

Using ArcGIS Online to Manage Traffic Engineering Studies

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Traditional Engineering Studies

- Location list stored in Google Earth KMZ file.
- Not Easy to maintain KMZ file.
- Have to use Google Earth and photo viewer software to review field photos.
- Difficult to analyze study locations' pattern, e.g., clustered study locations.

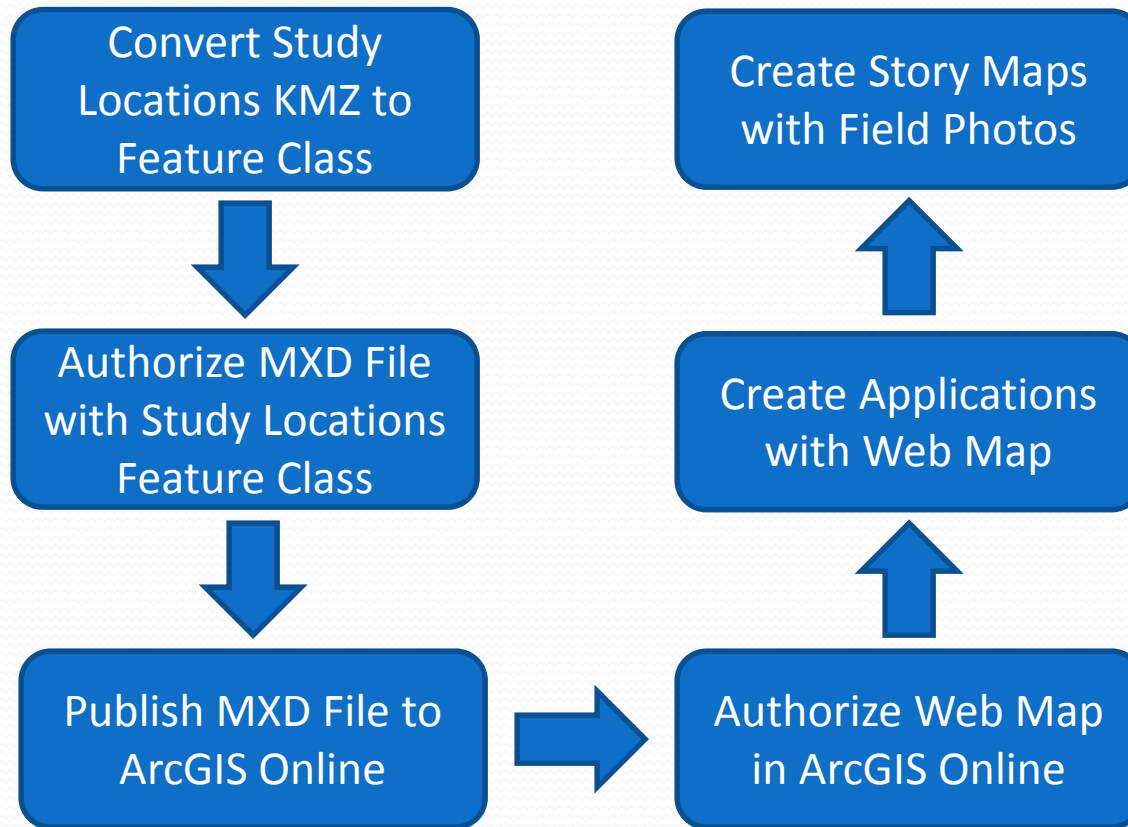
Why Use GIS

- Efficiently manage engineering study locations.
- Identify clustered study locations which may indicate potential issues.

Solution: ArcGIS Online for Organization

- ArcGIS Online for Organization is a cloud GIS solution with the following benefits.
 - Web-based
 - Easy map authorization
 - Ready-to-Deploy applications
 - Basic analysis tools

Workflow



Convert KMZ to Feature Class

- Use ArcGIS tool to convert study locations KMZ file to a feature class in a file geodatabase.
- Clean the converted feature class by removing unneeded columns.
- Add additional columns to study locations feature class, such as Roadway ID, Status, Field Review Notes, and Comments.

Authorize MXD File

- Use ArcMap to Authorize MXD file which includes the converted study locations feature class.
- Add symbol to feature class.

Publish MXD File to ArcGIS Online

- Publish MXD file as a hosted feature service in ArcGIS Online.

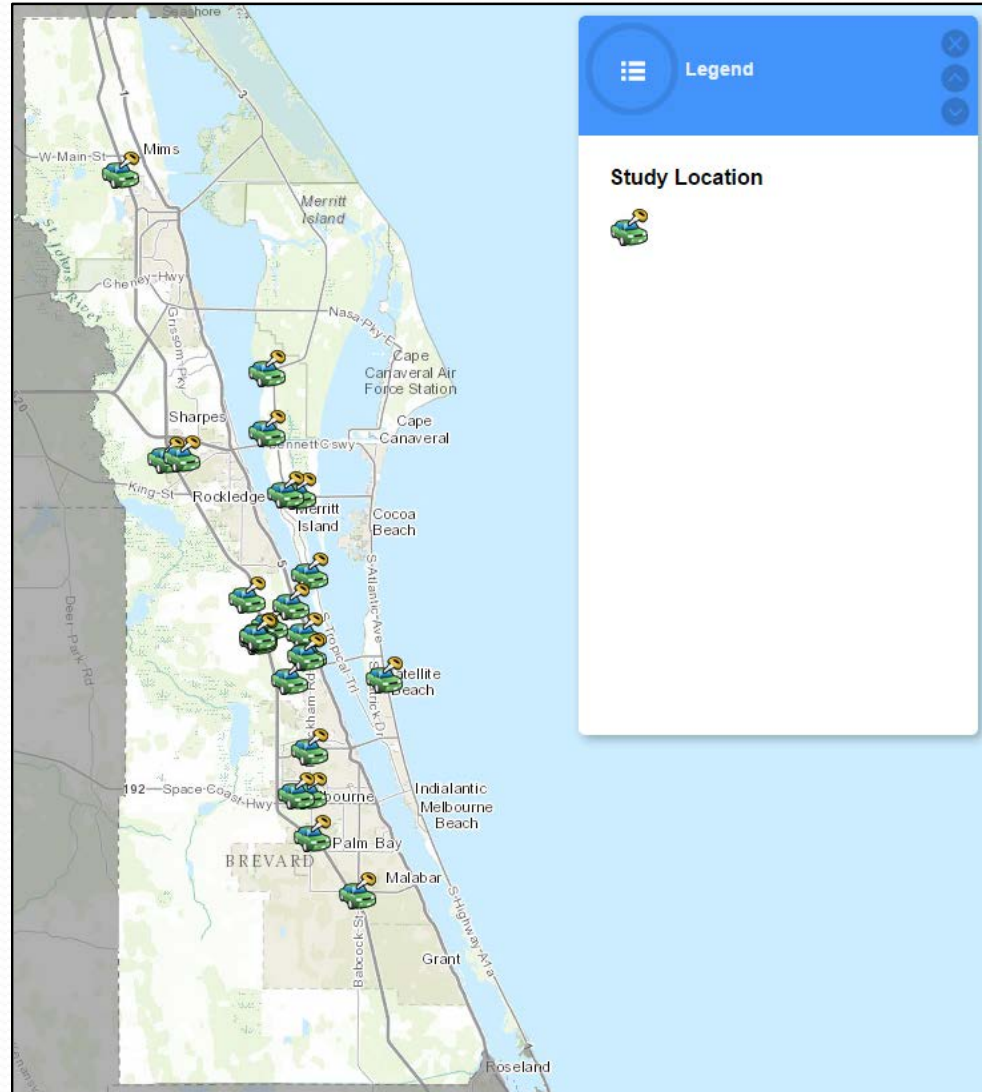
Authorize Web Map in ArcGIS Online

- Authorize web map with the hosted feature service in ArcGIS Online. The web map includes:
 - Study Locations layer with symbol
 - Study Locations Status layer with different symbols
 - Study Locations Heat Map

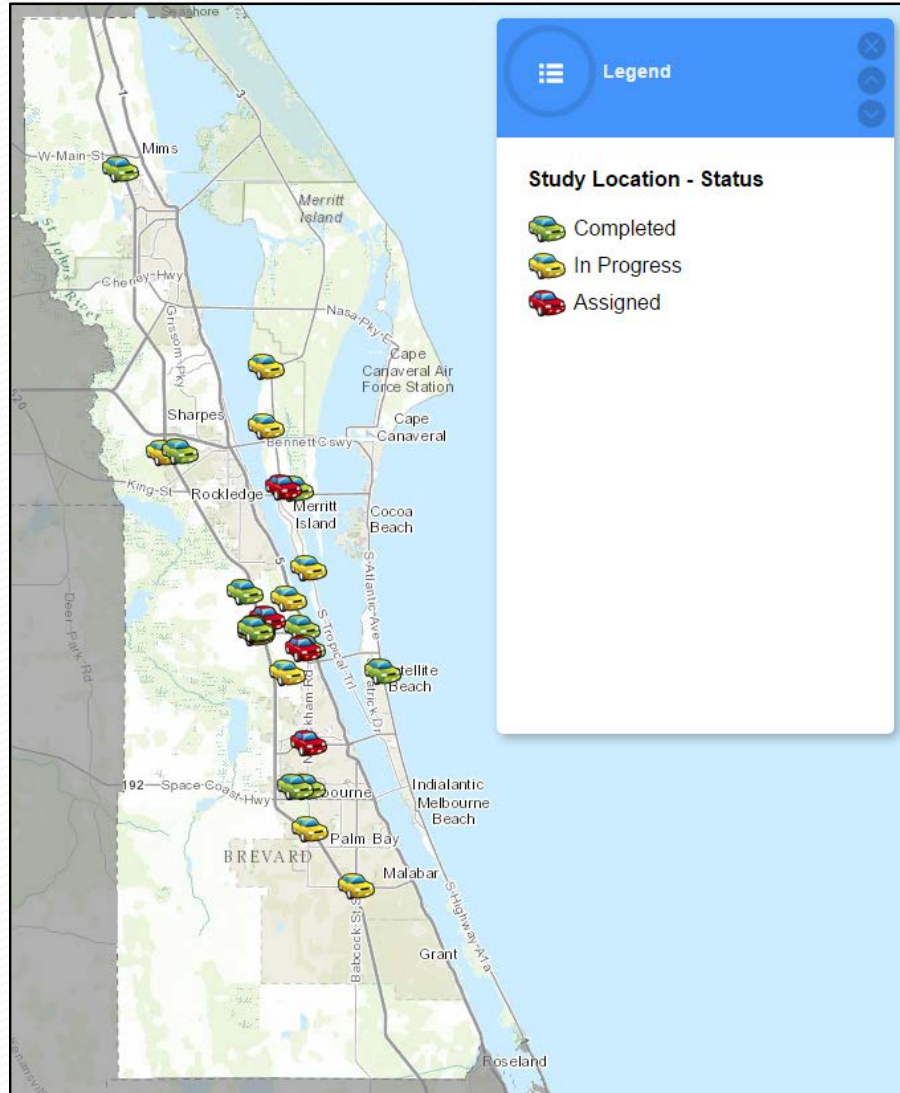
Create Applications in ArcGIS Online

- Create the application with authorize web map from application template.
- Configure the application to meet users' requirements.

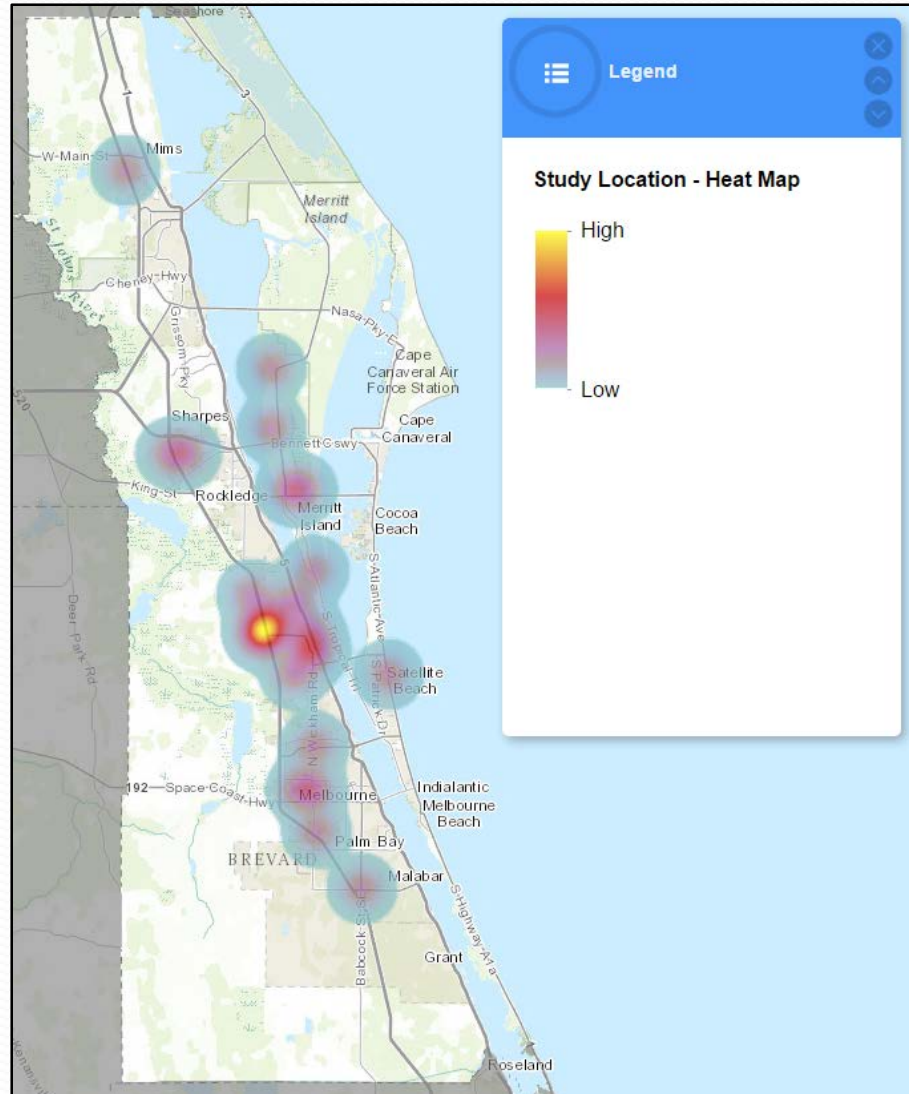
Study Locations Map



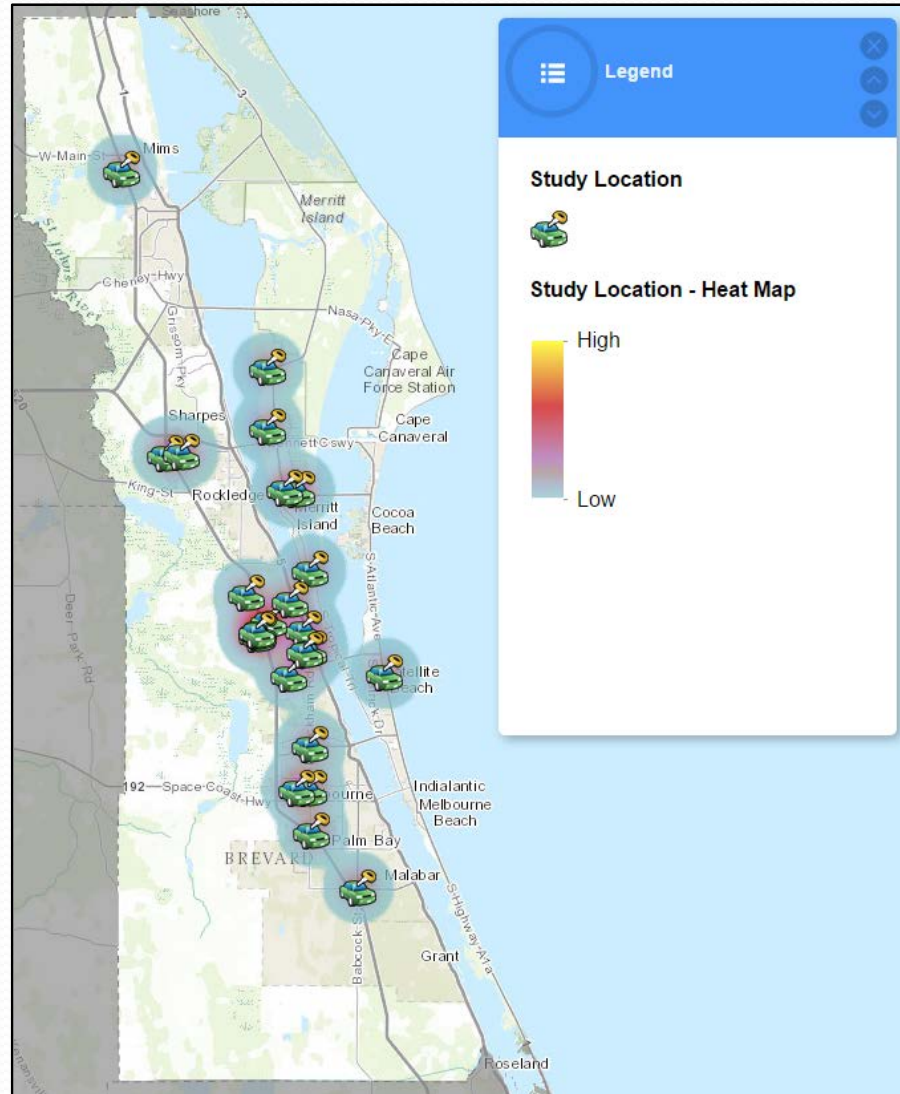
Study Locations Status Map



Study Location Heat Map



Study Locations Map with Heat Map



Create Story Map in ArcGIS Online

- Create the story map with field photos in ArcGIS Online.
- Georeferenced fields photos are recommended.
- Populate the story map link to column Field Review Link in the corresponding study location in study locations map.

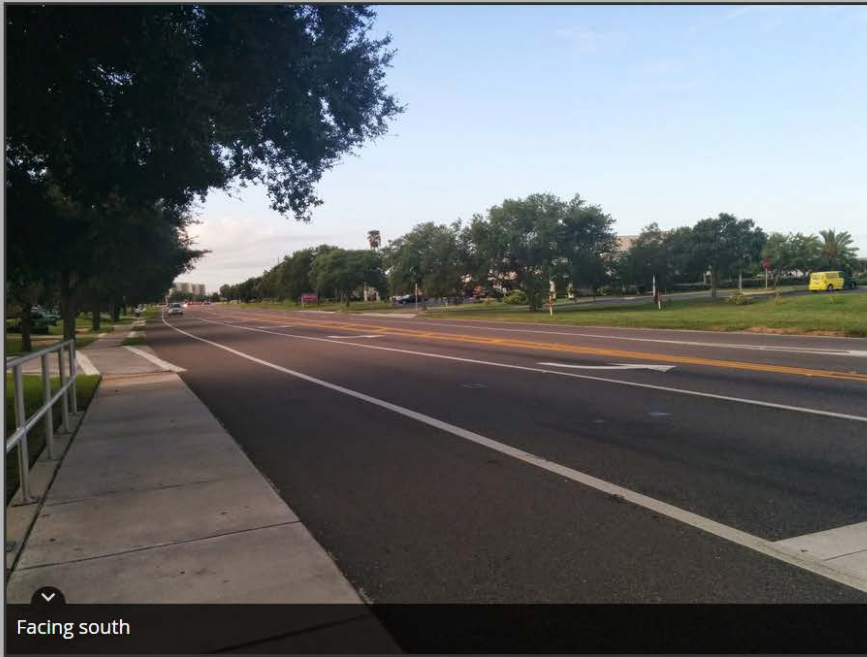
Field Photos Map

Merritt Ave and Sykes Creek Pkwy

Taken in the morning on on August 27, 2014

Switch to
builder mode

A story map



Facing south



Facing west



Facing north



Facing west



Facing west



Facing north



Facing south



Facing west



Facing southeast



Facing west



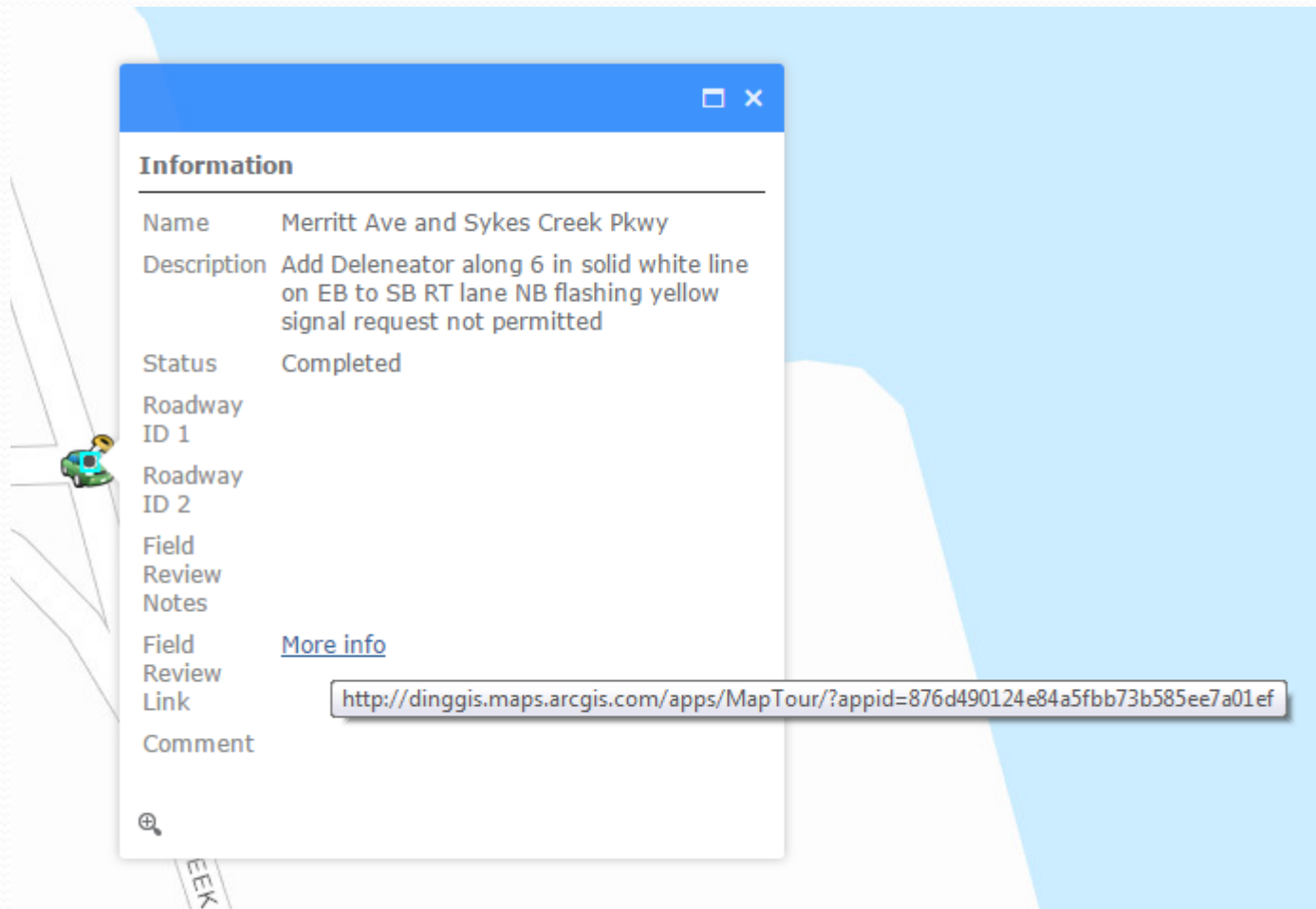
Facing north



Facing



Story Map Link

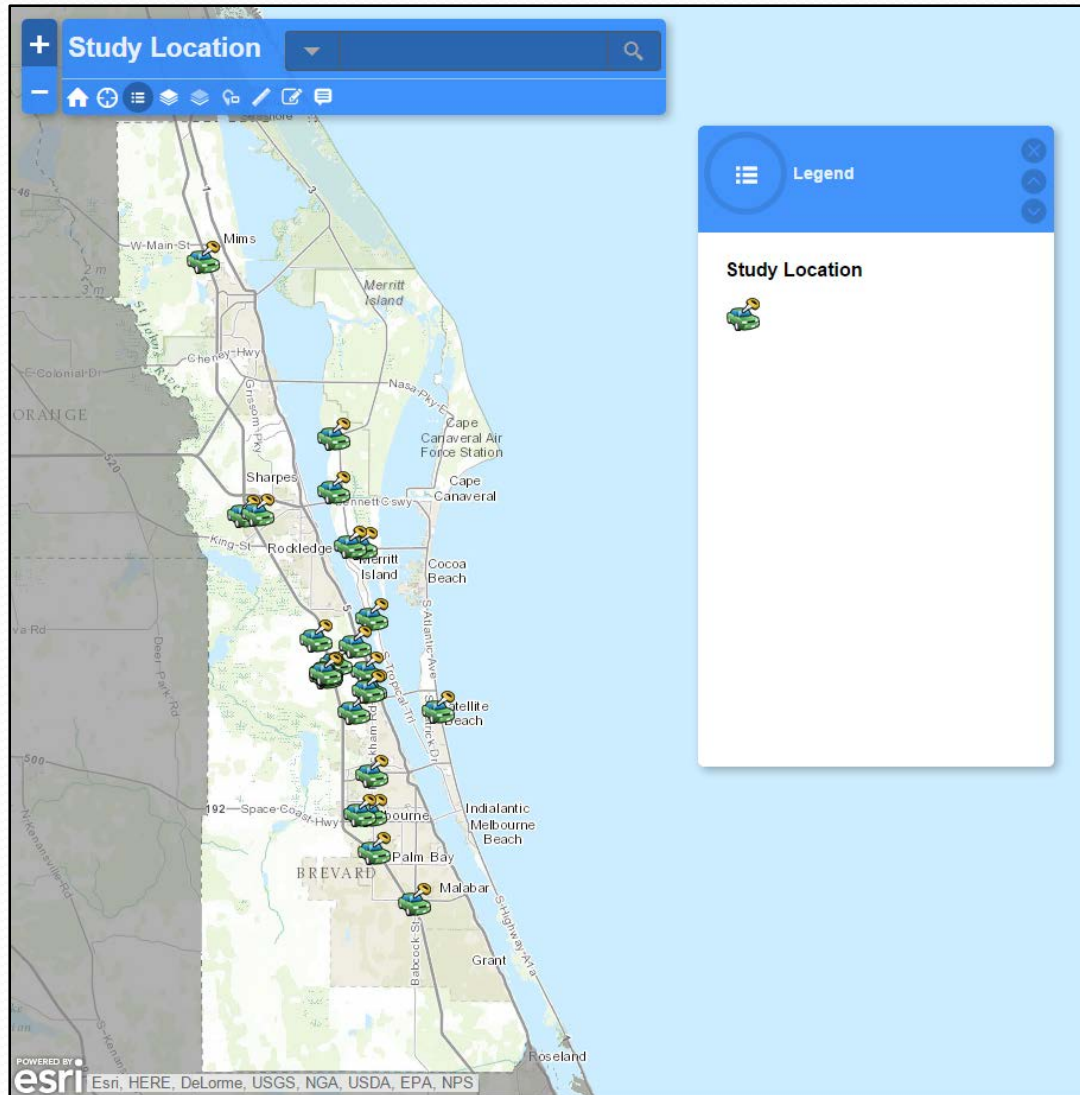


The image shows a screenshot of a map application interface. A popup window titled "Information" is displayed over a map. The popup contains the following details:

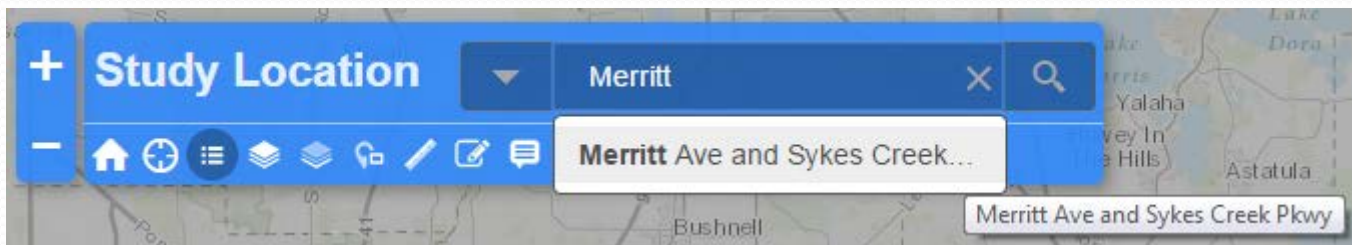
- Name:** Merritt Ave and Sykes Creek Pkwy
- Description:** Add Deleneator along 6 in solid white line on EB to SB RT lane NB flashing yellow signal request not permitted
- Status:** Completed
- Roadway ID 1:**
- Roadway ID 2:**
- Field Review Notes:**
- Field Review Link:** <http://dinggis.maps.arcgis.com/apps/MapTour/?appid=876d490124e84a5fbb73b585ee7a01ef>
- Comment:**

The popup window has a blue header with a close button (X) and a search icon (magnifying glass) at the bottom left. The background shows a map with a blue location pin and a road network. The text "EEK" is visible at the bottom of the map area.

Application Demo



Application Demo (Cont'd)



Application Demo (Cont'd)

The screenshot displays a web application interface for managing study locations. At the top left, a blue header bar contains a search box with the text "Study Location" and a dropdown menu showing "Merritt Ave and Sykes Creek Pkwy". Below the search bar is a toolbar with icons for home, zoom in, zoom out, layers, and other map functions. The main area is a map showing the intersection of Merritt Ave E and Sykes Creek Pkwy. A blue information panel is open on the right side of the map, displaying details for the selected location.

Information	
Name	Merritt Ave and Sykes Creek Pkwy
Description	Add Deleneator along 6 in solid white line on EB to SB RT lane NB flashing yellow signal request not permitted
Status	Completed
Roadway ID 1	
Roadway ID 2	
Field Review Notes	
Field Review Link	More info
Comment	

Application Demo (Cont'd)

The screenshot displays a mobile application interface for a street view service. On the left, a large street view image shows a road with a crosswalk and a traffic light. A dark SUV is visible in the distance. Below the image, a dropdown menu is open, showing the text "Facing west". On the right, a satellite map view shows the same intersection, with red numbered markers (1-21) indicating different camera viewpoints. The map labels include "Sykes Creek Pkwy", "Merritt Ave E", and "698". A navigation control bar with a home icon and zoom in/out buttons is visible at the top of the map. At the bottom, a horizontal strip of 11 small thumbnail images, numbered 1 through 11, provides a quick overview of the available camera angles. The thumbnails are labeled with their respective directions: 1 Facing south, 2 Facing west, 3 Facing north, 4 Facing west, 5 Facing west (highlighted), 6 Facing north, 7 Facing south, 8 Facing west, 9 Facing southeast, 10 Facing west, and 11 Facing west.

Facing west

Facing south

Facing west

Facing north

Facing west

Facing west

Facing north

Facing south

Facing west

Facing southeast

Facing west

Facing west

Questions

