



Create a Webmap

In this lesson, you'll create a map that shows hurricane evacuation routes in Houston, Texas. First, you'll begin a new map in ArcGIS Online and locate Houston. Then, you'll add a map layer that shows evacuation routes. Lastly, you'll change the way your map and layers look to better display the data.

Begin a map

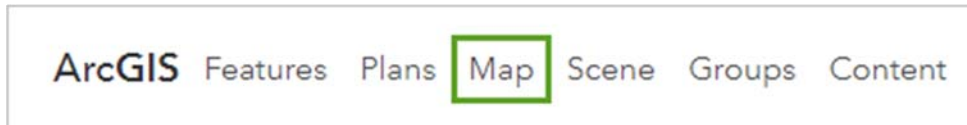
You'll begin your map by signing in and navigating to your area of interest: Houston, Texas.

1. Sign in to your [ArcGIS account](#).

Note:

If you don't have an ArcGIS account, you can sign up for a free [public account](#) or an [ArcGIS free trial](#).

2. On the ribbon, click **Map**.



Note:

The example images assume you have a public account. If you're using a trial or organizational account, you may encounter differences.

A new map opens.

Tip:

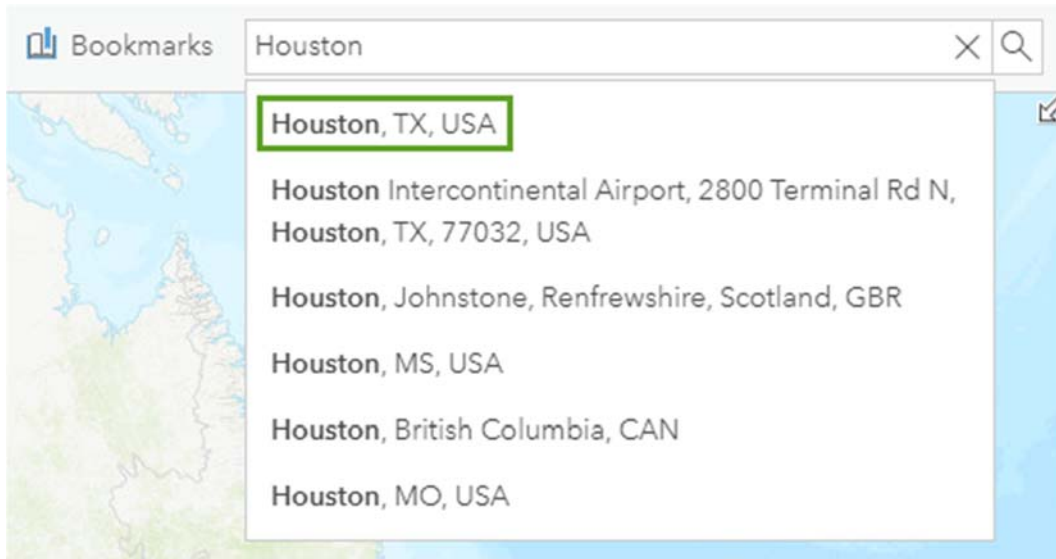
If you're in a new session, clicking **Map** will open a new map. Otherwise, it will open an existing map (the last map you were using). If an existing map opens, click **New Map**, and choose **Create New Map**.



Your map's appearance varies based on your account or organizational settings and your browser window size. It may show the United States (like in the example image), the world, or another extent. The only layer on the map is the basemap, which provides geographic context such as water bodies and political boundaries. The default basemap is Topographic, but your map may have a different basemap depending on your organization's settings.

Above the map is the ribbon. To the side of the map is the **Details** pane, which provides information about the map and its layers. Next, you'll navigate to your area of interest.

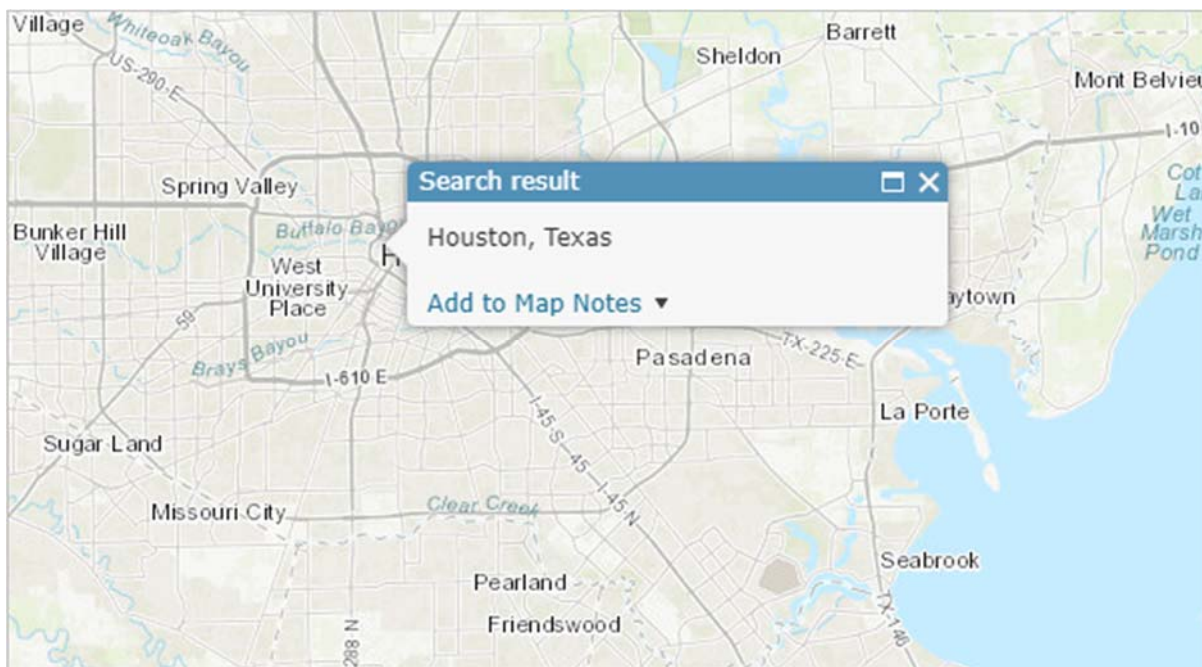
3. On the ribbon, in the search box, type **Houston**. In the list of suggested locations, click **Houston, TX, USA**.



Note:

Some ArcGIS organizations have custom address locators. You may encounter different search results than those in the example image.

The map zooms to Houston. A **Search result** pop-up confirms the location.

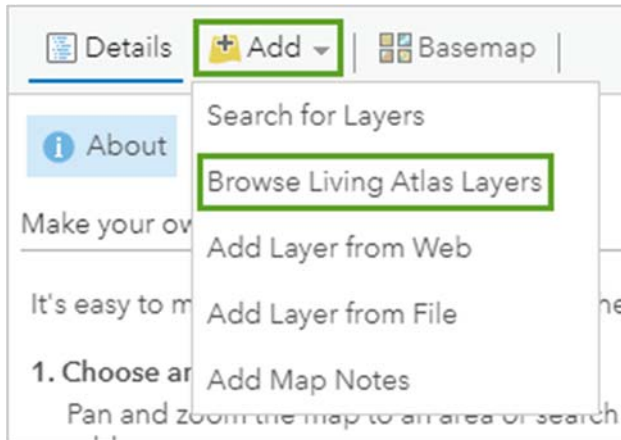


4. Close the **Search result** pop-up.

Add a layer

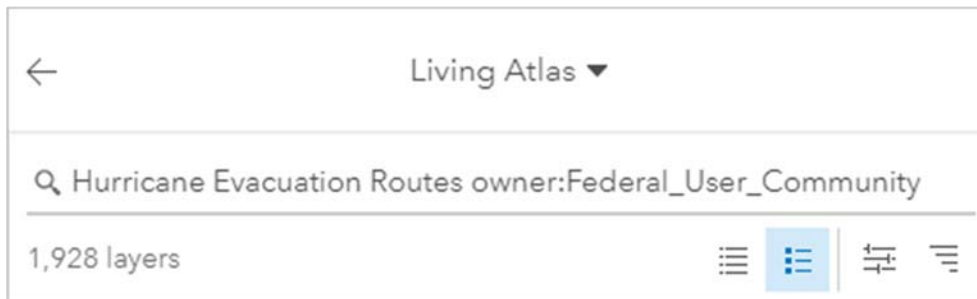
Next, you'll add a layer to your map that shows hurricane evacuation routes in Houston. You'll add this layer from the [ArcGIS Living Atlas of the World](#), a collection of curated geographic data from around the globe.

1. On the ribbon, click **Add** and choose **Browse Living Atlas Layers**.



The search pane opens. The layer you want to add is owned by the Federal User Community, an ArcGIS account that contains United States governmental data. You can find the layer more easily by adding the name of the layer's owner to the search terms.

2. In the search box, type Hurricane Evacuation Routes. Then, type owner:Federal_User_Community.
3. Confirm that **Living Atlas** is displayed at the top of the pane.



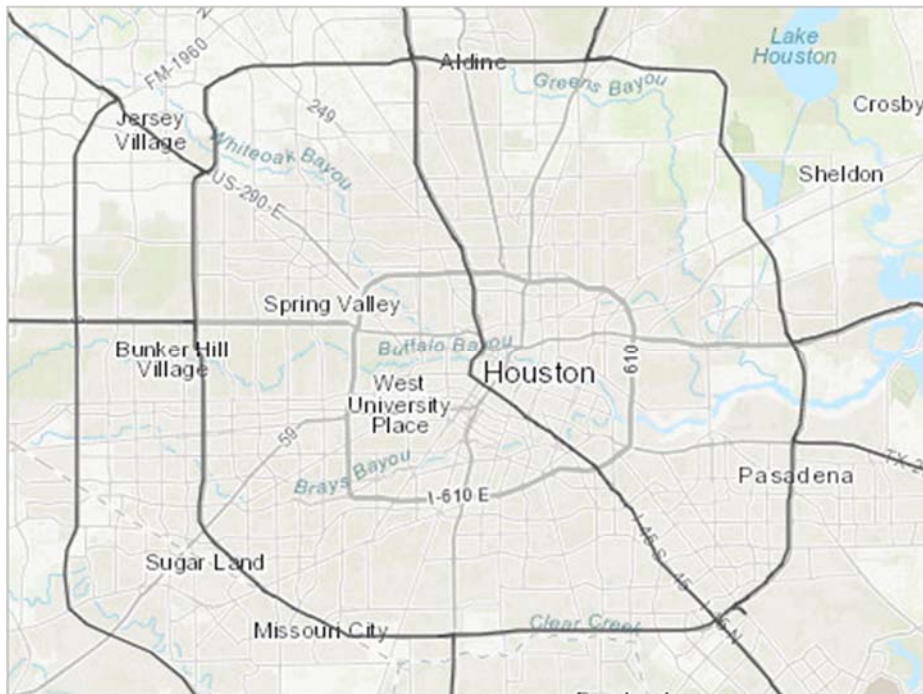
4. Press Enter.

The search returns a single result.

5. For the **Hurricane Evacuation Routes** layer, click the **Add** button.



The layer is added to the map.

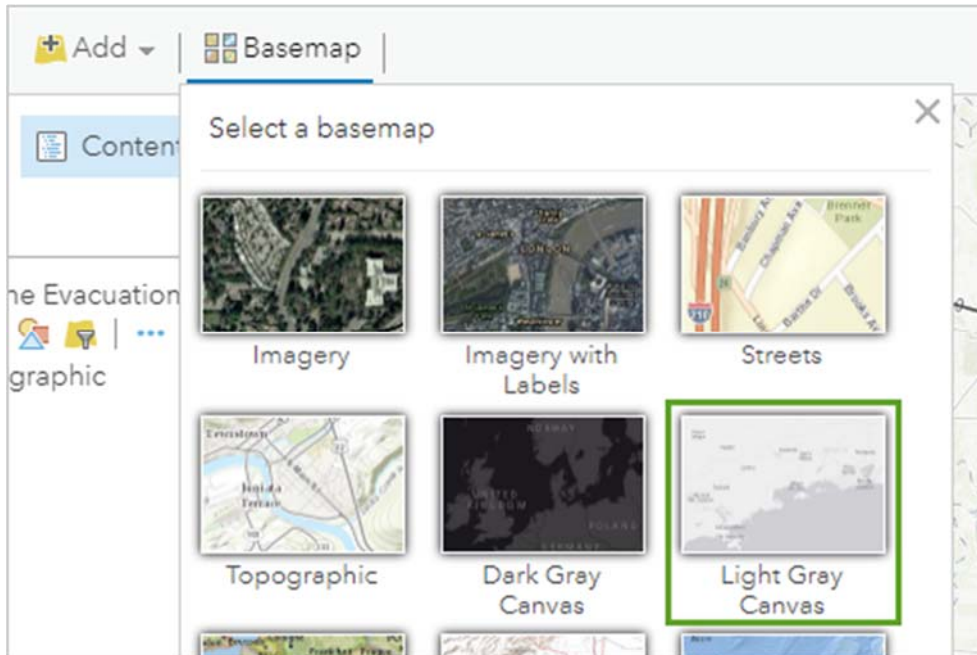


The routes are displayed as dark gray lines that travel throughout the city, but they don't stand out clearly against the Topographic basemap. You'll change the basemap to one with a lighter color scheme so the routes stand out.

6. In the search pane, click the **Back** button.

You return to the **Contents** pane. It lists all layers on the map, including the basemap.

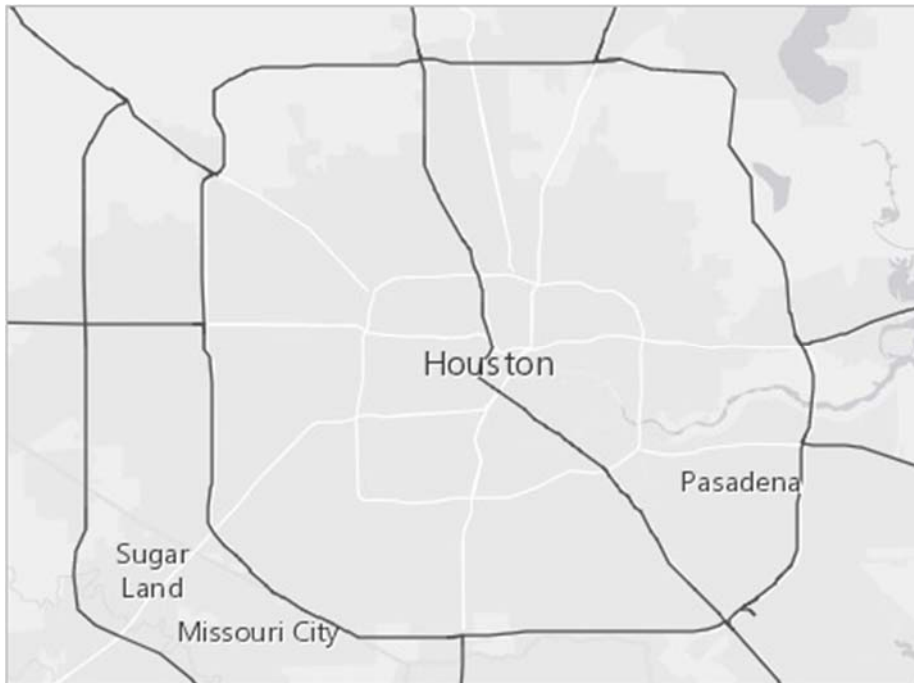
7. On the ribbon, click **Basemap** and choose **Light Gray Canvas**.



Note:

Some ArcGIS organizations may have different default basemaps. If you don't see the Light Gray Canvas basemap, click **Add** and choose **Browse Living Atlas Layers**. Search for **World Light Gray** and add the **World Light Gray Base** and **World Light Gray Reference** layers. Then, in the **Contents** pane, click the **More Options** button for each layer and choose **Move to Basemap**.

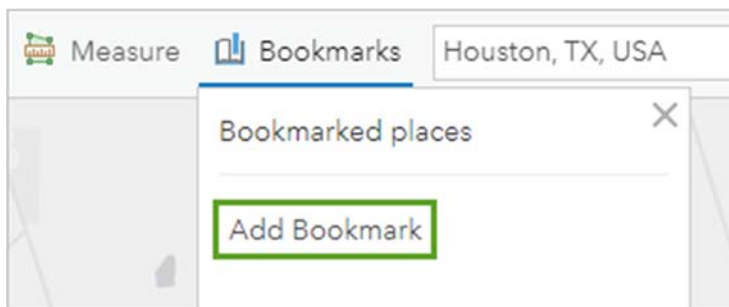
The basemap changes. The evacuation routes stand out much more against the lighter-colored, less detailed basemap.



Navigate the map

Before you continue, it's a good idea to explore the map and familiarize yourself with Houston's geography. With a better understanding of the area, you'll be better informed to make decisions and draw conclusions later on. Before you explore, you'll create a bookmark of the current extent so you can quickly return to it when needed.

1. On the ribbon, click **Bookmarks** and choose **Add Bookmark**.



A text box for the bookmark's name appears.

2. In the text box, type **Houston** and press Enter.

The bookmark is added. You can choose this bookmark to automatically navigate to the map extent where the bookmark was created.

3. Close the **Bookmarked places** window.

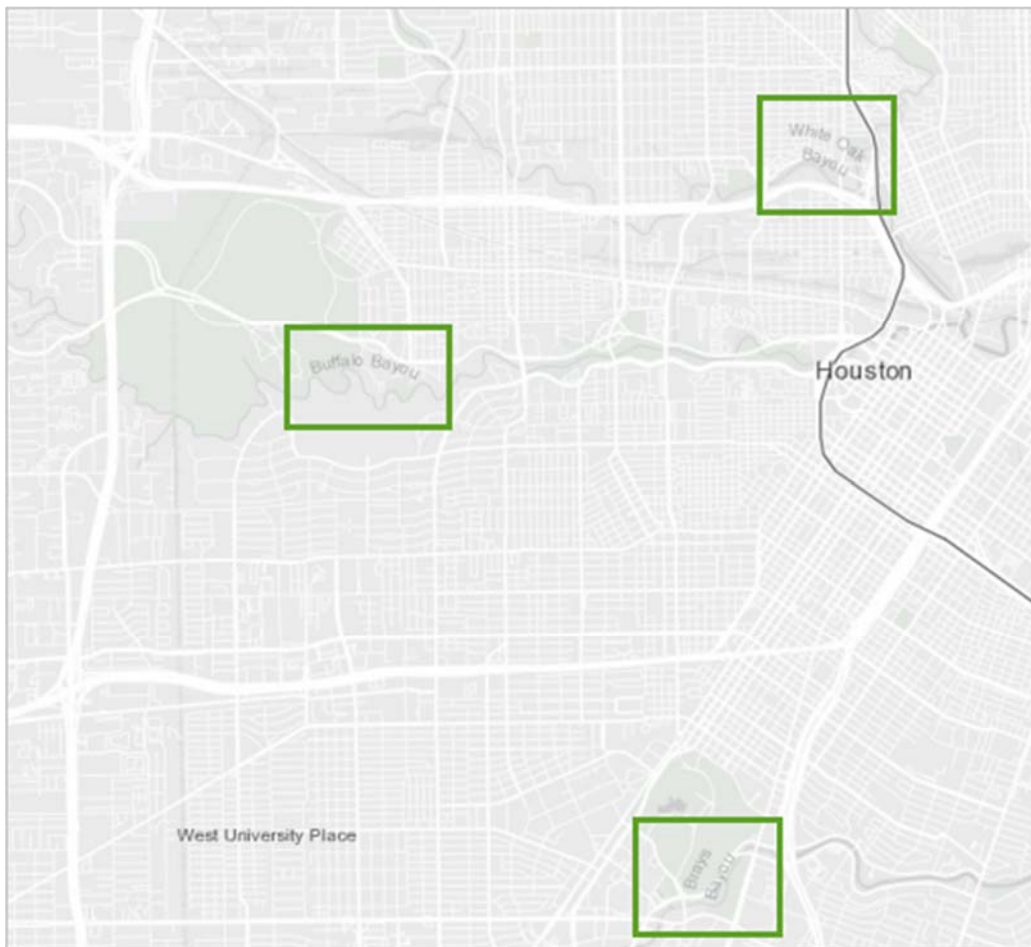
You're now ready to explore the city.

4. Zoom in to the center of the city, near the Houston label, until the Buffalo, Brays, and White Oak Bayous appear on the map.

Tip:

There are several ways to zoom. You can click the **Zoom In** button in the corner of the map or scroll up with the mouse wheel. Alternatively, you can press Shift while drawing a box around the area you want to zoom to.

5. If necessary, pan the map until all three bayous are visible.



Houston has several major bayous (flat, low-lying marshes or wetlands). During a hurricane, these bayous are prone to flooding and can become especially dangerous. You may want to keep this area in mind when you later identify high-risk areas.

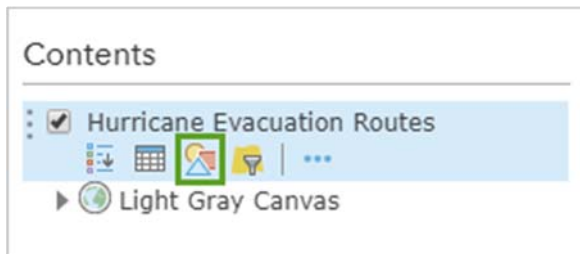
6. Add a bookmark for the current map extent. Name the bookmark **Bayous**.
7. On the ribbon, click **Bookmarks** and choose **Houston**.

The map zooms to its original extent.

Change the style

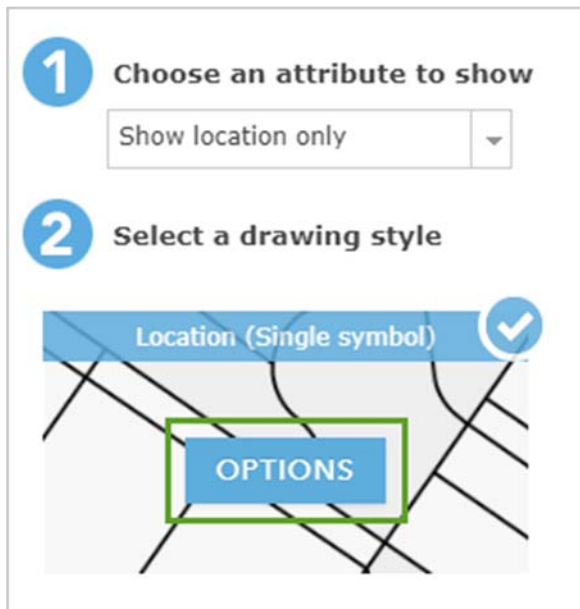
Although the evacuation routes stand out more against the light basemap, they could be even more eye-catching. You'll change the layer's style (also known as its symbology) to give the routes a brighter color and a thicker line width.

1. In the **Contents** pane, point to the **Hurricane Evacuation Routes** layer and click the **Change Style** button.



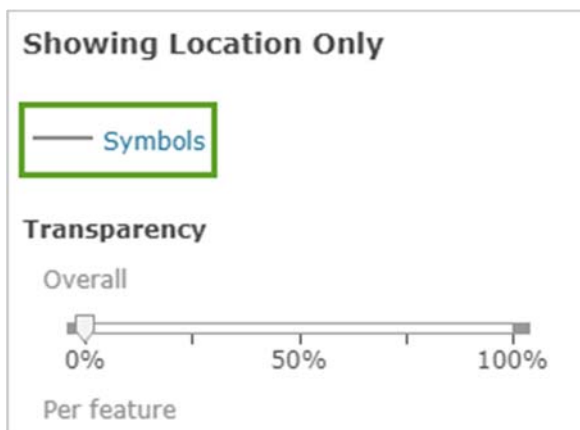
The **Change Style** pane opens. Layers can have either a single symbol or multiple symbols based on attribute information such as names or speed limits. You'll learn more about attribute information later. Right now, you're only interested in showing the location of roads, not particular characteristics of each road, so you'll continue to symbolize the layer with a single symbol.

2. For **Location (Single symbol)**, click **Options**.



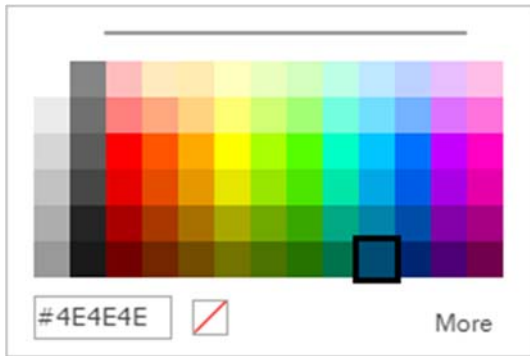
The pane changes to provide multiple style options, such as the layer's transparency or the range of map extents at which it is visible. You'll change the color and size of the symbol itself.

3. Click **Symbols**.



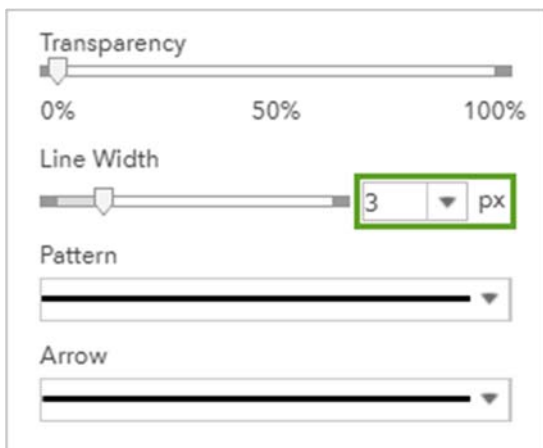
A window opens with a color palette and other options.

4. On the color palette, choose the blue color on the bottom row, fourth column from the right.



After you choose the color, the six-character hexadecimal code changes to **#004C73**.

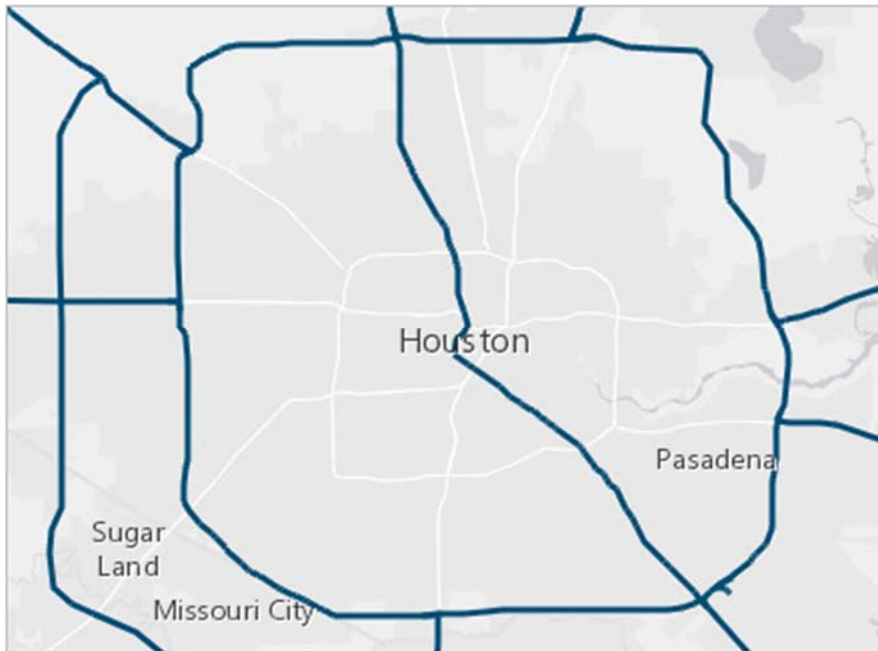
5. For **Line Width**, choose **3 px**.



6. Click **OK**.

The new line color and width are applied to the layer.

7. In the **Change Style** pane, click **OK**. Then, click **Done**.

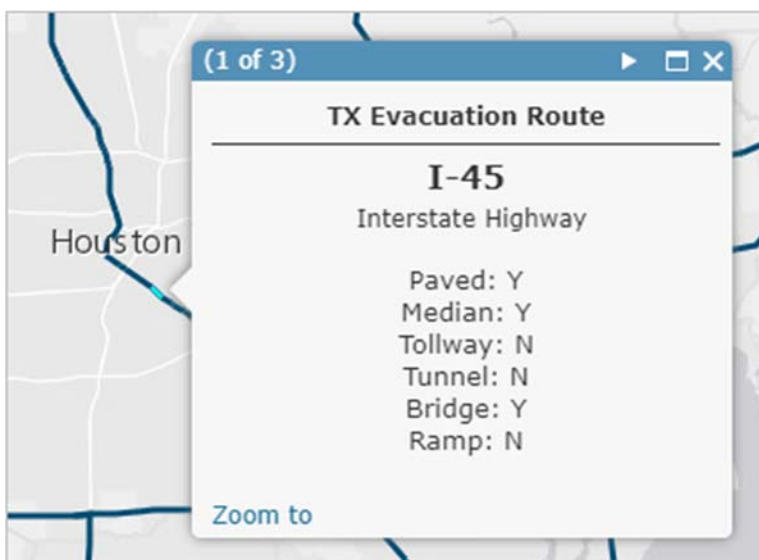


With the thicker, brighter symbol, the routes are eye-catching and stand out.

The routes layer is a feature layer, which means it consists of individual features with distinct characteristics. In this case, each route segment is a feature. You can view a feature's characteristics, also known as its attribute information, by clicking the feature on the map and opening its pop-up.

8. Click a segment of an evacuation route.

Its pop-up opens.



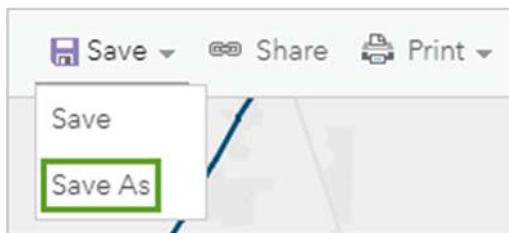
From the pop-up, you learn name of the route (in the example image, I-45), as well as whether the route is paved and what type of road it is. The owner of the Hurricane Evacuation Routes layer specifically configured this pop-up to present attribute information in a clear and readable way. You'll learn how to configure pop-ups in a later lesson.

9. Click a few different route segments to view their pop-ups. When finished, close the pop-up.

Save and share the map

Next, you'll save your evacuation map and assign it a title, tags, and a summary to make it easy to find and identify later. Then, you'll share the map to make it accessible to the public.

1. On the ribbon, click the **Save** button and click **Save As**.



The **Save Map** window opens.

2. For **Title**, type Houston Evacuation Map.

Next, you'll add tags. Tags are terms that allow users to search for your map on ArcGIS Online.

3. For **Tags**, type each of the following tags, pressing Enter after each one:
 - o Hurricanes
 - o Roads
 - o Evacuation Routes
 - o Houston

The summary appears on your map's details page and should provide information so users better understand your map's purpose.

4. For **Summary**, type This map shows hurricane evacuation routes in Houston, Texas.

Title:	Houston Evacuation Map
Tags:	<div style="display: flex; gap: 5px;"> Hurricanes x Roads x Evacuation Routes x </div> <div style="display: flex; gap: 5px; margin-top: 5px;"> Houston x Add tag(s) </div>
Summary:	This map shows hurricane evacuation routes in Houston, Texas
Save in folder:	Your Folder

- Click **Save Map**.

The map is saved. It now appears in your account's content. You can access your content by clicking **ArcGIS** (if using a public account) or **Home** (if using an organizational account) and choosing **Content**. For now, you'll share the map with the public.

- On the ribbon, click the **Share** button.



- In the **Share** window, check **Everyone (public)**.

Note:

If you are using an organizational account, your map will also be shared with your organization.

- Click **Done**.

Tip:

You can also feature your map on a public-facing website by embedding the map. In the **Share** window, click **Embed in Website** and choose the map options and symbols you want. Then, copy the HTML code provided and paste it into your web page.

In this lesson, you located the city of Houston and added a layer showing hurricane evacuation routes. Then, you changed the basemap and the style of the routes. Finally, you saved your map and shared it with the public.

Web maps often include multiple layers of data to highlight spatial patterns and relationships. In the [next lesson](#), you'll add a layer of Houston demographic data and identify vulnerable areas in need of evacuation assistance.

References

<https://www.arcgis.org>

<https://learn.arcgis.com/en/projects/get-started-with-arcgis-online/lessons/create-a-map.htm>