**.

The **Setup layer** pane appears.

1. Select items to set up. Use the check boxes to select or deselect items in the list of features.

You can also use the following controls:

* + To name the features using a field, choose a field in the **Use field as item name** drop-down menu.
  + Click **Prefilter candidates** Filter to select the items in the layer by attributes.
  + For point layers, you can use the **Create buffers around selected points** option to modify the buffers to be applied around the selected points—the default is rings. You can create a maximum of 1,000 rings, drive times, and walk times at one time. If the layer has more than 1,000 points, you must filter or deselect some of them to proceed.
  + For polygon layers, you can set up a maximum of 5,000 features. If there are more than 5,000 polygons or standard geography boundaries, you must filter or deselect some of them to proceed. You cannot create buffers for a polygon layer.

1. When you are finished, click **Setup layer**.

For point layers, the setup is complete. For polygon layers, another **Setup layer** window appears.

1. Select **Polygon layer** or **Standard geography layer**. Click **OK**.
2. To complete the workflow, the following options are available:
   * **Run infographics**—Run [infographics](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_C30D73392D964D51A8B606128A8A6E8F) to visualize, analyze, and interact with key information about your sites.
   * **Run reports**—Run [reports](https://doc.arcgis.com/en/business-analyst/web/create-infographics-and-reports.htm#ESRI_SECTION1_4053F2F61B8A4E358C832AE869A2C468) to visualize and analyze key information about your sites.
   * **Run comparisons**—Create [comparison reports](https://doc.arcgis.com/en/business-analyst/web/comparison-reports.htm) to analyze data comparing two or more sites.
   * **Suitability analysis**—Perform a [suitability analysis](https://doc.arcgis.com/en/business-analyst/web/suitability-analysis.htm) using the layer you set up.
   * **I'm done**—Close the setup layer workflow.

##### **Note:**

No sites are created or saved in your project and the setup layers are only available in your current session. In a future session, you must set up the layer again.

To convert features from the layer into sites saved in your project, select the features and click **Create site**.

View video tutorial for Web maps and layers - <https://mediaspace.esri.com/embed/secure/iframe/entryId/1_52tryk45>