

# Street Smart Widget for ArcGIS User Manual



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# 1. Street Smart Widget™ for ArcGIS

## 1.1 Introduction

Street Smart™ Widget for ArcGIS by CycloMedia is a widget to view GeoCycloramas in Web Apps made with the Web AppBuilder. This widget works with Web AppBuilder version 2.0 and up. For the installation and creation of a Web App featuring the Street Smart™ Widget for ArcGIS, please see the Installation Manual for the Street Smart™ Widget for ArcGIS.

A Web App can be launched in two different ways: if the Web App is created using the [Web AppBuilder](#), the Web App can be hosted by deploying it on a server (this could be by the user's own server or by hosting it through Esri or CycloMedia); or, if the Web App is created through ArcGIS Enterprise, the Web App is easily [launched](#) within the organization's Enterprise environment.



### 1.2 Download

Before you start, make sure to have the Web AppBuilder for ArcGIS (Developer Edition) installed. Otherwise, follow the steps in Appendix A - Installing the Web AppBuilder for ArcGIS. If you are using ArcGIS Enterprise you don't need the Developer Edition, go to paragraph 1.4.

To obtain the Street Smart™ Widget for ArcGIS, follow the steps below:

- Go to the [ArcGIS Marketplace](#) and search for "Street Smart Widget". Be sure to check you select the widget and not the Street Smart for ArcGIS Online App;
- Obtain the Street Smart™ Widget for ArcGIS. You will be taken to the Console page where you can click the download button to download the widget file (a zipped folder).

### 1.3 Installation in the Web AppBuilder

After downloading the widget file, follow the instructions below to install the Street Smart™ Widget for ArcGIS.

- Unzip and paste the folder to the location %Web AppBuilder%\client\stemapp\widgets.
- Please make sure that the folder structure is as follows:  
 \widgets\StreetSmart\<widget parts>; no extra Street Smart folder is allowed;
- Start the Web AppBuilder from the local folder using the startup.bat file (if on a Mac, open a terminal in the server folder inside the Web AppBuilder folder and run the command "node server.js");
- After completing the previous step, you either create a new app or use the widget in an already existing app. Note that this widget works only for 2D as the version 2.x also has an option of 3D.
- Open the Web AppBuilder by either creating a new app ('Create New'), or import ('Import') or edit an existing Web App;

- The Web AppBuilder offers different layouts or themes to style Web Apps. Recommended themes are themes with a 'pop up' window for the widget. The Dart Theme is not working well due to color settings;
- Now, the Street Smart™ Widget for ArcGIS can be found or searched for by adding a new widget. Go to the tab 'Widget' and click one of the numbered boxes. A new menu is opened where the widget can be found and added to the Web App;
- Credentials are needed to allow users to view GeoCyloramas in the widget. Credentials can be set in the settings page of the widget as shown below;

Configure Street Smart by CycloMedia

Street Smart by CycloMedia

Change widget icon

Username: gcastaneda

Password: .....

Locale: USA

Viewer SRS: EPSG:26985 - NAD83 / Maryland

Display units: Default unit from selected srs

Enable / Disable All

Overlays

Show street name

OK Cancel

- On this page, the localization setting also needs to be set before using the widget. Options currently available are "USA", "EN", "NL", "DE", and "FR";
- Search or select the spatial reference system (SRS) of the Street Smart™ Widget for ArcGIS. Note that overlays should have the same SRS in order to be visible in the widget (this includes custom overlays added by users);
- Overlays are supported in the widget, but they are optional. If checked all visible point, line and polygon layers will be drawn on the GeoCyclorama image.
- Enable "Show street name", to display the address of the GeoCyclorama in the top of the view.
- "Save Measurements" allows the user to save measurement to a Feature layer within the selected web map. All editable Feature Layers are displayed, in the overview. Enabling this feature prevents the measuring of Height, or Orthogonal, since these cannot be stored in Feature Layers.
- Time Travel can be checked to allow the user to open older or more recent imagery of the current location. Not all areas are recorded multiple

times, so this feature might not do anything depending on where the user is using the GeoCycloramas.

- The Navigation, if checked, shows the recording locations for the GeoCyclorama images as an overlay on the map. Clicking a recording location will open the image for that location.
- “Center panorama in map” links the movement of the GeoCyclorama to the map. If checked, panning the map will open the GeoCyclorama at the center of the map. Clicking a recording point on the map will cause the map to pan so that recording point is in the center of the map.
- Navigation Buttons can each be enabled separately from each other. Each has its own purpose within the application
  - Overlays, allows the user to change what overlays are visible in the GeoCyclorama. This includes setting visibility of the Recordings and SurfaceCursor.
  - Elevation, if checked, a button is added to the widget that allows the user to shade the GeoCyclorama image by elevation. This tool is commonly used to visualize flooding and drainage. The login used in the widget must be licensed for this tool.
  - Report, if checked, a button is added to the widget that allows the user to report missing privacy blurring of faces or license plates.
  - Measurement allows the user to start a measurement. Without this button the Save measurements feature doesn't work. If checked and Save Measurements is NOT enabled, adds a measurement button that allows the user to measure with the location (shows coordinates of point), distance (line or length), surface (area or polygon), orthogonal (right angle), and height tools. Measurements made with this button are not saved.
  - Save image, if checked, adds a button to the widget that lets the user download a snapshot of the current view in the widget as an image in PNG format.
  - Image Information, if checked, adds a button to the widget that lets the user view metadata for the image.
  - Zoom-in/out, allows the user to zoom in the GeoCyclorama without the usage of a scroll wheel on a mouse, or two finger drag on a touchpad.
- You have to agree to the terms and conditions of CycloMedia before finishing the configuration.

## 1.4 Installation in ArcGIS Enterprise

Another way to create and launch Web Apps is by using ArcGIS Enterprise.

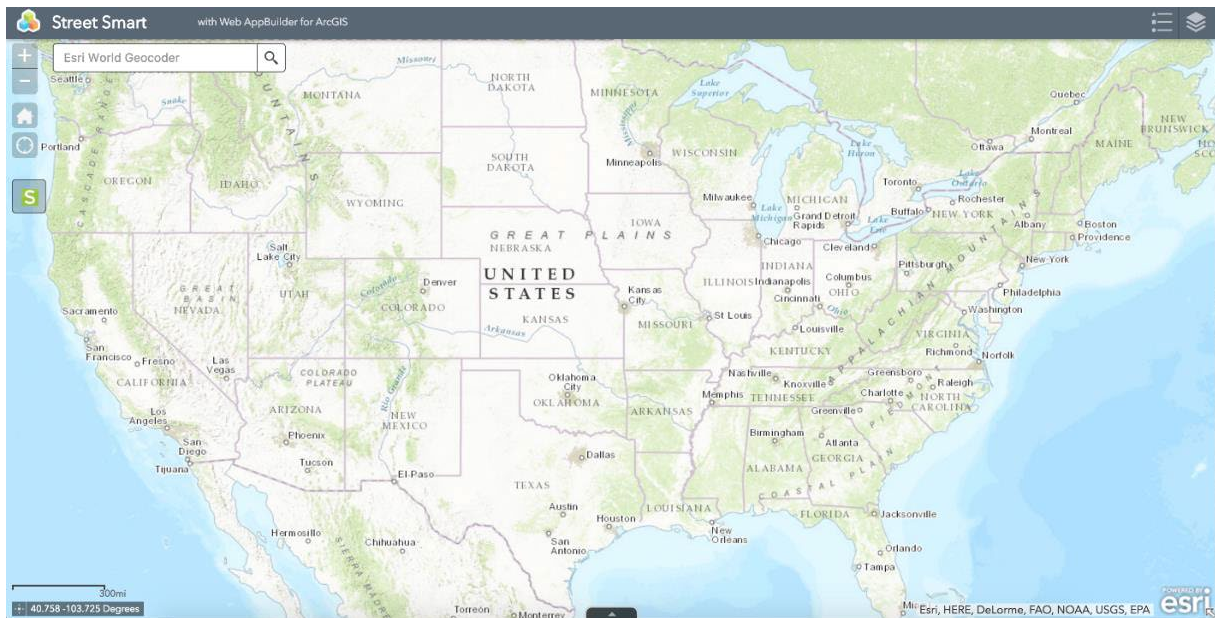
Integrated in [Portal](#) (Enterprise) is the Web AppBuilder that can be used in a similar way as described above. Through ArcGIS Portal, Web Apps can be accessed and launched with the [App Launcher](#). Web Apps built externally with the Web AppBuilder can also be launched. By using ArcGIS Enterprise, Web Apps can be [published](#) within an organization.

See the how to install the widget in ArcGIS Enterprise:

<https://enterprise.arcgis.com/en/portal/latest/use/add-custom-widgets.htm>

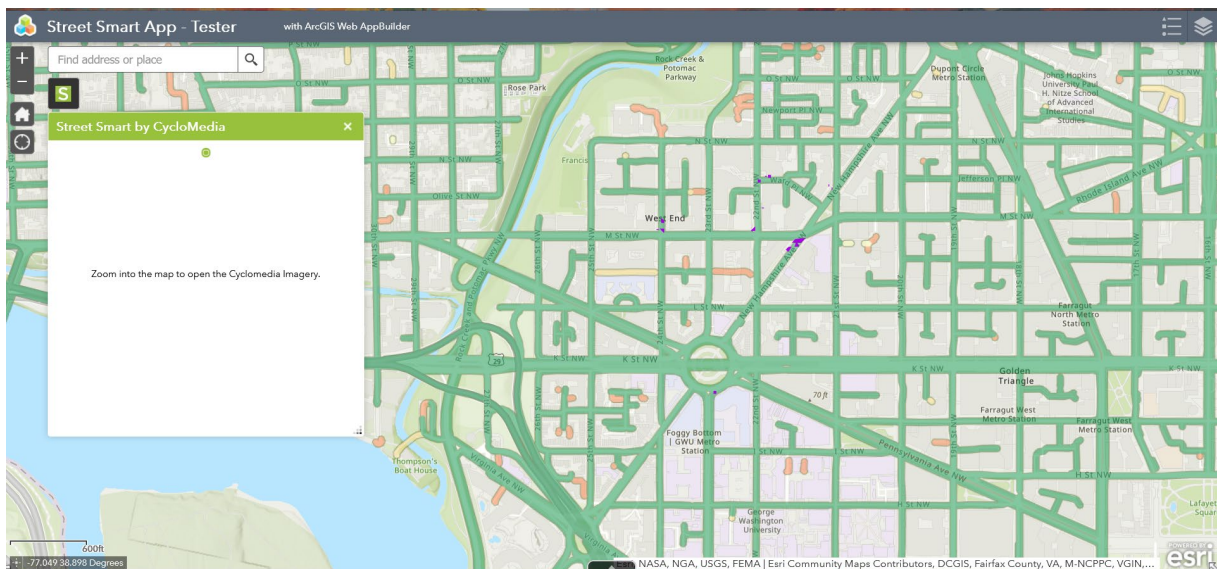
## 1.5 Using the widget

After launching an app with the Street Smart™ Widget for ArcGIS installed, the Street Smart™ icon will be visible on the left side of the application as shown in the image below.

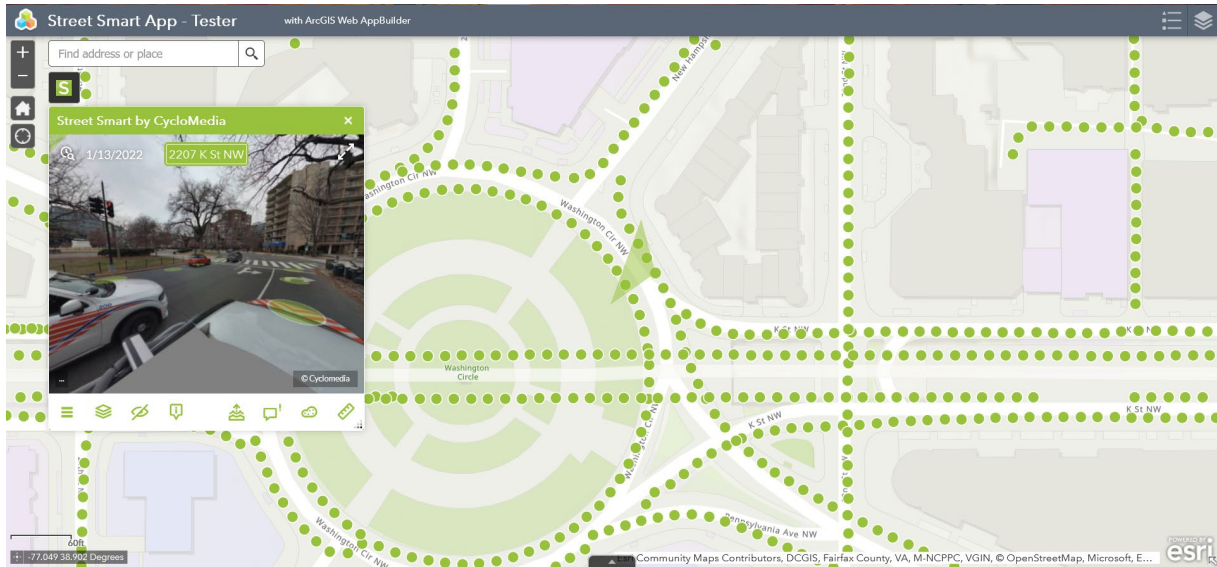


### 1.5.1 Opening GeoCycloramas

Before opening the widget, first zoom in to street level to a location where GeoCycloramas are available. Then click the Street Smart™ icon to start viewing GeoCycloramas. When zoomed out, you can see the layer for the coverage map where there are available recordings for GeoCycloramas. **Green** means there are several saved recordings using the time travel feature (section 1.2.7), **yellow** means a couple recordings, and **orange** means one or two archived recordings for that particular area. By default, it opens the GeoCyclorama at the center of the map. Once zoomed in, GeoCyclorama recording locations and the viewing cone are now visible on the map and a window showing the GeoCyclorama is opened (as shown in the image below).



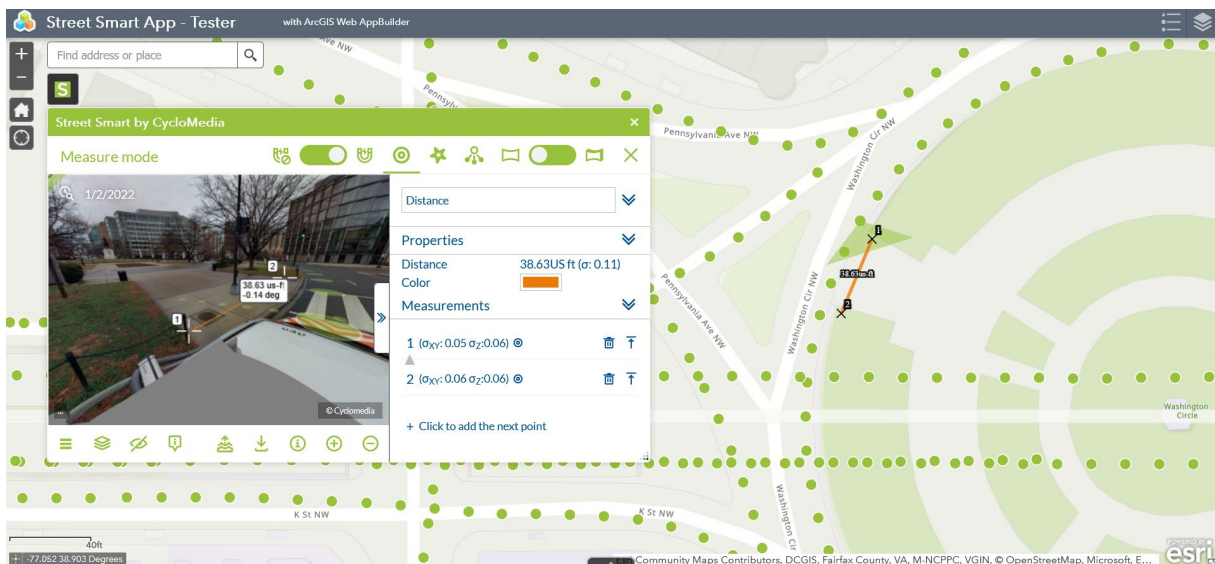




You can resize the GeoCyclorama viewer according to your own preference using the bottom right corner. Click on one of the recording locations in either the map or in the GeoCyclorama to navigate from GeoCyclorama to GeoCyclorama. You can pan and zoom in GeoCycloramas in the usual way.

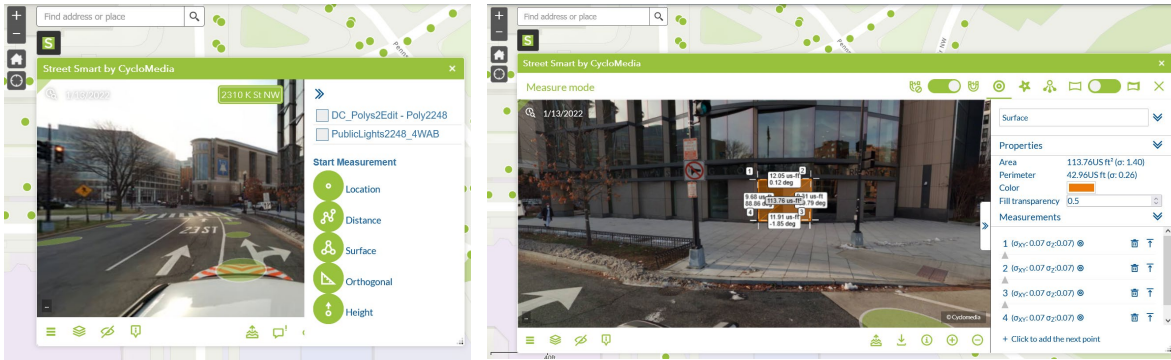
### 1.5.2 Measurements and Overlays


The Street Smart™ Widget for ArcGIS supports measurements and overlays. The user can see them only if the Measurements and Overlay options are checked in the settings while configuring the widget. Measurements are shown in both the GeoCyclorama window and on the map. The measurements are shown in the unit based on the reference system (SRS) that is selected in the settings page while configuring the widget.



The Street Smart™ Widget for ArcGIS offers point, line, surface and height measurements. Objects can also be compared to a reference height. Performing measurements is very similar to the functionality in Street Smart™ Web.





The widget offers different measurement methods: Measure Smart, Smart Click and Forward Intersection. As in Street Smart Web, the Depth switch  allows you to view the underlying Depth GeoCyclorama.

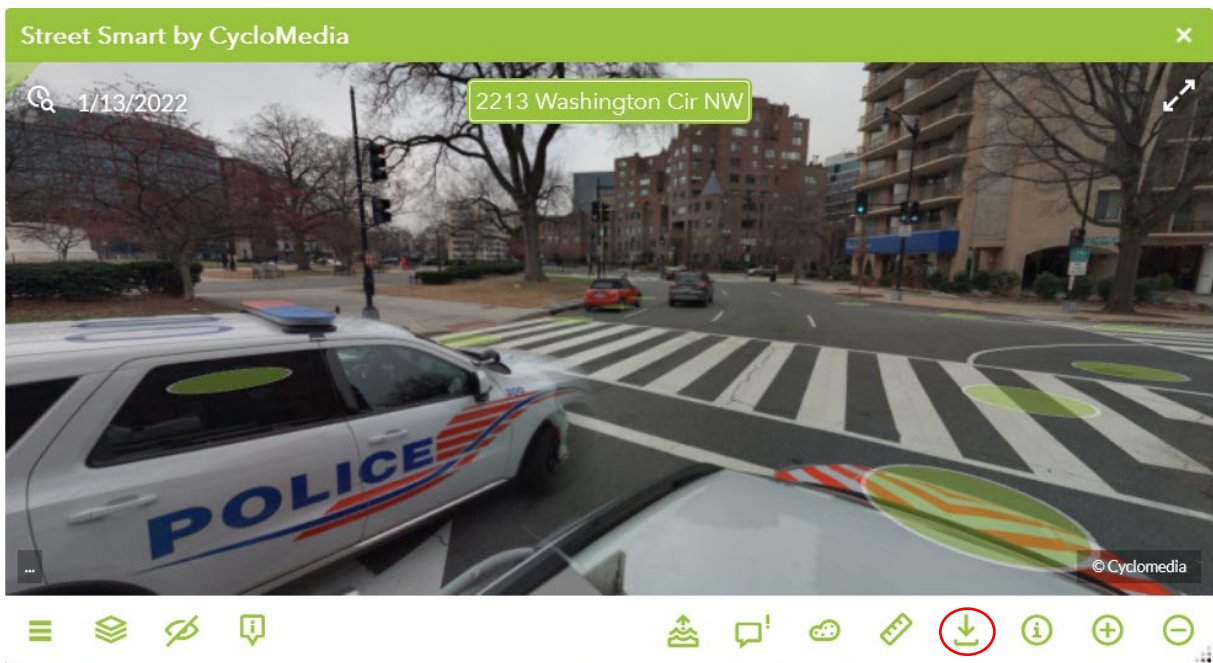
Overlays are the feature layers on the base map. All the point, line and polygon features will be rendered and displayed in the GeoCyclorama window. These layers can be turned off in the GeoCyclorama by using the overlay button in the bottom pane in the window.





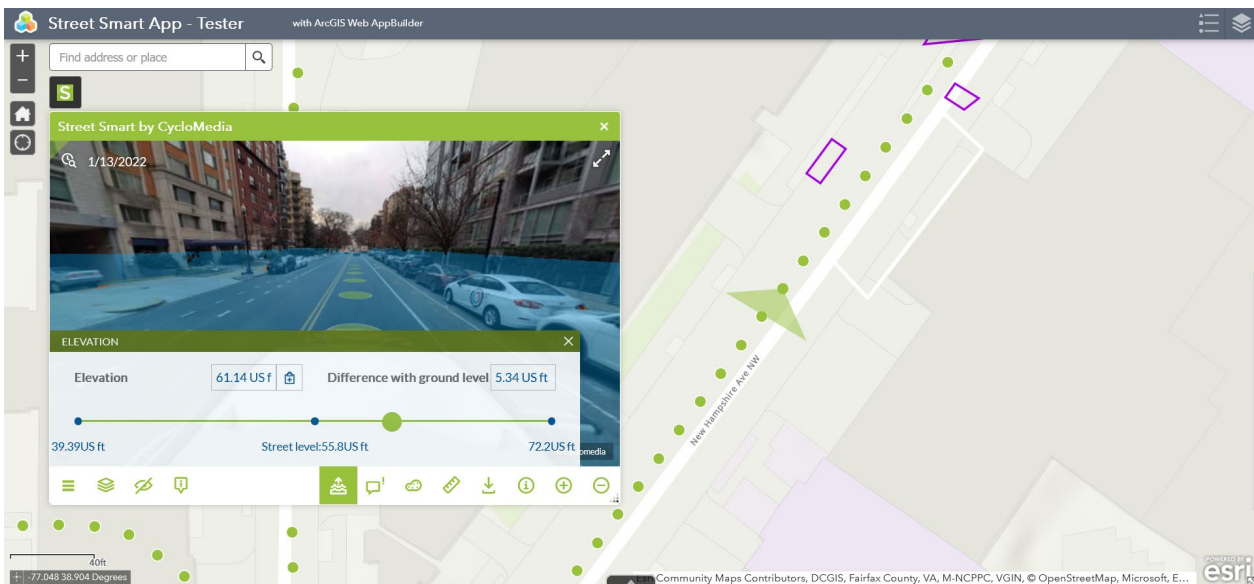
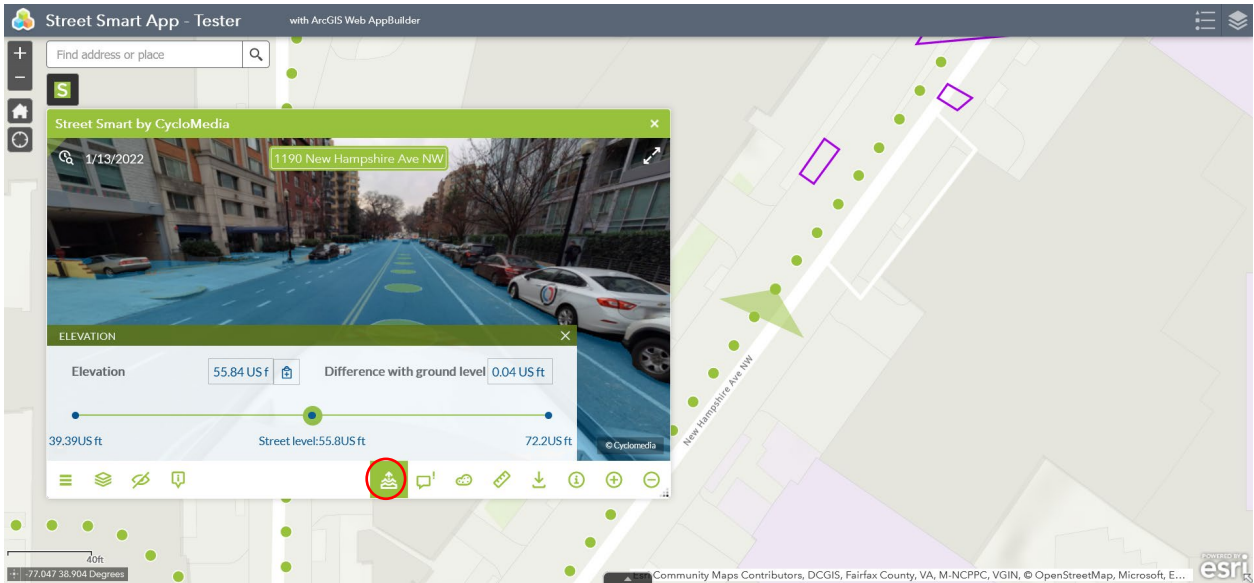
### 1.5.3 Export and sharing

GeoCyclorama views, including any measurements, can be downloaded by pressing the Download button. Please note that only the view is exported as a PNG image, without any geographic location attached to it.



### 1.5.4 Elevation Tool

The Street Smart™ Widget for ArcGIS allows you to simulate the flood elevation for any location you are currently viewing. Once you have the Elevation option turned on in the config, you can use the feature on the bottom right. Once it's activated, you can move the green circle in the middle left or right to see how the flooding elevation would look like in your current view.

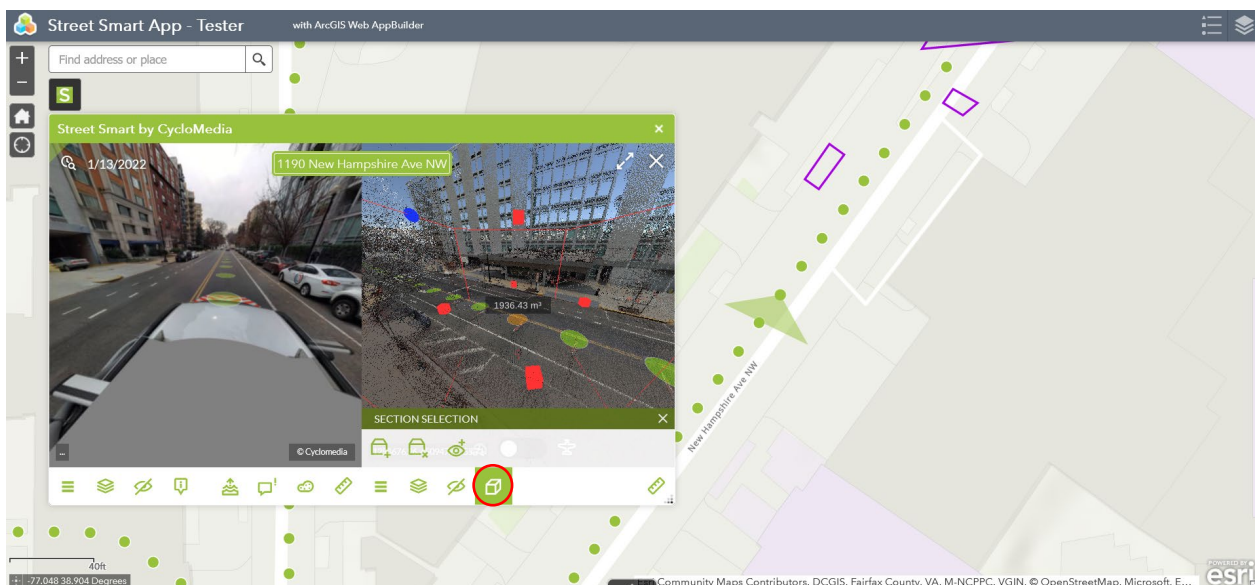
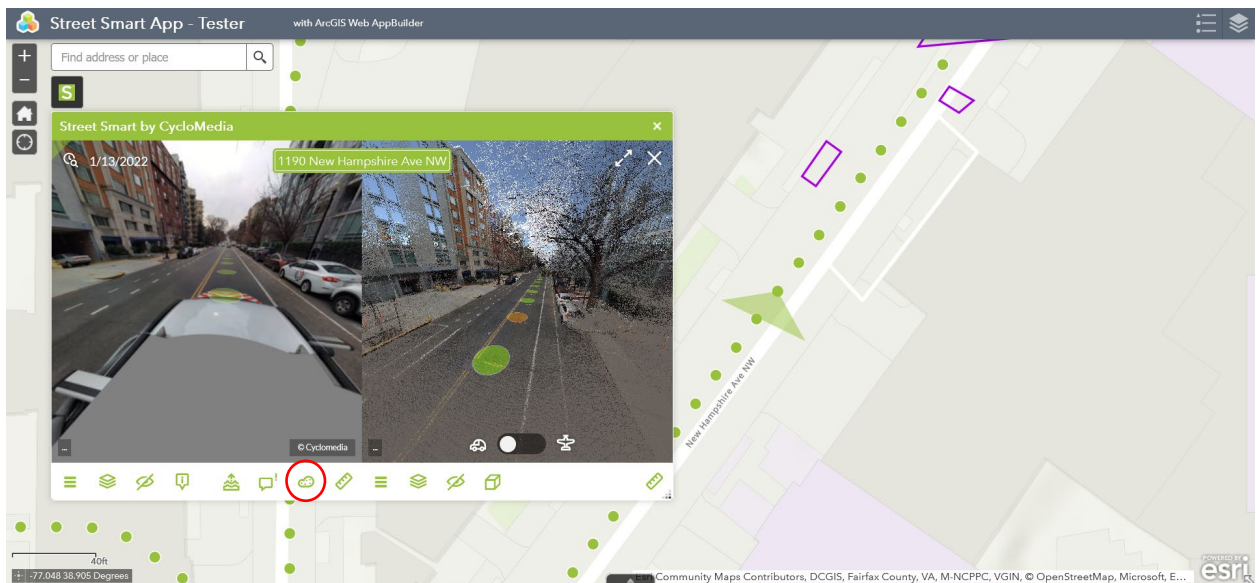


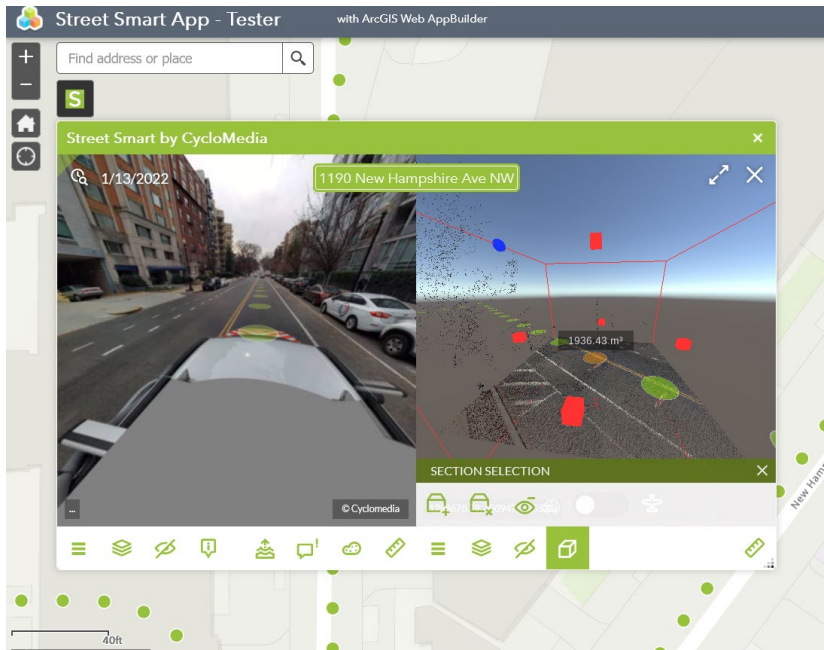
### 1.5.5 Point Cloud Tool

The Street Smart™ Widget for ArcGIS allows you to view the point cloud structure for the view you are currently in. Clicking the button on the bottom allows you to see a



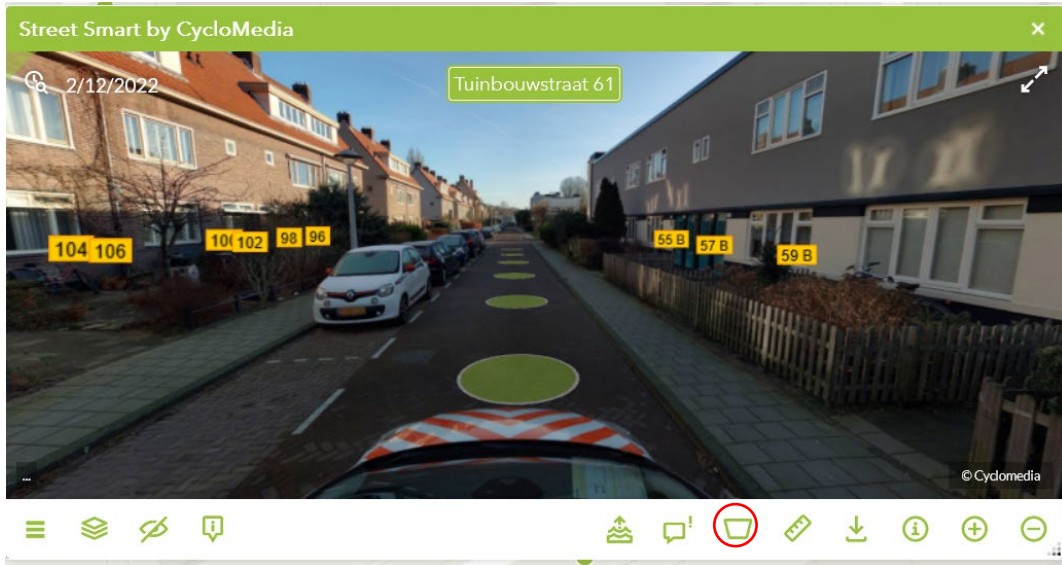
side-by-side view of the current location you are in. You can also press the switch inside the point cloud to toggle between street and aerial point cloud views for certain areas. The aerial point cloud view is not available for every area covered by Street Smart. You can move inside the point cloud view the same as you would inside the Cyclorama view and be independent from it. You are also able to cut off a section from the point cloud by using the Section Selection tool on the bottom that's shaped like a cube. This allows you to cut off a section of the point cloud to focus on by clicking on the eye button to toggle the selection.





### 1.5.6 Oblique Tool (Only available in Netherlands)

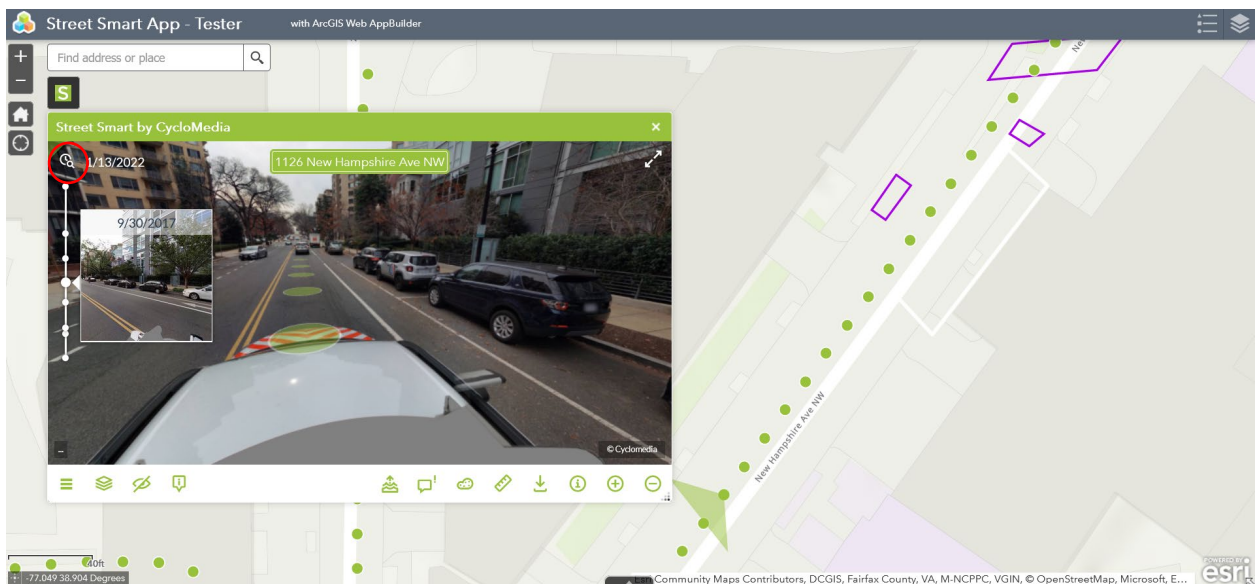
Only locations in the Netherlands allow you to see the oblique view of an area side-by-side with the Cyclorama. Once you have the Oblique options turned on in the config and your account has Oblique Layer permission, you will see the Oblique tool at the bottom, shaped like a trapezoid. The Oblique Tool lets you see a birds-eye view of the area you are in. There are a couple different options once you turn it on. Toggling the switch inside the Oblique view lets you see the birds-eye view from a flat angle or more skewed angle. The camera symbols around the Oblique view allows you to rotate the image 90 degrees.





### 1.5.7 Time Travel Feature

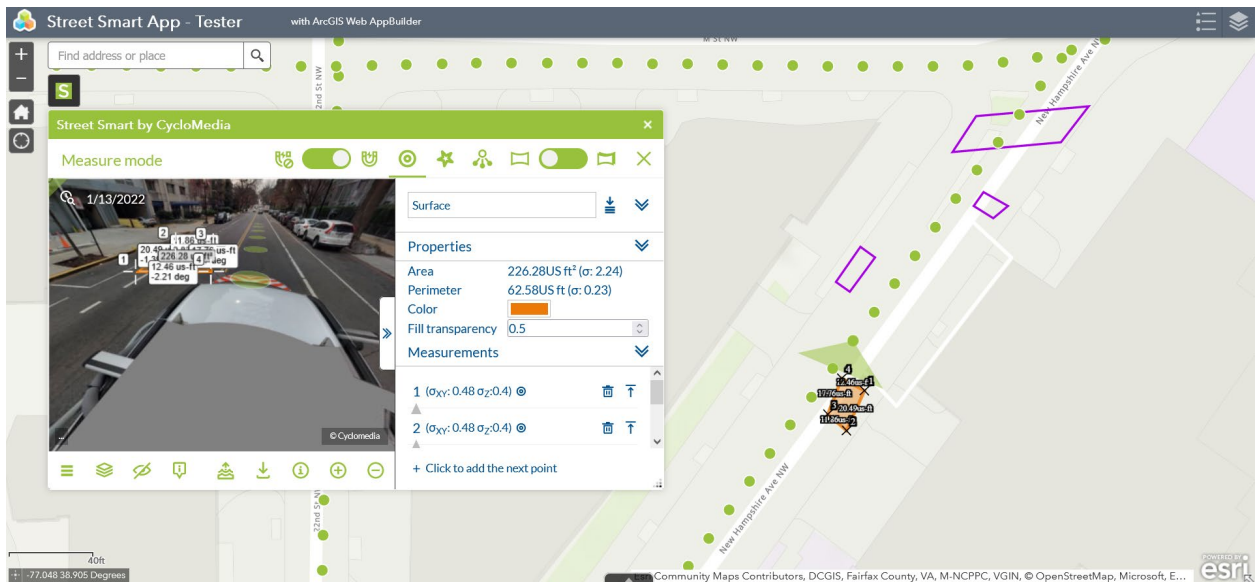
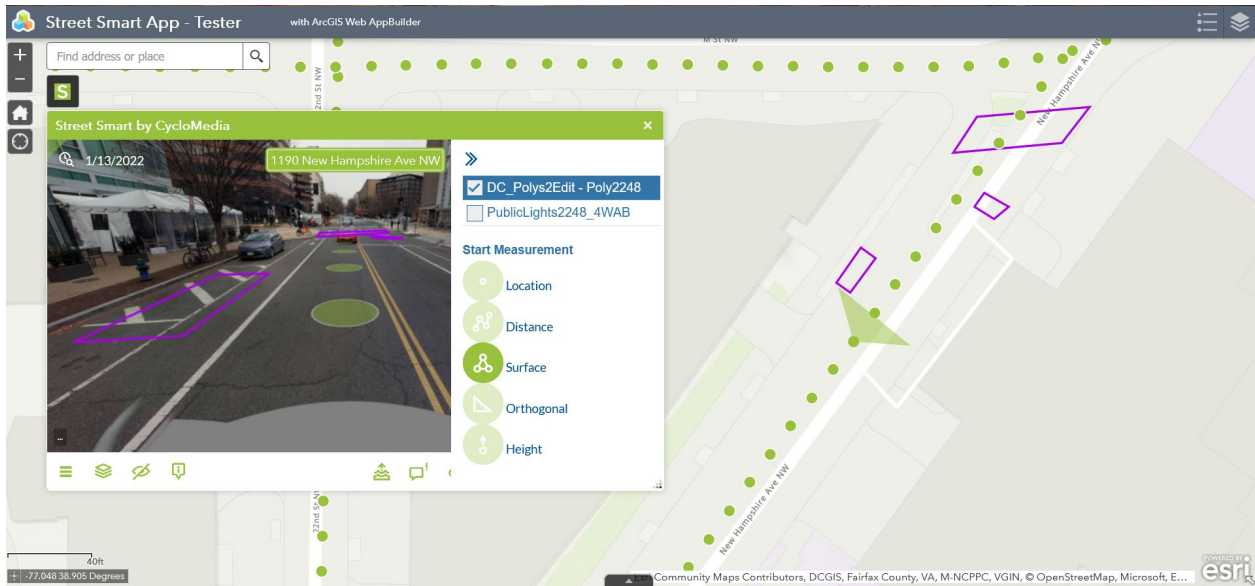
The Street Smart™ Widget for ArcGIS allows you to go back in time and see the same point of view from different periods of time, when the CycloMedia car drove through there over the years. Every recording on the map has a certain number of points to time travel to and not all of them are the same. Once you have the Time Travel option turned on in the config, you can use the tool by clicking on the clock symbol on the top left of the screen. From there, you can select the date of the image you want to view in the same spot you are looking at. The recordings on the map change to an orange color when they are archived or old snapshots of the street you are looking at. The recordings turn back to green when you are looking at the most current date of them.



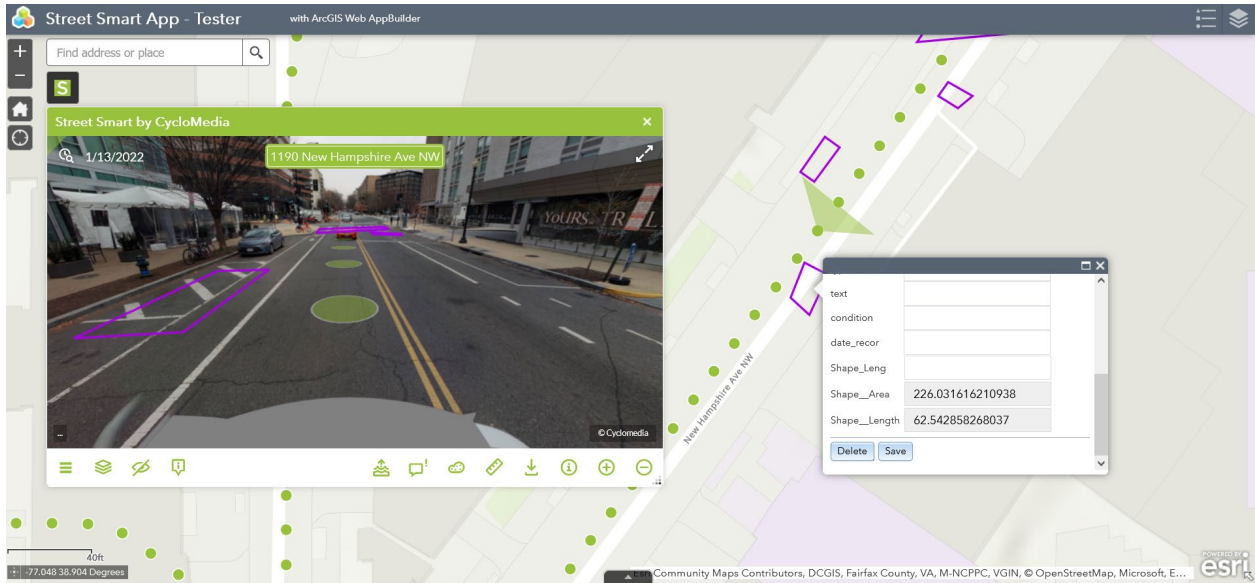
### 1.5.8 Editable Layer Feature

The Street Smart™ Widget for ArcGIS allows you to edit certain overlays that are editable when they are published. By selecting the measure tool on the bottom right, you can see the layers that are editable if they appear with a checkbox next to their name. If the checkbox is turned on, then you can edit the selected layer by choosing the specific measure tool that is highlighted. Then you can start drawing on the map to create a new feature or try to edit an existing feature that is already on the map. When you create new points on the map, you can label it and save it by

clicking the button next the name. You can also delete or reorder the points you created by using the point list under "Measurements". Once the feature is saved, it will convert to the same symbology as the overlay, and you can view it inside of the cyclorama in real-time. You can also delete the feature by clicking it on the map and pressing the delete button in the pop-up, as shown below.



# Street Smart Widget for ArcGIS User Manual



# Appendix A - Installing the Web AppBuilder for ArcGIS

## Introduction

The Web AppBuilder for ArcGIS allows the user to create custom widgets and apps based on ArcGIS services that work on multiple platforms. An extended installation guide can also be found on [developers.arcgis.com](http://developers.arcgis.com).

## Download

- Go to [ArcGIS for Developers](http://ArcGIS for Developers) and click the button 'Download SDK';
- Extract the zipped file to a folder on your computer (to a location of your own preference).

## Installation

- Go to the folder and open the 'startup' batch file (if on a Mac, open a terminal in the server folder inside the Web AppBuilder folder and run the command "node server.js");
- A Command Prompt window should open, along with a new window in the default web browser directed to 'http://[your machine name]:3344/webappbuilder';
- The window asks to set a 'Portal URL'. This is a link to either your ArcGIS Online organization webpage or Portal for ArcGIS page. Click 'Continue';
- You are prompted for an App ID. This is an ID for the Web AppBuilder registered in the Portal specified in the previous step. To obtain an App ID for the Web AppBuilder, follow the steps below;
  - Open a new window or tab and go to the [Developers Portal](http://Developers Portal) to register a new application;

- In the form, fill in the title of the app and appropriate tags. Click 'Register New Application';
- On the next page, a Client ID is displayed which is equal to the App ID;
- Go back to the Web AppBuilder window and fill in this ID in the App ID field;
- Once again, go back to the Developers Portal window and go to the tab 'Authentication'. Scroll down to the section 'Redirect URI' and paste the URL 'http://[yourmachinename]' into this field as a valid redirect link;
- Now, go back to the Web AppBuilder window and click 'Continue';
- On the next page, you get a 'Request for Permission', click 'Approve';
- On the last page, you find the homepage of the Web AppBuilder for ArcGIS where you can click 'Create New' or 'Import' to start building or editing an app.

*Note:* once the Web AppBuilder for ArcGIS is set up, you can reopen the Web AppBuilder by running the batch file. This will not always automatically open a new window in your default browser. Instead, open a new window or tab in the browser and go to the link 'http://[your machine name]:3344/webappbuilder/' to go to the Web AppBuilder environment.

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