



ESRI EXTERNAL

ArcGIS Solutions: Archived help

ArcGIS Enterprise 10.9

Updated November 2023

Table of contents

3D Basemaps	5
Address Data Management.....	21
Address Field Operations.....	31
Adopt-A-Catch Basin.....	36
Adopt-A-Stop	48
Agricultural Best Management Practices.....	60
Business Resilience	65
Capital Project Planning.....	81
Capital Project Tracking	89
Citizen Problem Reporter	100
Code Enforcement Operations.....	130
Communications Data Management for ArcGIS Enterprise.....	134
Community Data Aggregation	140
Community Health Assessment	147
Community Health Outreach	157
Community Science	170
Conservation Easement Monitoring	178
Conservation Outreach	183
Coronavirus Business Continuity.....	188
Coronavirus Force Readiness.....	204
Coronavirus Health Screening	212
Coronavirus Recovery Dashboard	221
Coronavirus Site Safety	227
Coronavirus Testing Sites	243
Coronavirus Vaccine Distribution Dashboard	249
Crime Analysis.....	260
Daily Activity Dashboard	282
Dam Safety	288
Damage Assessment.....	292
Fusion Center	388
Gas and Pipeline Data Management for ArcGIS Enterprise	401
Homeless Point-in-Time Counts.....	407
Homeless Risk Reduction	415

[Back to top](#)

Invasive Pest Inspections.....	422
Know Your Zone	430
Land Use Outreach.....	436
Market Development.....	441
Mosquito Service Requests.....	449
Mosquito Surveillance	468
Mosquito Treatments	472
Multi Source Data Feeds.....	478
My Neighborhood Services	483
My Trash Services	488
Neighborhood Early Warning	493
Neighborhood Stabilization	496
Network Path Planner	507
Operations Management.....	510
Parcel Drafter.....	518
Parcel Value Analysis	522
Participatory Budgeting.....	528
Performance Management.....	534
Plans and Drawings	548
Police Transparency	553
Protection Operations	580
Public Notification	586
Public Parking.....	591
Readiness Management	602
Recreation Outreach.....	611
Resource Management.....	621
Road Closures	626
Road Network Data Management	633
ROW Permitting.....	637
School Locator	643
Sewer Data Management for ArcGIS Enterprise.....	648
Special Event Operations.....	654
Special Event Permitting and Operations	674
Stormwater Data Management for ArcGIS Enterprise.....	701
Target Hazard Analysis.....	707

[Back to top](#)

Tax Reverted Property	712
Traffic Crash Analysis	716
Transit Outreach	725
Transit Safety	732
Transportation 511	740
Vaccine Coverage Analysis.....	749
Vision Zero.....	753
Water Distribution Data Management for ArcGIS Enterprise	768
Wildlife Management.....	774

3D Basemaps

This solution documentation has been archived and is no longer updated. Content and links may be outdated. The capabilities have been replaced with [3D Buildings](#).

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to 3D Basemaps

3D Basemaps can be used to author and maintain a 3D basemap for your organization.

It provides a series of workflows that streamline the creation and maintenance of a 3D basemap that supports diverse information needs. This optimized approach allows organizations to use existing data (for example, lidar, building footprints, and utilities) and generate 3D visualizations that increase understanding and community engagement. 3D Basemaps is typically implemented by planning departments, emergency management agencies, GIS departments, and utilities that want to use 3D basemaps to visualize the built environment.

The 3D Basemaps solution delivers a set of capabilities that help you use existing data, develop a standard set of 3D layers, and visualize your community in an immersive way.

Requirements

The 3D Basemaps solution requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 - ArcGIS Pro 2.9 (Advanced)
 - ArcGIS 3D Analyst extension
 - ArcGIS Spatial Analyst extension

Information products

3D Basemaps includes the following information products:

Item	Description	Minimum user type
3D Basemaps	An ArcGIS Pro project used by GIS analysts and mapping technicians to create and maintain a 3D basemap for their organization	GIS Professional Advanced

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.3	<ul style="list-style-type: none">Resolved an issue when a meter-based coordinate system is used with the Windows language set to other than English.Resolved an issue with roof form extraction when running multiple times on large datasets.
1.2	<ul style="list-style-type: none">Added an integrated mesh editing and maintenance workflow.Added the ability to color trees in lidar point clouds.Lidar class codes can now be preserved when classifying trees using deep learning.Improved stability of footprint segmentation.Resolved an issue with extracting tree points using cluster analysis.
1.1	<ul style="list-style-type: none">Added deep learning for tree classification in lidar.Added tree extraction using cluster analysis.Significantly improved the performance and quality of building footprint extraction.Added links to 3D analysis solutions that can use 3D basemaps layers.Resolved an issue with building footprint extraction in ArcGIS Pro 2.6.
1.0	<ul style="list-style-type: none">First release of 3D Basemaps.

[Back to top](#)

Use 3D Basemaps

The 3D Basemaps solution delivers a set of capabilities that help you leverage existing data (for example, lidar, building footprints, utilities), develop a standard set of 3D layers, and visualize your community in an immersive way.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Get to know 3D Basemaps

You will assume the role of a mapping technician responsible for creating a 3D basemap for your community. The 3D Basemaps ArcGIS Pro project includes a series of tasks to help guide you through these workflows. The first set of tasks will help you get to know 3D Basemaps.

1. Start the ArcGIS Pro application and open the 3D Basemaps project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Getting to know 3D Basemaps** task and go through the various subtasks.

Understand the 3D Basemaps solution

The 3D Basemaps solution uses existing data within the organization such as lidar, building footprints, power lines, and underground pipe features. Your 3D basemap can be created at different levels of detail (LOD) depending on the quality of the input lidar data. This first task will guide you through the data requirements and help you learn how you can utilize your 3D basemap in other workflows and applications.

Download sample data

Sample data is provided to help you learn how to use the 3D Basemaps solution. Click to expand the **Getting to know 3D Basemaps** task group and double-click on **Download sample data** task. Click the **sample data** hyperlink to download sample data for Naperville and Philadelphia. Using the sample data the first time will help you learn how to use the tasks and how to organize your data.

Start using 3D Basemaps

The 3D Basemaps project includes a task workflow that provides a structured sequence using tasks and steps. Follow the steps in this task to learn how to use the 3D Basemaps solution.

Publish data for your 3D Basemaps

After you have reviewed the Get to know 3D Basemaps section, you can begin using the solution with your data. The following set of tasks will help you learn how to use 3D Basemaps.

1. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.

[Back to top](#)

2. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **How to use 3D Basemaps** task and go through the various subtasks.

Publish ground elevation surface

Detailed elevation layers can be automatically generated from the input lidar data. These layers are used to create buildings and vegetation layers. The ground elevation layer can be used to enhance the existing elevation in your 3D scene.

To publish your ground elevation surface, click the **Publish ground elevation surface** task and follow the steps provided.

Extract elevation surfaces from LAS dataset

This task extracts three elevation surfaces from the LAS dataset: a ground elevation (dtm), a surface elevation (dsm), and a normalized surface elevation (ndsm). These surfaces are used to create buildings and vegetation layers. The ground elevation layer can also be used to improve the ground in your scene.

Publish ground elevation

This task publishes the ground elevation layer to your organization. Reprojection to Web Mercator with height in meters is only required if you want to use the published layers in a global web scene.

Publish buildings

Buildings with simple roof structures can be generated automatically from the lidar. Attributes such as building height, eave height, and the roof form are extracted from the lidar and added to the building footprints. Procedural rules are then used to create the 3D roof structures. High-density lidar (point spacing less than 3 feet) and building footprint segmentation are needed to model complex roof structures.

Note:

The quality of the roof structures is dependent on the quality of the input lidar and building footprint data. A lidar point spacing of 3 feet or less is required, 1 foot or less is recommended. Building footprints with one roof type within their boundary (for example, suburban areas) will produce higher-quality roof structures than footprints with multiple roof types (for example, city centers). These footprints require splitting, segmentation, and updating of the roof form attributes.

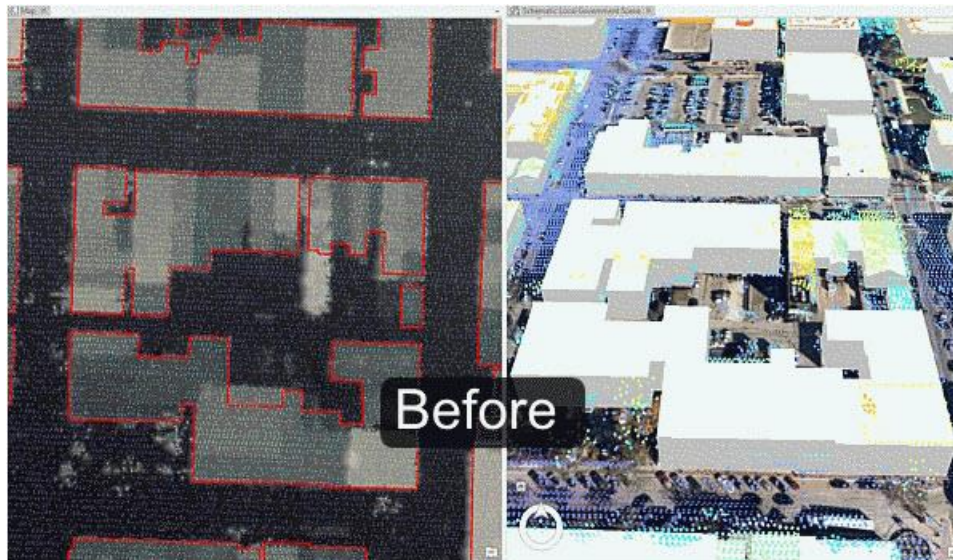
To publish your buildings, expand the **Publish buildings** group task and follow the steps provided.

Extract building footprints (optional)

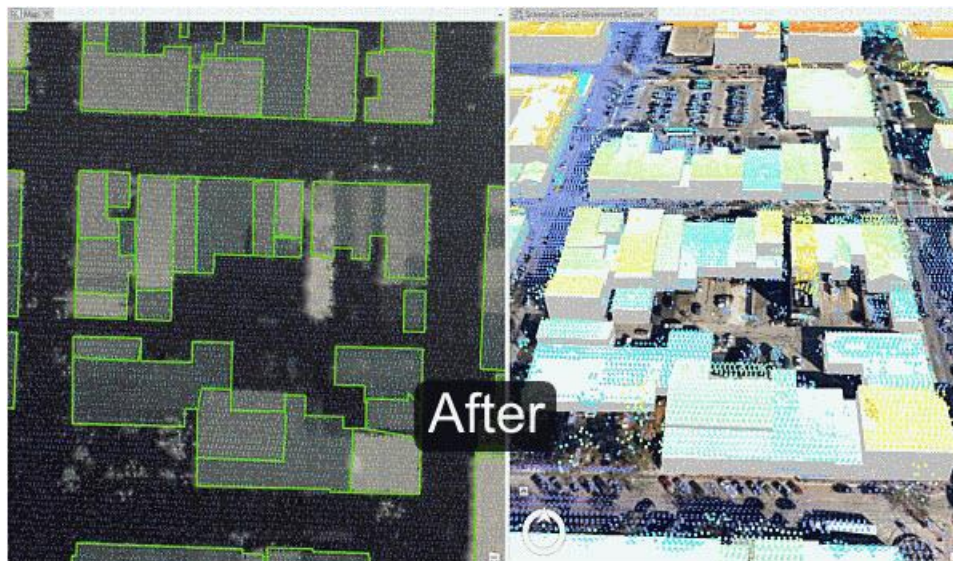
Run the **Extract building footprints** task to optionally extract building footprints from lidar. It is not required if you have an accurate footprint feature class.

Preprocess building footprints (optional)

Run the **Preprocess building footprints** task to prepare the building footprints for a realistic 3D visualization. Some building footprints may contain several roof types and roof parts. To accurately represent these buildings, they need to be split into their separate parts. Building footprints can be split with another feature class or by differences in elevation.



This image shows the result of building extraction before preprocessing of building footprints.



This image shows the result of building extraction after preprocessing of building footprints.

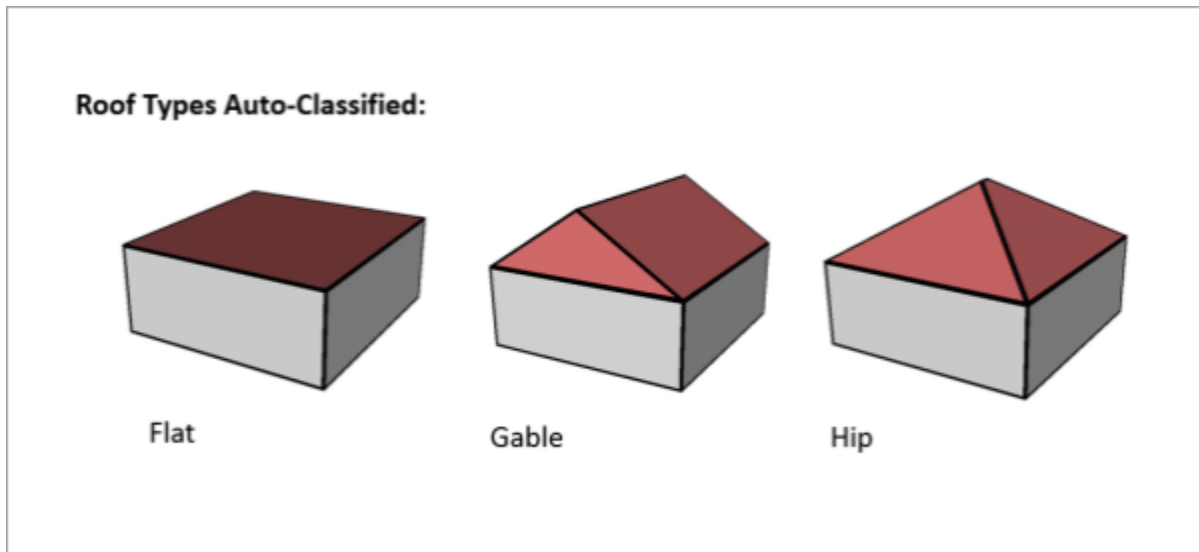
[Back to top](#)

Tip:

Separate features of similar size into separate feature classes before running segmentation to improve segmentation quality. Use different spectral and spatial detail for each of these feature classes to tweak the roof segmentation for your data. Merge the feature classes when finished.

Create buildings

Run the **Create buildings** task to create a 3D building layer. This task uses the elevation surfaces and building footprints to find both flat and sloped planar areas within a roof area of a building. It estimates a standard architectural form for the roof based on the attributes collected from these planar surfaces. These attributes are then used to inform a procedural rule that generates these features in 3D.



This image shows the roof types that will be automatically classified.

Review buildings

Run the **Review buildings** task to inspect your building roof forms. The **Confidence Measurement** tool reports the following measurement (attribute added to the building footprints):

Note:

The **RMSE** field shows the root mean square error of the generated building multipatch to the underlying surface model. The higher this number, the more likely that the building creation encountered an error in classification. In general, a value of 1 meter (3 feet) or less is desirable, though this depends on the required application of the output features, and the resolution of the input data.

Modify buildings

Use the **Modify buildings** task to further improve the quality of the building roof forms. The building roof form is driven by the attributes that are generated by the Create buildings task and by the underlying building footprint. To refine the building roof form, modify the attributes or the building footprint.

Tip:

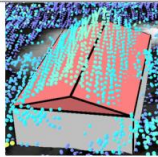
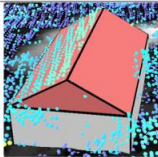
The attributes that control the roof form are building height, eave height, roof direction, and the type of roof are **BLDGHEIGHT, EAVEHEIGHT, ROOFORM, RoofDirAdjust**. By editing these attributes, you can adjust your building models to better match the lidar data.

BLDGHEIGHT	EAVEHEIGHT	ROOFORM	BuildingID	BASELEV	ROOFORM	RoofDirAdjust	RMSE
14.604	9.651	Shed	Building_11	676.0673	270	0	20.52087
20.3991	14.3113	Shed	Building_5	676.4396	180	0	20.76236
12.0947	9.3237	Shed	Building_12	675.0941	180	0	10.80013
40.7024	20.3622	Gable	Building_4	675.0016	90	0	28.61115
23.9771	16.05	Gable	Building_6	677.0032	90	0	22.10649
13.1209	8.4976	Gable	Building_9	674.629	90	0	11.42449
12.7899	9.8137	Shed	Building_17	676.435	0	0	12.90138
30.3233	8.9956	Hip	Building_1	673.9857	<Null>	0	19.56937

Building footprint attributes that control the roof form.

Building height

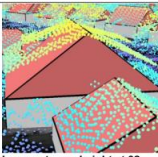
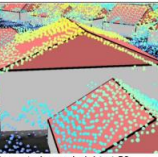
If the ridge of the building is not at the correct height, identify the elevation of a LAS point on the true ridge by clicking the LAS point while having the Explore tool active. You will need to subtract the BASELEV value from the LAS elevation to get the correct BLDGHEIGHT value.

Issue	Solution	Result
 <p>Incorrect building height at 25</p>	<p>Update the 'BLDGHEIGHT' field for the feature of interest</p>	 <p>Corrected Building height at 35</p>

Results of manual updating of the BLDGHEIGHT attribute are shown.

Eave height

Similar to building height, reference the lidar to obtain the correct eave height. You will need to subtract the BASELEV from the lidar elevation to get the correct the EAVEHEIGHT value.

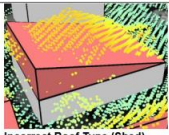
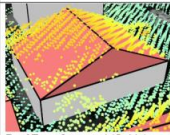
Issue	Solution	Result
 <p>Incorrect eave height at 32</p>	<p>Update the 'EAVEHEIGHT' field for the feature of interest</p>	 <p>Corrected eave height at 50</p>

Results of manual updating of the EAVEHEIGHT attribute are shown.

[Back to top](#)

Roof form

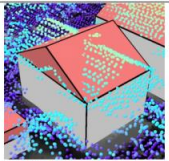
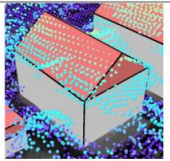
If your roof type does not match the lidar data, change the roof type by choosing the correct roof form from the drop-down list.

Issue	Solution	Result
 Incorrect Roof Type (Shed)	Update the 'ROOFORM' field for the feature of interest to the correct type.	 Roof Type Corrected (Gable)

Results of manual updating of the ROOFORM attribute are shown.

Roof direction

Adjust the direction of the roof by modifying the RoofDirAdjust field. The default value is 0. A value of 1 will rotate the roof counterclockwise 90 degrees, or a value of 2 will rotate it 180 degrees.

Issue	Solution	Result
 Incorrect Roof Direction	Input an integer value (0, 1, or 2) in the 'RoofDirAdjust' field to rotate the direction of the building model counter-clockwise.	 Roof Direction Corrected

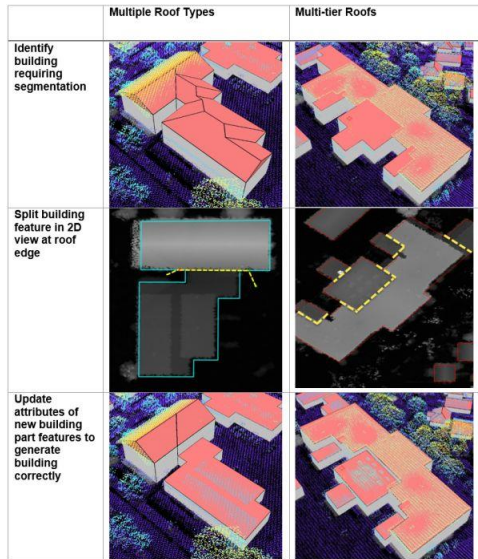
Results of manual updating of the RoofDirAdjust attribute are shown.

Split roof segments

Some building footprints may contain several roof types and roof parts. To accurately represent these buildings, you can split the footprints into separate features manually and update the attributes for each feature accordingly.

To edit the building footprints, complete the following steps:

1. Select the feature you want to segment.
2. Use the **Split** tool in the Roof Segmentation task, or in the **Modify Features** pane to segment the selected feature.
3. Edit the attributes as needed with the new sections of the building footprint.



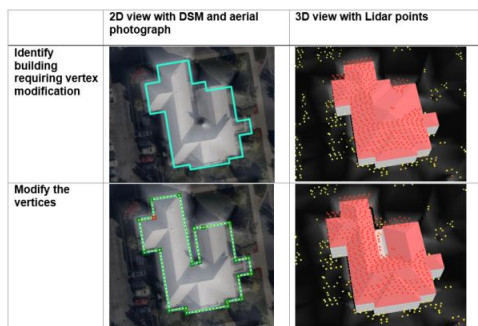
Results of manual splitting of buildings are shown.

Modify building vertices

Sometimes building footprints may have been created incorrectly and do not represent the building adequately, resulting in lower-quality roof forms.

To edit the building footprints, complete the following steps:

1. Select the feature you want to modify.
2. Use the Vertices tool in the Modify Building Vertices task, or on the **Edit** tab to modify the selected feature.
3. Edit the attributes as needed with the modified building footprint.



Results of manual updating of building vertices are shown.

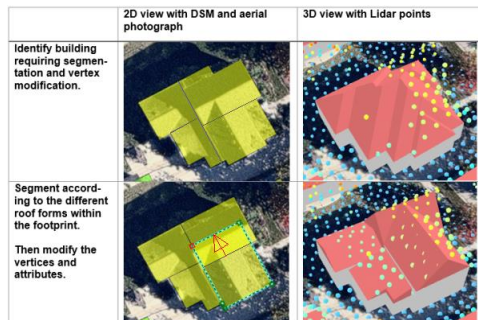
Create cross gable roof forms

You can also use vertex editing to make cross gable roof forms. To do so, complete the following steps:

1. Select the feature you want to modify.
2. Use the **Split** tool in the Roof Segmentation task, or on the **Edit** tab to segment the building footprint according to the roof forms present within the footprint.

[Back to top](#)

- Use the **Vertices** tool in the Modify Building Vertices task, or in the **Modify Features** pane to extend one gable roof into the other one.
- Edit the attributes as needed with the modified building footprint.



Results of manual updating of cross gable roof forms are shown.

Fuse buildings

If you have segmented some building footprints into separate features, you can use the **Fuse buildings** task to fuse the building features that represent building parts back together in the resulting 3D building features.

Note:

Review and modification of buildings is done on the building footprint layer with procedural symbology. Fusing saves the modification to multipatch format for texture adding and publishing.

Add textures to buildings (optional)

Use this task to add realistic textures to the previously extracted buildings.

Note:

Textures depict generic usage of buildings and are applied based on footprint size. Using high-resolution textures will result in large output, potentially leading to decreased visualization performance.

Publish buildings layer

This task publishes the building layer to your organization. Reprojection to Web Mercator with height in meters is only required if you want to use the published layers in a global web scene.

Update buildings (optional)

Use this task if new lidar is available. It compares an existing 3D multipatch building layer with a new lidar dataset to verify whether there are any updates required due to new construction or

[Back to top](#)

demolition. If changes have been detected, these can then be merged back into the original 3D building layer.

To update your existing buildings, you will need the following data:

- Multipatch buildings
- Lidar with ground and buildings classified

The Update Buildings process accomplishes the following purposes:

- Detects changes between input 3D multipatch buildings and new lidar. The output is building update polygons where changes have been detected depending on the input parameters.
- Creates LOD2 update buildings using the building update polygons and the lidar.
- Merges the LOD2 update buildings with the existing 3D buildings.

Publish floors

Building Floors can be created using the Publish floors task. The input is multipatch buildings, which can come from the Publish buildings task or from other sources such as CityEngine or third-party providers. The output is building floor plates and floor volumes. Floors can be created using a Building Space Use table where the building will be split into tiers or groups of floors, each with their own number of floors, floor height, space use, and color. Alternatively, building attributes such as number of floors, ground floor height, upper floor height, and roof height can be used to create the floors.

Note:

Splitting buildings into floors can take a long time to run, especially when the initial split failed, and a more time-intensive splitting algorithm must be used. Ensure you only split the buildings that are required. Also, factors such as building size and complexity will affect the processing time.

In the **Task Pane**, click the **Publish floors** task and follow the steps provided.

Create building floors

This tool splits existing 3D buildings into floors based on building attributes. You can use the buildings created in the Publish buildings task or bring in your own buildings.

One option to create building floors is to use the building space use table to split the building into tiers or groups of individual floors with defined space use. The building space use table has several attributes that describe the different tiers within the building. Each tier has an attribute defining space use, number of floors, floor color, and floor height. The BuildingTypeName attribute is the identifier that links the Building Space Use table to the building features. An example building space use table can be found in the tables folder of the 3D basemaps ArcGIS Pro project.

Create floor volumes

If you require floor volumes, use the Create floor volumes task to create floor volumes out of the 3D floor plates. The Extrude By Attribute geoprocessing tool requires a building feature class with space usage information that includes floor height.

Publish trees

Tree location, size, and width can be extracted from ground classified lidar as point features. Tree point features are then symbolized using procedural rules and can be schematic or realistic. If trees are classified in the lidar, the quality of the tree extraction will improve.

In the **Task pane**, expand the **Publish trees** group task and follow the steps provided.

Classify trees in lidar using deep learning

Run this tool to optionally classify trees in the lidar using a deep learning model. Classified trees will improve the vegetation extraction but keep in mind that deep learning is computationally very intensive, and a powerful GPU is needed to process large datasets faster. Depending on data size and available hardware, it can take hours to finish. Start with one LAS file to see processing time on your system.

To work with the deep learning tools in ArcGIS Pro, you need to install supported deep learning frameworks packages. See [deep learning frameworks](#) for ArcGIS.

A [tree classification model](#) trained by Esri can be downloaded from ArcGIS Living Atlas of the World or you can create your own model using the Training a Deep Learning model for Point Cloud Classification notebook that can be found in the notebooks folder of the 3D basemaps ArcGIS Pro project.

Extract tree points using surface analysis

Use this tool to extract tree points from the lidar using surface analysis. This type of extraction is faster for large lidar datasets, but the results are less accurate than using cluster analysis for dense lidar (point spacing less than 1.5 feet/0.5 meters).

Extract tree points using cluster analysis

Use this tool to extract tree points from the lidar using cluster analysis. This type of extraction is slower for large lidar datasets, but the results are more accurate than using surface analysis.

Note:

When creating the 3D trees, make sure to verify the **Vegetation class code**. The correct class codes for vegetation is typically 5. The tool will verify whether your lidar has this code, but trees might be represented by other codes as well. Visually review your lidar and verify what class code tree points have by clicking a tree lidar point. If the vegetation has not been classified, enter the class code that represents the vegetation, for example, 0 or 1.

[Back to top](#)

Tip:

Use the Extract tree points using surface analysis tool to create an initial vegetation layer. Run the Extract tree points using cluster analysis tool for lidar files for which you need detailed trees and replace the trees from the initial layer with the more detailed trees where needed.

Create colored lidar trees

Classified lidar can also be used directly to visualize trees. This step extracts just the tree points from the input lidar and uses aerial imagery to colorize them.

Publish bridges

If bridge surfaces are classified in the lidar and the lidar is dense enough, it is possible to extract the bridge surfaces as 3D polygons. 3D bridges can then be created by applying procedural rules.

In the **Task pane**, expand the **Publish bridges** group task and follow the steps provided.

Create bridges

In the Extract bridge surfaces from lidar step, enter the following:

- **Class Code**—The class code that represents the bridge surfaces.
- **Sampling Value**—Experiment with this value to improve processing speed and output quality.
- **Bridge Area**—This is the minimum area that defines a bridge surface.

Note:

The bridge surface should be a separate class code. If bridge surfaces are not classified in the lidar, you can [interactively classify the bridge surfaces](#) in ArcGIS Pro.

Note:

Only rectangular bridge surfaces and models are supported.

Publish power lines

Use your existing GIS data to visualize distribution and transmission lines in 3D. Procedural rules are used to create the 3D support structures and conductors. A wide variety of conductor and tower configurations are supported.

In the **Task pane**, expand the **Publish power lines** group task and follow the steps provided.

[Back to top](#)

Create transmission lines

Run the Create transmission lines task to create 3D transmission lines. Enter the following:

- **Voltage**—Select the voltage for the transmission line. The values for the voltage list are read from the TowerLUTable table located in the project tables directory. Change these values to modify conductor and tower features.
- **Tower configuration**—Experiment with these parameters to create the desired towers.

Create distribution lines

Run the Create distribution lines task to create 3D distribution lines. Enter the following:

- **Pole configuration**—Experiment with these parameters to create the desired poles.

Note:

Both tools support line and point feature input. You can use existing features, features that have been extracted from lidar, or manually create features. In the case of line features, the vertex locations are used to create towers. In the case of point features, a line and tower attribute must be present. The line attribute should describe which line the points belong to and the tower attribute should describe the tower order per line. Connected lines are not supported.

Note:

This tool requires that the [Microsoft Access Database Engine driver](#) is installed.

Publish underground pipes

You can turn your existing 2D underground utility features into 3D features using elevation attributes.

In the **Task pane**, expand the **Publish underground pipes** group task and follow the steps provided.

Create gravity mains

Run the Create gravity mains task to create 3D gravity-driven mains. The first time you run this step, you evaluate the current state of the gravity mains and highlight errors. After reviewing the errors and updating fields that are incorrect, run Interpolate gravity mains to calculate any remaining missing values.

Create manholes

Run the Create manholes task to create 3D manhole features.

[Back to top](#)

Create laterals

Run the Create laterals task to create 3D lateral features.

Create a surface trench

Run the Create a surface trench task to better visualize underground pipe features.

Publish integrated mesh

An integrated mesh is a textured continuous meshed surface capturing a current state of an area or city. They are often derived from drone, aerial, or satellite imagery via photogrammetric processing.

In the **Tasks** pane, expand the **Publish integrated mesh** group task and follow the steps provided.

Add integrated mesh

This step adds an integrated mesh to your scene. A mesh (.slpk) is typically created from photogrammetric sources, like imagery captured by drones and processed with Drone2Map or SiteScan. There are also several Esri partners that specialize in producing city-scale integrated mesh for purchase.

Modify integrated mesh

Use this step to make a modification to an integrated mesh layer. You can create a new modification or import from an existing polygon feature layer. Mesh modifications are useful to be able to show other 3D layers such as buildings, trees or bridges together with the integrated mesh.

Publish integrated mesh layer

This step publishes the integrated mesh layer to your organization. Reprojection to Web Mercator with height in meters is only required if you wish to use the published layer in a global web scene.

Run **Share as new web scene** to publish the entire scene as web scene to your organization. Remove all the layers that you don't want to publish from the scene before publishing.

Run **Share as scene layer** if you need to add an integrated mesh to an existing web scene.

Modify integrated mesh in web scene

This tool modifies an integrated mesh in a published web scene without having to republish the entire mesh as a new web scene.

Publish 3D Basemaps

The 3D basemap is a web scene that can be used across the ArcGIS platform.

In the **Task pane**, expand the **Publish 3D basemap web scene** group task and follow the steps provided.

Tip:

For more information on creating a web scene, see [Get started with scenes](#).

Address Data Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Address Data Management

Address Data Management can be used to maintain an authoritative inventory of road centerlines with address ranges, valid road names, site addresses, and related mailing addresses.

It provides a series of workflows and standard address layers that streamline the maintenance of a central address repository that supports diverse information needs (for example, public safety, permitting, utility billing, assessment and taxation, and so on). This optimized approach allows organizations to capture the physical location of an address early in the development process and continuously improve the accuracy of address information over time. Address Data Management is typically implemented by planning departments, public safety agencies, GIS departments, and other local government organizations that want to develop and maintain an address repository that supports a variety of government functions.

The Address Data Management solution delivers a set of capabilities that help you maintain a standard set of address layers that incorporate national guidelines, streamline address data management workflows, and continuously improve the quality of address information.

Requirements

Address Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Standard or Advanced)
 - ArcGIS Data Reviewer (optional)

Information products

Address Data Management includes the following information products:

[Back to top](#)

Item	Description	Minimum user type
Address Data Management	An ArcGIS Pro project used to maintain an inventory of road centerlines, valid road names, site addresses, and related mailing addresses	GIS Professional Standard

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Address Data Management

Configure Address Data Management

Learn how to configure the Address Data Management solution to meet specific needs in your organization.

Configure address data management project

The Address Data Management solution includes an ArcGIS Pro project and sample data you can use to explore data management workflows. When you are ready to configure the project, a series of tasks are included to help you review the schema, make modifications to the maps and layers, load your data, and optionally migrate into ArcGIS Enterprise.

1. Sign in to your ArcGIS organization and browse to the Address Data Management Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Address Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Address Data Management** task.
6. In the **Tasks** pane, expand the **Configure Address Data Management** task group.

Review schema

Included in the solution is a data dictionary that describes the feature classes, relationship classes, and domains included in the Address Data Management geodatabase.

To review the data dictionary, browse to the `Data Dictionary.htm` file included with the Address Data Management project and open in your default web browser.

Define spatial reference

The Address Data Management project comes with two file geodatabases. Address Data Management Sample.gdb contains data designed to help test workflows supported in the solution.

Address Data Management.gdb is an empty geodatabase with the same schema and a spatial reference set to Web Mercator. You can use this geodatabase to define your spatial reference and load your data.

To define the spatial reference, follow the steps in the **Define spatial reference** task.

Configure maps, layers, and rules

The Address Data Management solution leverages preconfigured attribute rules to automate many of the editing workflows. For example, when you create an address point, a unique ID is automatically generated for the point.

In some cases, you may need to modify the default schema included with the solution to meet your organization's needs. If you need to remove or rename fields that are used in any of the attribute rules, you must first update the rule to remove the reference to the field. Adding new fields does not impact the rules. You may also want to add additional rules or configure the feature templates to set the default attributes applied when a feature is created.

To modify the schema, attribute rules, and feature templates of the layers, follow the steps in the **Configure maps, layers, and rules** task.

Load your data

When you have completed any schema modifications, you can load your existing data into the Address Data Management layers by following the steps in the **Load your data** task.

Load into ArcGIS Enterprise

While everything included with the Address Data Management solution is supported in a file geodatabase, some organizations may choose to manage this data in ArcGIS Enterprise.

To copy the Address Data Management schema into ArcGIS Enterprise, follow the steps in the **Load into ArcGIS Enterprise** task.

Configure data validation

You can use Data Reviewer to validate, maintain, and improve the integrity of your address data. The Address Data Management map includes a collection of preconfigured checks that help you identify and resolve common errors in your address data. You can add, remove, or modify these checks to meet your organization's needs.

To modify the Data Reviewer checks, follow the steps in the **Configure data validation** task.

Use logical block addressing

Logical block addressing uses the starting address, an interval or distance between unique addresses, and the length of the road segment to calculate the address range for the block. If your organization uses logical block addressing, you can configure attribute rules to automatically calculate the left and right to address from the left and right from address.


To enable the logical block addressing attribute rules, complete the following steps:

1. Start the ArcGIS Pro application and open the Address Data Management project.
2. In the **Contents** pane, right-click the **Local Streets** layer.
3. From the **Design** menu, choose **Attribute Rules**.
4. In the **Attribute Rules** table, click the **Logical Block Addressing (Left)** rule.
5. In the **Expression Builder** update the value for the addressIntervalDistance and unit to the distance your community uses between unique addresses along a road.

```
// Specify the interval or distance between unique addresses  
var addressIntervalDistance = 10;
```



```
// Specify the unity of measure. Valid options are feet, meters, yards,
miles, kilometers
var unit = "feet";
```

6. Click the **Save** button  on the **Attribute Rules** tab.
7. Click **Enable Rule** in the **Attribute Rules** group on the ribbon.
8. Repeat steps 5 through 7 for the Logical Block Addressing (Right) rule.
9. Click **Save** button on the **Attribute Rules** tab.

Pull information from an intersecting feature


You can configure additional attribute rules for the site address layer to automatically pull information from an intersecting feature when the address point is created or updated. For example, you can write the name of the municipality, ZIP Code, or the property identification number (PIN) the address falls within and write it to a field within the site address point.

To add an intersecting feature attribute rule to your site addresses layer, complete the following steps:

Note:


This rule requires both the site addresses feature class and the intersecting feature class be in the same database.

1. In ArcGIS Pro, from the **Contents** pane, right-click the **Site Addresses** layer.
2. From the **Design** menu, choose **Attribute Rules**.
3. From the **Attribute Rules** table, click the **Add Rule** drop-down arrow and choose **Add Immediate Calculation Rule**.
4. Provide a **Rule Name** and **Description** for your rule.
5. Click the **Field** drop-down arrow and choose a field in your Site Addresses layer where you want to write the attribute from the intersecting feature.

6. Click **Expression Builder**  to open the Expression Builder dialog box.

7. Copy the code below and paste it into the Expression Builder.

```
// replace 'FeatureClassName' with the name of the feature class to pull
intersecting features from (ex. Cities, ZipCodes, Parcels)
var intersectingFeatures = Intersects(FeatureSetByName($datastore,
"FeatureClassName"), $feature);
for (var feature in intersectingFeatures) {
    // replace 'fieldname' with the name of the field from the
intersecting feature to pull the value from
    var value = feature.fieldname;
    if (IsEmpty(value)) continue;
    return value;
}
return null;
```

8. In the code, find and replace the text `FeatureClassName` with the name of the feature class to pull intersecting features from (for example, `Cities`, `ZipCodes`, or `Parcels`).
9. In the code, find and replace the text `fieldname` with the name of the field from the intersecting feature to pull the value from.
10. Click the **Verify** button and click **OK** to close the Expression Builder dialog box.
11. In the details pane, under **Triggers**, check **Insert**. If you want the rule to run when the address is moved as well, check **Update**.
12. Click the **Save** button  on the **Attribute Rules** tab.
This button is unavailable if you have any pending feature edits. Save or discard your edits to enable the **Save** button.

Note:

The rule is now active. When you create a site address point, the rule runs and pulls the attribute of the intersecting feature into the field specified by the rule. Repeat the steps above to add additional rules for different feature classes and field values.

Tip:

The code above is configured to return null if no intersecting features are found, and if multiple intersecting features are found (overlapping polygons), it returns the first nonnull feature attribute found. Below are some additional code samples for other common scenarios.

Return multiple intersecting feature values as a comma-delimited list

Copy this code and paste it into the Expression Builder dialog box to return a list.

```
// replace 'FeatureClassName' with the name of the feature class to pull
intersecting features from (ex. Cities, ZipCodes, Parcels)
var intersectingFeatures = Intersects(FeatureSetByName($datastore,
"FeatureClassName"), $feature);
var values = [];
for (var feature in intersectingFeatures) {
    // replace 'fieldname' with the name of the field from the intersecting
feature to pull the value from
    var value = feature.fieldname;
    if (IsEmpty(value)) continue;
    values [Count(values )] = value;
}
return Concatenate(values, ", ");
```

Return multiple intersecting feature values as a statistic (Mean, Min, Max, Sum)

Copy this code and paste it into the Expression Builder dialog box to return statistic values.

```
// replace 'FeatureClassName' with the name of the feature class to pull
intersecting features from (ex. Cities, ZipCodes, Parcels)
var intersectingFeatures = Intersects(FeatureSetByName($datastore,
"FeatureClassName"), $feature);
var values = [];
for (var feature in intersectingFeatures) {
    // replace 'fieldname' with the name of the field from the intersecting
feature to pull the value from
    var value = feature.fieldname;
    if (IsEmpty(value)) continue;
    values[Count(values)] = value;
}
return Mean(values);
```

Publish address locators

You can author the address locators described below in ArcGIS Pro from the layers managed in the Address Data Management solution:

- Composite
- Dual Range
- Site address
- Road name

Once you have authored the locators, you can use them in ArcGIS Pro to locate places using addresses along the left or right side of a road, rooftop address locations, and road names. You can also share the locators with your organization and use them in many ArcGIS Solutions.

Learn how to [create an address locator](#) and more about the components of an address locator in the ArcGIS Pro help.

Use Address Data Management

The Address Data Management solution delivers a set of capabilities that help you maintain a standard set of address layers that incorporate national guidelines, streamline address data management workflows, and continuously improve the quality of address information.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Manage address data

You will assume the role of a mapping technician responsible for maintaining an inventory of road centerlines, valid road names, site addresses, and related mailing addresses. The Address Data Management ArcGIS Pro project includes a series of tasks to help guide you through these workflows.

1. Sign in to your ArcGIS organization and browse to the Address Data Management Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Address Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Address Data Management** task.
6. In the **Tasks** pane, click the **How to Use Address Data Management** task group to expand the collection of tasks.

Add new roads

Roads are line segments representing centerlines of all roadways or carriageways that support address geocoding and mapping. They are also a resource for the agencies responsible for the active management of the road network. Typically, this information is compiled from orthorectified aerial imagery and record drawings.

The road features leverage a valid list of road names that can be assigned to a road and subsequent site address. The Master Road Names table includes the unique elements of a road name (for example, direction, name, and type) and uses an attribute rule to create a full road name. To ensure data integrity, a road name index is derived from the Master Road Names table and used to populate official road names when creating new road centerlines and site addresses.

The feature classification and type schema for the roads is based on a functional classification of roads provided by the Federal Highway Administration (FHWA). Specific attributes and default values vary for each feature type.

To update the road name index and add new roads, follow the steps in the **Add new roads** task.

Add site addresses

Site addresses represent the location of a site or service delivery address assigned by a local government. Typically, site addresses are placed on top of the associated structure. Alternatively, they may be placed at the center of a parcel or in close proximity to the curb cut.

Site addresses are related to two other address layers:

- Address points that represent the location along the road network where the specific site or service delivery address has been assigned.
- Entrance points that represent the location where the public, or a service provider, gains access to the specific site address. In urban settings, an entrance point can represent a driveway for a home that is on a corner lot and the address is assigned off an adjacent road. In rural areas, an entrance point can represent a shared driveway that provides access to many homes. Entrance points are optional and can be added on a case-by-case basis.

Each site address may have one or more postal addresses associated with it. Postal addresses provide contact information for the owner or occupant of the building or buildings associated with a site address. The Owner / Occupant field indicates whether the postal address is for the owner, occupant, or both.

The feature classification and type schema for the site addresses is based on a status field. This status field allows local governments to identify pending, temporary, and current addresses.

To add a new site address and one, or more, related postal addresses and building entrances, follow the steps in the **Add site addresses** task.

Update road names

Road names may change during the plan review process and as a result, pending road names must be updated. When updates are made to the Master Road Names table and road name index, the changes are pushed to the road and site address features to ensure data integrity is maintained.

To modify a pending road name and update related features, follow the steps in the **Update road names** task.

Modify road and address parity

In some cases, roads were not drawn in the direction of ascending address ranges and the direction of the line must be flipped to improve address geocoding. This may also mean the address range parity is incorrect and must be flipped as well.

To modify the road direction or address parity, follow the steps in the **Flip roads and swap parity** task.

Create road intersections

When creating new roads, existing roads are split at intersections along the new road. An inventory of road intersections with the names of relevant crossroads is often required by 911 systems and to manage right-of-way assets.

To create road intersections, follow the steps in the **Create road intersections** task.

Validate address integrity

You can use ArcGIS Data Reviewer to validate, maintain, and improve the integrity of your address data. The Address Data Management map includes a collection of preconfigured checks that help you identify and resolve common errors in your address data.

To validate address integrity, follow the steps in the **Validate address data** task.

Address Field Operations

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Address Field Operations

Address Field Operations can be used to crowdsource missing address information from stakeholders, manage address fieldwork, and collect and verify address information while in the field.

Current and accurate address data is an essential requirement for a variety of functions, including emergency management, as well as administration, research, publications, mapping, routing, navigation, and many other purposes. Successful address authorities assign addresses early in the development life cycle and improve the integrity of their address repository with quality control procedures that incorporate feedback from stakeholders. Address Field Operations is typically implemented by planning departments, public safety agencies, GIS departments, and other local government organizations that want to continuously improve an address repository that supports a variety of government functions.

The Address Field Operations solution delivers a set of capabilities that help you solicit missing or inaccurate address information from internal and external stakeholders, verify these submissions in the office, or create work assignments and dispatch staff to verify and collect new address information from a mobile device in the field.

Requirements

Address Field Operations requires the following:

- ArcGIS Enterprise
- ArcGIS Workforce
- ArcGIS Collector

Information products

Address Field Operations includes the following information products:

Item	Description	Minimum user type
Address Crowdsourcing	An ArcGIS Survey123 form used by addressing staff to crowdsource missing address information from stakeholders.	Editor

[Back to top](#)

Address Assignments	An ArcGIS Workforce Classic project used by addressing staff to manage address field operations. Field users access the Address Assignments project using the Workforce for ArcGIS mobile app.	Field Worker
Address Field Inventory	An ArcGIS Collector map used by addressing staff to collect address information while in the field.	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Address Field Operations

Use Address Field Operations

The Address Field Operations solution delivers a set of capabilities that help you solicit missing or inaccurate address information from internal and external stakeholders, verify these submissions in the office, or create work assignments and dispatch staff to verify and collect new address information from a mobile device in the field.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Submit a missing address

You will first assume the role of an employee in the public works department. When attempting to issue a permit, you search for an address, but no result is returned. You will use the Address Crowdsourcing form to report the missing address.

1. In a browser, go to the [Address Crowdsourcing](#) form.
2. In the Address Crowdsourcing form, fill in the following details:

Questions	Answers


[Back to top](#)

Address Number	Type 201.
Full Road Name	Type E Oak Ave.
Municipality	Type Naperville.
Select Location	Zoom and pan in the map to the approximate location of the missing address.
Full Name	Type your name.
Email	Type your email address.
Phone	Type your phone number.

3. Click **Submit**.

Assign a missing address for verification

You will now assume the role of a supervisor at an addressing authority. As a supervisor, you are responsible for assigning field crews to verify missing or incorrect address reports from stakeholders. Using the Address Assignments ArcGIS Workforce Classic project, you will create a new assignment using the missing address report and assign it to one of your fieldworkers.

1. In a browser, sign in to your ArcGIS organization and click the **Apps** button  in the header of the site.
2. From the app launcher, click **ArcGIS Workforce** to open the app.
3. Under **Classic projects**, click Address Assignments to open the project.

Tip:

When implementing the Address Field Operations solution in your organization, you must add anyone responsible for verifying addresses in the field to the Address Assignments ArcGIS Workforce Classic project with a Mobile Worker role. You can add users and assign roles in the configuration settings of the project. To access configuration settings, hover over **Address Assignments** project and click **Configure**. Click the **Users** tab. For the purposes of this exercise, ensure your named user account is assigned as a dispatcher and as a mobile worker. Click **My Projects** tab to return to your projects.

4. On the map, select the address you created in the previous section and click the **+ Create Assignment** at the bottom of the pop-up window.
5. From the **Create Assignment** panel, fill in the following details:
 - For **Assignment Type**, choose **Verify Address**.
 - For **Assigned to**, choose a worker.

[Back to top](#)

- For **Priority**, choose **Medium**.
 - For **Due Date**, choose tomorrow.
6. Click **Create Assignment**.

Verify missing addresses

You will now assume the role of a fieldworker at an addressing authority. As a fieldworker, you are responsible for verifying missing or incorrect address reports. Using the Address Assignments ArcGIS Workforce Classic project, you will review and update the status of your assignments and open the Address Field Inventory map in ArcGIS Collector to verify missing addresses.

1. Download Workforce for ArcGIS and Collector for ArcGIS (Classic) apps onto your mobile device.
2. Open the Workforce for ArcGIS app and sign in to your ArcGIS organization.
3. Tap the **Address Assignments** project.
4. Tap **Verify Address** from the **To Do** list.
5. Tap **Start**.
6. From the overflow menu, tap **Collect at Assignment**.
This opens the Address Field Inventory map in Collector for ArcGIS (Classic) and defaults to the location of the assignment and drops a pin.
7. Tap **Close** to cancel the dropped pin.
8. Tap the missing address point at the same location.
9. Tap **Edit** to modify the details of the address.
At this point, verify the details of the address and make any necessary changes to the attributes and location of the address.
10. Tap **Verified** and tap **Yes**.
11. Tap **Submit** (iOS) or the check mark (Android).
The address point changes from red to green and now reflects any edits you made during verification.
12. Return to the Workforce for ArcGIS app and tap **Finish** to complete the assignment.

Collect new addresses

You will continue your role as a fieldworker at an addressing authority. You are responsible for collecting addresses for a new subdivision in the community. You will use the Address Field Inventory map in ArcGIS Collector to collect new addresses in the field.

1. From your mobile device, open the Collector for ArcGIS (Classic) app.
Tap the back arrow, if necessary, to go back to the **Maps** list.
2. Tap the **Address Field Inventory** map.
3. Tap **Add**.
4. By default, the point is set at your current location. Adjust the location on the map as necessary and tap **Add Point**.
5. Swipe up and enter the details of the address.

When adding multiple addresses, they may have common attributes such as the road name and municipality. You can create a copy of an existing address point by selecting it and tapping **Copy**.

6. Tap **Submit** (iOS) or the check mark (Android).

Adopt-A-Catch Basin

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Adopt-A-Catch Basin

Adopt-A-Catch Basin can be used to operate catch basin adoption programs that allow volunteers to adopt storm drains and clean them for the community.

Adopt-A-Catch Basin programs seek to improve water quality, decrease localized flooding, and reduce maintenance costs by leveraging individual volunteers and organizations to clean drains and keep water flowing. Program volunteers are typically asked to inspect their drains; remove leaves, trash, and other debris; and report damage or clogs at regular intervals. In some cases, they may even be asked to check on an adopted drain before a forecasted storm. This simple action has a big impact on the cleanliness of local waterways and reduces the chance of localized flooding during a storm. Adopt-A-Catch Basin is typically implemented by public works agencies or utilities that want to engage the community and maximize the capacity of operations staff.

The Adopt-A-Catch Basin solution delivers a set of capabilities that help you engage volunteers to keep catch basins clear of debris and functioning properly, manage participants, and monitor the adoption program.

Requirements

Adopt-A-Catch Basin requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)
- ArcGIS Web AppBuilder (Developer Edition) 2.11 or later
- SMTP Server

Information products

Adopt-A-Catch Basin includes the following information products:

Item	Description	Minimum user type
Adopt-A-Catch Basin	An ArcGIS Hub site used by the general public to learn how they get involved in the Adopt-A-Catch Basin program	Not required

[Back to top](#)

Adopt-A-Catch Basin	An ArcGIS Pro project package used by stormwater personnel to configure the Adopt-A-Catch Basin app and publish supporting web tools to ArcGIS Enterprise	GIS Professional Standard with Web tool publisher permission
Adopt-A-Catch Basin Manager	A Crowdsourcing Manager app used by stormwater personnel to manage Adopt-A-Catch Basin participants	Editor
Adopt-A-Catch Basin Dashboard	An ArcGIS Dashboards app used by stormwater personnel to monitor the Adopt-A-Catch Basin program	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Adopt-A-Catch Basin

Configure Adopt-A-Catch Basin

Learn how to configure the Adopt-A-Catch Basin solution to meet specific needs in your organization.

Publish the Adopt-A-Catch Basin app

The Adopt-A-Catch Basin solution includes an ArcGIS Pro project used to publish the Adopt-A-Catch Basin app. When you are ready to publish the app, a series of tasks is included to help you get started.

Get started

Use the ArcGIS Pro project to familiarize yourself with Adopt-A-Catch Basin.

1. Sign in to your ArcGIS organization and browse to the Adopt-A-Catch Basin Project Package.
2. Open the item page and click **Download**.
3. Browse to and open the Adopt-A-Catch Basin project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Adopt-A-Catch Basin** task.
6. In the **Tasks** pane, expand the **Getting to Know Adopt-A-Catch Basin** task group.
7. Double-click **Understanding Adopt-A-Catch Basin** task to review it.

Configure Adopt-A-Catch Basin

Use the ArcGIS Pro project to set up Adopt-A-Catch Basin.

1. In the **Tasks** pane, expand the **Configure Adopt-A-Catch Basin** task group.
2. Use the **Configure Adopt-A-Catch Basin** task group to access several tasks that guide you through:
 - Load your catch basins into the CatchBasin feature layer deployed with the solution.
 - Set up a user table in ArcGIS Enterprise to store program participants.
 - Publish the authentication geoprocessing webtool.
 - Configure the Adopt-A-Catch Basin app.

Contact participants

Use the ArcGIS Pro project to configure tools necessary for contacting participants in the Adopt-A-Catch Basin program.

1. In the **Tasks** pane, expand the **Contact participants** task group.

[Back to top](#)

The **Contact participants** task group contains tasks help you contact program participants by sending bulk emails or contacting a selection of participants by local or attribute.



2. Follow the task instructions to configure the bulk email model with your SMTP server and contact participants.

Configure the Adopt-A-Catch Basin site

The Adopt-A-Catch Basin solution includes the Adopt-A-Catch Basin ArcGIS Hub site that your organization can configure with your branding and can use to share information about participating in the Adopt-A-Catch Basin program with the public.

Update with organizational information

After deploying the Adopt-A-Catch Basin solution, the Adopt-A-Catch Basin site layout only requires a few updates to fit your local context. Consider what information you already have and what you can most easily find. This information can include the following:


1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Catch Basin site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Statistics** section listed under the title of the website.
The **Catch Basins Adopted**, **Cleaned This Month**, and **Clogged Catch Basins** statistics cards are already linked to the Adopt-A-Catch Basin solution's CatchBasins_public feature layer. These stats automatically update as participants adopt catch basins and report cleanings and issues using the Adopt-A-Catch Basin app.
5. Scroll to the **Adopt a Catch Basin** section, hover over the card and click settings button .
6. Click the **Adopt Catch Basin** button and click **Edit**.
7. Enter the Adopt-A-Catch Basin app published using the Adopt-A-Basin ArcGIS Pro project URL into the **Link Destination** text box and click **Add Link** button.

Tip:

Browse to the Adopt-A-Catch Basin app. Open the item page, click **View Application**, and copy the app URL.

8. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
9. Scroll to the **Stormwater Data** section, hover over the card and click the settings button, and in the site editor under **Data** update the category links using tags, categories, or groups that reference your open data.

[Back to top](#)

10. To modify your site's footer, click **Customize Toggle**  on the side panel.
11. Click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
12. Click the **HTML** text box.
The **HTML** window appears.
13. Make the necessary changes and click **Apply**.
14. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Adopt-A-Catch Basin solution must be shared with everyone so they can be accessed by the public on the Adopt-A-Catch Basin site. To share your adopt-a-catch basin items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Catch Basin folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	CatchBasins_public
Web Map	Adopt-A-Catch Basin
Web Mapping Application	Adopt-A-Catch Basin
Site Application	Adopt-A-Catch Basin



3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Deploy related solutions

This site references content from the Citizen Problem Reporter solution. To deploy the Citizen Problem Reporter solution, follow the steps in the [Deploy an ArcGIS Solutions](#) section.

Update solution references

This site references a solution deployed in the previous section. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Catch Basin site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Report a Problem** section.
5. Hover over the **Submit Report** card and click settings button .
6. Click on the **Submit Report** button and click **Edit**.
7. Enter the Citizen Problem Reporter app URL in the **Link Destination** text box and click **Add Link** button.

Tip:

Browse to the Citizen Problem Reporter app. Open the item page, click **View Application**, and copy the app URL.

8. Hover over the **Contact Call Center** card, click the settings button and edit the phone numbers in the card or remove if not applicable.
9. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Citizen Problem Reporter solution must be shared with everyone so they can be accessed by the public on the Adopt-A-Catch Basin site. To share your citizen problem reporter items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Citizen Problem Reporter folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	CitizenProblems_health
Feature Layer (hosted, view)	CitizenProblems_utility
Feature Layer (hosted, view)	CitizenProblems_blight

Feature Layer (hosted, view)	CitizenProblems_road
Feature Layer (hosted, view)	CitizenProblems_animal
Feature Layer (hosted, view)	CitizenProblems_parktree
Feature Layer (hosted, view)	CitizenProblems_trash
Feature Layer (hosted, view)	CitizenProblems_landuse
Feature Layer (hosted, view)	CitizenProblems_snowice
Web Map	Health Problems
Web Map	Water / Sewer Problems
Web Map	Blight Problems
Web Map	Road Problems
Web Map	Animal Problems
Web Map	Park / Tree Problems
Web Map	Trash Problems
Web Map	Land Use Problems
Web Map	Snow / Ice Problems
Web Mapping Application	Citizen Problem Reporter

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Adopta widget settings

The Adopt-A-Catch Basin app uses the Adopta widget with preconfigured settings and actions. Optionally, you can modify and expand the Adopta widget's settings to meet your organization's needs. Use the tables below to understand the Adopta widget's configuration settings and capabilities.

Layer and Authentication settings

The Layer and Authentication settings allow you to configure behaviors as well as the look and feel of the user interface.

Setting	Description
Asset nickname field	Field that stores the catch basin's nickname.
Login screen message	Message that appears when signing into the application.
Additional signup field	Fields in the UserTable to be displayed in the sign up form in addition to email—for example, add first and last name, address, and phone number.
Show asset address	Display the reverse geocoded address of a catch basin in the details view.
Asset highlight color	Color of selection symbol displayed around the catch basin symbol when it is selected on the map.
Tolerance setting	New catch basins are created if no asset is found within the tolerance.
My asset symbol	Choose a symbol and set the size of user-adopted catch basins.

Actions

The primary actions used for the Adopt-A-Catch Basin app are assign (Adopt) and unassign (Opt out). You can configure additional actions as needed.

Setting	Description
Assign status settings	Allows you to label the button (Adopt) in the asset detail view and specify additional actions that occur after clicking the assign status button.
Unassigned status settings	Allows you to configure the unassigned label (Abandoned) in the asset detail view and specify additional actions that occur after clicking the unassigned label.
Additional status settings	Allows you add additional actions you want adopters to report on—for example, a damaged catch basins.
Primary Status	Displays text and status buttons in the Adopta application—for example, Is the catch basin cleaned?

[Back to top](#)

Before action image	Image that is displayed before performing an action.
After action image	Image that is displayed after performing an action.

Messages

The Adopt-A-Catch Basin app displays messages based on user interaction—for example, Thank you for adopting catch basin name. You can modify messages or create additional messages according to your organization’s needs.

Setting	Description
Assign	Message displayed when an asset is successfully assigned. Use '{assetTitle}', for example, to display the title of asset in message.
Unassign	Message displayed when an asset is successfully unassigned.
Action	Message displayed when action is successfully completed. Use '{actionName}', for example, to display the name of action in message.
Asset not found	Message displayed when asset is not found.
Asset already assigned	Message displayed when asset is already assigned. Use '{assetTitle}', for example, to display the title of asset in message.
Unable to perform action	Message displayed when action is not successful. Use '{actionName}', for example, to display the name of the action message.
Asset creation	Message displayed when creating a new asset. Use '{layerName}', for example, to display the name of the layer in message.
Create asset failed	Message displayed when asset creating fails.
User token expired	Message displayed when user token is expired and generated.
Signup/Login success	Message displayed after successful sign up or log in.
Home screen (when logged in)	Message displayed in widgets home screen after user logs in to the application.
Cursor tooltip before login	Message displayed when the user hovers over the map with their pointer before signing in to the application.
Cursor tooltip after login	Message displayed when the user hovers over the map with their pointer after signing in to the application.
Nickname hint	The text displayed in the nickname hint text box.

Use Adopt-A-Catch Basin

The Adopt-A-Catch Basin solution delivers a set of capabilities that help you engage volunteers to keep catch basins clear of debris and functioning properly, manage participants, and monitor the adoption program.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Adopt a catch basin

You'll assume the role of a resident in the community who wants to participate in your city's adopt-a-catch basin program. You'll use the Adopt-A-Catch Basin app to adopt a catch basin near your home and report its condition.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Adopt-A-Catch Basin solution.
2. View the Adopt-A-Catch Basin site.
3. Scroll to the **Adopt a Catch Basin** section, and click the **Adopt Catch Basin** button to open the Adopt-A-Catch Basin app.
4. Enter your email in the **Enter email address** text box and click **Login/Sign Up** to sign up and begin the adoption process. Enter your contact details in the subsequent form and click **Sign Up**.

The Adopt-A-Catch Basin app sends an email with program details and a link you will use to log in to the app.

5. In the email, click **Login**.

Returning users also receive an email with a link used to sign in to the app.

The Adopt-A-Catch Basin app opens in a browser with your newly created user authenticated. Notice the instructions to select a catch basin on map to adopt.


6. Select an available catch basin to adopt (the green symbols on the map). Optionally, add a nickname to your catch basin in the text box. Click **Adopt Catch Basin**.

Adopt-A-Catch Basin displays a thank you message. The Adopt-A-Catch Basin pane displays your adopted catch basin and allows you to report the condition of the catch basin (for example, cleaned, clogged, or damaged), or abandon the catch basin. You can use the Adopt-A-Catch Basin app to regularly report cleanings and condition.

[Back to top](#)

Manage adoptions and participants

You are now a public works agency employee managing the catch basing adoption program. You will use Adopt-A-Catch Basin Manager to resolve reported issues and contact program participants.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Adopt-A-Catch Basin solution.
2. View the Adopt-A-Catch Basin Manager app.
3. In the app, click the **Last Known Condition** column filter.
4. Click **Last Known Condition** drop-down arrow and choose **Damaged** to view all reported damaged catch basins.
5. Click one of the catch basins to view its details.
Public Works has repaired the catch basin. You'll use the Adopt-A-Catch Basin Manager app to contact the adopter to let them know the catch basin has been repaired.
6. Click the **Email Adopter** button in the lower left corner of the app.
Adopt-A-Catch Basin Manager opens your email client and presents a preformatted subject.
7. In the app, click the **Edit** button .
8. Click the **Last Known Condition** drop-down arrow to **No Issues**.
9. Click **Save**.
10. Optionally, click the **Manage User's Catch Basin** button to open the Adopt-A-Catch Basin app and manage the catch basins adopted by the selected user.
You can use this workflow to remove an adopter from a catch basin, making it available for adoption.

Monitor the program

You will continue your role as a public works employee, this time looking to monitor the Adopt-A-Catch Basin program. You will use the Adopt-A-Catch Basin Dashboard to review key metrics and trends.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Adopt-A-Catch Basin solution.
2. View the Adopt-A-Catch Basin Dashboard app.
The Adopt-A-Catch Basin Dashboard displays new adoptions and cleaning charts by month and provides management a quick view of program activity over time.
3. On the **Overview** tab, review the high-level metrics.
4. Click the **Catch Basin** tab at the bottom of the dashboard.
5. Click the arrow on the left of the app to display additional filters.
6. Use the filters in the left panel to explore catch basin status, condition, visibility and last cleaned.

Tip:

Dashboard charts are linked. If you click on a month in either **New Adoptions by Month** or **Cleanings by Month** charts, related details are filtered and updated in other elements in the dashboard.

7. Select a catch basin from the **Catch Basins** list or the map to view key details. Optionally, click the **Manage Asset** button in the pop-up to launch the Adopt-A-Catch Basin Manager app.

Adopt-A-Stop

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Adopt-A-Stop

Adopt-A-Stop can be used to operate stop adoption programs that allow volunteers to adopt transit stops and clean them for the community.

A transit ride begins and ends at a stop, and a rider's overall experience includes not only the ride, but their time spent at transit stops. Adopt-A-Stop programs seek to improve this experience and reduce maintenance costs by leveraging individual volunteers and organizations to clean transit stops. Program volunteers are typically asked to inspect their stops, remove trash, and report graffiti or serious damage at regular intervals. This simple action has a big impact on rider satisfaction, safety around the stop and the quality of life in a neighborhood. Adopt-A-Stop is typically implemented by transit agencies that want to engage the community and maximize the capacity of operations staff.

The Adopt-A-Stop solution delivers a set of capabilities that help you engage volunteers to keep transit stops clean, manage participants, and monitor the performance of the adoption program.

Requirements

Adopt-A-Stop requires the following:

- ArcGIS Enterprise
- ArcGIS Web AppBuilder (Developer Edition) 2.11 or later
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)
- SMTP Server

Information products

Adopt-A-Stop includes the following information products:

Item	Description	Minimum user type
Adopt-A-Stop	An ArcGIS Hub site used by the general public to learn how to get involved in the Adopt-A-Stop program	Not required

[Back to top](#)

Adopt-A-Stop	An ArcGIS Pro project package used by transit personnel to configure the Adopt-A-Stop app and publish supporting web tools to ArcGIS Enterprise	GIS Professional Standard with Web tool publisher permission
Adopt-A-Stop Manager	A Crowdsourcing Manager app used by transit personnel to manage Adopt-A-Stop participants	Editor
Adopt-A-Stop Dashboard	An ArcGIS Dashboards app used by transit personnel to monitor the Adopt-A-Stop program	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Adopt-A-Stop

Configure Adopt-A-Stop

Learn how to configure the Adopt-A-Stop solution to meet specific needs in your organization.

Publish the Adopt-A-Stop app

The Adopt-A-Stop solution includes an ArcGIS Pro project used to publish the Adopt-A-Stop app. When you are ready to publish the app, a series of tasks are included to help you get started.

Get started

Use the ArcGIS Pro project to familiarize yourself with Adopt-A-Stop.

1. Sign in to your ArcGIS organization and browse to the Adopt-A-Stop Project Package.
2. Open the item page and click **Download**.
3. Browse to and open the Adopt-A-Stop project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Adopt-A-Stop** task.
6. In the **Tasks** pane, expand the **Getting to Know Adopt-A-Stop** task group.
7. Double-click **Understanding Adopt-A-Stop** task to review it.

Configure Adopt-A-Stop

Use the ArcGIS Pro project to set up Adopt-A-Stop.

1. In the **Tasks** pane, expand the **Configure Adopt-A-Stop** task group.
2. Use the **Configure Adopt-A-Stop** task group to access several tasks that guide you through:
 - Load your transit stops into the AdoptAStops feature layer deployed with the solution.
 - Set up a user table in ArcGIS Enterprise to store program participants.
 - Publish the authentication geoprocessing webtool.
 - Configure the Adopt-A-Stop app.

Contact participants

Use the ArcGIS Pro project to configure tools necessary for contacting participants in the Adopt-A-Stop program.

1. In the **Tasks** pane, expand the **Contact participants** task group.
The **Contact participants** task group contains tasks to help you contact program participants by sending bulk emails or contacting a selection of participants by local or attribute.

[Back to top](#)


2. Follow the task instructions to configure the bulk email model with your SMTP server and contact participants.

Configure the Adopt-A-Stop site

The Adopt-A-Stop solution includes the Adopt-A-Stop ArcGIS Hub site that your organization can configure with your branding and can use to share information about participating in the adopt-a-stop program with the public.



Update with organizational information

After deploying the Adopt-A-Stop solution, the Adopt-A-Stop site layout only requires a few updates to fit your local context. Consider what information you already have and what you can most easily find. This information can include the following:

1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Stop site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Statistics** section listed under the title of the website.

The **Stops Adopted** and **Cleaned This Month** statistics cards are already linked to the Adopt-A-Stop solution's AdoptAStops_public feature layer. These stats automatically update as participants adopt stops and report cleanings using the Adopt-A-Stop app.

The Volunteers stat is provided in a text card but styled to resemble the **Summary Statistics** card; this allows you the option to manually enter a statistic of your choice, independent of the solution data. Update the **Volunteers** stat card with the number of program participants, a metric of your choice, or replace the text card with a **Summary Statistics** card and connect it to the AdoptAStops_public feature layer in a similar fashion to the other dynamic stat cards.

5. Update the **Volunteers** card, hover over the card, click the settings button , and then update the text. To add a **Summary Statistics** card onto the existing row, see [Display key metrics](#) section in the Insert charts, tables, and metrics topic. Once the card has been added to the row, hover over the existing **Volunteers** card and click the delete button  .
6. Scroll to the **Adopt a Stop** section, hover over the card and click the settings button.
7. Click the **Adopt Stop** button and click **Edit**.
8. Enter the Adopt-A-Stop app URL published using the Adopt-A-Stop ArcGIS Pro project into the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Adopt-A-Stop app. Open the item page, click **View Application**, and copy the app URL.

9. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
10. On the side panel, click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
11. Click the **HTML** text box.
The **HTML** window appears.
12. Make the necessary changes and click **Apply**.
13. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Adopt-A-Stop solution must be shared with everyone so they can be accessed by the public on the Adopt-A-Stop site. To share your adopt-a-stop items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Stop folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	AdoptAStops_public
Web Map	Adopt-A-Stop
Web Mapping Application	Adopt-A-Stop
Site Application	Adopt-A-Stop



3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Deploy related solutions

This site references content from the Transit Outreach solution. To deploy the Transit Outreach solution, follow the steps in the [Deploy an ArcGIS Solutions](#) section.

Update solution references

This site references a solution deployed in the previous section. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Adopt-A-Stop site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Report a Problem** section, hover over the card, and click the settings button .
5. Click the **Submit Report** button and click **Edit**.
6. Enter the Transit Rider Reporter app URL deployed in the Transit Outreach solution in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Transit Rider Reporter app. Open the item page, click **View Application**, and copy the app URL.

7. Edit the phone numbers in the **Contact Call Center** section or remove if not applicable.
8. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Transit Outreach solution must be shared with everyone so they can be accessed by the public on the Adopt-A-Stop site. To share your transit outreach items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Transit Outreach folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	TransitRiderReports_public
Form	Transit Rider Reporter

[Back to top](#)

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Adopta widget settings

The Adopt-A-Stop app uses the Adopta widget with preconfigured settings and actions. Optionally, you can modify and expand the Adopta widget's settings to meet your organization's needs. Use the tables below to understand the Adopta widget's configuration settings and capabilities.

Layer and Authentication settings

The Layer and Authentication settings allow you to configure behaviors as well as the look and feel of the user interface.

Setting	Description
Asset nickname field	Field that stores the stop's nickname.
Login screen message	Message that appears when signing in to the application.
Additional signup field	Fields in the UserTable to be displayed in the sign up form in addition to email—for example, add first and last name, address, and phone number.
Show asset address	Display the reverse geocoded address of a stop in the details view.
Asset highlight color	Color of selection symbol displayed around the stop symbol when it is selected on the map.
Tolerance setting	New stops are created if no asset is found within the tolerance.
My asset symbol	Choose a symbol and set the size of user-adopted stops.

Actions

The primary actions used for the Adopt-A-Stop app are assign (Adopt) and unassign (Opt out). You can configure additional actions as needed.

Setting	Description
Assign status settings	Allows you to label the button (Adopt) in the asset detail view and specify additional actions that occur after clicking the assign status button.

Unassigned status settings	Allows you to configure the unassigned label (Abandoned) in the asset detail view and specify additional actions that occur after clicking the unassigned label.
Additional status settings	Allows you add additional actions you want adopters to report on—for example, damaged stops.
Primary Status	Displays text and status buttons in the Adopta application—for example, Is the stop cleaned?
Before action image	Image that is displayed before performing an action.
After action image	Image that is displayed after performing an action.

Messages

The Adopt-A-Stop app displays messages based on user interaction—for example, Thank you for adopting stop name. You can modify the messages or create additional messages according to your organization’s needs.

Setting	Description
Assign	Message displayed when an asset is successfully assigned. Use '{assetTitle}', for example, to display the title of asset in message.
Unassign	Message displayed when an asset is successfully unassigned.
Action	Message displayed when action is successfully completed. Use '{actionName}', for example, to display the name of action in message.
Asset not found	Message displayed when asset is not found.
Asset already assigned	Message displayed when asset is already assigned. Use '{assetTitle}', for example, to display the title of asset in message.
Unable to perform action	Message displayed when action is not successful. Use '{actionName}', for example, to display the name of the action message.
Asset creation	Message displayed when creating an asset. Use '{layerName}', for example, to display the name of the layer in message.
Create asset failed	Message displayed when asset creating fails.
User token expired	Message displayed when user token is expired and generated.
Signup/Login success	Message displayed after successful sign up or log in.
Home screen (when logged in)	Message displayed in widgets home screen after user logs into the application.
Cursor tooltip before login	Message displayed when the user hovers over the map with their pointer before logging in to the application.
Cursor tooltip after login	Message displayed when the user hovers over the map with their pointer after logging in to the application.
Nickname hint	The text displayed in the nickname hint text box.

[Back to top](#)

Use Adopt-A-Stop

The Adopt-A-Stop solution delivers a set of capabilities that help you engage volunteers to keep transit stops clean, manage participants, and monitor the performance of the adoption program.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Adopt a stop

First, you'll assume the role of a transit rider who wants to participate in your local transit agency's adopt-a-stop program. You'll use the Adopt-A-Stop app to submit an adoption request and report the stop is clean.

1. In a browser, from the Adopt-A-Stop solution, view the Adopt-A-Stop site.
2. Scroll to the **Adopt-A-Stop** section, and then click **Adopt Stop** to open the Adopt-A-Stop app.
3. In the panel on the right, type your email address, and then click **Login/Sign Up** to sign up and begin the adoption process.
4. In the form, type your contact details, and then click **Sign Up**.
The Adopt-A-Stop app sends an email with program details and a link that you will use to log in to the app.
5. In the email, click **Login**.
Returning users also receive an email with a link used to sign in to the app.
The Adopt-A-Stop app opens in a browser with your newly created user authenticated. Notice the instructions to select a stop on map to adopt.
6. Select an available stop to adopt (the gray symbols on the map). Optionally, add a nickname to your stop in the text box. Click **Adopt**.
Adopt-A-Stop displays a thank you message. The Adopt-A-Stop pane displays your stop as Adoption Pending and allows you to report if the stop is clean or to opt out of adopting the stop. You can use the Adopt-A-Stop app to regularly report cleanings.


Manage adoptions and participants

You are now a transit agency employee managing the stop adoption program. You will use the Adopt-A-Stop Manager app to approve adoption requests and contact program participants.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Adopt-A-Stop solution.
2. View the Adopt-A-Stop Manager app.

[Back to top](#)

Pending and adopted stop requests are listed in the table at the top. The table can be sorted and filtered in various ways.

3. In the table, click the **Adoption Status** column filter, and then for **Status is**, choose **Pending**.
4. Click the **Date Adopted** column header and choose **Sort in descending order**.
The pending adoption requests are now listed with the most recent request at the top.
5. Select a pending adoption request from the table.
The map selects the stop and zooms to the appropriate location, and the request details open at the bottom left.
6. Review the details.
7. In the details, click the participant's email address to share information about your Adopt-A-Stop program with the participant.
Adopt-A-Stop Manager opens your email client and presents a preformatted subject.
After contacting the participant, you are ready to approve the adoption request.
8. In the Adopt-A-Stop Manager app, in the request details, click the **Edit record** button .
9. For **Adoption Status**, choose **Adopted**.
10. Optionally, modify the nickname to ensure it is appropriate to be displayed in Adopt-A-Stop app.
11. Click **Save**.
12. Optionally, click a record in the table, and then in its details, click **Manage Adopter's Stops** to launch the Adopt-A-Stop app and manage the stops adopted by the selected user.
You can use this workflow to remove an adopter from a stop, making it available for adoption.

Monitor the program

You will continue your role as a transit agency employee, this time looking to monitor the Adopt-A-Stop program. You will use the Adopt-A-Stop Dashboard to review key metrics and trends.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Adopt-A-Stop solution.
2. View the Adopt-A-Stop Dashboard app.
The Adopt-A-Stop Dashboard displays new adoptions and cleaning charts by month and provides management a quick view of program activity over time.
3. On the left, adjust filters to explore transit stop status, type, date adopted and last cleaned.

Note:

Dashboard charts are linked. If you click a month in either **New Adoptions by Month** or **Cleanings by Month** charts, related details are filtered and updated in other elements in the dashboard.

4. On the right, select a stop from the list to view key details. Alternatively, click a stop on the map.
5. Optionally, in a pop-up, click **Manage Stop** in the pop-up to launch the Adopt-A-Stop Manager app.

Agricultural Best Management Practices

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Agricultural Best Management Practices

Agricultural Best Management Practices can be used to enroll agricultural producers in best management practice programs and monitor the success of those programs.

It simplifies the enrollment and verification process in best management practice programs and helps agriculture agencies promote efficient water resource practices. Monitoring enrollment and verification data in near real time allows program managers to target outreach efforts where they are needed to ensure water quality for everyone. Agricultural Best Management Practices is typically implemented by agriculture agencies and other government agencies that want to increase participation in best management practice programs.

The Agricultural Best Management Practices solution delivers a set of capabilities that help you enroll participants in best management practices (BMP) programs, verify those participants, and analyze trends in BMP programs.

Requirements

Agricultural Best Management Practices requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123
- Survey123 Connect

Information products

Agricultural Best Management Practices includes the following information products:

Item	Description	Minimum user type
Best Management Practice Dashboard	An ArcGIS Dashboards app used by program managers to evaluate BMP program status with policy makers, stakeholders, and the public	Viewer
BMP Enrollment Status	An ArcGIS Dashboards app used by agriculture staff to monitor BMP enrollment and verification status	Viewer

[Back to top](#)

BMP Enrollment Survey	An ArcGIS Survey123 form used by mobile workers to enroll agriculture producers in BMP programs	Field Worker
BMP Verification Survey	An ArcGIS Survey123 form used by mobile workers to validate BMP programs in the field	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Agricultural Best Management Practices

Configure Agricultural Best Management Practices

In this topic, you will learn how to configure the Agricultural Best Management Practices solution to meet specific needs in your organization.

Load data

Agricultural Best Management Practices can be used to enroll and verify agricultural producers in best management practice programs and monitor the success of those programs. In some cases, you may already have this information in ArcGIS or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Load data for the BMPEnrollments and BPMPProgramSummary feature layers from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Navigate to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you wish to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Agricultural Best Management Practices

The Agricultural Best Management Practices solution delivers a set of capabilities that help you enroll participants in best management practices (BMP) programs, verify those participants, and analyze trends in BMP programs.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Manage BMP programs

The BMP Enrollment Survey can be used by program managers to enroll agricultural producers in BMP programs. The BMP Verification Survey verifies that best management practices are being followed, while the BMP Enrollment Status dashboard can be used to track participation and understand participation trends.

Enroll participants

You will assume the role of a mobile worker enrolling agricultural producers in BMP programs.

1. Download ArcGIS Survey123 to a mobile device, if necessary.
2. On the mobile device, open the app, and then open the BMP Enrollment Survey form.
3. Tap **Collect**.
4. Complete the survey with as much information as possible.
5. Tap the check mark, and then tap **Send Now** to submit the form.

Verify participants

You will assume the role of a mobile worker verifying agricultural producers enrolled in BMP programs are adhering to best management practices.

1. On a mobile device, in ArcGIS Survey123, open the BMP Verification Survey.
2. Tap **Inbox** and, if no surveys appear, tap **Refresh**.
3. Find your site in the list or tap **Map** to find sites near you.
4. After you find your site, tap it to open the survey.
5. Scroll to the **Verification of Implementation** section and update the information.
6. Tap the check mark, and then tap **Send Now**.

Monitor participation

You will assume the role of a BMP manager monitoring enrollment and verification trends in your BMP program.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Agricultural Best Management Practices solution.
2. View the BMP Enrollment Status app.
3. Use the dashboard to visualize your data.

Use best management practices metrics

The Best Management Practice Dashboard can be used by policy makers and constituents to understand overall program metrics for watersheds, counties, or legislative boundaries. It is typically used to understand how BMP programs are improving water quality, the total number of producers, and acres enrolled in BMP programs.

Monitor best management practices metrics

You will assume the role of a BMP manager monitoring the impact programs are having.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Agricultural Best Management Practices solution.
2. View the Best Management Practice Dashboard.
3. Use the dashboard to visualize your data.

Business Resilience

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Business Resilience

Business Resilience can be used to better understand the current status of asset locations.

Organizations focus on allowing key leaders to have constant awareness of threats to the organization. Security and risk teams must be able to have one location that visually communicates information to allow decision makers to take action when a threat occurs or a status changes at a location. Analysts must create assessment reports based on threats or changes to the facility and be able to share these assessments with key leadership at the facility level and up to the C-suite level for actionable decision making. Business Resilience is typically implemented by organizations that want to take a proactive, data-driven approach to plan, manage, and enhance current business operations.

The Business Resilience solution delivers key leadership the ability to share the status of retail stores, manufacturing plants, and other facilities. The solution provides the ability to understand and update the current status and review and share operational assessments to key leaders.

Requirements

Business Resilience requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123 Connect

Information products

Business Resilience includes the following information products:

Item	Description	Minimum user type
Business Resilience Web App	An ArcGIS Web AppBuilder app used by analysts to understand, manage, and maintain the operational status of an organization	Editor
Operational Assessment Survey	An ArcGIS Survey123 form app used by facility managers to report the facility status	Editor

[Back to top](#)

Facility Manager	An ArcGIS Web AppBuilder app used by analysts to maintain an organization's facility information	Editor
FacilitySource	An Excel document used to load and validate an authoritative list of facilities into ArcGIS	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none"> An update to the Operational Assessment Survey to support multiple images and automates contact data entry. An update to the facility layer symbology. An update to the facility and operational assessment layer schemas.
1.0	<ul style="list-style-type: none"> First release of Business Resilience

Configure Business Resilience

In this topic, you will learn how to configure the Business Resilience solution to meet specific needs in your organization.

Prevent duplicate records

To support the updating of data using the Append Data to Layer and to ensure accurate statistics within the information products of the solution. You'll need to add an attribute index which applies a [unique constraint](#) to facility_id field in the facilities layer.

To add an unique constraint, complete the steps below:

1. Sign in to your ArcGIS Enterprise portal.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Facilities in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. On the right side of the page, click **Facilities** to view it details.
6. Under the **Layers** section, click **Facilities**.
7. In the URL section , click **View**.
A new tab opens into the ArcGIS REST Service Directory for this item.
8. In the URL bar of the browser, edit the URL with the following changes:
 - a. Add the word admin between /rest/ and /services/. (For example: ArcGIS/rest/admin/services/facilities.)
 - b. Scroll to the bottom of the page and click on **Add to Definition**.
 - c. A window appears where you will be entering JSON to add an index to the layer.
 - d. In the text box , copy the following:

```
{
  "indexes" : [{
    "name" : "facility_id_Index",
    "fields" : "facility_id",
    "isAscending" : false,
    "isUnique" : true,
    "description" : ""
  }]
}
```
 - e. Click **Add To Layer Definition** to commit update.
The following message will appear if add was successful. {"success": true}
9. In the browser, return to the Facilities layer tab and click on the **Data** tab.
10. Click the **Fields** and click on Facility ID.
This page reveals the properties for the facility_id field. Under **Settings**, the **Unique** field is set to Yes.

Load data

Organizations can use Business Resilience as a source of information to understand risk to their company's critical infrastructure.

Facility information must be loaded before using the app. Use the FacilitySource file to organize facility information before loading it into ArcGIS. Ensure that you populate the Facility ID column with unique values in the FacilitySource file.

Note:

Each row in the FacilitySource Excel document must have a unique facility ID; otherwise, your data will not load correctly.

In some cases, you may already have an inventory of facilities in ArcGIS. If you do, review the layers provided with the solution and determine what, if any, source data you would like to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Note:

If you need to load data into the solution, you may want to develop a source-target matrix to track how your source data will be loaded into the target layer or layers used in the solution.

To load your facilities from a spreadsheet, complete the steps below:

1. If necessary, sign in to your ArcGIS organization and browse to the FacilitySource item.
2. Open the item details page.
3. Click **Download**.
4. Edit the Excel file and populate your facility information in the document.

Note:

At a minimum, you need to provide a unique facility ID and the latitude and longitude for each facility in the FacilitySource file. If you don't have a unique ID, you can edit the Excel file and copy this formula into the first row of the facilityid column: `=CONCATENATE("Facility-", TEXT(ROW(A1),"00000"))`. You can then drag the right corner of the cell downward to fill the formula for all facilities, giving each a unique ID.

5. In your ArcGIS organization, at the top of the site, click **Content**.
6. On the **My Content** tab, type `facilities` in the search box.
7. On the left under **Folders**, click the folder Business Resilience was deployed to.
8. Click the item title for **Facilities** to view its details.
9. Click **Update Data** and click **Append Data to Layer**.
10. Under **Filename**, choose your spreadsheet.
11. Click **Upload and Continue**.
12. Under **Choose the layer from FacilitySource.xlsx that contains the updated data**, choose the spreadsheet **Input Data**.

[Back to top](#)

13. Uncheck **Update existing features**

Note:

If features exist in the layer that you would like to update, do not uncheck.

14. Click **Show field matching** to map the fields.

Note:

While field matching is auto mapped ensure that the fields are properly mapped.

15. Click **Apply Updates**.

Configure the survey form

To show your facility information in the survey form, you will use ArcGIS Survey123 Connect to make necessary updates. Adding your facility information to the form enables an extra level of data validation to ensure that facility information is correct and the respondent's questions are associated with the correct facility.

Open the form using ArcGIS Survey123 Connect

If Survey123 Connect is not already downloaded, you can find the download link on the [ArcGIS Survey123 Resources](#) page.

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Operational Assessment Survey in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. Click the item title for Operational Assessment Survey to view its details.
6. Click **Open in Survey123** and click **Edit in Survey123 Connect**.
ArcGIS Survey123 Connect opens.

Note:

If this is your first time opening ArcGIS Survey123 Connect, you may need to add your organization's portal and sign in. To add the URL, click **Settings**. Then, in the **Settings** window, click **Add Connection** and paste the URL. Click **OK**. After adding the connection, click **Sign in** to sign in to your organization. Verify that the active connection is set to the correct URL.

7. Click the Operational Assessment Survey form to download the survey.
8. Click the Operational Assessment Survey form again to open the survey.

Update survey form with Facilities service URL

The survey form is configured to pass values from the Facilities layer and populate questions based on a [custom URL scheme](#) using the facility ID. To get the URL for the facility layer, open your browser and complete the following steps.

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type **Facilities** in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. Click the item title for **Facilities** to view its details.
6. Under the **Layers** section, click **Facilities**.
7. In the lower right section name URL, click the **Copy** button to copy to your clipboard.

Note:

The service URL should include the layer reference index **/0**. For example:

```
https://services9.arcgis.com/9S3xKDKM8mHbxXx/arcgis/rest/services/Facilities/FeatureServer/0
```

8. Paste the URL into a plain text document to keep it available and go back to ArcGIS Survey123 Connect.
9. In the left pane, click **Open XLSForm Spreadsheet**.
An Excel window appears where you are presented with survey property settings.
10. In the **Survey** tab, scroll to the right until you see the default **column**.
11. In the row labeled **facility_url**, copy the URL of the survey from your text document and paste it into the cell for the default column.
12. Save the Microsoft Excel spreadsheet and close it.
13. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish the changes.

Update the survey URL fields

The Facilities feature layer is used in the Business Resilience Web App to map your facilities, display their data contained in the attribute table, and connect to the Operational Assessment Survey. Complete the steps below to add the survey URLs as attributes in the Facilities layer.

Acquire the URL of the survey

To get the URL of the survey, complete the following steps:

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.

3. On the **My Content** tab, type Operational Assessment Survey in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. Click the item title for Operational Assessment Survey to view its details.
6. Click **Open in Survey123 > Open in Survey123 app**.

Note:

A new tab opens, prompting you to open into Survey123 app. Click **Cancel** and remove "&open=native" from the URL to open survey directly into the browser.

7. In the address bar of the browser, copy the survey URL, including the question mark and portalURL= statement.

Note:

For example, if the URL is as follows:

```
https://survey123.arcgis.com/share/aee97bcef4d24c9187da9590ec86b67c?portalUrl=https://LearnGIS.maps.arcgis.com
```

This URL will be used to populate the survey URL attributes for the Facilities layer.

8. Paste the URL into a plain text document to keep it available.

Populate the Base Survey URL field

To populate the **Base Survey URL** field, complete the following steps:

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Facilities in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. Click the item title for Facilities to view its details.
6. Click the **Data** tab.
A table view of the layer appears.
7. Scroll to the right until you see the **Base Survey URL** field. Click **Base Survey URL** and click **Calculate**.
8. In the **Calculate Field** pane, click Arcade.
9. In the Arcade calculator, type the following:

```
var BaseURL = ""
```
10. Copy the URL of the survey from your text document and paste it between the quotation marks.
11. Add a new line and type the following:

```
return BaseURL
```
12. Click **OK**.

[Back to top](#)

The string is added to each record in the Facilities layer's **Base Survey URL** field.

Note:

This calculation must be manually run when new features added to the Facilities layer.

Populate the Assessment Survey URL field

To populate the **Assessment Survey URL** field, complete the following steps:

1. Scroll to the right until you see **Assessment Survey URL**. Click **Assessment Survey URL** and click **Calculate**.
2. In the **Calculate Field** pane, click Arcade.
3. Copy and paste the Arcade expression into the expression box:

```
var BaseURL = $feature["base_survey_url"]
var JoinedURL = BaseURL + "&field:survey_facility_id=" +
  UrlEncode($feature["facility_id"])
return JoinedURL
```
4. Click **OK**.
The **Assessment Survey URL** field is populated with URLs that also have the field parameter set to the corresponding facility's ID value.

Note:

This calculation must be manually run when new features added to the Facilities layer.

Enable live data fields

The Business Resilience Web App utilizes live data feeds that provide information about major hazards, such as severe weather, earthquakes, or hurricanes, that would likely impact assets, and it provides real-time content about these natural disasters. To use these feeds in the app, you first need to enable them in the app.

Note:

Real-time data is hosted in ArcGIS Living Atlas, an authoritative data catalog maintained by Esri. You can read more about live feeds in ArcGIS Living Atlas in the [Putting the "Live" in Living Atlas of the World blog post](#).

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Business Resilience Web App in the search box.
4. On the left under **Folders**, click the folder Business Resilience was deployed to.
5. Click the item title for Business Resilience Web App to view its details.
6. Click **Edit Application**.

[Back to top](#)

ArcGIS Web AppBuilder opens in edit mode.

7. In the left pane, click the **Attributes** tab.
8. In the **Attribute** pane, click **Subscriber Content Access**.
The map layers listed are all premium subscriber content that your organization has access to. Enabling this content consumes credits. [Learn more about ArcGIS Online information on credits](#).
9. Check each layer to enable the content.
10. Click **Save**.
Now that the app is configured, you can view the live feeds.
11. Click **Launch** to view the app.

Use Business Resilience

In this topic, you will learn how to use the Business Resilience solution and the set of capabilities and features that it provides.

Note:

Use your organization's data or configured apps to follow these workflows.

Visualize hazards

There are a variety of hazards, such as severe weather, fires, earthquakes, and hurricanes, that have the potential to affect your facilities. Many organizations have large geographic footprints and may be impacted by a diverse array of natural hazards and threats. The Business Resilience solution allows an analyst in an operation center to monitor hazards that may threaten your facilities.

To use the Business Resilience solution to visualize hazards, complete the following steps:

1. In a browser, open the Business Resilience Web App.

On the right side of the app, the layers pane is divided into the following sections:

- **Organizational Assets**
- **Weather Layers**
- **Drought and Wildfires**
- **Natural Disasters**

In the **Organizational Assets** section of the **Layers** pane, the Operational Assessment Survey and Facilities layers are turned on by default.

Facilities are represented by point features that appear on the map and are symbolized to indicate their status.

The Operational Assessment Survey layer shows results of surveys that have been submitted by facility managers.

2. In the upper right of the **Weather Layers** section, click the options menu and click **Turn all layers on**.

These layers contain real-time weather feeds, many of which are published by the National Weather Service. Use these layers to track potential severe weather threats to your facilities.

To see the symbology for these layers, you can expand them individually by clicking the arrows to the left of the layer visibility check boxes.

3. To optionally view more details on each layer, click the options button and click **Show item details**. Otherwise, in the upper right of the **Weather Layers** section, click the options menu and click **Turn all layers off**.

Tip:

You can also use keyboard shortcuts to turn groups of layers on or off and expand or collapse them. Press the Ctrl key and check the layer check box to turn layers on or off in the same level. Press the Ctrl key and click the arrow to expand or collapse a layer in the same level.

4. In the upper right of the **Wildfires and Active Fires** section, click the options menu and click **Turn all layers on**.

These layers contain the latest up-to-date information on current and ongoing fire-related incidents. Areas suffering drought conditions may be at greater risk of wildfire, so these areas may pose an elevated risk to your facilities. Use these layers to track potential fire-related threats to your facilities.

To see the symbology for these layers, you can expand them individually by clicking the arrows to the left of the layer visibility check boxes.

5. To optionally view more details on each layer, click the options button and click **Show item details**. Otherwise, in the upper right of the **Droughts and Wildfires** section, click the options menu and click **Turn all layers off**.

6. In the upper right of the **Natural Disasters** section, click the context menu to expand and click **Turn all layers on**.

These layers contain real-time feeds of the latest natural hazards, such as hurricanes and earthquakes.

To see the symbology for these layers, you can expand them individually by clicking the arrows to the left of the layer visibility check boxes.

7. To optionally view more details on each layer, click the options button and click **Show item details**. Otherwise, in the upper right of the **Natural Disasters** section, click the options menu and click **Turn all layers off**.

Tip:

When you configure the Business Resilience Web App, you can include your own sections, groups, and layers. For example, if you are tracking threats to coastal facilities, you can create another section named **Coastal Threats** and include layers from the National Weather Service, such as **High Surf Advisory**, **Areal Flood Warning**, and **Coastal Flood Watch**.

Send an assessment survey

The role of an analyst in the operations center is to watch over the multitude of threats that may impact one or more assets within your organization. When a threat has been detected to potentially impact one or more facilities, it is imperative to alert the facility administrators of the possible impact and understand the potential effects of the event on the facility to minimize disruption. The Business Resilience Web App is configured to allow you to quickly send out an assessment to the facility manager.

Send an assessment to a single facility

In this workflow, you will take on the role of an analyst who has been alerted to an event that is threatening a facility. You will be sending an assessment form to gather relevant information from the facility manager at the threatened facility.

1. In a browser, open the Business Resilience Web App if you do not have it open already.
2. Select a facility of interest from the list on the left side of the application or zoom to the location of the facility and click the facility.
In the pop-up window, general details about the facility are provided.
3. On the pop-up, in the **Notes** section, click the [Click here to send Operational Assessment to Facility Administrator](#) link.
An email opens in your email client. It is populated with the email address of the facility manager, the name of the manager, text requesting information about the event, and a hyperlink to a survey that the manager can use to reply with status information.
4. Select the **[INSERT EVENT DESCRIPTION AND DETAILS HERE]** text in the email and add any other information that may be useful to the facility manager in evaluating the threat.
5. Send the email to the manager.

Send an assessment to multiple facilities

In this workflow, you will take on the role of an analyst who has identified a hurricane event that is threatening multiple facilities. You will be sending assessments form to gather relevant information from the facility manager at the threatened facilities.

1. In a browser, open the Business Resilience Web App if you do not have it open already.
2. Select the **Create Assessment Report** widget in the upper right of the application, above the layers pane.
3. With the Create Assessment Report widget open, define an area of interest by searching for a location in the **Place Name** tool or using the **Draw** tool. Click the **Draw** tool and click the **Select by Rectangle** button.
4. Click **Choose selectable layers** to expand the layer list and select **Hurricane Irma Example – Forecast Cone**. Uncheck all other layers.
You can use the **Choose selectable layer** list to define the layers that are selectable on the map.
5. On the map, drag a small box on the Hurricane Irma forecast cone feature. This selects the feature from the service, just as it would select a feature in a live Hurricane Forecast feed.
6. Optionally, set a **Buffer distance** value to select facilities that are also within a distance from the selected feature, and click **Report**.
The report of facilities within the buffer around the forecast cone is generated.
7. In the **Create Assessment Report** pane, click the **Expand** button next to **Facilities** to expand the list.

[Back to top](#)

The report contains information about each facility, including the facility ID, a survey link, the number of employees at the location, and the manager's name and email address.

8. If you would like a CSV file of selected facilities, click the **Download** button.
9. If you want a PDF report, click the **Print** button, choose a report layout size, and click the **Print** button to generate the report.
10. In the header section of the report web page, click **Print** to save.

Tip:

You can get a list of all the email addresses from the downloaded CSV file of selected facilities. Find the email column and copy the facility manager email address to your clipboard, and paste it into your email client to send a report.

Submit an assessment survey

For an organization to assess impacts, facility managers can share relevant information about the operational status of their facility and the impact of a likely event. The Operational Assessment Survey allows facility managers to submit this information back to the operations center. The survey contains assessment questions about the exterior, interior, and employee vulnerability. This information allows decision makers to understand the threat, prioritize aid, and allocate supporting resources throughout the organization.

In this workflow, you will take on the role of a facility manager at a threatened facility and use the survey link to send status information to the operations center.

1. In a browser, open the Operational Assessment Survey.
This is a link to the survey for Facility #104.

Note:

The URL for the survey includes the facility ID. This ties the survey to a specific facility location and allows the survey to be populated with information about the facility, saving the manager time.

The survey opens in a browser tab. The **Potential Impact Assessment** section is open with a number of questions that you can answer to communicate your facility's status back to the operations center.

2. Click the header for the top section, **Facility Location Details**.
The details for your facility are prepopulated in the survey.
3. Complete the **Potential Impact Assessment** section.

Parameter	Value
External Vulnerability	Select Low .

Interior Vulnerability	Select Negligible .
Employee Vulnerability	Select Moderate .
Employee Vulnerability Extent	Select 25% to 50% .
Do you foresee the need to possibly temporarily close this location due to this event?	Select Maybe/Not Sure .
Is there a potential need for local evacuation?	Select No .
Describe any relevant information, thoughts, strategies, or issues	Type relevant information.

- Optionally, upload pictures of the facility and of any vulnerability concerns in the **Media** group to provide further context.
- Once the survey is completed, click the **Submit** button.

Review assessments

Upon submission of assessment reports, they appear as points on the map. The feedback in the survey is key to assessing the potential impact to the health and safety of customers, employees, and assets while also understanding how to facilitate resources and minimize interruptions.

In this workflow, you will take on the role of the analyst in the command center reviewing an open submission by a facility manager.

- In a browser, open the Business Resilience Web App app.
- In the **Facilities** pane on the left side of the Business Resilience web app, expand the **Assessment Status** section if it is not already expanded.
This group contains a list of assessments by status with the latest submission at the bottom.
- Click the latest submission in the list.
The assessment is selected, and the pop-up appears on the map.
- On the pop-up, in the lower right corner, click the **Options** button and click **Smart Editor**.
The **Review Assessments** pane appears. You can see the responses the facility manager sent, describing the probable impact of the event on the facility.
- Review the information provided by the facility manager.
- Optionally, change the status from **Open** to **Under Review**.
- Click **Save** and close the **Review Assessments** pane.

[Back to top](#)

The assessment status changes to **Under Review** on the map and in the **Assessment Status** group. Once the review status is set to **Closed**, the assessment is removed from the list and the map.

Modify operational status

Upon review of an assessment, an analyst can modify the status of one or more facilities in the organization to reflect its current state for visual awareness. This is important when working with a team that needs to keep track of the overall operational impact to an organization and share the latest information with an executive audience.

In this workflow, you will take on the role of the analyst in the command center updating the operational status of facilities to reflect their current state.

1. In a browser, open the Business Resilience Web App if you do not have it open already.
2. Zoom in on the map to the facility you want to update.
3. Select the **Modify Facility Status** widget from the upper right of the application, above the layers pane.
4. In the **Modify Facility Status** pane, click the **Select by Rectangle** button.
5. Drag a box around the facility you want to modify.
The **Modify Facility Status** window appears with multiple drop-down buttons.

Note:

You can also select and update multiple facilities at the same time.

6. Enter the following values for the parameters:

Parameter	Value
Notes	Manager reports local flooding with the power and gas service out.
Operating Status	Select Impacted .
Electric Service Status	Select Impacted .
Fire System Status	Select Operating .
HVAC Status	Select Operating .
Gas Service Status	Select Impacted .

Water Service Status	Select Operating .
-----------------------------	---------------------------

7. Click **Save**.

The change in status updates the symbology of update facilities on the map as well as the **Facilities** list on the left side to reflect the current count of facilities by status.

Capital Project Planning

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Capital Project Planning

Capital Project Planning can be used to define a project portfolio, organize the portfolio into an official capital improvement plan, and share the plan with internal and external stakeholders.

High-quality infrastructure is essential to a community's economic vitality and quality of life. A good capital project planning process helps communities make smart infrastructure improvements and investments in their future. Governments may have hundreds of projects in their capital improvement plan (CIP) that range in cost from thousands to billions of dollars. Managing this CIP comes with inherent challenges that can impact the schedule, quality, and cost of infrastructure improvements. Capital Project Planning is typically implemented by government agencies and utilities that want an efficient way to manage and share a capital improvement plan.

The Capital Project Planning solution delivers a set of capabilities that help you define capital project plans, coordinate project schedules with internal and external agencies, manage pavement moratoriums, organize a project portfolio into an official capital improvement plan, and share capital improvement plans with the public and other key stakeholders.

Requirements

Capital Project Planning requires the following:

- ArcGIS Enterprise

Information products

Capital Project Planning includes the following information products:

Item	Description	Minimum user type
Capital Project Plans	A Category Gallery app that includes a collection of ArcGIS Web AppBuilder apps used by project leads to organize new capital project plans and revise project information during the planning process	Editor
Capital Project Review	A Crowdsourcing Manager app used by plan review staff to organize a project portfolio into an official capital improvement plan	Editor

[Back to top](#)

Capital Project Review Dashboard	An ArcGIS Dashboards app used by plan review staff to examine proposed projects before inclusion in an official capital improvement plan	Viewer
External Agency Projects	An ArcGIS Web AppBuilder app used by private utilities and external agencies to share capital projects planned for their respective infrastructure	Editor
Pavement Moratoriums	An ArcGIS Web AppBuilder app used by engineering and operations staff to inventory moratoriums that preclude, or restrict, right-of-way activity on newly paved streets	Editor
Capital Improvement Plan	An ArcGIS Experience Builder app used by the public and other interested parties to review projects included in the capital improvement plan	Viewer (required if application is used for internal purposes only)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none"> A new Capital Project Plans app.
1.0	<ul style="list-style-type: none"> First release of Capital Project Planning

Use Capital Project Planning

The Capital Project Planning solution delivers a set of capabilities that help you define capital project plans, coordinate project schedules with internal and external agencies, manage pavement moratoriums, organize a project portfolio into an official capital improvement plan, and share capital improvement plans with the public and other key stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Manage pavement moratoriums

Engineering and operations staff of a local municipality are typically responsible for inventorying moratoriums that preclude or restrict right-of-way activity on newly paved streets. Moratoriums identified by staff are shared with municipal departments, private utilities, and other external agencies so that they can understand the impact of any work planned in the same right-of-way.

You will assume the role of a municipality staff member and will use the Pavement Moratoriums app to create new and update existing pavement moratoriums.

Add a pavement moratorium

In this workflow, you will use the Pavement Moratoriums app to create a pavement moratorium.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Planning solution.
2. View the Pavement Moratoriums app.
The app opens with the **Create Moratorium** widget opened by default.
3. On the map, use the search field to zoom to your area.
4. In the **Create Moratorium** widget, click the **Pavement Moratoriums** template, and then uncheck the **Save new features automatically** check box.

Note:

When **Save new features automatically** is checked, edits are automatically saved without opening the **Pavement Moratoriums** form. This option is useful when you want to digitize new features quickly.

5. On the map, draw a new pavement moratorium.
A **Pavement Moratoriums** form opens on the right.
6. Complete the form with your moratorium information.
7. Click **Save** to complete the pavement moratorium creation workflow.

[Back to top](#)

Edit a pavement moratorium

In this workflow, you will edit the details for an existing moratorium.

1. In the **Create Moratorium** widget, unselect the **Pavement Moratoriums** template, if necessary.
2. On the map, select the moratorium that you just created. The **Pavement Moratoriums** form opens on the right.
3. Revise the form information, and then click **Save**.

Delete a pavement moratorium

In this workflow, you will delete an existing moratorium from the app.

1. In the **Create Moratorium** widget, unselect the **Pavement Moratoriums** template, if necessary.
2. On the map, select the moratorium that you just created. The **Pavement Moratoriums** form opens on the right.
3. Click **Delete**, and then confirm the deletion.

Note:

If you plan to complete subsequent workflows, ensure that you leave at least one moratorium in the app.

Create and share project plans

Capital projects, typically defined for water, sewer, stormwater, parks, facility, and transportation assets in a community, can be visualized together with external agencies' projects when the agencies plan and schedule work for their respective infrastructure. Sharing this information helps identify potential project conflicts and can become the foundation for public-private partnership opportunities.

Infrastructure project planning and coordination between municipalities and external agencies can be achieved by using the Capital Project Planning and External Agency Projects apps.

Create and share external agency projects

In this workflow, you will assume the role of a project lead from a private utility who is responsible for coordinating infrastructure development and improvement activities with the local municipality. You will use the External Agency Projects app to gain insight into existing external projects and pavement moratoriums and to enter new project information.

The updates that you provide in the External Agency Projects app will be immediately available to the municipality plan review team and will aid in their coordination of schedules of planned projects.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Planning solution.
2. View the External Agency Projects app.
The app opens with the **Sort Projects** widget opened by default. This widget allows you to search for and filter existing external agency projects by company name.
3. To create a new external agency project, at the top right, click the **Create Project** button.
The **Create Project** widget opens.
4. On the map, use the search field to zoom to your area.
5. In the **Create Project** widget, click the **External Agency Projects** template, and then uncheck the **Save new features automatically** check box.

Note:

When **Save new features automatically** is checked, edits are automatically saved without opening the **Pavement Moratoriums** form. This option is useful when you want to digitize new features quickly.

6. On the map, draw a new external project boundary.
An **External Agency Projects** form opens on the right.
7. Complete the form with your project information.
8. Click **Save** to complete the external agency project creation workflow.

Define capital project plans

In this workflow, you will assume the role of a public works organization project lead who is responsible for organizing new capital project plans and revising project information during the planning process. You will use the Capital Project Plans app to gain insight into existing project plans, external agency projects, and pavement moratoriums and to create a project plan.

After all relevant information has been added to the project plan and is ready for internal review, you will be able to share your plan with members of the coordinating body.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Planning solution.
2. View the Capital Project Plans app.
The Capital Project Plans app is a gallery that contains individual Capital Project Planning apps for water, sewer, stormwater, facilities, and transportation projects.
3. Click the Sewer Project Plans app.
The app opens with the **Create Plan** widget opened by default. This widget allows you to create, edit, and delete sewer plans.
4. On the map, use the search field to zoom to your area.
5. To create a sewer project plan, in the **Create Plan** widget, click the **Sewer Collection** template.
6. On the map, draw a new sewer project.

A **Sewer Project Plans** form opens on the right.

7. Complete the form with your project information.
The **Project Status** parameter allows you to share your project in the Capital Project Review app with members of the coordinating body.
8. To share your plan with members of review board, for **Project Status**, choose **Analysis and Review**.
9. Click **Save** to complete the capital project plan creation workflow.

Tip:

Existing sewer project plans can also be edited or deleted. To edit or complete a plan, click the **Sewer Collection** template to unselect it, and then on the map, select an existing sewer project plan to enable the **Sewer Project Plans** form. In the form, you can edit plan information, update the feature's geometry, or delete the plan.

Organize and review the project portfolio

Many agencies have a coordinating body that is responsible for examining project proposals and preparing a consolidated list of projects that align with community goals and strategic priorities.

Project-planning organization and review can be achieved using the Capital Project Review Dashboard and the Capital Project Review app.

Review the portfolio of capital project plans

In this workflow, you will assume the role of a member of the coordinating body that is responsible for reviewing proposed projects. You will use the Capital Project Review Dashboard to examine proposed projects, visualize project schedules, and summarize estimated costs.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Planning solution.
2. View the Capital Project Review Dashboard app.
On the right, any capital projects submitted for analysis and review are listed.

Tip:

If you do not have any projects listed, return to and complete the **Define capital project plans** workflow.

3. On the left, adjust the filters to refine the capital project list by type, fiscal year, funding source, status, and planned start date.


Note:

Filter options will vary based on the types of projects submitted.

4. On the right, in the **Capital Projects** list, click the name of a capital project to zoom to it on the map.
5. On the map, click a project to see a pop-up with more information about the project.
6. If a proposed plan is ready for further review, click the **Review Now** button to launch the selected capital project plan within the Capital Project Review app.

Organize the project portfolio into an official capital improvement plan

In this workflow, you will assume the role of a member of the coordinating body that is responsible for reviewing proposed projects. You will use the Capital Project Review app to sort various key characteristics of a project and update project information, such as status, fiscal year, and funding sources, where appropriate.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Planning solution.
2. View the Capital Project Review app.
The same portfolio of projects from the Capital Project Review Dashboard are visible in this app.
3. At the top, in the table, click a column head to sort and filter the project list by that key field.
4. In the table, click a project to view its details.
The project details appear in the bottom left pane. If any items were attached when the project was created, you will see **Details** and **Attachments** tabs.
5. Click the **Details** tab, and then click the **Edit record** button , if necessary.
As a decision maker, you can refine plan information such as funding source, fiscal year, project status and phase, and whether a project is funded.
6. In the project details, click the **Project Status** drop-down arrow and choose **Board Authorized**, and then click the **Funded Project** drop-down arrow and choose **Yes**.
These settings ensure that the project will be included in the capital improvement plan (CIP).
7. Click **Save**.
Because you have authorized the project and marked it as funded, it is no longer listed in the Capital Project Review app.

Explore the capital improvement plan

In this workflow, you will assume the role of a community member who is interested in learning more about projects being planned in your community and where they are located. You will use the Capital Improvement Plan app to review projects included in the capital improvement plan (CIP).

1. In a browser, from the Capital Project Tracking solution, view the Capital Improvement Plan web experience app.

Any projects that you authorized and marked as funded in the previous step appear in the **Projects** pane.

2. In the left panel, under **Type**, check an option or options, and then set **Planned Start Date** filters to further explore and refine capital improvement plan results.

Note:

Filter options will vary based on the types of projects listed.

3. In the **Projects** pane, click a project to zoom to it on the map and view project details.
4. On the map, click the Home button to zoom to the full extent of the project map. You can also use the map extent to filter results.
5. Pan and zoom the map to refine the list of projects and project details.

Capital Project Tracking

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Capital Project Tracking

Capital Project Tracking can be used to manage an active project portfolio, communicate project status, and share project updates with internal and external stakeholders.

Managing a large project portfolio and quickly communicating progress is a challenge for government agencies and utilities. Many times, the lack of information leads to expensive project changes, budget overruns, frustrated executives and a disenfranchised public. Maintaining effective communication with internal and external stakeholders throughout the life cycle of a capital project increases transparency and strengthens public trust. It also assures stakeholders that public dollars are being spent effectively and improvements are being made in a timely manner. Capital Project Tracking is typically implemented by government agencies and utilities that want to proactively share the status of active capital projects with the communities they serve.

The Capital Project Tracking solution delivers a set of capabilities that help you manage the status of active capital projects, track project performance, share project progress with internal stakeholders, and communicate investments being made with the public.

Requirements

Capital Project Tracking requires the following:

- ArcGIS Enterprise

Information products

Capital Project Tracking includes the following information products:

Item	Description	Minimum user type
Maximizing Capital Expenditures	An ArcGIS Hub site used by the public to learn more about public investments being made and how they can participate in the capital project planning process	Not required
Capital Project Dashboard	An ArcGIS Experience Builder app used by internal and external stakeholders to monitor active capital projects	Viewer (required for internal stakeholders)

[Back to top](#)

Capital Project Reports	A Crowdscore Manager app used by project leads to manage the status of active capital projects and communicate the schedule, quality, and cost to internal and external stakeholders	Editor
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Capital Project Tracking

Configure Capital Project Tracking

In this topic, you will learn how to configure the Capital Project Tracking solution to meet specific needs in your organization.

Load capital projects

The Capital Project Tracking solution is built on the same foundational feature layer, InfrastructureProjects, used in the Capital Project Planning solution. If you have also deployed the Capital Project Planning solution, you can use that solution to define project plans and organize your project portfolio into a capital improvement plan. Once projects have been approved and funded, they will display in the Capital Project Tracking solution.

If you are using another system for project planning and want to use the Capital Project Tracking solution to report and share active projects with key stakeholders and the public, you will need to load these projects into the InfrastructureProjects feature layer. You will also need to update the Project Status, Funded Project, and Project Phase fields to make the projects visible in the Capital Project Reports and Capital Project Dashboard apps.

Load data from a shapefile

Capital projects can be loaded from a shapefile by completing the following steps:

1. Create a .zip file of a shapefile of your capital projects.
2. Sign in to your ArcGIS organization and browse to the InfrastructureProjects feature layer.
3. Open the item page and click **Update Data > Append Data to Layer**.
4. Click **Choose File** and browse to a .zip file containing the shapefile with your capital projects, and click **Open**.
5. Click **Upload and Continue**.
6. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose the **Infrastructure Projects**.
7. Uncheck **Update existing features**.
8. Click **Show field matching** to map the fields.

Note:

The only required field is the projtype (Project Type) field. This is a text field that defines the type of project and supports the following values: Facilities, Parks, Sewer Collection, Stormwater Drainage, Transportation, Water Distribution, and Other.

9. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Update project attributes

The Capital Project Reports and Capital Project Dashboard apps both use feature layer views to ensure only approved and funded projects are visible. Projects will only display in these apps if the **Project Status** is set to Board Authorized, **Funded Project** is set to Yes. And **Project Phase** is set to PreDesign, Design, Construction, or Closeout.

To update the project attributes, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the InfrastructureProjects feature layer.
2. Open the item page and click the **Data** tab.
3. Click within a cell in the table and edit the attributes of the project.
4. Click the column containing the values you want to update.
5. Click **Calculate**.
6. Click **SQL**.
7. Enter the value you want to apply. For text fields, you need to surround the value with single quotes, for example, 'Board Authorized'.

Tip:


For more information, see [Calculate field values](#).

Configure the Maximizing Capital Expenditures site

The Capital Project Tracking solution includes the Maximizing Capital Expenditures site that your organization can configure with your own branding and share important capital investment and planning information with the public.



Update with organizational information

After deploying the Capital Project Tracking solution, the Maximizing Capital Expenditures site layout only requires a few updates to fit your local context. Follow the steps below to update the site with your organization's needs:

1. Verify that you are signed in to your ArcGIS organization and browse to the Maximizing Capital Expenditures site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll down to the statistics section listed under the title of the website. The **Capital Projects** and **Public Investment (dollars)** statistics cards are already linked to the Capital Project Tracking solution's InfrastructureProjects_allfundedprojects feature layer. These stats will automatically update as you load data into the feature layer. The **Public Workshops** stat is provided in a text card but styled to resemble the Summary Statistics card; this allows you the option to manually enter a statistic of your choice, independent of feature layer data. Update the **Public Workshops** stat card using a metric

[Back to top](#)

of your choice or replace the text card with a Summary Statistics card and connect it to the InfrastructureProjects_allfundedprojects feature layer in a similar fashion to the other dynamic stat cards.

5. Scroll to the **Meet the Capital Investment Planning (CIP) Committee** section, hover over the row card and click the settings button  on the horizontal toolbar.
6. Click **Code View**, replace the image URL with a URL of your image, and click **Code View**.
7. Enter a new name and information **Text** card.
8. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
9. Scroll down to the **Infrastructure Data** section, hover over the card and click the settings button, and update the various category links using tags, categories, or groups that reference your ArcGIS Open Data.
10. To modify your site's footer, click **Customize Toggle**  on the side panel.
11. Click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
12. Click the **HTML** text box.
The **HTML** window appears.
13. Make the necessary changes and click **Apply**.
14. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Capital Project Tracking solution must be shared with everyone so they can be accessed by the public on the Maximizing Capital Expenditures site. To share your capital project tracking items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Capital Project Tracking folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	InfrastructureProjects_allfundedprojects
Web Map	Capital Project Dashboard
Web Mapping Application	Capital Project Dashboard

Site Application	Maximizing Capital Expenditures
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3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Deploy related solutions

This site references content from the Participatory Budgeting, Capital Project Planning, and Citizen Problem Reporter solutions. To deploy these solutions, follow the steps in the [Deploy an ArcGIS Solutions](#) section.

Update solution references

This site has references to solutions deployed in the previous section. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Maximizing Capital Expenditures site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll down to the **Report a Problem** section, hover over the **Submit a Report** card and click the settings button .
5. In the card, click the **Submit Report** button and click **Edit**.
6. Enter the Citizen Problem Reporter app URL in the **Link Destination** text box and click **Add Link** button.

Tip:

Browse to the Citizen Problem Reporter app. Open the item page, click **View Application**, and copy the app URL.

7. Hover over the **Other Reporting Methods** card and click the settings button.
8. Enter a new phone number or remove if not applicable.
9. Scroll down to the **Planning Major Infrastructure Improvements** section, hover over the card, and click the settings button.
10. Click the **Review Capital Improvement Plan** button and click **Edit**.
11. Enter the Capital Improvement Plan app URL deployed in the previous section (one of the apps deployed in the Capital Project Planning solution), and click **Add Link**.

Tip:

Browse to the Capital Improvement Plan app. Open the item page, click **View Application**, and copy the app URL.

12. Scroll down to the **Do You Have a Project Idea** section, hover over the card, and click the settings button.
13. Click the **Share my idea** button and click **Edit**.
14. Enter the Participatory Budgeting app URL deployed in the previous section (one of the apps deployed in the Participatory Budgeting solution) in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Participatory Budgeting app. Open the item page, click **View Application**, and copy the app URL.

15. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Citizen Problem Reporter, Capital Improvement Plan and Participatory Budgeting solutions must be shared with everyone so they can be accessed by the public on the Maximizing Capital Expenditures site. To share your items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Citizen Problem Reporter folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	CitizenProblems_health
Feature Layer (hosted, view)	CitizenProblems_utility
Feature Layer (hosted, view)	CitizenProblems_blight
Feature Layer (hosted, view)	CitizenProblems_road
Feature Layer (hosted, view)	CitizenProblems_animal
Feature Layer (hosted, view)	CitizenProblems_parktree

Feature Layer (hosted, view)	CitizenProblems_trash
Feature Layer (hosted, view)	CitizenProblems_landuse
Feature Layer (hosted, view)	CitizenProblems_snowice
Web Map	Health Problems
Web Map	Water / Sewer Problems
Web Map	Blight Problems
Web Map	Road Problems
Web Map	Animal Problems
Web Map	Park / Tree Problems
Web Map	Trash Problems
Web Map	Land Use Problems
Web Map	Snow / Ice Problems
Web Mapping Application	Citizen Problem Reporter

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.
6. Browse to the Capital Project Planning folder.
7. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	InfrastructureProjects_capitalimprovementplan
Web Map	Capital Improvement Plan

Web Mapping Application	Capital Improvement Plan
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8. Click **Share**.
9. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
10. Click **Update**.
11. Browse to the Participatory Budgeting folder.
12. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	PublicProjectIdeas_public
Web Map	Participatory Budgeting
Web Mapping Application	Participatory Budgeting
Site Application	Participatory Budgeting

13. Click **Share**.
14. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
15. Click **Update**.

Use Capital Project Tracking

The Capital Project Tracking solution delivers a set of capabilities that help you manage the status of active capital projects, track project performance, share project progress with internal stakeholders, and communicate investments being made with the public.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.


Note:

Use your organization's data or configured apps to follow these workflows.

Update capital project status

You will first assume the role of a public works project lead responsible for communicating schedule, quality, and cost updates on active capital projects.

The updates you provide in the Capital Project Reports app will be immediately viewable to the public and key stakeholders through the Maximizing Capital Expenditures site and the Capital Projects Dashboard.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Capital Project Tracking solution.
2. View the Capital Project Reports app.
The Capital Project Reports app shows all categories of capital projects by default.
3. On the left, click a report type to view active capital projects.
4. At the top of the page, in the table, click a project report to view project details.
At the bottom left, you see the project's current information, including any attachments and comments associated with the project.
5. To edit the project's information, on the **Details** tab, click **Edit** .
6. Update the parameters with new values.
7. Click **Save**.

Monitor active capital projects

As a member of the community, you are interested in learning more about the active capital projects in the community and whether they are on schedule and budget. You will use the Maximizing Capital Expenditures site to learn about the active public investments being made in the community and how you can participate in the capital project planning process.

1. In a browser, from the Capital Project Tracking solution, view the Maximizing Capital Expenditures site.
2. Scroll to the **Active Capital Projects** section and click the **Review Active Projects** button.

[Back to top](#)

On the left, under Active Projects, any active projects are listed.

3. On the left, adjust the filters to refine the list by type, phase, or fiscal year. The map's current extent can also further refine the results shown in the **Active Projects** list.
4. Pan and zoom around the map to dynamically update the refined results in the dashboard.

Note:

Using the map extent to refine dashboard results will also honor dashboard filters for **Type, Phase, or Fiscal Year**, if enabled.

5. To view the location and project details for a project, click a project in the **Active Project** list. Selecting a project from the **Active Projects** list automatically pans and zooms the map to the selected project and updates and filters the project summary and detail information.

Citizen Problem Reporter

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Citizen Problem Reporter

Citizen Problem Reporter can be used to solicit non-emergency problem reports (for example, blight, graffiti, trash, potholes, clogged drains, and flooding) from the general public.

It provides 24/7 access to an organization and the location-enabled problem reports helps efficiently triage reports to the correct person or department responsible for its resolution. This accelerated approach improves the quality of life in a community and reduces long-term asset maintenance costs. Citizen Problem Reporter is typically implemented by planning departments, public works agencies, utilities, and other local government organizations that want to take a data-driven approach to asset maintenance or code enforcement.

The Citizen Problem Reporter solution delivers a set of capabilities that help you solicit reports from the public, manage the response to each report, solicit feedback from the public after addressing a report, and monitor the resolution of nonemergency reports in a community.

Requirements

Citizen Problem Reporter requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123 Connect

Information products

Citizen Problem Reporter includes the following information products:

Item	Description	Minimum user type
Citizen Problem Center	An ArcGIS Hub site used by the general public to learn how they can report a nonemergency problem to help improve the community	Not required
Citizen Problem Reporter	A Crowdsourcing Reporter app used by the general public, or local government personnel, to submit nonemergency problems in their community	Editor (required for government personnel only)

[Back to top](#)

Citizen Problem Satisfaction Survey	An ArcGIS Survey123 form used by the general public to report their satisfaction regarding the service requested	Not required
Volunteer in Your Neighborhood	An ArcGIS Survey123 form used by the general public to volunteer to help their community	Not required
Citizen Problem Manager	A Crowdscore Manager app used by local government personnel to triage submitted problem reports and update the status of each report as needed	Editor
Citizen Problem Dashboard	An ArcGIS Dashboards app used by local government personnel to monitor nonemergency problems submitted by the general public	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Citizen Problem Reporter

Configure Citizen Problem Reporter

Learn how to configure the Citizen Problem Reporter solution to meet specific needs in your organization. The first three sections will guide you through adding a new problem category, modifying existing problem types and agencies, and revise existing survey questions. The last section guides you through extending the app to generate report IDs, moderate reports, send email notifications and enrich reports.

Add a new problem category

The Citizen Problem Reporter app allows the public to submit nonemergency problem reports. Problem reports are grouped into categories that make it easier to submit a report. The problem categories appear when a user signs in to the app and are stored in the CitizenProblems feature layer and visualized in feature layer views.

Citizen Problem Reporter includes nine problem categories: Animal, Blight, Health, Land Use, Park/Tree, Road, Snow/Ice, Trash, and Utility. In some cases, you may want to add a problem category to Citizen Problem Reporter to meet your organization's needs.

Add problem category

Review the CitizenProblems feature layer categories and identify what categories your organization may want to add or remove from the Citizen Problem Reporter app.

1. Sign in to your ArcGIS organization and browse to your CitizenProblems feature layer.
2. Open the item page and click the **Data** tab.
3. Click **Fields**.
4. Click the **Category** display name.
In the **List of Values (Domain)** section, review existing categories and identify ones that are not applicable and ones that are missing.
5. Click **Edit** next to **List of Values (Domain)**.
6. Optionally, click the **Delete** button to remove a category from the list.
7. Optionally, click **Add**.
8. Type the new category name into the **Displayed Value** and **Stored Value** text boxes.
9. Repeat steps 7 and 8 to add the remaining missing categories.
10. Optionally, drag the category to a new location in the list to reorder them.
11. Click **Save**.

If you did not add new categories on the CitizenProblem layer but rather deleted them, go to the [Add or remove project category indicator](#) section.

Create feature layer view

Create a feature layer view of each new category added to the CitizenProblems feature layer.

1. In your browser, click the **Overview** tab.
2. On the CitizenProblems feature layer item page, click **Create View Layer**.

[Back to top](#)

3. Type the name of the category in the **Title** text box—for example, CitizenProblems_animal.
4. Type tag terms separated by commas.
5. Type a summary in the **Summary** text box—for example, A public view of <insert category name> problems reported by the public through focused citizen engagement apps.
6. Save the feature layer view in the Citizen Problem Reporter folder.
7. Click **OK**.
Update the editing setting, so the public can submit nonproblem reports with the Citizen Problem Reporter app.
8. On the item page, click the **Settings** tab.
9. Scroll to the **Feature Layer (hosted, view)** section and check the **Enable editing** check box.
10. Uncheck the **Delete** check box under the **What kind of editing is allowed** setting.
11. Click **Save**.
Set the view definition so the public sees the new problem report category.
12. Click the **Overview** tab.
13. Click **Open in Map Viewer**.
14. On the new category layer, click **More Options**, and click **Set View Definition > Define Features**.
15. Create the following expression: Category is new category.
16. Click **Add another expression** and create the following expression: Visible to the public is Yes.
By default, all problem reports submitted using the Citizen Problem Reporter automatically set the Public View field to Yes, making it visible to the public. You can manually set the visibility to No using the Citizen Problem Manager when triaging the issue.
17. Click **Apply Definition**.
18. On the new category layer, click **More Options**, and click **Show Item Details**.
19. Close the new category map tab.
20. On the item page, click the **Data** tab.
21. Click **Fields**.
22. Click the **Type of Problem** display name.

Install add-in

To add a problem category using the Modify Domain tool, install the ArcGIS Solutions Deployment Tool Add-In. If you already installed the add-in, you do not need to install it again.

Note:

The current version of the
ArcGIS Solutions

Deployment Add-In is 2020.7.28. Ensure you have the most recent version of the add-in installed before proceeding.

[Back to top](#)

1. [Download](#) the ArcGIS Solutions Deployment Tool .zip file.
2. Close ArcGIS Pro before installing the add-in.
3. Browse to the folder to which you downloaded the .zip file and extract its contents.
4. Double-click **SolutionDeployment.esriAddInX** to run the installer.
5. Click **Install Add-In**.
6. After installation is complete, click **OK**.

Note:

The current version of the ArcGIS Solutions Deployment Add-In is 2020.7.28. Ensure you have the most recent version of the add-in installed before proceeding.

Add problem type domain

Add a problem type domain for the new problem report category.


1. Open ArcGIS Pro and create a new project.
2. Sign in to the ArcGIS organization to which you deployed the Citizen Problem Reporter solution.
3. On the **Share** tab, in the **Deploy** group, click **ArcGIS Solutions**.
4. Double-click **Configure an ArcGIS Solution** task.
5. On the **Configure an ArcGIS Solution** step, click **Next Step**.
6. On the **Add Fields** step, click **Skip**.
7. On the **Modify Domains** step, click the browse button next to the **Input Layer or Table** parameter.
The **Input Layer or Table** dialog box appears.
8. Under **Portal**, click **My Content**.
9. Double-click the **Citizen Problem Reporter** folder.
10. Double-click the new category feature layer view.
11. Click **Citizen Problems**, and click **OK**.
12. In the **Field** parameter, click the drop-down arrow and choose **Type of Problem**.
13. In the **Type** parameter, click the drop-down arrow and choose **Coded Value**.
14. Type the category name in the **Name** text box—for example, Animal.
15. In the **Domain** section, type a new category in the **Code** text box and in the **Description** text box. Repeat this step until all the domains that apply to your organization have been added.
16. Once you have finished adding domains, click **Run**.
17. Click **Finish**.
18. Close ArcGIS Pro and save your changes.
19. In your browser, refresh the **Type of Problem** page.
20. Click **Fields**.
21. Click the **Type of Problem** display name.

Under the **List of Values (Domain)**, you see the newly added domains. The domains added appear in the **Type of Problem** drop-down list in the **Report a problem** form.

Repeat the steps in this section for each new category you want to add to your Citizen Problem Reporter app. Once you have finished adding new categories, you will create a map for each category.

Create a map

Each problem category displayed in the Citizen Problem Reporter app is a single map. Create a map for each category you want to add to your Citizen Problem Reporter app.

1. At the top of the site, click **Map**.
2. Click the **Add** button and choose **Search for Layers**.
3. Type the name of a category feature layer view in the search box.
4. Click the **Add** button  on the layer result.
5. Click the **Back** button.
6. Click the **Content** button.
7. On the new category layer, click **More Options**, and click **Rename**.
8. Type the category name in the **Layer Name** text box—for example, Animal Problems.
9. Click **OK**.

Create feature templates for each new problem report category.

10. On the layer, click **Change Style**.
11. Click the **Choose an attribute to show** drop-down arrow and choose **Show location only**.

A warning window appears, informing you the changes made to the symbology will affect the symbols displayed. Add and update the symbology once you have created a feature template for your new category.

12. Click **Yes**.
13. Click **Done**.
14. Click the **Edit** button.
15. Click **Manage**.
16. Click the **New Feature** drop-down arrow and choose **Properties**.
17. Type the category name and - Submitted in the **Name** text box—for example, Animal Problems - Submitted.
18. Click the **Category** drop-down arrow and choose the new category.
19. Click **Done**.
20. Click **Save Changes**.
21. Click the **Close** button.

Change style

Update the symbology to reflect your new problem report category.

1. Click the **Details** button.

2. On the layer, click **Change Style**.
3. Click the **Choose an attribute to show** drop-down arrow and choose **Status**.
A warning window appears, informing you the changes made will affect the symbols displayed.
4. Click **Yes**.
5. Click **Options**.
6. Click the **Submitted** symbol.
7. Click **Shape**.
8. Click the drop-down arrow and choose a symbol set or **Custom Images**.
9. If you chose to add a symbol from a symbol set, click a symbol and set the symbol size, click **OK**.

Tip:

If you chose a symbol from the Government symbol set, set the symbol size to 21 px.

10. If you chose to add a custom image, click **Use an Image**, paste a URL in the text box, set a symbol size, and click **OK**.
11. Repeat steps 6 through 8 and assign symbols for the remaining category statuses.
12. Optionally, click the symbol options button to drag and reorder the symbols.
13. Click **OK**.
14. Click **Done**.

Update the pop-up

Update the pop-up on the new problem report layer.

1. On the layer, click **More Options**, and click **Configure Pop-up**.
2. Enter a title for your pop-up by clicking the **[+]** button and choosing the **Type of Problem** field.
3. Click **Configure**.
4. Click the **View HTML Source** button in the editor.
5. Delete the existing HTML code.
6. Copy and paste the following HTML code:

```
{category} problem reported on {CreationDate}.<br /><br />
<b>Details:</b> {details}<br /><br />
<b>Status:</b><br />
<table style="border-collapse: separate; border-spacing: 2px 4px; width: 100%; table-layout: fixed; margin: 0px -2px; max-width: 350px;">
  <tbody><tr height="16">
    <td style="{expression/expr0}; text-align: center; width: 25%"></td>
    <td style="{expression/expr1}; text-align: center; width: 25%"></td>
    <td style="{expression/expr2}; text-align: center; width: 25%"></td>
    <td style="{expression/expr3}; text-align: center; width: 25%"></td>
  </tr>
  <tr height="24" style="text-align: center;">
```

[Back to top](#)

```

    <td style="text-align: center; width: 25%; font-weight: normal;
padding-left: 0px; word-wrap: break-word;">Submitted</td>
    <td style="text-align: center; width: 25%; font-weight: normal;
padding-left: 0px; word-wrap: break-word;">Received</td>
    <td style="text-align: center; width: 25%; font-weight: normal;
padding-left: 0px; word-wrap: break-word;">In Progress</td>
    <td style="text-align: center; width: 25%; font-weight: normal;
padding-left: 0px; word-wrap: break-word;">Completed</td>
</tr>
</tbody></table>
<table style="border-collapse: separate; border-spacing: 0px 0px; width:
100%; table-layout: fixed; margin: 0px -1px;">
  <tbody><tr>
    <td style="display:{expression/expr4}; text-align: left; width:
100%">
      <b><br />Resolved On:</b> {resolutiondt}<br /><br />
      <b>Resolution:</b> {resolution}
    </td>
  </tr></tbody>
</table>

```

7. Click the **View HTML Source** button in the editor.
8. Click **OK**.
9. Click the **Configure Attributes** link.
10. Click the **Edit** check box, and uncheck the check box.
11. Click the **Display** check box and uncheck the check box.
12. Click the **Display** check box next to the following fields: {proptype}, {status}, {details}, {expression/expr0}, {expression/expr1}, {expression/expr2}, {expression/expr3}, and {expression/expr4}.
Display fields are displayed in the **Report a problem** form.
13. Check the **Edit** check box next to the following fields: {proptype}, {details}, {pocfullname}, {pocmail}, and {pocphone}. Ensure {pocfullname}, {pocmail}, and {pocphone} display check box is unchecked, so this information isn't publicly visible.

Edit fields are editable in the form, so when the public submits a problem report, the information is written to the editable fields.

Optionally, you can choose to use the {pocfirstname} and {poclastname} fields in your Report a problem form instead of the {pocfullname} field. If you choose to, the First Name and Last Name parameters appear in the form instead of Full Name.

14. Click the {details} field row.
15. Click the **Textbox Type** drop-down arrow and choose **Multiple Line**.
16. Rename the {details} field alias to Problem Details.
The details field (in the **Report a problem** form) is renamed to **Problem Details** and the text box has doubled in size, so users can add more information about the problem they are submitting.

17. Reorder the fields in the following order: {prodtype}, {details}, {pocfullname}, {pocphone}, {pocmail}, {status}. To reorder the fields, click the field name and use the **Move up** and **Move down** arrows.
The order of the fields in the **Configure Attributes** window reflects the order of the questions in the **Report a problem** form.
18. Add a colon after the following **Field Alias** values: Type of Problem, Problem Details, Full Name, Phone Number, Email, and Status.
19. Click **OK**.
20. Check the **Show feature attachments as links** check box.
21. Uncheck the **Show when last edited** check box.
22. Under **Attribute Expression**, press the Shift key and click the **Resolution Time** and **Full Name** expressions.
23. Click the **Remove expression** button.
The **Resolution Time** and **Full Name** Arcade expressions persisted when you created the category feature layer view from the CitizenProblems feature layer. These Arcade expressions are not used in the Citizen Problem Reporter app.

The first four expressions define the color used in the status bar in the layer pop-up as well as in the problem details in the Citizen Problem Reporter app. The status bar updates as the problem reported status is updated to Submitted, Received, In Progress, and Completed.

The last Arcade expression is configured to only display the Resolved On date and Resolved fields and information in the pop-up and problem details if the status is set to Completed.
24. Click **OK**.

Configure the pop-up

Configure the Comments table pop-up.

1. On the **Comments** table, click **More Options**, and click **Rename**.
2. Rename the table to **Comments**.
3. Click **OK**.
4. On the **Comments** table, click **More Options**, and click **Configure Pop-up**.
5. Delete the pop-up title.
6. Click **Configure Attributes** link.
7. Click the **Edit** check box, and uncheck the check box.
8. Click the **Display** check box, and uncheck the check box.
9. Click the **Display** check box next to the {comments} field.
Display fields are displayed in the Citizen Problem Reporter comment form.
10. Check the **Edit** check box next to the following fields: {comments}, {pocfullname}, {pocphone}, and {pocemail}. Ensure that {pocfullname}, {pocmail}, and {pocphone} display check box is unchecked, so your citizen information isn't publicly accessible.

Edit fields are editable in the comment form, so when citizens make comments about a problem report, the information is written to the editable fields.

Optionally, you can choose to use the {pocfirstname} and {poclastname} fields in your Report a problem form instead of {pocfullname} field. If you choose to, the First Name and Last Name parameters appear in the form instead of Full Name.

11. Click the **{comments}** field row.
12. Click the **Textbox Type** drop-down arrow and choose **Multiple Line**.
13. Rename the {details} field alias to Leave a comment.
The comment field (in the form) is renamed to **Leave a comment** and the text box has doubled in size, so users can add more information about their comment.
14. Change Phone **Field Alias** to Phone Number.
15. Add a colon after the following **Field Alias** values: Leave a comment, Full Name, Phone Number, and Email.
16. Click **OK**.
17. Uncheck the **Show when last edited** check box.
18. Click **OK**.
19. On the **Surveys** table, click **More Options**, and click **Remove**.
20. Click **Yes, Remove Table**.

Save the map

Save the new problem category map.


1. Click **Save > Save As**.
2. Type a title—for example, Animal Problems.
3. Type tags that describe your map.
4. Provide a summary that describes the map—for example, A map used to report animal concerns in our community.
5. Save the map in the Citizen Problem Reporter folder.
6. Click **Save Map**.
7. Click **Share**.
8. Check the **Citizen Problem Reporter** check box.
9. Click **Cancel** to update sharing. Do not share the feature layer view to the Citizen Problem Reporter group.
10. Click **Done**.
11. Click the **About** button.
12. Click the **More Details** link.
13. Close the new category map tab.
14. On the item page, click **Edit Thumbnail**, and upload an image for the new category map.

Repeat the steps in this section for each new category you want to add to your Citizen Problem Reporter app. In addition, you can view your new problem report category, or categories, in the Citizen Problem Reporter app.

15. At the top of the site, click **Content**.
 16. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
 17. Click the **Citizen Problem Reporter** folder.
 18. Under **Item Type**, click **Apps**.
 19. On the right side of the page, click the **Citizen Problem Reporter** app.
 20. On the item page, click **View Application**.
 21. If you haven't shared the Citizen Problem Reporter app and all the maps referenced in the app publicly, choose **Sign in with ArcGIS**.
You see the new category or categories in the app.
 22. Click a new category and click **Submit Problem**.
 23. Click the **Type of Problem** drop-down arrow to see the type of problem domains you added in ArcGIS Pro.
- Once you finished reviewing the Citizen Problem Reporter app, close the tab.

Add problem category symbology

Add new problem category symbology.

1. At the top of the site, click **Content**.
2. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
3. Click the **Citizen Problem Reporter** folder.
4. Under **Item Type**, click **Layers**.
5. On the right side of the page, click the **CitizenProblems** layer.
6. On the item page, click the **Open in Map Viewer** drop-down arrow and choose **Add to new map**.
7. On the layer, click **Change Style**.
8. Click the **Choose an attribute to show** drop-down arrow and choose **Category**.
A warning window appears, informing you the changes made to the symbology will affect the symbols displayed.
9. Click **Yes**.
10. Click **Options**.
11. Click the Animal symbol.
12. Click **Shape**.
13. Click the drop-down arrow and choose the **Government** symbol set.
All category symbols except for the new category you created are available in the Government symbol set.
14. Browse to the Animal symbol  and type 21 in the **Symbol Size** text box.
15. Click **OK**.
16. Repeat steps 11 through 15 to symbolize the remaining categories.
17. Optionally, click the symbol options button to drag and reorder the symbols.

[Back to top](#)

18. Click **OK**.
19. Click **Done**.
20. On the layer, click **More Options**, and click **Save Layer**.
Repeat the steps in this section to update the CitizenProblems_dashboard feature layer view symbology.
21. Click the **Add** button and choose **Search for Layers**.
22. Type CitizenProblems_dashboard feature layer view in the search.
23. Click the **Add** button on the layer result.
24. Click the **Back** button.
25. Repeat steps 7 through 20 to apply symbols to the CitizenProblems_dashboard feature layer view.

Tip:

You can restore the original CitizenProblems symbols, as well as adding new category symbols, by adding a point to the map with every category and status combination.

Add category features

Add new problem features to the map and save them to the problem category and CitizenProblem_dashboard layer view.

1. Click the **Edit** button.
2. In the **Add Features** pane, click the **Animal** feature and add a point to the map.
3. In the pop-up, click the **Status** drop-down arrow and choose **Submitted**, and then click **Close**.
4. Repeat this step to add a point symbol for Animal Received, Animal In Progress, and Animal Completed because it already exists.
5. Repeat step 2 and 3 to add the remaining category status to the map.
6. Once all the category and status point combination have been added to the map, click the **Close** button.
7. On the **CitizenProblems** layer, click **Change Style**.
8. Click the **Choose an attribute to show** drop-down arrow and choose **New Expression**.
9. Copy the following expression and paste it in the text box:
return \$feature.category + " " + \$feature.status
10. Click **OK**.
11. Click **Options**.
12. Click **Ungroup** to ungroup the remaining categories.
13. Click the **Animal Completed** symbol.
14. Click **Shape**.
15. Click the drop-down arrow and choose the **Government** symbol set.

16. Choose the Animal Problems - Completed symbol and type 21 in the **Symbol Size** text box. Click **OK**.
17. Repeat step 13 through 16 for the remaining symbols.
All category symbols except for the new category you created are available in the **Government** symbol set.
18. Optionally, click the symbol options button to drag and reorder the symbols.
19. Click **OK**.
20. Click **Done**.
21. On the CitizenProblems layer, click **More Options**, and click **Save Layer**.
22. Repeat steps 7 through 21 to apply the original and new category symbology to the CitizenProblems_dashboard feature layer view.
23. Click the **Edit** button.
24. In the map, click one of the points and scroll to the bottom of the pop-up and click **Delete**. Repeat this step to delete the remaining points.
25. Click the **Close** button.

View new category

View new categories in the Citizen Problem Manager and Citizen Problem Dashboard map.

1. At the top of the site, click the **Home** drop-down arrow and choose **Content**.
2. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
3. Click the **Citizen Problem Reporter** folder.
4. Under **Item Type**, click **Maps**.
5. On the right side of the page, click the **Citizen Problem Manager** map.
6. On the item page, click **Open in Map Viewer**.
7. Click **Yes, open the map**.
8. Click the **Legend** button and review the symbology.

Repeat steps 1 through 7 to review the symbology in the Citizen Problem Dashboard map.





Add or remove problem category indicator

Add or remove a category indicator in the Citizen Problem Dashboard app.

1. At the top of the site, click the **Home** drop-down arrow and choose **Content**.
2. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
3. Click the **Citizen Problem Reporter** folder.
4. Under **Item Type**, click **Apps**.
5. On the right side of the page, click the **Citizen Problem Dashboard** app.
6. On the item page, click **Edit Dashboard**.

On the **Overview** tab, not all the problem categories may apply to your community; you can add new category indicator or indicators to your dashboard.

[Back to top](#)

7. To add a new indicator, hover over the upper corner of the Animal Control indicator and choose **Duplicate Element** .
8. Hover over the new indicator upper corner and choose **Configure** .
9. In the **Value** area, under **Filter**, click the **Value** drop-down arrow and choose a new category.
10. Scroll down to the **Reference** area, under **Filter**, click the **Value** drop-down arrow and choose a new category.
11. Click the **Indicator** tab, in the **Style for value at or above reference** area, type a new category in the **Top Text** text box.
12. In the **Style for value below reference** area, type a new category in the **Top Text** text box.
13. Click the **General** tab and type a new indicator name in the **Name** text box.
14. Click **Done**.
15. Hover over the new indicator in the upper corner and choose **Drag item** .
16. Press the Shift key on your keyboard while dragging the item to group as a column. Dock the indicator next to an existing indicator.
17. Optionally, to delete an indicator, hover over the upper corner of the indicator you want to delete and choose **Delete** .
18. Click **Save** to save changes made to the dashboard and close the dashboard.

Modify problem types and responsible agencies

Citizen Problem Reporter includes problem types and responsible agencies for each problem category. In some cases, you may want to add a problem type to an existing category or add a new problem type for any new problem category you created. In addition, you may want to modify the responsible agencies provided to more accurately reflect the name of the agency, department, or team that is responsible for responding to problem reports.

1. At the top of the site, click **Content**.
2. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
3. Click the **Citizen Problem Reporter** folder.
4. Under **Item Type**, click **Layers**.
5. On the right side of the page, click the feature layer view you want to modify—for example, CitizenProblems_Animal.
6. On the item page, click the **Data** tab.
7. Click **Fields**.
8. Click the **Type of Problem** display name. Review **List of Values (Domain)**. Identify domains that are missing or need to be removed from the list.

Tip:

To modify problem types and responsible agencies using the Modify Domain tool, you must install the [Solution Deployment Tool Add-In](#). If you already installed the add-in, you do not need to install it again.

9. Open ArcGIS Pro.
10. Sign in to the ArcGIS organization to which you deployed the Citizen Problem Reporter solution template.
11. On the **Share** tab, in the **Deploy** group, click **ArcGIS Solutions**.
12. Double-click the **Configure an ArcGIS Solution** task.
13. On the **Configure an ArcGIS Solution** step, click **Next Step**.
14. On the **Add Fields** step, click **Skip**.
15. On the **Modify Domains** step, click browse next to **Input Layer or Table** parameter.
The **Input Layer or Table** dialog box appears.
16. Under **Portal**, click **My Content**.
17. Double-click the **Citizen Problem Reporter** folder.
18. Double-click the new feature layer view.
19. Click **Citizen Problems**, and click **OK**.
20. In the **Field** parameter, click the drop-down arrow and choose **Type of Problem**.
21. In the **Domain** section, optionally, to delete a domain, hover to the left of the domain you want to delete and click remove. Repeat this step until all the domains that do not apply to your organization have been removed.
22. Optionally, to add a new domain, type a new category in the **Code** text box, and then type it in the **Description** text box. Repeat this step until all the domains that apply to your organization have been added.
23. Optionally, to modify an existing domain or domains, click in the **Code** text box and type a new problem type, and click in the **Description** text box and type a new problem type.
24. Once you have finished modifying domains, click **Run**.
25. Click **Finish**.
26. Close ArcGIS Pro and save your changes.

View new problem type

View new problem type in the Citizen Problem Reporter app.

1. In your browser, refresh the Type of Problem page.
2. Click **Fields**.
3. Click the **Type of Problem** display name.
Under **List of Values (Domain)**, you see the newly added or removed domain or domains.

Repeat the steps in this section for each problem type you want to add or modify in your Citizen Problem Reporter app.

[Back to top](#)

4. At the top of the site, click **Content**.
5. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
6. Click the **Citizen Problem Reporter** folder.
7. Under **Item Type**, click **Apps**.
8. On the right side of the page, click the **Citizen Problem Reporter** app.
9. On the item page, click **View Application**.
10. Sign in to the app using **Sign in with ArcGIS**.
11. Click the category for which you modified the problem types, and then click **Submit Problem**.
12. In the **Report a problem** form, click the **Type of Problem** drop-down arrow and you see the updated type of problem domains.
Once you finished reviewing the Citizen Problem Reporter app, close the tab.
Now, review the list of responsible agencies and modify them to meet the needs of your organization.
13. At the top of the site, click **Content**.
14. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
15. Click the **Citizen Problem Reporter** folder.
16. Under **Item Type**, click **Layers**.
17. On the right side of the page, click the **CitizenProblems** feature layer.
18. On the item page, click the **Data** tab.
19. Click **Fields**.
20. Click the **Assigned To** display name.
Review existing agencies and identify missing ones in the **List of Values (Domain)** section.
21. Click **Edit** next to **List of Values (Domain)**.
22. Optionally, click **Add**.
23. Type the new agency name in the **Displayed Value** and **Stored Value** text boxes.
24. Repeat steps 22 and 23 to add the remaining missing agencies.
25. Optionally, click **Delete** to remove an agency.
26. Optionally, click in the **Label** text box with an existing agency labeled and change the agency name. Repeat this step to change the **Code** as well.
27. Optionally, drag the category to a new location in the list to reorder them.
28. Click **Save**.

Share Citizen Problem Reporter maps and app

For the Citizen Problem Reporter app to be publicly accessible through guest and social media access, the maps and layers must be shared with everyone. Follow the steps below to share your maps and layers with everyone.

1. Click **Groups** at the top of the site.

[Back to top](#)

2. Open the Citizen Problem Reporter group page and click **View all group content**.

Note:

Review the maps shared to the group. The maps shared to this group will be displayed in the Citizen Problem Reporter app.

3. Optionally, add a map or maps to the group by clicking the **Add items to group** and browse to the map or maps. Check the check box next to the map or maps you want to add to the group and click **Add items**.
4. Optionally, remove a map or maps from the group by checking the check box next to the map and click **Remove from group**.
5. Click the **Settings** tab.
6. Under **Who can view this group**, click **Everyone (public)**, and click **Save**.
7. Click **Content** at the top of the site.
8. On the **My Content** tab, under **Folders**, type Citizen Problem Reporter in the search box.
9. Click the **Citizen Problem Reporter** folder.
10. Under **Item Type**, click **Maps**.
11. On the right side of the page, check the check box next to the maps you want to appear in the Citizen Problem Reporter app, and click **Share**.

Tip:

Share maps with the word problems in the map name.

12. In the **Share** window, click **Everyone (public)** and click **Save**.
13. In the **Update sharing** window, click **OK**.

Note:

The layers associated with the maps should also be shared publicly.

14. Next to **Item Type**, click **Clear**.
15. Under **Item Type**, click **Apps**.
16. On the right side of the page, click the **Citizen Problem Reporter** app.
17. On the item page and click **Share**.
18. In the **Share** window, click **Everyone (public)** and click **Save**.
19. Click **View Application**.
20. Sign in to the app using one of the sign in options and review the app.

Sharing solution items

Several layer views, maps and apps included in the Citizen Problem Reporter solution must be shared with everyone so they can be accessed by the public on the Citizen Problem Center site.

[Back to top](#)

To share your citizen problem reporter items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Citizen Problem Reporter folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	CitizenProblems_public
Feature Layer (hosted, view)	Volunteers_public
Web Map	Citizen Problem Center Reports
Form	Volunteer in Your Neighborhood
Site Application	Citizen Problem Center

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Revise satisfaction survey questions

The Citizen Problem Satisfaction Survey allows you to solicit feedback from the public that helps you improve your community's customer service. The survey includes six questions. In some cases, you may want to add, or remove, questions from the survey.

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Citizen Problem Satisfaction Survey** to download the survey.
4. In the **Download** window, click **Download** and click **OK**.
5. Click **Citizen Problem Satisfaction Survey** again to open the survey.
6. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
7. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.
8. Click the **survey** tab.
This tab comprises all the questions in the survey.
9. Revise the survey to reflect your needs.

10. Save and close the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
11. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar to publish your changes.
12. Click **Publish survey** to publish your changes and click **OK**.

Extend Citizen Problem Reporter

You can extend the Citizen Problem Reporter solution with a set of Python tools that can be used to generate report IDs, moderate reports, send email notifications, and enrich reports. These tools can be executed automatically via Task Scheduler and as new problem reports are submitted or updated the corresponding action occurs.

Add the ServiceFunctions toolbox

The ServiceFunctions toolbox contains tools for generating report IDs, moderating reports, sending email notifications, and enriching reports. Download and add the ServiceFunctions toolbox to your ArcGIS Pro project before configuring the appropriate tools.

1. [Download](#) the ServiceFunctions toolbox.
2. Browse to the ServiceSupport.zip file and unzip the file to the location from which you want to the tools to execute.
3. Open ArcGIS Pro and create a new project.
4. Sign in to the ArcGIS organization to which you deployed the Citizen Problem Reporter solution, if necessary.
5. On the **View** tab, in the **Windows** group, click the **Catalog** pane, if necessary.
6. In the **Catalog** pane, right-click **Toolboxes** and choose **Add Toolbox**.
The **Add Toolbox** dialog box appears.
7. Browse to the ServiceSupport folder.
8. Click the **ServiceSupport.pyt** Python toolbox, and click **OK**.
9. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
If you've never used the ServiceSupport toolbox before, run the Define Connection Settings tool to establish a connection between the toolbox and the CitizenProblem feature layer.
10. In the **Catalog** pane, in the **ServiceSupport.pyt** Python toolbox, double-click the **Define Connection Settings** tool.
11. In the **ArcGIS Online organization or ArcGIS Enterprise portal URL** parameter, click the drop-down arrow and choose a URL.
12. In the **Username** parameter, type your user name for the organization you chose in step 11.
13. In the **Password** parameter, type your password for the user name provided in the **Username**.
14. Click **Run**.

Generate report IDs

Many workflows require you to generate a unique identifier when a feature or record is created so it can be referenced and tracked in other workflows. You can use the Generate IDs tool to configure custom unique identifiers that will be applied to features at a regularly scheduled interval of your choosing. The tool only generates the configuration; you must run an additional script (provided) to update the features with incrementing identifier values.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**, if necessary.
2. Double-click the **Generate IDs** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Citizen Problem Reporter** folder.
6. Double-click the **CitizenProblems** feature layer.
7. Click **Citizen Problems**, and click **OK**.
Expand **General Identifier Settings**. If the tool has not been run previously, start by specifying at least one identifier sequence.
8. In the **Sequence Name** parameter, type a name for the sequence.
This value appears in the drop-down menu for selecting the sequence to assign to each layer.
9. In the **Pattern** parameter, type a pattern to use for the sequence.
This can be a combination of letters, numbers, and symbols. Mark the location for the incrementing value with a pair of curly braces {}. Python formatting is applied to the pattern text, so string formatting syntax such as {0:03d} pads the incrementing number section with zeros to a length of 3. For example, the expression seq-{0:05d} creates the following pattern of values: seq-00001, seq-00002, seq-00003, and so on.
10. In the **Next Value** parameter, type a value.
When initially creating the sequence, this must be the first value in the identifiers. After this point, this value shows the value to be used for the next identifier generated.
11. In the **Interval** parameter, type a value.
The interval by which the identifier values increase between features. For example, an initial Next Value of 1 and an Interval of 10 creates identifiers with the incrementing values of 1, 11, 21, and so on.

Deleting or changing these sequences impacts all the layers that are configured to use the edited sequences.
12. Optionally, edit the identifier configuration and run the tool to overwrite the existing identifier configuration for the selected layer.

Note:

If an identifier configuration already exists, a check box appears that, when checked, deletes the existing identifier configuration for the selected layer.

13. Choose the moderation list to use to process the features in the selected layer.

[Back to top](#)

14. Choose the sequence to use to generate the identifiers for each feature in the layer.
15. Choose a text field to store the generated identifier.
16. Click **Run** to write out the identifier configuration for the layer and any changes to the identifier sequences.
17. To configure identifiers for another layer, rerun the tool with the settings for the next layer.

General Identifier Settings are not specific to any one layer—they apply to all layers configured using this tool.

Moderate reports

Public comment apps can occasionally generate feedback that should not be made publicly visible. Data entered into specific fields, such as personal information, can be hidden and protected using the pop-up configuration and layer security, but sometimes entire comments need to be hidden to avoid displaying sensitive or explicit content to other users.

You can hide features by updating the value of a field so that it no longer meets the requirements of a filter applied to that layer in the map. You can use the **Moderate Reports** tool to configure which layers and fields to scan for explicit or sensitive words and phrases and how to update the feature so that it can be filtered from the map. You can choose how often to scan features and records. The tool only generates the configuration; an additional script (provided) must be run to scan the features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Moderate Reports** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Citizen Problem Reporter** folder.
6. Double-click the **CitizenProblems** feature layer.
7. Click **Citizen Problems**, and click **OK**.
Expand **General Moderation Settings**. If the tool has not been run previously, start by specifying at least one moderation list.
8. In the **List Name** parameter, type a name.
This value appears in the drop-down menu for selecting the moderation list use when scanning each layer.
9. In the **Filter Type** parameter, click the drop-down arrow and choose to scan feature for words and phrases that exactly match the provided list of words and phrases.
For example, when the filter type is EXACT, if the list contains the word duck, the script updates the specified field when the feature contains the word duck, but not when it contains the word duckling. When the filter type is FUZZY, the script updates the feature when either duck or duckling are found.
10. In the **Words and Phrases** parameter, type a word or phrase. Provide a comma-separated list of words or phrases to scan for.

[Back to top](#)


Keep in mind that deleting or changing these lists will impact all the layers that are configured to use the edited sequences.

11. If a moderation configuration already exists for the selected layer, choose to edit an existing configuration by selecting the name of the moderation list used in the configuration, or choose the option to add a new moderation configuration.
If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing moderation configuration for the selected layer. Alternatively, edit the moderation configuration and run the tool to overwrite the existing moderation configuration for the selected layer and moderation list.

To add a new moderation configuration, click the **Add New** button and continue with the following steps.
12. Choose the moderation list to use to process the features in the selected layer.
13. Choose the fields that will be scanned for content that matches the words and phrases in the selected moderation list.
14. Optionally, provide an SQL query to only apply moderation to some features.
If no query is provided, all features are processed.
15. Use the **Field to Update** parameter when a match is found between the value of a field and the content of a moderation list. Use the **Found Value** parameter to specify the value that should be written to this field indicating a match.
16. Click **Run**.

Send email notifications

Many workflows require that an email be sent when a feature or record is created and updated. You can use the **Send Emails** tool to configure emails that can be sent based on attribute values and a schedule of your choosing. The tool only generates the configuration; you must run an additional script (provided) to actually generate and send the emails.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Send Emails** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Citizen Problem Reporter** folder.
6. Double-click the **CitizenProblems** feature layer.
7. Click **Citizen Problems**, and click **OK**.
All existing email settings for the layer load and can be edited by updating the parameter values for each configuration. To delete a single email configuration, click the **Remove** button  next to the configuration. To delete all the email configurations for the layer, check the **Delete all existing email configurations for this layer** check box. Run the tool to save your changes.
8. In the **Email Template** parameter, click **Browse** to access the ServiceSupport folder.

9. Click one of the HTML templates for the body of the email, and click **OK**.
To add attributes from the triggering feature to the email, use unique string keys in the places where the values should appear in the HTML and reference these strings in the **Find** parameter of the **Email Substitutions** section of the **General Email Settings** along with the name of the field that contains the value to be substituted for the string key in the **Replace** parameter.
10. Optionally, in the **SQL Query** parameter, provide an SQL query to only trigger an email from specific features.
If no query is provided, all features trigger emails every time the script is run, so you most likely want to use this query along with the **Field to Update** and **Sent Value** parameters to ensure that the same email isn't sent repeatedly for the same feature.
11. In the **Recipient Email Address** parameter, type an email address of the recipient or the name of a field in the layer that contains the address of the recipient.
12. In the **Email Subject** parameter, type the subject for the email.
Similar to the email body provided in the HTML document, this text can contain string keys that will be swapped out for attribute values based on the **Find** and **Replace** values defined in the Email Substitutions list in the General Email Settings section.
13. In the **Field to Update** parameter, type Email. When the email has been sent for each feature, use the **Sent Value** parameter to specify the value that should be written to this field indicating that the email has been sent.
This field and value can be used in the previously described SQL query to prevent duplicate emails from being sent.
14. Configure additional emails to be sent for the currently selected layer by clicking the **Add New** button.
Emails will be sent in the order they are configured. Expand **General Email Settings**. If the tool has not been run previously, start by specifying the connection information for your SMTP server in the tool.
15. In the **SMTP Server** parameter, type the URL of the SMTP server used for sending emails.
16. In the **SMTP Username** parameter, type the user name required to authenticate to the SMTP server. This is not required if authenticating through a port.
17. In the **SMTP Password** parameter, type the password required to authenticate to the SMTP server. This is not required if authenticating through a port.
18. In the **From Address** parameter, type the address from which the emails should be sent.
19. In the **Reply Address** parameter, type the address that should be used for any replies to the email message.
20. Check or uncheck the **Use TLS** check box to turn on or off TLS.
21. In the **Email Substitutions** section, type **Find** and **Replace** values. Swap out one piece of text for another in the outgoing email subject or body.
Anywhere a value in the **Find** parameter is found in the email subject or body, it will be replaced with the corresponding value from the **Replace** parameter. If the value in the **Replace** parameter is a field in the layer, the **Find** value will be replaced with the value in that field in the triggering feature. For example, to add the ID of a feature from the

[Back to top](#)

REQUESTID field to the email subject, include a piece of text such as {ID} in the configured Email Subject, and add {ID} to the **Find** parameter and REQUESTID to the **Replace** parameter. All specified substitutions are applied to all emails configured for all layers so, while the Find values can be any piece of text, it's suggested that you use something that is clearly variable-like and unlikely to appear elsewhere in the messages in a literal form.

Deleting or changing these settings impacts all the emails for all the layers configured with this tool.

22. Click **Run**.

Enrich reports

Reports made in public comment apps can be enriched with information about the report location. You can then use this information to efficiently direct the report to the correct person or agency responsible for its resolution.

You can then use the Enrich Reports tool to configure which attribute values to calculate from a coincident or intersecting set of features at a regularly scheduled interval of your choosing. Note that the tool only generates the configuration; you must run an additional script (provided) to update the features based on intersecting features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Enrich Reports** tool.
3. In the **Layer** parameter, click the browse button.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Citizen Problem Reporter** folder.
6. Double-click the **CitizenProblems** feature layer.
7. Click **Citizen Problems**, and click **OK**.
8. In the **Enrichment** parameter, if an enrichment configuration already exists for the selected layer, choose to either edit an existing configuration by selecting the configuration from the drop-down list, or choose the option to add a new enrichment configuration.

If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing enrichment configuration for the selected layer. Alternatively, edit the configuration and run the tool to save the changes. To add a new enrichment configuration, click the **Add New** button and continue with the following steps.

9. Choose the polygon feature layer that will provide the enriching attribute values by either choosing a layer from the active map or by browsing to your hosted content and choosing a polygon feature layer.
10. In the **Source Field** parameter, click the drop-down arrow and choose a field from the enrichment layer.
11. In the **Target Field** parameter, click the drop-down arrow and choose a field from the CitizenProblem feature layer.

The script does not process features that already have a value in the target field.

[Back to top](#)

12. In the **Priority** parameter, type a value. Specify the priority for this enrichment configuration relative to the other configurations for the CitizenProblem feature layer.

Enrichment configurations for a layer that have a lower priority value will override enrichment configurations with a higher value. For example, a layer has two enrichment configurations that use the same target field, but one has a priority value of 1 and the other has a priority of 2. If the configuration with priority 1 does not produce a valid value for the field, the field is populated with the value produced from the configuration with priority 2.

13. Click **Run**.

Set up Task Scheduler

Use Windows Task Scheduler to schedule the script to generate report IDs when a feature or record is created, moderate reports when feedback contains inappropriate language, send email notifications when a feature or record is created or updated, or enrich reports. All the tools in this toolbox share a common configuration file and execution script, so only one scheduled task is required to automate running all the associated processes.

1. Open the Task Scheduler on the computer that is hosting the scripts.
2. Click **Action > Create Task** and name your task.
3. Click the **Action** tab and click **New**.
4. Set **Action** to **Start a Program**.
5. Browse to the location of your Python 3 installation (for example, <default directory>\C:\Program Files\ArcGIS\Pro\bin\Python\envs\arcgispro-py3\python.exe).
6. In the **Add arguments** text box, type the name of the script (servicefunctions.py).
7. In the **Start in** text box, type the path to the folder where your script is and click **OK**.
8. Click the **Trigger** tab, click **New**, and set a schedule for your task.
9. Click **OK**.

When the trigger occurs, the scripts begin scanning the configured layers and, for each one, processing (in order) configurations for generating identifiers, enriching reports, moderating reports, and sending emails.

Use Citizen Problem Reporter

The Citizen Problem Reporter solution delivers a set of capabilities that help you solicit reports from the public, manage the response to each report, solicit feedback from the public after addressing a report, and monitor the resolution of non-emergency reports in a community.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Submit nonemergency problem reports

You will first assume the role of a concerned resident in the community and would like to notify the city of a burned-out light in the park.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Citizen Problem Reporter solution.
2. View the Citizen Problem Center site.
3. Scroll to the **Report a Problem** section and click the **Submit a Report** button to open the Citizen Problem Reporter app.
4. On the **Citizen Problem Reporter** page, click **Proceed as Guest**.

Tip:

Share the maps, app, and group with everyone (public) to sign in as a guest. For more information, see [Share Citizen Problem Reporter maps and app](#).


5. Click **Park / Tree Problems**.
6. Click **Submit Problem**.
7. For **Type of Problem**, choose **Light Out**.
8. In the **Report a problem** form, provide the issue details and your name, phone number, and email address.
9. Click the **Where is the problem located** text box and click the location of your broken park light on the map.
10. To submit your problem, click **Report It**.
11. At the top of the **Park or Tree Problems** form, click the **Back** button.
12. At the top of the list of problems, click your **Light Out** problem to select it.
The park light problem you reported appears. As the report moves through its life cycle (Submitted, Received, In Progress, and Completed), the status bar updates.
13. Optionally, click **Leave a reply** to display the comment form and add a new comment.

You and others can add comments to update or highlight information related to the initial problem reported to authorities.

[Back to top](#)

Respond to problem reports

You are now an employee for the city who is responsible for responding to submitted problem reports, assigning them to the appropriate department for resolution.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Citizen Problem Reporter solution.
2. View the Citizen Problem Manager app.
3. In the app, click the **Category** column filter.
4. Click **Category is** drop-down arrow and choose **Park/Tree**.
5. Click the **Type of Problem** column filter.
6. Type **Light Out** in the **Type of Problem is** text box.
7. In the **Problems** table, identify and click the problem you reported.
Review the details of the problem in the lower left corner of the app.
8. On the **Details** tab, click the **Edit** button .
9. Click the **Status** drop-down arrow and choose **Received**.
10. Click **Save**.
Utility workers are ready to address the problem.
11. On the **Details** tab, click the **Edit** button.
12. Click the **Status** drop-down arrow and choose **In Progress**.
13. Click the **Assigned To** drop-down arrow and choose **Utility**.
14. Click **Save**.
Utility workers inform you that the park light bulb has been replaced.
15. On the **Details** tab, click the **Edit** button.
16. Click the **Status** drop-down arrow and choose **Completed**.
17. For **Resolved On**, choose the current date.
18. In the **Resolution** text box, type **Park light bulb has been replaced**.
19. Click **Save**.
Once the issue is complete, the status indicator changes and the details now provide information about when and how the issue was resolved.
20. In the **Details** tab, click the **Send Satisfaction Survey** button.
21. Review the formatted email and send it to yourself.

Provide feedback on work performed

In the previous section, you sent yourself an email containing a link to a satisfaction survey. You will now respond to the survey as the resident who originally submitted the problem report with your feedback on how the issue was handled.

1. Open the email you sent to yourself in the previous section.
2. Click the URL in the email to open the Citizen Satisfaction Survey.

[Back to top](#)

3. In the app, complete the first four survey questions.
4. Optionally, for **Do you have any other comments or concerns**, add any other comments.
5. For **Would you like to be contacted for more information**, click **Yes**.
6. Provide information for the **Full Name**, **Phone**, and **Email** parameters.
7. Click **Submit**.

Monitor reports and measure performance

As a program manager for the city, you want to know how well the citizen problem program is functioning, monitor the reports coming in, and see how satisfied the residents are with the program.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Citizen Problem Reporter solution.
2. View the Citizen Problem Dashboard app.
3. On the **Overview** tab, review the high-level metrics.
The **Overview** tab displays infographics of categories of reported problems. This information gives management a quick overview of the number of reported problems submitted by the public.
4. Click the **Problem Reports** tab at the bottom of the dashboard.
The **Problem Reports** tab allows a department manager to monitor how their department is doing when it comes to resolving problems. The page displays the top problem types and categories and summarizes reports by month with details.
5. Use the graphs to filter and explore active and resolved problem reports.
Dashboard charts are linked. As you click and select a category in one chart, related details are filtered and updated in other charts on the report to allow a manager to identify issues and areas that need attention.
6. Click the **Survey Results** tab at the bottom of the dashboard and explore the survey responses.
The **Survey Results** tab displays the results from the Citizen Satisfaction Survey. The indicators on the tab include **Resolution Quality**, **Resolution Time**, and **Customer Service** indicators that identify whether a community is below or above its target.
The **Recommended Problem Reporter to Friend or Colleague** chart is used to display whether the person who submitted the survey would recommend using the Citizen Problem Reporter to a friend or colleague. The right side of the dashboard displays the number of surveys submitted and their details.
7. Locate your response in the **Surveys** list and click it to see the details.
8. Click the arrow on the left of the app to display additional filters.
9. Use the filters in the left panel to explore survey results by date, category, problem type, resolution time and quality, and customer service experience feedback.
You can filter by **Submission Date**, **Category**, and **Type of Problem**. In addition, you can filter out information related to the **Resolution Quality**, **Resolution Time**, and **Customer**

Service Experience. These are indicators of overall success, user satisfaction, effectiveness, and public support.

Volunteer in the community

As an engaged resident of the community, you would like volunteer to help keep the community clean, healthy, and safe. You will fill out a survey to provide your interests, skills, and availability so the city can help connect you with volunteer opportunities.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Citizen Problem Reporter solution.
2. View the Citizen Problem Center site.
3. Scroll to the **Volunteer in Your Neighborhood** section and click the **Volunteer** button to open the Volunteer in Your Neighborhood survey.
4. Complete the Volunteer in Your Neighborhood survey and click **Submit**.

Code Enforcement Operations

Introduction to Code Enforcement Operations

Code Enforcement Operations can be used to collect and monitor code violations and related inspection information.

It provides access to code violation and inspection information in the field, which helps streamline field operations and improve communication between field and office staff. This improved process can decrease the overall time it takes to cite and resolve potential code violations. Code Enforcement Operations is typically implemented by code enforcement, zoning administrators, and other local government agencies that want to improve their response time resolving code violations.

The Code Enforcement Operations solution delivers a set of capabilities that help you review potential code violations, inspect code violations in the field, and monitor the resolution of code violations in a community.

Requirements

Code Enforcement Operations requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps

Information products

Code Enforcement Operations includes the following information products:

Item	Description	Minimum user type
Code Violation	A map used by code enforcement officers, building officials, and zoning administrators to collect code violation and related inspection information	Field Worker
Code Violation Dashboard	An ArcGIS Dashboards app used by planning and zoning administrators to monitor code violations	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Code Enforcement Operations

Use Code Enforcement Operations

The Code Enforcement Operations solution delivers a set of capabilities that help you review potential code violations, inspect code violations in the field, and monitor the resolution of code violations in a community.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Collect code violations

You will start by assuming the role of a code enforcement officer responsible for verifying a potential code violation. You are asked to use Code Violation to visit a potential code violation in the field and verify the details.

1. Download ArcGIS Field Maps to a mobile device, if necessary.
2. On the mobile device, open the app, and then sign in to your ArcGIS organization.
3. Tap the Code Violation map to open it.
4. Tap the plus sign to open the ArcGIS Field Maps form.
5. Complete the form, using the following table as a guide:

Parameter	Value
Violation ID	Type a unique ID.
Full Address	Type the property address, if applicable.
Location	Type a description of the location (for example, front yard), if applicable.
Violation Type	Choose a category.
Description	Type a description.
Municipal Code	Type the violation code number.
Visible	Choose Yes or No .

[Back to top](#)

Date Submitted	Choose the appropriate date.
Name	Type the contact's name.
Phone	Type the contact's phone number.
Email	Type the contact's email.
Violation Status	Choose Open or Closed .

6. Tap **Submit** or the check mark to submit the form.

Monitor code violation status

Now, you will assume the role of a planning or zoning administrator responsible for reviewing current open and closed violations. You are asked to use Code Violation Dashboard to monitor code violations.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Code Enforcement Operations solution.
2. View the Code Violation Dashboard app.
The Code Violation Dashboard opens, showing all submitted code violations.
3. Review the high-level metrics about code violations, such as blight, illegal signs, and overgrown yards.
4. On the left, use filters to refine the results by violation type, status, or date.
5. On the right, click a specific code violation to review the violation ID, location on the premises, and property address.

Note:

Alternatively, click a point on the map.

Communications Data Management for ArcGIS Enterprise

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Communications Data Management for ArcGIS Enterprise

Communications Data Management for ArcGIS Enterprise can be used to map and manage coax, copper, fiber, and wireless communication asset information with the ArcGIS Utility Network.

The solution configures ArcGIS Enterprise and the ArcGIS Utility Network to be an authoritative repository of communications network information and provides workflows that facilitate capturing information correctly and keeping it up to date.

Communications Data Management for ArcGIS Enterprise delivers a data model that makes a utility network behave like a communication network, editing apps configured for ArcGIS Pro and preconfigured maps for data sharing. It also provides a sample utility network dataset so users can experience a utility network in a single-user environment.

Requirements

Communications Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 (Standard or Advanced)

Information products

Communications Data Management includes the following information products:

Item	Description	Minimum user type
Communications Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with ArcGIS Utility Network user type extension

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">• New diagram templates, sample data, edit templates, tasks and attribute rules have been added to improve usability and take advantage of new capabilities.• In-depth modeling of ports, patch panels, splitters, splices, multiplexers and other equipment.• Added a new Communication Circuit Tier for tracing communication circuits and a Cable tier has been added to replace the removed Copper, Coax and Fiber tiers.• Removed the Medium Converter equipment, the network type transition will be reflected by the connector types contained within the device.• The data model in the solution has been updated to version 1.1. For a full list of updates, refer to the change log.
1.0	<ul style="list-style-type: none">• The first release of Communications Data Management for ArcGIS Enterprise

Use Communications Data Management for ArcGIS Enterprise

The Communications Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Communications Data Management project guide you through creating your own utility network using the provided schema and data loading options and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your communications utility network.

Use the instructions in the Communications Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Communications Data Management For ArcGIS Enterprise V1.1** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Communications Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the Tasks pane.

Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the solution

The data management solution is designed for organizations that want to experience a fully functional communications utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create and model your own utility network to behave like a communications system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

[Back to top](#)

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following editing tasks:

- Creating Communications Hub
- Create Cable Pathway and Structures
- Creating a Cable with Strands
- Create a Patch Panel Chassis with Access Hub Terminal
- Create Duct Bank

Explore Diagrams

Users are guided through create diagrams as symbolic representation of geographic information drawn with an applied visualization technique. It allows users to efficiently create multilevel representations, readily check network connectivity, and obtain logical views of any utility network.

This task group includes the following diagram tasks:

- Explore Diagrams in Utility Network
- Cable Diagram
- Structure Diagram
- Splice Diagram
- Duct Diagram

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes workflows for critical traces for communications such as customer to upstream switch. The Customer to Upstream Switch task walks through how to find the switch and ports that are passed through from a customer location.

This task group includes the following diagram tasks:

- Customer to Upstream Switch

- Find Available Strands
- Open Ducts

Install Implementation Prerequisite

Now that the sample utility network has been explored, move on to building out a utility network for your own organization. Before getting started, set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been developed specifically to support communications organizations to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your communications network.

This task group includes the following tasks:

- Project and Remove Sample Data
- Create Modifications Tables (Optional)
- Loading Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Communications Data Management project, review the [Communications Data Management Attribute Rules](#) document.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps' Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Prototype in a Single User Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services
- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map
- Reset Trace Location Feature Classes
- Adjust Maps
- Share with Organization

Community Data Aggregation

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Community Data Aggregation

Community Data Aggregation can be used to aggregate authoritative data (for example, addresses and parcels) and deliver focused maps and locators to key stakeholders.

It provides a series of tools and standard layers that streamline the maintenance of regional address and parcel information. Traditionally, address and parcel data is managed by local governments. Aggregating this data into larger geographies (county, region, watershed, or state) helps organizations address common needs or issues that affect residents in many local governments. Community Data Aggregation is typically implemented by state and regional organizations that want to access authoritative data and address emergency response, permitting, as well as address land use and regulatory issues at a more regional level.

The Community Data Aggregation solution delivers a set of capabilities that help you transform and load data source data (for example, addresses and parcels) in to target dataset with a standard information model.

Requirements

Community Data Aggregation requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 - 2.9 (Basic, Standard or Advanced)

Information products

Community Data Aggregation includes the following information products:

Item	Description	Minimum user type
CommunityAddresses	A feature layer to help organizations aggregate address information from authoritative sources	Not Required
CommunityParcels	A feature layer to help organizations aggregate parcel information from authoritative sources	Not Required

[Back to top](#)

DataAssistant	An ArcGIS Pro Add-in that includes the Data Assistant ribbon and a series of tools that have been optimized for migrating data from a source dataset to a target dataset	GIS Professional Basic
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Community Data Aggregation

Configure Community Data Aggregation

Learn how to configure the Community Data Aggregation solution to meet specific needs in your organization.

Set up data aggregation project

Before you begin aggregating data, create an ArcGIS Pro project, install the Data Assistant add-in, and add the Data Assistant ribbon to the project so you can access the tools and features of the add-in.

Data Assistant add-in

The Data Assistant add-in includes a series of tools that have been optimized for migrating data from a source dataset to a target dataset that may have a different data structure. It includes a series of predefined methods to automatically populate attributes when migrating data to the target dataset. For example, one method concatenates multiple source fields into a single target field. Other methods help you extract the left or right characters from a field or split a single source field into multiple target fields.

To use the Data Assistant add-in, you must install the Data Assistant add-in on each ArcGIS Pro machine that will be used to migrate data from a source dataset to one or more target datasets.

To install the Data Assistant add-in, complete the following steps:

1. Deploy the **Community Data Aggregation** solution.
2. Browse to the **Content** section of your ArcGIS organization.
3. Click the **DataAssistant** item to open the item details page and click the **Download** button to download the add-in.
4. Extract the DataAssistant .zip file.
5. Close any open or running ArcGIS applications.
6. Using Windows Explorer, browse to the DataAssistant folder.
7. Double-click DataAssistant.esriAddInX to run the installer.
8. Click the **Install add-In** button.

Data aggregation project

You can use an ArcGIS Pro project and the Data Assistant add-in to migrate community datasets from one or more source datasets to a target dataset.

To create a data aggregation project, complete the following steps:

1. In ArcGIS Pro, click **Add Data** and browse to the My Content folder in the active portal. Select the CommunityAddresses or CommunityParcels layer that deployed with the solution.
2. Click **Add Data** and browse to your source data. Add your source data to the map.

[Back to top](#)

3. Click the **Data Assistant** ribbon. Ensure that the Data Assistant add-in loaded and is accessible in ArcGIS Pro.
4. Save the data aggregation project.

Data mapping

The **Configure Data Mapping** dialog box allows you to configure settings in a selected source-target configuration file.

File panel

The Data Assistant file properties define the active source-target configuration file and allow you to further configure the source dataset, target dataset, and replace settings.

Property	Description
Source-Target Configuration File	The active source-target configuration file for Data Mapping.
Source Layer	The path to the source layer for the active configuration file.
Replace By Field Value	When enabled, defines the selection query for the target layer that will be used when the Replace Data tool is executed.
Target Layer	The path to the target layer for the active configuration file.

Fields panel

The Data Assistant field methods define the actions to occur when migrating data from a source dataset to a target dataset. You can use them to populate new values in the target dataset or perform more advanced field mapping that may be necessary when the target dataset has a different data structure.

You can configure the following Data Assistant methods in your data migration project:

Method	Description
Copy	Copy source field values to target fields.
Default Value	Sets a default value for a field.
Value Map	Set target values based on source value.
Change Case	Change the case of the source text string.
Concatenate	Concatenate source values into a string.
Left	Extract a number of characters from the left.
Right	Extract a number of characters from the right.
Substring	Extract a set of characters from a string.
Split	Split a string into parts and use one part.

Conditional Value	Construct an if/else statement.
Domain Map	Load and map domains values.

Data Assistant settings

You configure the following settings for Data Assistant.

Match library

When updated, the Data Assistant Match Library will assist with automatically creating field mappings based on configuration files you create.

Setting	Description
Update Match Library	The Match Library will be updated to include the settings in the currently selected source-target configuration file.
Clear Match Library	All saved settings in the Match Library will be erased.

Use Community Data Aggregation

The Community Data Aggregation solution delivers a set of capabilities that help you transform and load data source data (for example, addresses and parcels) in to target dataset with a standard information model.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.








This solution supports two parcel data aggregation models, both of which are supported by the same set of tools:

- The Contributor Model allows authoritative data producers to update the community layers directly on a regular schedule.
- The Aggregator Model allows authoritative data producers to send their data to a community aggregator so the community layer can be updated.

Choose a parcel data aggregation model (Contributor or Aggregator) and configure the Data Assistant to load your source data.

A quick tour of Data Assistant

The Data Assistant add-In includes a set of focused tools that are organized on a Data Assistant toolbar. These tools enable you to create data mapping files and load or replace data in your target datasets.

Tool	Tool name	Description
	New File	Creates a new source-target configuration file for the selected source and target datasets.
	Data Mapper	Enables users to define the field mapping and settings for the selected source-target configure file.
	Preview	Creates a preview of the output from the source-target configuration file in a local database with a sub-set of records.
	Stage	Stage Results in a local database using a subset of the records, skip final processing.
	Append Data	Appends data into the target dataset from the source dataset according to the settings in the source-target configuration file.
	Replace Data	When the Replace By Field Value option has been enabled and configured, replaces data in the target dataset from the source dataset according to the settings in the source-target configuration file.
	Settings	Optional settings for the data mapping tool.

Load data using Data Assistant add-in

The Data Assistant add-in can be used by organization staff in order to migrate data from a source to target dataset, as well as schedule automated updates of the community layers.

[Back to top](#)

Update community layer

The Data Assistant Add-In includes a series of tools that have been optimized for migrating data to the CommunityParcels and CommunityAddresses hosted feature layers, as well as updating this data on a regular interval.

To migrate your source data to one of the hosted feature layers provided and configure updates, complete the following steps:

1. Open your data aggregation project in ArcGIS Pro.
2. Sign in to your ArcGIS organization and make it the active portal.
3. Click the **Data Assistant** ribbon.
4. In the **Source Dataset** parameter, browse to the source dataset, and then click **OK**.
5. In the **Target Dataset** parameter, browse to the CommunityParcels or CommunityAddresses dataset, and then click **OK**.
6. In the **Source-Target Configuration File** parameter, browse to an output location and provide a name, and then click **OK**.
7. Click **Run**.
8. Click **Data Mapper** and select the Configuration File you created previously. Click **Fields**.
9. Select the source fields and review the initial field mapping. Configure any additional fields and required data assistant methods. Once complete, click **Apply**.

Tip:

For hosted feature layers in ArcGIS Online, navigate to the **Data** tab and click **Fields** to find more information about each field in the data model.

10. Optionally, click **Preview** and select a configuration file. Specify the Number of Features you'd like to generate in the preview. Click **Run**.
11. Click **Append Data** or **Replace Data** and select the Configuration File you created previously.
 - If you are contributing or aggregating data for the first time, choose **Append Data**. This tool will add all features in the source dataset to the target dataset.
 - If you are updating data that already exists in the target dataset, choose **Replace Data**. This tool will use a defined query to replace specific features in the target dataset.
12. Click **Run**.

Note:

In the **Settings** tool, the Update Match Library option can be used to use the updated field mapping to use fuzzy logic in order to speed up data loading in the future.

Schedule updates

The Data Assistant tools can be used with Windows Task Scheduler to update layers on a regular interval. Scheduled updates will ensure users have access to current information to support more dynamic decision-making.

To update community data on a schedule, complete the following steps:

1. Using ArcGIS Pro, open the Python window
2. Import ArcPy by typing the following command:
`import arcpy`
3. Import a python toolbox from the Data Assistant tools by typing the following command:
`arcpy.ImportToolbox(r"C:\Users\user\AppData\Local\Escri\ArcGISPro\AssemblyCache\{28142961-b645-420f-ba2a-72bcf8212558}\GPTools\DataLoadingAssistant.tbx")`
4. Specify your XML configuration file by typing the following command:
`arcpy.dla.ReplaceData(r"C:\Users\youruserprofile\Documents\ArcGIS\Projects\MyProject\ReplaceData.xml")`

Note:

Using the Append Data and the Replace data tools, you can specify multiple XML files, separate each XML file with “;”

5. Right-click in python window and choose to **Save Transcript**, this will save a new python file.
6. Open Windows Task Scheduler.

Note:

Use Windows Start menu search box to find Windows Task Scheduler.

7. Select **Action > Create Task** and name your task.
8. Select the **Actions** tab and click **New**.
9. Set **Action** to **Start a Program**.
10. Browse to the location of your ArcGIS Pro python installation.
`C:\Program Files\ArcGIS\Pro\bin\Python\Scripts\propy.bat`
11. In the **Add Arguments** text box, enter the full path of the script saved in step 5.

Community Health Assessment

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Community Health Assessment

Community Health Assessment can be used to collect community health information, at the household-level, required for disaster response or health action plans.

Health and Human Services professionals need information to make informed decisions as they allocate health resources. Timely access to community health information helps leaders maintain situational awareness, confirm assumptions and understand community need. The Community Assessment for Public Health Emergency Response ([CASPER](#)) framework (developed by the World Health Organization and adopted by the U.S. Centers for Disease Control and Prevention) framework to plan randomized clusters, conduct health assessments, and monitor progress accordingly was used. This framework has become a common methodology used to understand community need. Community Health Assessment is typically implemented by health and human services agencies or health care organizations that want to leverage CASPER principles as they conduct health assessments to understand community need.

The Community Health Assessment solution delivers a set of capabilities that help you plan community health survey areas, collect survey responses from random households and monitor key indicators as the assessment occurs.

Requirements

Community Health Assessment requires the following:

- ArcGIS Online
- ArcGIS Pro 2.6 or later

Information products

The Community Health Assessment solution includes the following information products:

Item	Description	Required User Type
Community Health Assessment Planner	An ArcGIS Pro project used to plan community health survey clusters used to conduct assessment surveys.	GIS Professional Basic
Community Health Assessment Manager	A configuration of the Crowdsourcing Manager app used by assessment managers to assign survey teams.	Editor

[Back to top](#)

Community Health Assessment Survey	An ArcGIS Survey123 form used to conduct health assessments.	Field Worker
Community Health Assessment Progress Dashboard	An ArcGIS Dashboards app used by health and human services managers to monitor survey teams and the progress of a health assessment.	Viewer
Community Health Assessment Dashboard	An ArcGIS Dashboards app used by epidemiologists and executives to monitor key indicators as the assessment occurs.	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Community Health Assessment

Configure Community Health Assessment

Configure the Community Health Assessment solution to meet specific needs in your organization.

Modify the survey

The Community Health Assessment Survey is a survey with a comprehensive collection of questions, all based on the Community Assessment for Public Health Emergency Response (CASPER) [Toolkit](#). In addition to the questions provided in the toolkit, questions for coronavirus disease 2019 (COVID-19) assessments are included. You have the option to add your own specific questions or hide some of the questions you do not need.

All of the steps below use ArcGIS Survey123 Connect to modify the survey. See [Install ArcGIS Survey123](#) for more information.

Note:

The following changes may impact the Community Health Assessment Progress Dashboard or the Community Health Assessment Dashboard. See [dashboards documentation](#) to learn more about configuring dashboards.

Hide questions

There are over 200 questions in the survey, and many may not be relevant to the issues that you want to assess. The survey has logical groupings of questions. Individual questions can be hidden, or entire groups of questions can be hidden if necessary.

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Community Health Assessment Survey** to download the survey.
3. Click **Community Health Assessment Survey** again to open the survey.
4. In the left pane, click **Open XLSForm Spreadsheet**.
5. In the Microsoft Excel spreadsheet, verify the **survey** tab is highlighted.
6. Find a green highlighted row of the type: **begin group**. For example, find the group named damage repair.
7. Scroll over to the relevant column.
8. Change the value of the relevant column to `false`.
This process will hide all questions within that group. You can also do this for specific questions within a group.
9. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect to verify the group no longer appears.
10. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

[Back to top](#)

Change a survey event

Health assessments are often designed in the context of an emergency or event. Therefore, several questions may pertain to the status of that event. By default, the Community Health Assessment Survey specifies the event to be COVID-19. You can change one variable name in the survey to a different event, such as the name of a flood or hurricane. Then all questions will update to that name.

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Community Health Assessment Survey** to download the survey.
3. Click **Community Health Assessment Survey** again to open the survey.
4. In the left pane, click **Open XLSForm Spreadsheet**.
5. In the Microsoft Excel spreadsheet, verify the **survey** tab is highlighted.
6. Select the first row for the **surveyevent** variable.
7. Scroll over to the **default** column. The value should read COVID-19 Pandemic.
8. Change the value from COVID-19 Pandemic to the name of another event or disaster.
9. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
10. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Change the team names list

By default, the survey has a drop-down list of team names as simple number values for Team 1 through Team 15. Follow the steps below to change the list to a smaller number of teams or to change the names of your teams.

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Community Health Assessment Survey** to download the survey.
3. Click **Community Health Assessment Survey** again to open the survey.
4. In the left pane, click **Open XLSForm Spreadsheet**.
5. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
6. Near the top of the spreadsheet, revise the survey to reflect your team names.
7. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
8. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Add questions

Your community may have special circumstances you want to assess. Follow the steps below to add questions to the survey.

1. Sign in to your ArcGIS organization and browse to the Community Health Assessment Survey hosted feature layer.

[Back to top](#)

2. [Add a new field](#) to a layer in the Community Health Assessment Survey hosted feature layer.
3. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
4. Click Community Health Assessment Survey to download the survey.
5. Click Community Health Assessment Survey again to open the survey.
6. In the left pane, click **Open XLSForm Spreadsheet**.
7. In the Microsoft Excel spreadsheet, verify the **survey** tab is highlighted.
8. Insert new records that represent your new fields. Refer to the [Survey123 Connect documentation](#) for more details on modifying surveys.
9. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
10. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.
11. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
12. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Use Community Health Assessment

The Community Health Assessment solution delivers a set of capabilities that help you plan community health survey areas, collect survey responses from random households and monitor key indicators as the assessment occurs.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Plan survey areas

The Community Health Assessment is based on guidelines from the Centers for Disease Control and Prevention (CDC) Community Assessment for Public Health Emergency Response ([CASPER](#)) framework. The CASPER framework uses a randomized sampling methodology to determine in which areas community surveys should be conducted to produce a result that is representative of the entire study area.

Typically, in this specific CASPER methodology, a Community Health Assessment is conducted using 30 survey areas or clusters within the survey area. These clusters are commonly defined by census blocks as the geographic unit. The clusters are randomly selected, with the number of households given a higher weight, which increases the chance of a census block being selected. Once the clusters are defined, interview teams will select seven households in each survey area to conduct survey assessments. This workflow will guide you through the process of defining the survey areas (clusters).

Plan and create survey areas

You will start by assuming the role of an epidemiologist or GIS analyst who will create the survey areas within the area of interest to define where the assessments will be conducted.

1. Download and open the Community Health Assessment Planner ArcGIS Pro project and sign in using your ArcGIS organizational account.
2. On the **View** tab, in the **Windows** group, click **Catalog** and click **Catalog Pane**.
3. In the **Catalog** pane, expand **Tasks** and double-click the **Getting Started Task**.
4. Complete all steps in the **Add Survey Area** step.
This task provides an overview of the process to add a Survey Areas layer that is deployed with the solution. The layer will have a broken reference, which you will point to the deployed hosted feature layer.
5. In the **Catalog** pane, expand **Tasks** and double-click **Plan Survey Areas**.
6. Complete all steps in the **Plan Survey Areas** task.

Assign teams

Once the survey areas are defined, you can assign teams to conduct the surveys within the selected survey areas. The Community Health Assessment Manager allows you to assign teams to the survey areas from the previous task.

Assign teams and notify team members

You will now assume the role of a community assessment manager or team lead who needs to assign teams and notify team members in their survey areas.

1. Sign in to your ArcGIS organization and browse to the Community Health Assessment Manager app.
2. Select a record in the table that you want to assign a team.
3. Review the details of the survey area and click the **Edit** button in the upper right corner of the pane.
4. Change the **Team** value to a team in the drop-down list. Optionally, add more comments on this survey area.
5. Click **Save**.
Once a team is assigned, you can notify individual teams of their duties and monitor progress.
6. Click the **Send Survey Info** button.

Conduct health assessment surveys

Team members conduct assessments in the field at defined intervals (using the CASPER methodology) based on the number of housing units in each survey area.

Conduct surveys in your survey area

You will now assume the role of an interview team member who will conduct surveys in the field using your mobile device. The team manager has previously assigned you to a team.

Note:

The default survey has many questions that may not be related to your assessment. See the [Configure Community Health Assessment](#) topic to learn how to modify the survey.

1. Open the email sent by the team manager, as described in the previous step.
The instructions indicate the number of surveys and how surveys must be conducted.
2. Click the first hyperlink to open a map of the assigned survey area.
This hyperlink is used to help you ensure you are conducting assessments in the assigned survey area. You can use the GPS on the map to verify your location and determine whether you are currently within the assigned survey area.
3. Click the second hyperlink to access the survey.

[Back to top](#)

4. If this is the first time conducting the survey, click the **Download** button to download the Survey123 field app.
5. Sign in to ArcGIS Survey123.
6. Expand the **Identification and physical location** information.
7. Fill in all information in this group.
8. Expand the **Demographic and functional needs** section.
9. Fill in all information in this group.
10. Scroll down to the end of the survey.
11. Make sure to choose a value for **Survey Status End**.
12. Click the green check mark in the lower right to submit the survey.

Tip:

The Survey123 app allows you to complete the surveys offline. The email from the team manager automatically fills in the team, housing units, and survey area ID when using the app with the steps described above. However, a browser version of the Community Health Assessment Survey can also be used if the app is not installed.

Complete an incomplete survey

In some cases, the person you are interviewing may be unwilling or unable to complete the survey in one visit and may agree to finish the survey at a later time or date. In this case, you can complete a survey you submitted that is incomplete.

1. Open the Survey123 app.
2. Select the incomplete Community Health Assessment Survey.
3. At the bottom of the screen, click **Sent**.

Note:

This option will only appear if you have submitted surveys with the value of Incomplete.

4. Fill in the remaining information in the survey and submit.

Monitor assessment progress

Now, you will assume the role of the assessment manager or team leader who wants to monitor progress of the assessments being captured in the field. The [CASPER toolkit](#) has specific criteria defined for cooperation rates, contact rates, and completion goals. The traditional goal is to complete 80 percent of the surveys expected. This dashboard will help you determine whether you are reaching those metrics and whether the teams are completing their work.

1. Sign in to your ArcGIS organization and browse to the Community Health Assessment Progress Dashboard.
2. Open the Community Health Assessment Progress Dashboard app.
The app opens with an overview of the current status.

[Back to top](#)

3. Review the list of teams and click a team in the chart to see the dashboard update.
4. Select the other charts to monitor the progress of the health assessment.

Visualize key metrics from the assessment

The demographic and functional needs section of the survey is particularly useful to executives who want a quick glance of their community. Visualizing the demographic information will help determine whether the demographic you have surveyed aligns with the overall makeup of the community. In addition, key metrics such as monitoring rent and mortgage payments or access to healthy foods are vital health indicators.

1. Sign in to your ArcGIS organization and browse to the Community Health Assessment Dashboard app.
2. Open Community Health Assessment Dashboard.
The app opens with an overview of the key indicators captured in the field.
3. Review the **Age Distribution** chart and click a specific age category to see the dashboard update.
4. Select the other charts to monitor the progress of the health assessment.

View detailed survey results

The demographic dashboard shows only a portion of what could be captured during assessments. Epidemiologists may prefer to highlight different information from the survey. You can [create a dashboard](#) or modify the demographic dashboard to see these results. In addition, you can export these results to share in other software applications.

1. In a browser, go to [My Surveys](#) and sign in.
2. Click **Community Health Assessment Survey**.
3. Click the **Analyze** tab.
4. Scroll down to examine the various questions that were asked during the survey.
5. In the upper left, search for a key term of another question collection such as COVID.
6. Click the **Data** tab.
7. Click the **Export** drop-down menu and export to an Excel file.

Community Health Outreach

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Community Health Outreach

Community Health Outreach can be used to communicate health initiatives, increase participation in key initiatives, and ensure the public knows where they can locate health services.

Health and Human Services agencies have learned that a community's health goes beyond just access to healthcare services. Understanding the interplay of behavior, physical and social environments, biological and genetic factors, and access to health systems helps health and human services agencies devise initiatives that ultimately increase the well-being of all residents. Increasing public health requires a robust and transparent public education campaign that provides accurate healthcare information, progress on key healthy community initiatives, and guidance needed to access assistance. A key aspect of any healthy community program is a web destination that helps the public locate healthcare providers, review key initiatives, request assistance and volunteer to help. Community Health Outreach is typically implemented by public or private health and human services agencies that want to increase the quality of life for all residents and ensure the public understands where health services can be found in the community.

The Community Health Outreach solution delivers a set of capabilities that help you launch a healthy communities web destination, provide an authoritative inventory of healthcare services, and engage the public in key health initiatives that increase the quality of life for all.

Requirements

Community Health Outreach requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123 Connect

Information products

Community Health Outreach includes the following information products:

Item	Description	Required User Type
Health Resource Inventory	An ArcGIS Web AppBuilder app used by health and human service agencies to inventory all health resources in their community	Editor
Healthy Communities	An ArcGIS Hub site used by health and human service agencies to communicate key health initiatives, upcoming events, and ensure the public knows resources available for their health needs	Not required
Health Resource Locator	An ArcGIS Web AppBuilder app used by the public to locate health resources	Not required
Health Resource Feedback	An ArcGIS Survey123 form used by providers or the general public add their location or provide updated information to the Health Resource Inventory	Not required
Healthy Community Outreach Volunteers	An ArcGIS Survey123 form used by the public to volunteer to help with various public health outreach activities	Not required
Healthy Communities Pledge	An ArcGIS Survey123 form used by the public to pledge to lead healthy lives	Not required
Community Health Volunteer Manager	A Crowdsorce Manager app used by health and human services staff to manage volunteers	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Community Health Outreach

Configure Community Health Outreach

In this topic, you will learn how to configure the Community Health Outreach solution to meet specific needs in your organization.

Load data

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile or file geodatabase

Load data into a health resource layer from a shapefile or file geodatabase by completing the following steps:

1. Create a .zip file of your shapefile or file geodatabase.
2. Sign in to your ArcGIS organization and browse to the feature layer you want to populate.
3. Open the item page and click **Update Data > Append Data to Layer** .
4. Click **Choose File** and browse to your .zip file, and click **Open**.
5. Click the **Contents** drop-down arrow and choose **Shapefile** or **File Geodatabase**.
6. Click **Upload and Continue**.
7. Click **Choose the layer that you want to load data into** drop-down arrow and choose the layer that contains the updated data.
8. Uncheck **Update existing features**.
9. Click **Show field matching** and map the fields between the two layers.
10. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Populate operational hours

This solution leverages the [Opening Hours Specification](#) to display operating hours for a place or service. When you populate the data fully, Arcade expressions interpret the data and display the operating hours in a human-readable format in the map pop-up. Understanding the data specification and options in the Arcade expressions will help you populate your data and display it in the maps and apps provided with the ArcGIS Solution.

Operating Hours Specification

The Operating Hours Specification allows you to store a combination of operating hours in a single field but relies on a series of data standards to render the information correctly. To ensure operating hours are displayed correctly, follow the standards below:

- Enter all times using a 24-hour clock without a leading 0—for example, Tu (7:00-19:00).
- Use a two-letter abbreviation for each day, with the first letter capitalized—for example, Mo, Tu, We, Th, Fr, Sa, Su.
- When a location is open 24 hours a day, use 24 Hours—for example, Mo (24 Hours).
- When a location is closed on a specific day, use Closed—for example, Sa-Sun (Closed).
- Enclose all times and closed statuses in parentheses—for example, Tu (7:00-19:00); We-Mo (Closed).
- Separate days and ranges with a semicolon to denote the two (or more) groups—for example, Th-Fr (7:00-19:00); Sa (24 Hours).

Using the standards above, a diverse set of operating hours can be populated for your places and services. Some common examples include the following:

- To specify the place is open from 9:00 a.m. to 5:00 p.m. seven days a week, populate the operating hours field with the following: Mo-Su (9:00-17:00).
- To specify the place is open from 9:00 a.m. to 5:00 p.m. during the week and closed on weekends, populate the operating hours field with the following: Mo-Fr (9:00-17:00); Sa-Su (Closed).
- To specify the place is open one day (Tuesday) a week, populate the operating hours field with the following: Tu (7:00-19:00); We-Mo (Closed).
- To specify the place has operating hours that vary by day, populate the operating hours field with the following: Mo-Tu (9:00-17:00); We (Closed); Th-Fr (7:00-19:00); Sa (24 Hours); Su (Closed).

Operating hours data can be populated all at once for many places and services using [Calculate field values](#) or uniquely entered for each place or service using an application provided with the solution.

Arcade expressions

The Arcade expressions include several settings that allow you to configure the look and feel of the operating hours when they are displayed in the web map pop-up. The expressions work with the operating hours data and web map pop-up configurations to display current operating hours in your map and app.

This solution uses three Arcade expressions: Hours, Days, and Open/Closed. To modify one of these expressions, complete the following steps:

[Back to top](#)

1. Verify that you are signed in to your ArcGIS organization and browse to the Health Resource Locator map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **More Options** and click **Configure Pop-up** on a health resource layer.
4. Under **Attribute Expressions**, double-click the Arcade expression you want to modify.
Each Arcade expression has a set of variables that can be configured according to your organization's needs. Review the expression notes and modify the variables as needed. Do not change anything else in the expressions.
5. Click **OK**.
6. Repeat the above steps for each health resource layer in the map.

Configure Health Resource Locator

The Health Resource Locator can be used by the public to locate health resources. It has some common configuration options you may want to explore and directions from your current location to a health resource can be enabled.

Configure directions

Health Resource Locator can be configured to provide directions to the nearest health resources. Follow the steps below to enable directions:

1. Verify that you are signed in to your ArcGIS organization and browse to the Health Resource Locator app.
2. Click **Edit Application**.
3. Browse to the Locate Health services widget and click the **Edit** button.
4. Click the **Direction Settings** tab, check **Enable Directions** and click **OK**.
5. Save the app and share it with everyone.
6. Open the app.

Modify surveys

The Healthy Community Outreach Volunteers form can be used by the public to volunteer to help with various public health outreach activities. After reviewing the survey, you may decide you want to collect additional information from volunteers when they apply.

To modify the volunteer survey, complete the following steps:

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click a survey and if prompted, download the Healthy Community Outreach Volunteers survey.

Note:

If you have not downloaded the chosen survey, you will be prompted to click Download in the Download window, then click OK. You will also need to click the survey again to open it.

3. On the side toolbar, click the **Open XLSForm spreadsheet** button.
4. Edit the survey to reflect your needs.
5. Click the **Settings** tab, and in the submission_url column, enter a hosted feature layer item URL.

Tip:

To create this URL, concatenate the Item ID with the portal Content Root. The Item ID can be found at the end of the URL immediately following ?id=. For an ArcGIS Online item, the URL looks like the following:

https://www.arcgis.com/sharing/rest/content/items/21a6c530b31a4523bdf7gg94c9c5d9a



6. **Save** and close the Microsoft Excel spreadsheet.
7. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar to publish your changes.

Configure Healthy Communities site


The Community Health Outreach solution includes the Healthy Communities ArcGIS Hub site that your organization can configure with your branding and use to share community health information with the public.

Update with organizational information

After deploying the Community Health Outreach solution, the Healthy Communities site layout only requires a few updates to fit your local context. Consider what information you already have and what you can most easily find. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Healthy Communities site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Our Focus** section, hover over each text card and click edit pencil .
5. Update the focus area into the text box and repeat for each focus area.
6. Scroll to the **Frequently Asked Questions** section, hover over the card and click the edit pencil, and update the questions and answers.
7. Scroll to the **Partners** section, hover over the card and click the edit pencil, and update the image.

[Back to top](#)

8. To modify your site's footer, click **Customize Toggle**  on the side panel.
9. Click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
10. Click the **HTML** text box.
The **HTML** window appears.
11. Make the necessary changes and click **Apply**.
12. Click **Save**.

Add health initiatives

The Healthy Communities hub site includes a section that can be used to share information on key health initiatives. You can share links to other hub sites, web destinations, or even health related apps. There are several other ArcGIS Solutions you could deploy to assist with the key health initiatives (for example, homelessness, COVID-19, and addiction). Any one of those solutions could be cataloged in the key initiatives section.

To add key health initiatives, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Healthy Communities site.
2. Click **Configure App**.
3. Click the **Edit** tool on the left of the screen.
4. Scroll to the **Programs and Initiatives** section.
5. Hover over the gallery and click Edit.
6. For **Select Groups**, choose the group used to catalog the hub sites, web destinations, or health related apps are shared.
7. Click **Save**.
8. Click the drop-down arrow next to Save, and chose **Publish Draft**.

Share health metrics

The Healthy Communities hub site includes a section that can be used to share health metrics. You can share a link to an existing dashboard you might have. If you do not have an existing dashboard, you can deploy the Performance Management solution and use this solution to communicate health metrics and progress made.

To share health metrics, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Healthy Communities site.
2. Open the item page and click **View Application**.
3. Click the **Edit** button to open the site editor.
4. Scroll to the **How Are We Doing?** section, hover over the card and click the settings button.

5. Click the **Select Application** button.
6. Browse to your dashboard or deployment of the Performance Management solution and click **Select**.
7. Click **Save** and click **Publish Draft**.

Share items with public

Several maps and apps included in the Community Health Outreach solution must be shared with everyone to display on the public-facing hub site. The solution includes several feature layer views to avoid sensitive or incorrect data from being shared accidentally. Use the information below to help determine which items need to be shared with everyone.

To share the Community Health Outreach maps and apps, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Health Resource Locator app.
2. Open the item page and click **Share**.
3. In the Share window, click **Everyone** (public).
4. Click **Save**.
5. Repeat steps 2 through 5 to share the following items with everyone:

Use Community Health Outreach

The Community Health Outreach solution delivers a set of capabilities that help you launch a healthy communities web destination, provide an authoritative inventory of healthcare services, and engage the public in key health initiatives that increase the quality of life for all.

In this topic, you'll learn how to use the applications in the solution by assuming various roles of individuals performing these duties.

Note:

Use your organization's data or configured apps to follow these workflows.

Inventory health resources

Health resources in a community can often change. New providers become available, operating hours and contact information at certain facilities change over time. This can make it challenging for citizens in your community to know where to find accurate information. A variety of health resources can be added to your inventory and shared with the public. The Health Resource Inventory app can be used by health and human service agencies to inventory health resources that will be shared with the public.

In this workflow, you will assume the role of a staff member in a health and human services agency. You have been asked to inventory known health resources in your community.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Community Health Outreach solution.
2. View the Health Resource Inventory app.
3. On the right, click the **Resource Editor** to open the widget, if necessary. Scroll through the list of available health resource types and place the location of a resource of your choice on the map.
The widget includes templates for various health resource types.
4. In the widget, click the drop-down arrow or use the search field to locate the resource type.
5. Click the resource symbol, and then click the resource's location on the map to place the point.

Tip:

If you already have a list of health resources in a spreadsheet, you can use the **Load Health Resources** tool to load the entire list of testing sites.

Note:

The Load Health Resources widget will [consume credits](#) if you use an address in your spreadsheet to create the new health resource location.

6. In the **Resource Editor**, complete the form with details about the health resource location that you placed on the map; be as complete as possible.

Tip:

This solution leverages the Operating Hours Specification and relies on a series of data standards—for example, Mo-Fr (7:00-19:00)—to render the operating hours correctly. For more information, see [Populate operating hours](#).

7. Click **Save** to place the point on the map.
8. Repeat these steps for each health resource that you want to add to your inventory.

Review healthy community destination

Improving public health outcomes requires a robust and transparent public education campaign that provides accurate healthcare information, progress on key healthy community initiatives, and guidance needed to access assistance. A key aspect of any healthy community program is a web destination that helps the public locate healthcare providers, review key initiatives, request assistance and volunteer to help.

In this workflow, you will assume the role of a resident or member of the public. You are interested in the healthy community program, key initiatives, health resources available in the community.

1. In a browser, from the Community Health Outreach solution, view the Healthy Communities hub site.
2. Review the information on the site, including the Healthy Communities program focus, frequently asked questions, upcoming events, and other information provided.
3. Scroll to the **Programs and Initiatives** section and review the healthy community initiatives in your community.

Note:

Each initiative may link to a separate ArcGIS Hub site, depending on how you configured your site.

Take healthy community pledge

A healthy community is built on active participation and recognition of important factors that influence a persons health. Raising awareness and encouraging members of the public to live healthy lifestyles is an important aspect of a public education campaign. The Healthy Communities Pledge survey can be used to create awareness of key health issues and collect public pledges to lead healthy lives. To take the pledge, complete the following steps:

1. Return to the Healthy Communities hub site, if necessary, and then scroll to the **Healthy Communities Pledge** section.

2. Click the **Take the Pledge** button.
3. Complete the survey, and then press **Submit**.

Locate health resources

Access to comprehensive health care services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all. The Health Resource Locator app can be used by the public to locate health resources. To locate health resources in the community, complete the following steps:

1. Return to the Healthy Communities hub site, if necessary, and then scroll to the **Find Health Services** section.
2. Click the **Find Health Services** button.
The Health Resource Locator app opens and shows all health resources from your inventory.
3. Use the **Locate Health Services** widget to search for an address or place, or click the location on the map.
4. Optionally, drag the slider to increase or decrease your search radius.
The results shown in the **Locate Health Services** widget highlight the various health resources near the location that you entered and within your search radius.
5. In the widget, click one of the results.

Tip:

If you do not see any results, search for a new location or drag the slider to increase the search radius.

Contribute missing health resources

Developing a comprehensive inventory of health care providers is challenging. New providers will open, existing providers may close, and information you have about existing providers will continuously evolve. Engaging health care providers and the public is one way you can curate a health resource inventory and respond to changes in the community. The Health Resource Feedback survey can be used by providers to add a missing health resource location. It can also be used by the public to correct inaccurate information presented in the Health Resource Locator.

In this workflow, you will assume the role of a staff member at a local health care provider. You have noticed that your health care facility is not visible in the Health Resource Locator and have been asked to add the facility and services provided.

1. Return to the Healthy Communities hub site, if necessary, and then scroll to the **Find Health Services** section.
2. Click the **let us know** hyperlink.
3. Complete the **Health Resource Feedback** survey, and then click **Submit**.

[Back to top](#)

Tip:

The feedback will not appear in the Health Resource Locator until it has been reviewed and approved by the health and human services agency in the Health Resource Inventory app. To be notified automatically when these submissions are entered, you can set up [Survey123 webhooks](#).

Volunteer to help

Health and Human Services agencies are always looking for volunteers that can help with activities that advance the overall health of the community. The Healthy Community Outreach Volunteers survey can be used by the public to volunteer to help with various public health outreach activities.

In this workflow, you will assume the role of an engaged resident in the community. You have noticed several healthy community issues that are of interest to you and you want to volunteer your time, experiences, and skills.

1. Return to the Healthy Communities hub site, if necessary, and then scroll to the **Volunteer to Help** section.
2. Click the **Volunteer Now** button.
3. Complete the Healthy Community Outreach Volunteers form, and then click **Submit**.

Manage volunteers

As volunteers offer to help with a variety of health outreach activities, health and human services staff must contact the volunteers to ensure that each volunteer has the required skills and experiences and then align their skills and experiences with appropriate volunteer opportunities. The Community Health Volunteer Manager can be used by health and human services staff to manage volunteers.

In this workflow, you will assume the role of a staff member in a health and human services agency. You have been asked to review volunteer applications and contact each volunteer after you have completed your review.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Community Health Outreach solution.
2. View the Community Health Volunteer Manager app.
3. Expand the left panel, if necessary and click the Healthy Community Outreach Volunteers map.
4. From either the table or the map, select a volunteer.
The volunteer's application opens at the bottom left.
5. Review the volunteer's application form.
6. Click **Edit** button to begin editing.
7. Click the **Status** drop-down arrow and choose a status.

[Back to top](#)

8. Optionally, in the comments text box, add comments to the volunteer application form.
9. Click **Save**.
10. Click **Send Volunteer Email**.
Your email client opens, which allows you to format the email message and attach any additional information that you want to share with the volunteer.

Review health resource contributions

Engaging health care providers and the public is one way you can curate a health resource inventory and respond to changes in the community but it is critical to review contributions made through the Health Resource Feedback form before making them visible in the Health Resource Locator app.

In this workflow, you'll assume the role of a staff member in a health and human services agency. You have been asked to review health resource contributions and make the necessary updates to your inventory.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Community Health Outreach solution.
2. View the Health Resource Inventory app.
On the map, red diamonds indicate the locations marked in feedback contributions.
3. On the right, click the **Resource Editor** button to open the widget, if necessary.
4. On the map, click a red diamond.

Tip:

Current health care resources will be symbolized with a circle.

5. Review the health resource contribution.
6. If applicable, use the information in the contribution to create a health resource or update an existing one.
7. After you finish updating your inventory, click the red diamond again to open the feedback form, and then and change the status to **Reviewed**.

Community Science

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Community Science

Community Science can be used to solicit plant and animal observations from community scientists, manage each observation, and monitor community science programs.

It encourages engagement with community scientists, and the location-enabled observations help community science program managers evaluate the effectiveness of community science initiatives. Contributing plant and animal observations to a larger initiative gives community scientists a sense of ownership and investment in the protection of these areas, and exploring observations submitted by others encourages further engagement. Community Science is typically implemented by conservation organizations, natural resource departments, and other government agencies that want to take a data-driven approach to conserving plant and animal populations.

The Community Science solution delivers a set of capabilities that help you engage community scientists, manage incoming observations, and monitor community science programs.

Requirements

Community Science requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123
- Survey123 Connect

Information products

Community Science includes the following information products:

Item	Description	Minimum user type
Community Science Dashboard	An ArcGIS Dashboards app used by conservation staff to explore reports	Viewer
Community Science Manager	A Crowdscore Manager app used by conservation staff to monitor and verify reports	Editor

[Back to top](#)

Community Science Survey	An ArcGIS Survey123 form used by community scientists to report plant and animal observations in wildlife areas	Field Worker
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Community Science

Configure Community Science

In this topic, you will learn how to configure the Community Science solution to meet specific needs in your organization.

Edit survey categories

Community Science Survey presents community scientists with a set of categories for their report. Each category is stored as a separate path in an SVG file. You can add and remove categories to reflect the types of reports that may be collected in your area by editing the SVG file in a vector graphics editor.

Tip:

[Learn more](#) about using SVG files in ArcGIS Survey123.

Remove a category

Removing a category from the Community Science Survey does not affect any observations that were previously collected. To remove a category in Community Science Survey, complete the following steps:

1. Download and install Survey123 Connect.
2. Sign in to Survey123 Connect using the account that owns your Community Science Survey application.
3. Use Survey123 Connect to download and open your Community Science Survey.
4. From the menu on the left side of the app, click **Files**.
Windows Explorer opens to the directory containing the downloaded files for the Community Science Survey.
5. Open the media directory.
This folder contains the SVG files with the options for each of the categories.
6. Open the file that contains the option you want to remove. You can use a text editor, but an editor such as Inkscape allows you to visualize the changes as you make them.
7. Select and delete the option you want to remove. Each option consists of three paths: a colored square, one or several text elements, and a line drawing of an organism that belongs to the category. Delete all three belonging to the option you are removing.
8. If necessary, rearrange the other categories to fill in the hole.
9. Save the changes to the SVG file.
10. In Survey123 Connect, click the **Update** button to preview your changes. If you are satisfied, click the **Publish** button to push your changes to your published survey.

[Back to top](#)

Note:

No changes are necessary in the XLSX form to remove a category from the Community Science Survey.

11. Open the Item Details page for the survey hosted feature layer and click **Data** and then click the **Fields** button.
12. If you want to remove a top-level category, click the **I saw a** field name. Remove the category from the list of values.
13. Click the **observation** field. Remove the relevant category of categories from the list of values.
14. Confirm that the category has been removed from the Dashboard view by repeating step 11 on the Dashboard layer.
15. Open the Survey123 field app and refresh the survey by clicking the **Refresh** button on the **Download Surveys** screen. Open the survey to view the changes.

Add a category

Adding a category from the Community Science Survey app does not affect any observations that were previously collected. To add a top-level category from Community Science Survey, complete the following steps:

1. Open the Item Details page for the survey hosted feature layer and click **Data** and then click the **Fields** button.
2. Click the **I saw a** field name. Add the new category to the list of values.
3. Confirm that the category has been added to the Dashboard view by repeating step 1 on the Dashboard layer.
4. Download and install Survey123 Connect.
5. Sign in to Survey123 Connect using the account that owns the Community Science Survey.
6. Use Survey123 Connect to download and open the Community Science Survey.
7. Click the **XLSForm** button to open the survey spreadsheet.
8. On the **Choices** tab, add the new option to the category list. Save the XLS form.
9. From the menu on the left side of the app, click **Files**.
Windows Explorer opens to the directory containing the downloaded files for the Community Science Survey.
10. Open the media directory.
This folder contains the SVG files with the options for each of the categories.
11. Open the category.svg file. You can use a text editor, but an editor such as Inkscape allows you to visualize the changes as you make them.
12. Copy and paste an existing option. Each option consists of three paths: a colored square, one or several text elements, and a line drawing of an organism that belongs to the category. Make sure you copy and paste all components.
13. Update the **id** property of the colored square to match the name (not the label) of the new option.

[Back to top](#)

14. Update the contents of the text to reflect your new category.
15. If necessary, rearrange the categories, update the color, and provide a new graphic.
16. Save the changes to the SVG file.
17. In Survey123 Connect, click the **Update** button to preview your changes. If you are satisfied, click the **Publish** button to push your changes to your published survey.
18. Open the Survey123 field app and refresh the survey by clicking the **Refresh** button on the **Download Surveys** screen. Open the survey to view the changes.

Add a subcategory

Adding a subcategory to the Community Science Survey app does not affect any observations that were previously collected. To add a second-level category to the Community Science Survey, complete the following steps:

1. Open the **Details** page for the survey feature layer and click **Data > Fields**.
2. Click the **category** field name. Add the new option to the list of values.
3. Repeat the previous step for the dashboard view.
4. Download and install Survey123 Connect.
5. Sign in to Survey123 Connect using the account that owns the Community Science Survey.
6. Use Survey123 Connect to download and open your Community Science Survey.
7. Click the **XLSForm** button to open the survey spreadsheet.
8. On the **Choices** tab, add the new option to the appropriate list. If you are creating a new list of options for a new category, create a new list. Save the XLS form.
9. Optionally, add choices to the **condition** and **observationtype** lists for the new subcategory.
10. If you are creating a new list of options for a new category, you will also need to add a question to the survey. Follow the pattern of the other subcategory selection questions to create a question that will display the appropriate subcategories when the new category is selected. Save the XLS form. If you are only adding a new option to an existing category, no new question is required.
11. From the menu on the left side of Survey123 Connect, click **Files**.
Windows Explorer opens to the directory containing the downloaded files for the Community Science Survey.
12. Open the media directory.
This folder contains the SVG files with the options for each of the categories.
13. Open the SVG file that corresponds to the category where you want to add a new option. If you are adding options for a new category, copy, paste, rename, and edit an existing file. You can use a text editor, but an editor such as Inkscape allows you to visualize the changes as you make them.
14. Copy and paste an existing option within the SVG file. Each option consists of three paths: a colored square, one or several text elements, and a line drawing of an

organism that belongs to the category. Make sure you copy and paste all components.

15. Update the **id** property of the colored square to match the name (not the label) of the new option.
16. Update the contents of the text to reflect your new option.
17. If necessary, rearrange the options, update the color, and provide a new graphic.
18. Save the changes to the SVG file.
19. In Survey123 Connect, click the **Update** button to preview your changes. If you are satisfied, click the **Publish** button to push your changes to your published survey.
20. Open the Survey123 field app and refresh the survey by clicking the **Refresh** button on the **Download Surveys** screen. Open the survey to view the changes.

Use Community Science

The Community Science solution delivers a set of capabilities that help you engage community scientists, manage incoming observations, and monitor community science programs.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.


Submit a community science report

You will assume the role of a member of the general public setting out on a day hike in a local park. You will use the Community Science Survey app to submit observations along the way.

1. In ArcGIS Survey123, open the Community Science Survey form.
2. At the bottom of the app, tap **Collect** to begin collecting data.
3. Tap the tile that best represents the type of organism you have observed, and then tap to report how you observed it.
4. At the bottom of the app, tap the arrow to continue to the next question.
5. On the next page, fill in as many details as you can, and then tap the arrow to continue to the next question.
A photo or audio recording is used to help verify a report. Therefore, you are required to upload one.
6. Take or upload a photo or audio recording (for audio observations) of the organism, and then tap the arrow to continue to the next question.
7. Tap the map to provide the observation location and tap the date to provide information about when you made the observation, and then tap the arrow to continue to the next question.
8. Provide any additional information about the observation that could be helpful in verifying the reported organism, and then tap the arrow to continue to the next question.
9. Optionally, provide your name and email address.
When you provide this information, the report is counted toward the top contributor ratings in the Community Science Dashboard.
10. At the bottom of the app, tap the check mark.
If you are working in a disconnected environment, you can save your report in your outbox and then submit it when you have connectivity.
11. Choose whether to submit the survey now or save it for later.

Manage community science reports

You will assume the role of a conservation staff member who verifies incoming reports based on the presented evidence. You will use the Community Science Manager app to verify a community science report.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Community Science solution.
2. View the Community Science Manager app.
3. In the **Status** column, click the filter button, and then for **Status**, choose **Unverified**.
4. In the **Observation Time** column, click the arrows and choose **Sort in ascending order**.
The oldest reports are now at the top of the table.
5. Click a report to select it.
The report opens in the information panel at the bottom right.
6. Review the details and attached media.
7. Click the **Edit Record** button , and then, if necessary, edit the categorization and identification of the organism based on the evidence provided.
8. Update the status to **Verified**.
9. Click **Save** to update the report.

Explore community science reports

You will assume the role of either a conservation staff member or a member of the general public who wants to explore the submitted community science reports. You will use the Community Science Dashboard to filter and explore the dataset to see what types of observations have been submitted.

1. In a browser, from the Community Science solution, view the Community Science Dashboard.
2. On the left, adjust the filters to refine the results by category, type of organism observed, status, or observation date.
The map, charts, count, and observation list update to show a subset of the data based on your filters.
3. On the serial charts, click the bars to further filter the results.
4. On the right, click a report in the list to review its details.
5. Continue exploring and applying filters to reveal more details about the community science program.
6. After you finish, close the Community Science Dashboard app.

Conservation Easement Monitoring

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Conservation Easement Monitoring

Conservation Easement Monitoring can be used to routinely inspect conservation easements and monitor conservation easement programs.

It streamlines the inspection of conservation easements established to protect natural resources such as forests, riparian areas, and wildlife. The generation of property reports strengthens communication with conservation easement stakeholders and promotes compliance with the terms of each easement. Conservation Easement Monitoring is typically implemented by forestry departments, natural resource departments, and other conservation organizations that want to take a data-driven approach to managing conservation easements.

The Conservation Easement Monitoring solution delivers a set of capabilities that help you understand current property conditions, inspect conservation easements, monitor conservation easement programs, and engage conservation easement stakeholders.

Requirements

Conservation Easement Monitoring requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps
- ArcGIS Survey123
- Survey123 Connect

Information products

Conservation Easement Monitoring includes the following information products:

Item	Description	Minimum user type
Conservation Easement Dashboard	An ArcGIS Dashboards app used by conservation staff to monitor the results and progress of conservation easement inspections	Viewer

[Back to top](#)

Conservation Easement Survey	An ArcGIS Survey123 form used by mobile workers to inspect conservation easements	Field Worker
Conservation Easement Monitoring	A map used by mobile workers to review existing conservation easements and start a routine inspection of a given easement	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Conservation Easement Monitoring

Configure Conservation Easement Monitoring

In this topic, you will learn how to configure the Conservation Easement Monitoring solution to meet specific needs in your organization.

Load data

Conservation Easement Monitoring can be used to routinely inspect conservation easements and monitor conservation easement programs. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Load data for ConservationEasements from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Navigate to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you wish to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Conservation Easement Monitoring

The Conservation Easement Monitoring solution delivers a set of capabilities that help you understand current property conditions, inspect conservation easements, monitor conservation easement programs, and engage conservation easement stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Conduct conservation easements inspections

You will start by assuming the role of a mobile worker in a state forestry department capturing an inspection of a conservation easement. You are asked to use the Conservation Easement Survey to capture inspection details.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Conservation Easement Monitoring solution.
2. View the Conservation Easement Monitoring map.
3. On the map, click the conservation easement that you want to inspect.
A pop-up with information about the conservation easement property appears.
4. In the pop-up, review the conservation easement property details, and then click **Start Inspection** to launch the Conservation Easement Survey.
The form opens. Property information has been automatically completed with details from the Conservation Easement Monitoring map.
5. Complete the remaining survey parameters with as much additional information as possible.
6. Click **Submit**, and then if necessary, click **Send now**.

Monitor conservation easement programs

Next, you will assume the role of a program manager in a state forestry department. You are responsible for monitoring the status of a conservation easement program. You will view the overall status of your conservation easement program and then look more closely at specific locations.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Conservation Easement Monitoring solution.
2. View the Conservation Easement Dashboard.
The Conservation Easement Dashboard opens with an overview of the current program status. The overview displays key metrics. This information gives management a quick overview of the total number of conservation easements, conservation easements that require follow up after inspection, and completed conservation easement inspections.

[Back to top](#)

3. In the filter panel, for **Follow Up Required**, choose **Yes**.
4. In the right panel, at the bottom, click the **List** tab, and then select an inspection from the list.
The map zooms to the inspection location, and the inspection report opens in a pop-up.
5. Review the information in the pop-up.

Share inspection results

Finally, you will assume the role of a conservation staff member in a state forestry department. You are responsible for generating an inspection report to send to the conservation easement owner or property manager.

1. In a browser, go to the ArcGIS Survey123 website and sign in with your ArcGIS organization credentials.
2. Open the Conservation Easement Survey, and then click the **Data** tab.
3. From the table, select a conservation easement inspection.
4. At the top of the page, click **Report**.
5. In the **Report** panel, provide a report name, and then for **Format**, choose **Portable Document Format (.pdf)**.
6. Click **Generate** to create the inspection report.

Note:

You can generate conservation easement inspection reports for multiple inspections at the same time. There are two options: Select multiple inspections from the Conservation Easement Survey table or select the **All records in the table** option in the **Report** pane.

Note:

To learn more about printing reports in ArcGIS Survey123, see [Print survey results](#)

Conservation Outreach

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Conservation Outreach

Conservation Outreach can be used to track wildlife conflicts and engage stakeholders in and around protected areas.

It provides 24/7 access to conservation outreach information and the location-enabled wildlife conflict reports help conservation staff mitigate future wildlife conflicts. Conservation Outreach is typically implemented by conservation organizations that want to take a data-driven approach to managing conflicts between humans and wildlife.

The Conservation Outreach solution delivers a set of capabilities that help you capture conflicts between humans and wildlife, manage the resolution of each conflict, and monitor outreach activities in and around protected areas.

Requirements

Conservation Outreach requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123

Information products

Conservation Outreach includes the following information products:

Item	Description	Minimum user type
Wildlife Conflict Dashboard	An ArcGIS Dashboards app used by conservation staff to monitor the status of wildlife conflict incidents within and around protected areas	Viewer
Wildlife Conflict Manager	A Crowdsourcing Manager app used by conservation staff to manage and update wildlife conflict incident reports	Editor
Wildlife Conflict Reporter	An ArcGIS Survey123 form used by conservation staff to collect wildlife conflict incident reports	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Conservation Outreach

Configure Conservation Outreach

In this topic, you will learn how to configure the Conservation Outreach solution to meet specific needs in your organization.

Load data

Conservation Outreach can be used to track wildlife conflicts and engage stakeholders in and around protected areas. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Load data for WildlifeConflicts from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Navigate to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you wish to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Conservation Outreach

The Conservation Outreach solution delivers a set of capabilities that help you capture and manage wildlife conflicts and engage local communities.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Collect wildlife conflict incidents

You will start by assuming the role of a mobile worker in a protected area collecting wildlife conflict incidents. You have been asked to use the Wildlife Conflict Reporter survey to collect wildlife conflict incidents.

1. On a mobile device, in ArcGIS Survey123, open the Wildlife Conflict Reporter form.
2. Tap **Collect**.
3. Complete the survey with as much information as possible.


Note:

Required information is marked with a red asterisk.

4. Tap **Submit**, and then tap **Send now**.

Manage wildlife conflicts

Next, you will assume the role of a community outreach staff member. You will review wildlife conflict incidents by completing the following steps:

1. In a browser, sign in to your ArcGIS organization, and then browse to the Conservation Outreach solution.
2. View the Wildlife Conflict Manager app.
Wildlife incident reports are listed in the table at the top. The table can be sorted and filtered in various ways.
3. In the table column headers, use the filters and arrows to filter results.
4. Select a wildlife conflict incident from the table.
The report details open at the bottom left.
5. In the report details, click the **Edit Record** button  .
6. Make any necessary updates to the report, and then click **Save**.

[Back to top](#)

Monitor wildlife conflict programs

Now, you will assume the role of a protected area manager. You will monitor the status of wildlife conflict incidents within and around a protected area.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Conservation Outreach solution.
2. View the Wildlife Conflict Dashboard app.
3. On the left, adjust the filters to refine the results.
4. On the right, select a wildlife conflict incident from the list.
The map zooms to the incident, and a pop-up with incident details appears.
5. Review the incident details.

Coronavirus Business Continuity

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Business Continuity

Coronavirus Business Continuity can be used to maintain business operations and share authoritative information with customers and stakeholders during the coronavirus disease 2019 (COVID-19) pandemic.

The rapid switch to home offices, frequently changing government regulations, and employee inability to report to work has made it difficult for organizations to understand the capacity of their workforce during the COVID-19 pandemic. Organizations need to know who is able to work and where employees are working from to make business continuity decisions. Having personnel perform a daily self-check-in or having supervisors check in with their teams gives organizations clarity into workforce capacity. Coronavirus Business Continuity is typically implemented by organizations that want a clear understanding of workforce capacity and facility status to help them adapt and ensure business continuity.

The Coronavirus Business Continuity solution delivers a set of capabilities that help you understand the operational capacity of your workforce, monitor the status of your facilities, and communicate your reopening plans to customers and employees.

Requirements

Coronavirus Business Continuity requires the following:

- ArcGIS Enterprise

Information products

Coronavirus Business Continuity includes the following information products:

Item	Description	Minimum user type
Individual Check-in	An ArcGIS Survey123 form used by employees or contract personnel to report their work status	Editor
Team Check-in	An ArcGIS Survey123 form used by a manager, supervisor, or team lead to report the work status of their personnel	Editor

[Back to top](#)

Personnel Status Dashboard	An ArcGIS Dashboards app used by human resources executives or incident commanders to monitor workforce capacity	Viewer
Team Status Dashboard	An ArcGIS Dashboards app used by a manager, supervisor, or team lead to monitor the capacity of their team.	Viewer
Facility Status Reporter	An ArcGIS Web AppBuilder app used by facility managers to look up facilities they are responsible for and submit a report	Editor
Facility Status Report	An ArcGIS Survey123 form used by a building or facility manager to report facility and operational status	Editor
Facilities Status Dashboard	An ArcGIS Dashboards app used by executives and managers to monitor the operational status of their facilities	Viewer
Coronavirus Business Continuity	An ArcGIS Hub site used by businesses, utilities, and government agencies to share COVID-19 health and safety plans with employees returning to the workplace and customers who visit their place of business	Viewer (required for internal destination page)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
2.0	<ul style="list-style-type: none"> A new ArcGIS Hub site used by businesses, utilities, and government agencies to share COVID-19 health and safety plans with employees returning to the workplace and customers who visit their place of business A new Facilities feature layer that supports the implementation of the Coronavirus Business Continuity and Coronavirus Business Reopening solutions A new Individual Check-in survey that supports the implementation of the Coronavirus Business Continuity and Coronavirus Health Screening solutions
1.0	<ul style="list-style-type: none"> First release of Coronavirus Business Continuity

[Back to top](#)

Configure Coronavirus Business Continuity

Learn how to configure the Coronavirus Business Continuity solution to meet specific needs in your organization.

Load personnel

Personnel information must be loaded before using the Individual Check-in, Team Check-in, and related dashboards. The Check-in forms require a user to sign in with a user name. The signed-in user name is automatically associated with their full name, team, and office location whenever a check-in is submitted. Personnel information is stored in a table in the Personnel feature layer, and you can use the `PersonnelSource.csv` file to organize your personnel information before loading it into ArcGIS. Ensure that you populate the user name column in the `PersonnelSource.csv` file with the ArcGIS user names in your organization that use the Individual Check-in or Team Check-in forms.

To load your personnel information from a spreadsheet, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the `PersonnelSource.csv` item.
2. Open item page and click **Download**.
3. Edit the `.csv` file and provide your personnel information.
4. In your ArcGIS organization, browse to the Personnel feature layer.
5. Open item page and click **Update Data > Append Data to Layer**.
6. Click **Choose File** and browse to your `.csv` file, and click **Open**.
7. Click **Upload and Continue**.
8. Click the **Choose the layer to update** drop-down arrow and choose **Personnel Information**.
9. Uncheck **Update existing features**.
10. Click **Show field matching** to map the fields.
11. Click **Apply Updates**.

Tip:

In some cases, you may need to add or modify past check-in information. The Creator and CreationDate fields on feature layers are not editable when editor tracking is enabled. However, you can temporarily disable editor tracking on the layer and then load or modify your check-ins. Once you have completed loading your source data, reenable editor tracking on the layer.

Load facilities

Facilities must be loaded before using the Facility Status Reporter and Facility Status Dashboard. You can use the `FacilitiesSource.csv` file to inventory your facilities before loading it into ArcGIS.

[Back to top](#)

To load your facilities from a spreadsheet, complete the steps below:

1. Verify that you are signed in to your ArcGIS organization and browse to the FacilitiesSource item.
2. Open item page and click **Download**.
3. Edit the .csv file and provide your facility information.

Note:

At a minimum, you must provide a unique facilityid and the latitude and longitude for each facility. If you don't have a unique ID, you can edit the .csv in Excel and copy this formula into the first row of the facilityid column: =CONCATENATE("Facility-", TEXT(ROW(A1),"00000")). You can then drag the right corner of the cell to fill the formula down for all facilities giving each a unique ID.

4. In your ArcGIS organization, browse to the Facilities feature layer.
5. Open item page and click **Update Data > Append Data to layer**.
6. Click **Choose File**, browse to your .csv file, and then click **OK**.
7. Click **Upload and Continue**.
8. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Facilities**.
9. Uncheck **Update existing features**.
10. Click **Show field matching** to map the fields.
11. Click **Apply Updates**.

Configure the Coronavirus Business Continuity site




The Coronavirus Business Continuity solution includes an ArcGIS Hub site that can be used by the general public and employees to learn how the organization is keeping customers, residents, and employees safe as organizations return to work during the coronavirus disease 2019 (COVID-19) pandemic. The site provides role-based access to pages, rows, and information products included in the COVID-19 solutions (Business Continuity, Business Re-opening, Site Safety, and Health Screening) and include content for the public, all employees, facility managers, and executives.

The Coronavirus Business Continuity site contains information for the public and is intended to be shared with everyone and available to anonymous users. The Internal Destination page contains information for employees and is intended to be shared inside the organization and only available to named users in the organization. The Internal Destination page also includes content intended for facility managers or executives and is only visible to users in the organization who are members of specific groups.

Update with organizational information

After deploying the Coronavirus Business Continuity solution, the Coronavirus Business Continuity site layout only requires a few updates to fit your local context. Consider what

information you already have and what you can most easily find. This information can include the following:

1. Verify that you are signed in to your ArcGIS organization and browse to Coronavirus Business Continuity site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. On the Coronavirus Business Continuity site scroll to the **Featured News** section, hover over the card you want to update, click the settings button , and update the text.
5. Scroll to the **For more information** section, hover over the card, and click the settings button.
6. Click the customer service link, and then click **Edit**.
7. Enter an email address into the **Link Destination** text box and click **Add Link**.
8. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
9. Scroll to the **Additional Resources** section, hover over the card, and click the settings button.
10. To update the links, click the **Learn More** button and click **Edit**.
11. Enter a URL into the **Link Destination** text box and click **Add Link**.
12. To update images, hover over the image card and click the settings button.
13. In the side panel, provide an image for the outcome by either dragging an image or browsing for an image.
14. Add additional sources of authoritative information regarding the pandemic.
15. To modify your site's footer, click **Customize Toggle**  on the side panel.
16. Click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
17. Click the **HTML** text box.
The **HTML** window appears.
18. Make the necessary changes and click **Apply**.
19. Click **Save**.
20. In the top left corner of the page, click **Exit edit mode**.
21. Click the **Internal Destination** tab.
22. Click the edit button to open the site editor.
23. Scroll to the **Message from Executive** section.
24. To update the video, hover over the video card and click the settings button.
25. Replace the URL in **Video Link** text box.
26. Hover over the **Message from Executive** card, click the settings button, and update message you want to share with employees.



27. Scroll to the **For more information** section, hover over the card, and click the settings button.
28. Click the human resources hyperlink, and then click **Edit**.
29. Enter an email address into the **Link Destination** text box and click **Add Link**.
30. Scroll to the **Internal Updates** section, hover over the card, click the settings button and update it with relevant information for employees.
31. Click **Save**.

Deploy related solutions

This site references content from the Coronavirus Business Reopening, Coronavirus Health Screening and Coronavirus Site Safety solutions. To deploy these solutions, follow the steps in the [Deploy an ArcGIS Solutions](#) section.

Update solution references

This site and page have references to solutions deployed in the previous section. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to Coronavirus Business Continuity site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Visiting Business Location** section.
5. Hover over the **Health Screening** card and click the settings button .
6. Click on the **Complete Screening** button and click **Edit**.
7. Enter the Visitor Health Screening form URL deployed in the previous step (one of the forms deployed in the Coronavirus Health Screening solution) into the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Visitor Health Screening app. Open the item page, click **View Application**, and copy the app URL.

8. Click **Save**.
9. In the upper left corner of the page, click **Exit edit mode**.
10. Click the **Internal Destination** tab at the top of the page.
11. Click the edit button to open the site editor.
12. On the Internal Destination page, scroll to the **Monitoring Employee Health** section.
13. Hover over the **Health Screenings** card and click settings button.
14. Click the **Complete Screening** button, and then **Edit**.

[Back to top](#)

15. Enter the Employee Health Screening form URL deployed in the previous step (one of the forms deployed in the Coronavirus Health Screening solution) into the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Employee Health Screening app. Open the item page, click **View Application**, and copy the app URL.

16. Scroll to the **Safe Work Environments** section.
17. Hover over the **Health and Safety Plans** card and click the settings button.
18. Click the **View Health Safety Plans** button, and then **Edit**.
19. Enter the Coronavirus Site Safety Map Viewer app URL deployed in the previous step (one of the forms deployed in the Coronavirus Health Screening solution) into the **Link Destination** text box and click **Add Link**.

Note:

Browse to the Coronavirus Site Safety Map Viewer app. Open the item page, click **View Application**, and copy the app URL.

20. Click **Save**.

Manage visibility of content

The Business Continuity includes two groups Coronavirus Business Continuity—Facility Managers and Coronavirus Business Reopening—Executives. The Coronavirus Business Continuity—Facility group is associated with the Manage Facility Status section and the Coronavirus Business Continuity—Executives is associated with the Gain Organizational Insight section on the Internal Destination page.

Any apps shared with these groups display in their corresponding section, and only members of the groups see this content on the page. This allows you to give a unique view to Facility Managers and Executives inside the organization while hiding the content for all other staff.

1. Verify that you are signed in to your ArcGIS organization, click the **Group** tab and browse to your Coronavirus Business Continuity—Facility Managers group.
2. Open the group page.
3. Click **Add Items to Group** and search for and add the following apps:
 - Facility Status Reporter (deployed with Coronavirus Business Continuity)
 - Site Safety Form, Site Safety Manager, Site Safety Map Editor, Site Safety Dashboard (deployed with Coronavirus Site Safety)
 - Health Screening Dashboard (deployed with Coronavirus Health Screening)
4. Check the check box next to the app name and click **Add Items** to add the apps to the group.
5. Click **Invite Users**.
6. Add your organization's Facility Managers and click **Add to group**.

[Back to top](#)

7. Click the **Groups** tab and browse to your Coronavirus Business Continuity—Executives group in your ArcGIS organization.
8. Click **Add Items to Group**.
9. Search for and add the following apps:
 - Personnel Status Dashboard, Facilities Status Dashboard (deployed with Coronavirus Business Continuity)
 - Coronavirus Business Reopening (deployed with Coronavirus Business Reopening)
 - Site Safety Dashboard (deployed with Coronavirus Site Safety)
 - Health Screening Dashboard (deployed with Coronavirus Health Screening)
10. Click **Invite Users**.
11. Add your organization's Executives.

Integrate health screening

Many organizations are asking all employees and visitors to attest each day that they are symptom-free and have not had recent contact with anyone who has tested positive for coronavirus and require a temperature check before they are permitted to enter the building. You can use the [Coronavirus Health Screening](#) solution to conduct health screenings before employees and visitors are permitted to enter a building, facility, or location.

Organizations that also deploy the Coronavirus Health Screening solution can configure the Individual Check-in form to ask employees who plan on working from the office to first complete the Employee Health Screening form before coming into the office.

To integrate health screenings with the Individual Check-in form, complete the following steps:

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Individual Check-in** to download the survey.
4. In the **Download** window, click **Download** and click **OK**.
5. Click **Individual Check-in** again to open the survey.
6. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
7. In the Microsoft Excel spreadsheet, find the health screening question located in the fourth row and column B (name).
8. Scroll to the right to column J (default) and change the text from No to Yes for this row.
9. Find the health screen note located in the 35th row and column B (name).
10. Edit column C (label) and replace the number sign inside the hyperlink with the link to your Employee Health Screening survey.

Tip:

Look for the following text containing the hyperlink: `health screening form`.

11. Save and close the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.
12. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar to publish your changes.

Extend business continuity surveys

The Coronavirus Business Continuity solution includes a series of surveys (Individual Check-in, Team Check-in, and Facility Status Report) that can be used to understand the capacity of your workforce and status of facilities you operate.

Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies and any applicable laws. In addition, ensure you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Coronavirus Business Continuity solution includes a series of views created from the Facilities and Personnel feature layers. Organizations may want to modify the Facility Status Report and Individual Check-in surveys by first adding new fields to the feature layers and then configuring the surveys to use the newly created fields. When doing so, the new fields must be exposed in the appropriate views. Additionally, some views are created by joining two sources together, and these views must be re-created with the same name and URL after a new field is added.

Organizations may want to modify the Facility Status Report, Individual Check-in, and Team Check-in surveys by adding new survey questions. When adding new questions, begin with the Update feature layer views section below. For changes such as removing questions or formatting the survey, proceed to the Modify business continuity surveys section.

To add one or more fields to a layer and re-create the views, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.
2. [Add a new field](#) to a layer in the Facilities or Personnel hosted feature layer.
3. Browse to the view in your contents.
4. Open the item page and click the **Visualization** tab.
5. Click **More Options** on the appropriate layer or table and click **Set View Definition > Define Fields**.
6. Scroll to the newly created field and check the box next to the new field or fields.
7. Click **Apply**.
The new field is added to the view's definition.

To update a join view, complete the following steps:

1. Browse to the join view in your contents (for example, Facilities_current).
2. Open the item page and scroll to the URL section. Click the **Copy** button.
3. Paste the copied URL into Microsoft Notepad or another text editor for reference.

Note:

The feature layer name will be used below when re-creating the join. The name can be found after services in the URL structure and may also contain a unique GUID, for example, Facilities_current_a45f71a48587425c9b90ee5527cd26d1.

4. Click the **Settings** tab.
5. Click the **Delete Item** button and click **Delete**.
6. Browse to the source hosted feature layer (for example, Facilities).
7. Open the item page and click **Open in Map Viewer**.
8. Click the **Analysis** button and click **Summarize Data > Join Features**.
9. Configure the join using the following table:

Target layer	Layer to join to the target layer	Types of join	Fields to match	Join operation	Define which record is kept	Result layer name
Facilities	Facilities Status Report	Choose the fields to match	GlobalID = facilityguid	Join one to one	Order by created_date /Newest	Facilities_current
Facilities	Facilities Status Report	Choose the fields to match	GlobalID = facilityguid	Join one to one	Order by created_date /Newest	Facilities_public
Personnel	Personnel Information	Choose the fields to match	Create = username	Join one to one	Order by CreateDate/ Newest	Personnel_all

[Back to top](#)

Personnel Information	Personnel	Choose the fields to match	Username = Creator	Join one to one	Order by CreateDate/Newest	Personnel_current
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Note:

Ensure each new join view uses the names defined in this table. If you use the same names, the layers in the map and the existing dashboard widgets do not have to be reconfigured. If your join view contains a unique GUID, the new join view needs to be named with the unique GUID.

10. Uncheck **Use current map extent**, if checked.
11. Check **Create results as hosted feature layer view**.
12. Update the Personnel Status Dashboard or Facilities Status Dashboard to account for the new fields you added to the layers.

Modify business continuity surveys

To modify a Coronavirus Business Continuity survey, complete the following steps:

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Facility Status Report** to download the survey.

Note:

The Facility Status Report survey is an example. The steps below are the same for the Individual Check-in or Team Check-in surveys.

3. In the **Download** window, click **Download** and click **OK**.
4. Click **Facility Status Report** again to open the survey.
5. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
6. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.
7. Revise the survey to reflect your needs.
8. Save and close the Microsoft Excel spreadsheet.
9. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar.
10. Click **Publish survey** to publish your changes and click **OK**.

Use Coronavirus Business Continuity

The Coronavirus Business Continuity solution delivers a set of capabilities that help you understand the operational capacity of your workforce, monitor the status of your facilities, and communicate your reopening plans to customers and employees.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Monitor workforce capacity

The coronavirus disease 2019 (COVID-19) pandemic has significantly affected the workforce of many organizations. Personnel who typically report to an office may be forced to work from home, facilities may be closed or access may be restricted to essential workers, and workers may be unable to report to work due to household issues. Organizations need to know who is able to work and where employees are working from to make business continuity decisions. Having personnel perform a daily self check-in or having supervisors check in their teams gives organizations clarity into workforce capacity.

The Coronavirus Business Continuity solution includes an Individual Check-in form that collects information from personnel including their work status, work location, and wellness information. Organizations deploying the Coronavirus Business Continuity solution should review the preconfigured questions and adjust as necessary to remain in compliance with organizational policies and applicable laws. In addition, ensure that you secure the survey form and underlying layers and only share the content with appropriate members of your organization.

Some organizations may find it more efficient to have managers, supervisors, or team leads check their team members in using the Team Check-in form. If your organization decides to use the Team Check-in form, you can follow the same general steps described here but with the Team Check-in form and the Team Status Dashboard.

Complete individual check-in

You will start by assuming the role of an employee or contractor in a government agency, business, or utility. You have been asked to use the Individual Check-in form to share your work status each morning.

1. In a browser, from the Coronavirus Business Continuity solution, view the Individual Check-in form.
2. Complete the form with as much information as possible.

Note:

Required questions are marked with a red asterisk.

3. Click **Submit**.

Monitor individual check-ins

Now, you will assume the role of a human resources or operations manager in the same government agency, business, or utility. You are asked to monitor the capacity of your workforce and are looking to see if your organization has business locations or teams that lack the staff required to continue operations. You will view the overall status of your workforce and then look more closely at specific locations and trends.

Note:

The steps below are the same if you choose to use the Team Status Dashboard app to monitor the capacity of your team.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Business Continuity solution.
2. View the Personnel Status Dashboard app.
The Personnel Status Dashboard app opens with an overview of the current status.
The overview displays key metrics. This information gives management a quick overview of the number of team members working from their normal locations, from home, and offsite. Any absences and statistics related to the overall health of your workforce are also shown.
3. On the left, in the filter panel, for **Check-in Type**, choose **Individual**.
4. At the lower-right corner of the dashboard, click the **All** tab to see a complete list of check-ins.
5. On the left, in the filter panel, set additional filters to further refine the dashboard results.
You can filter by location, team, date, and other key metrics captured in the Individual Check-in form. In the **Personnel** list, you can click an employee to see additional details.
6. On any indicator, click the **History** tab to review results over time; move the slider in each chart to adjust the time period displayed.
7. At the lower-right corner of the dashboard, click the **Offsite Personnel** tab to see the location of all personnel working offsite.

Track facility status

As the COVID-19 pandemic develops, some organizations have been required to rapidly close facilities or have decided to greatly reduce the number of personnel working in certain facilities. Having visibility into the status of all facilities is a critical component in making business continuity decisions. Daily or periodic status reports from facilities help organizations make informed decisions and necessary operational changes.

The Coronavirus Business Continuity solution includes a Facility Status Report form for facility managers to report the status of the facilities they are responsible for and a Facilities Status Dashboard app to monitor results. Organizations deploying the Coronavirus Business Continuity

solution should review the preconfigured questions and adjust as necessary to remain in compliance with organizational policies and applicable laws.

Complete a facility status report

You will start by assuming the role of a local facility manager in a government agency, business, or utility. You have been asked to use the Facility Status Reporter app and Facility Status Report form to share the status of your facility each day or on a weekly basis.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Business Continuity solution.
2. View the Facility Status Reporter app.
3. On the right, in the **Locate facility** widget, search for a facility; alternatively, click a location on the map.
4. Review the facility details.
5. Click **Submit Status Report**.
6. Complete the Facility Status Report form with as much information as possible.
7. Click **Submit**.

Monitor facility status

Now, you will assume the role of a facility manager or operations manager in the same government agency, business, or utility. You have been asked to monitor the status of your facilities and are looking to see if your organization has business locations that may be impacted by the COVID-19 pandemic. You will view the status of all facilities and then look more closely at specific locations and trends.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Business Continuity solution.
2. View the Facilities Status Dashboard app.
The overview displays key metrics. This information gives management a quick overview of the number of facility reports they have received, operational status of their facilities, and staffing capacity at all facilities.
3. On the left, use filters to refine the results by facility name, country, or geographic region, or by various key facility characteristics.
4. On the right, in the **Number of Facilities** list, select a facility to review facility information; alternatively, click a facility on the map.

Note:

In some instances, organizations may want to review COVID-19 case information around their facilities. In the United States, this information is available at the county level and can be added to the Facilities Status Dashboard map. After you add it to the web map, it is available to facility managers and operations managers when they review the status of their facilities.

Review return to work resources

As an employee in a government agency, business, or utility, you are interested in learning more about what the organization is doing to keep you and your family safe as you begin to return to work. You will use the Coronavirus Business Continuity site to learn about which facilities are open and how their hours may be impacted, the safety plans in place at those facilities, and how you can check in and complete a health screening if you are coming into the office.

1. In a browser, from the Coronavirus Business Continuity solution, view the Coronavirus Business Continuity site.
This site is intended to be shared with the public and is where you can share content intended for your customers and residents in the community.
2. Scroll through the site and review the content.
3. On the site header, click the **Internal Destination** tab.
The **Internal Destination** page is intended to be shared inside the organization and is where you can share content that is only intended for your employees. The page also includes content intended for facility managers (**Manage Facility Status**) or executives (**Gain Organizational Insight**) and is only visible to those users in the organization who are members of specific groups.
4. Scroll through the page and review the content.

Coronavirus Force Readiness

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Force Readiness

Coronavirus Force Readiness can be used to understand force availability and share authoritative information with decision makers during the Coronavirus Disease 2019 (COVID-19) pandemic.

The solution provides units with information regarding which personnel can report for duty and an understanding of their capacity to respond to a request for assistance during the COVID-19 pandemic. Units may be requested to assist in setting up alternate care facilities, detection testing sites, supporting food distribution, and so on. Having personnel perform a routine check-in or having someone from the armory or unit provide the readiness status of a group of personnel gives units clarity into a unit's readiness during the pandemic. Coronavirus Force Readiness is typically implemented by the National Guard, Air National Guard, and other service branches that want to take a data-driven approach to understanding force availability during COVID-19.

The Coronavirus Force Readiness solution delivers a set of capabilities that help you to understand the operational capacity of a force, monitor the status of units, and communicate capabilities and disruptions to commanders and administrative staffs during the COVID-19 pandemic.

Requirements

Coronavirus Force Readiness requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123

Information products

Coronavirus Force Readiness includes the following information products:

Item	Description	Minimum user type
Admin Dashboard	An ArcGIS Dashboards app used by administrative NCOs to monitor personnel availability.	Viewer

[Back to top](#)

Personnel Readiness Dashboard	An ArcGIS Dashboards app used by any unit member to track and monitor personnel readiness and availability.	Viewer
Commander's Dashboard	An ArcGIS Dashboards used by commanders to quickly assess the overall unit readiness.	Viewer
Personnel Readiness Report	An ArcGIS Survey123 form used by a military unit member to report availability.	Not required
Personnel Readiness Batch Report	An ArcGIS Survey123 form used by an NCO or armory clerk to report the availability of their personnel.	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	First release of Coronavirus Force Readiness

Configure Coronavirus Force Readiness

In this topic, you will learn how to configure the Coronavirus Force Readiness solution to meet specific needs in your organization.

Extend force readiness surveys

The Coronavirus Force Readiness solution includes a series of surveys that can be used to understand the capacity of your workforce.

Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies and any applicable laws. Additionally, ensure that you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Coronavirus Force Readiness solution includes a series of views created from the Personnel Readiness feature layer. The feature layer is used in the surveys and the subsequent views are used in the dashboards. Organizations may modify the Personnel Readiness Report survey and ultimately add new fields to the feature layers. When doing so, the new fields must be exposed in the appropriate views.

To add one or more fields to a layer and re-create the views, complete the following steps:

1. Browse to the view in your contents.
2. Click the **Visualization** tab.
3. Click the **Options** button **...** on the appropriate layer or table, then click **Set View Definition**.
4. Click **Define Fields**.
5. Scroll to the newly created field and check the box. Click **Apply**.
The new field is added to the view's definition.
6. Repeat steps 1 through 5 for the Personnel Readiness Dashboard.
7. Update the Personnel Readiness Dashboard to account for the new fields you added to the layers.

Modify readiness surveys

To modify a Coronavirus Force Readiness survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click Personnel Readiness Report to download the survey.
4. Click the Personnel Readiness Report again to open the survey.
5. In the left pane, click **Open XLSForm Spreadsheet**.

6. In the Microsoft Excel spreadsheet, click the **Choices** tab. This tab comprises all of the selectable options for survey questions.
7. Revise the survey to reflect your personnel readiness needs.
8. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Configure echelons

The dashboards are preconfigured to display four battalions and four companies under each battalion. Follow the steps below to add or remove battalions or companies from your dashboard.


Add a battalion

To add battalions or companies to the dashboard, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Personnel Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Select the last battalion tab while in edit mode.
5. Go to the editing tool within this element and select **Duplicate**.
6. Drag the newly created copy and position it below the last battalion tab.
7. Reference duplicated battalion settings, text, and configuration.
8. Add a new name, for example, 5th BN, to the new component.
9. Save your application.

Remove a battalion tab

To remove a battalion or companies from the dashboard, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Personnel Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Select the battalion tab you want to delete while in edit mode.
5. Click the **Delete** button  to delete the selected battalion.
6. Save your application.

Configure alternate reporting periods

The dashboards are preconfigured to display individuals reporting within the last 24 hours. The dashboard owner can configure the dashboard to display alternate reporting periods. The **Personnel List** is the most commonly configured element in regard to its contents and time frame.

[Back to top](#)


To modify the reporting period, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Personnel Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Go to the editing tool within the **Personnel List** element and select **Configure**.
5. Below Battalion, select the **And** option and add **Date Reported** from the drop-down list. You can now select from any of the available options and time frames.
6. Click **Done** and save your application displaying the new reporting period.

Add readiness tabs for new battalions and companies

The dashboards are preconfigured to display four battalions and four companies and their applicable total force/unit size. This tab also contains the availability based on survey submissions and percentage of readiness.

To add percentages of readiness to the dashboard, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Personnel Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Select the **3rd Battalion** tab while in edit mode
5. Go to the editing tool within the **Personnel List** element and select **Duplicate**.
6. Drag the newly created copy and position it below the **3rd Battalion** tab. Reference the 3rd Battalion settings, text, and configuration.
7. Add a new name, such as 5th BN, to the new component and save your application.
8. Go to the **Reference** section within the configuration tool and add the unit size below **Fixed Value**.
This number will provide the available value and percentage of readiness.
9. Follow the previous step and enter your current **Total Force** for each unit level.
10. If you need to remove a battalion tab, click the **Delete** button .
11. Save your application.

Use Coronavirus Force Readiness

The Coronavirus Force Readiness solution delivers a set of capabilities that help you to understand the operational capacity of a force, monitor the status of units, and communicate capabilities and disruptions to commanders and administrative staffs during the COVID-19 pandemic.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Monitor force readiness

The Coronavirus Force Readiness solution includes a Personnel Readiness Report survey that collects information from personnel, including their duty type, location, MOS (military occupational specialty), unit they belong to, and wellness information. Units deploying Coronavirus Force Readiness should review the preconfigured questions and adjust as necessary to remain in compliance with policies and applicable laws of your state or unit. In addition, ensure that you secure the survey and underlying layers and only share the content with appropriate members of your unit.

Some organizations may find it more efficient to have an individual, such as someone from the armory, check their unit member in using the Personnel Readiness Batch Report survey. If a unit decides to use the batch survey, follow the same general steps below with the Personnel Readiness Batch Report survey and the Personnel Readiness Dashboard.

Complete individual readiness report

You will start by assuming the role of a military unit member. You are asked to use the Personnel Readiness Report survey to share your availability status each morning.

1. In a browser, go to your Personnel Readiness Report survey.
2. In the Personnel Readiness Report survey, fill in the following details:

Parameter	Value
State	Select California .
Battalion	Select 1st Battalion .
Company	Select A Company .
Rank	Select E-4/CPL .
MOS	Type 12W .

[Back to top](#)

Select Duty Type	Select State Active Duty .
First Name	Type your first name.
Last Name	Type your last name.
Commander	Type your commander's name.
Provide Location	Select your location on the map or provide your address.
Can you report for duty?	Select No .
Is it health related?	Select Yes .
Is it your health or someone else's?	Select Self .
Is it COVID-19 related?	Select Yes .
Select your status	Select Quarantined .
Select date quarantine started	Select a date within 14 days of today.
Check completed by:	Select Self .

3. Click **Submit**.

Monitor personnel readiness

Now, you will assume the role of the Readiness NCO in the same unit. You are asked to monitor the readiness of your unit and are looking to see whether your unit is available to be assigned to a mission. You will view the overall readiness of your workforce.

Note:

The steps below are the same if you are an administrative NCO and will be using the Admin Dashboard to monitor the readiness of your team. The Admin Dashboard will contain personal information about the individual unit members.

1. In a browser, go to the Personnel Readiness Dashboard app.
2. The Personnel Readiness Dashboard opens with an overview of the overall readiness of the brigade and each battalion in the brigade.

[Back to top](#)

The overview displays key metrics. This information gives leadership a quick overview of the number of unit members available. Statistics related to the availability of your unit are also shown.

3. In the filter at the top of the dashboard, click **Last 24 Hrs** to see a complete list of the submissions from the last 24 hours.
4. Filter by **Time frame**, **MOS by Battalion**, and **MOS by Company**. Review the list of personnel and their locations in the map.
5. Click each of the **Battalion** tabs to see the availability for each company in that battalion.
6. Adjust the slider in the **Quarantined (Start Date) - Last 14 Days** chart to adjust the time period you want to review.

In the lower left corner of the dashboard, you can review the **COVID-19 Status** submitted by individual unit members.

Coronavirus Health Screening

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Health Screening

Coronavirus Health Screening can be used to conduct coronavirus disease 2019 (COVID-19) health screenings before employees and visitors are permitted to enter a building, facility, or location.

As employees return to work and locations reopen to the public, organizations are taking steps to protect the health and safety of all individuals in their facilities. As a result, many organizations are asking employees and visitors to attest each day that they are symptom free and have not had recent contact with anyone who has tested positive for COVID-19. Many are also requiring a temperature check before they are permitted to enter the building. Coronavirus Health Screening is typically implemented by organizations that want to conduct health screenings on all employees and visitors entering their facilities.

The Coronavirus Health Screening solution delivers a set of capabilities that help you screen employees and visitors by requiring that they self-report symptoms or contact, record the result of a temperature check, and track who was permitted to enter a facility or location on a given date.

Requirements

Coronavirus Health Screening requires the following:

- ArcGIS Enterprise

Information products

Coronavirus Health Screening includes the following information products:

Item	Description	Minimum user type
Employee Health Screening	An ArcGIS Survey123 form used by employees or contract personnel to self-report coronavirus symptoms or contact before entering a facility or location	Editor
Visitor Health Screening	An ArcGIS Survey123 form used by visitors to self-report coronavirus symptoms or contact before entering a facility or location	Not required

[Back to top](#)

Temperature Check	An ArcGIS Survey123 form used by health screeners to record temperature checks of employees and visitors before entering a facility or location	Editor
Health Screening Dashboard	An ArcGIS Dashboards app used by health screeners and human resources executives to monitor health screenings and determine who was permitted to enter a facility or location on a given date	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Coronavirus Health Screening

Configure Coronavirus Health Screening

In this topic, you will learn how to configure the Coronavirus Health Screening solution to meet specific needs in your organization.

Load screening locations

Screening locations must be loaded into the HealthScreenings feature layer before using the Health Screening Dashboard. The `ScreeningLocationsSource.csv` file included with the solution can be used to organize your screening locations before loading into ArcGIS.

To load your screening locations from the `ScreeningLocationsSource.csv` file, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the `ScreeningLocationsSource` item.
2. Open the item page and click **Download**.
3. Browse to and open the `ScreeningLocationsSource.csv` file.
There are two fields in the `.csv` file, location and capacity, that match the `Locations` table in the `HealthScreenings` feature layer.
4. Edit the `.csv` file and provide your list of screening locations and their capacity.
5. In your ArcGIS organization, browse to the `HealthScreenings` feature layer.
6. Open the item page and click **Update Data > Append Data to Layer**.
7. Click **Choose File** and browse to your `ScreeningLocationsSource.csv` file, and click **Open**.
8. Click **Upload and Continue**.
9. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Locations**.
10. Uncheck **Update existing features**.
11. Click **Show field matching** to map the fields.

Note:

If the capacity field isn't available as a **Match Field** option, check the `.csv` file to make sure the values in the capacity field are all numbers.

12. Click **Apply Updates**.

Update location choice list

The Employee Health Screening and Visitor Health Screening surveys provide a default list of options for the **Campus, Building, or Place Name** question. You will update this choice list to reflect the locations you loaded into the `HealthScreenings` feature layer in the previous steps.

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.

[Back to top](#)

3. Click **Employee Health Screening** to download the survey.

Note:

The Employee Health Screening survey is an example. The steps below are the same for the Visitor Health Screening survey.

4. In the **Download** window, click **Download** and click **OK**.
5. Click **Employee Health Screening** again to open the survey.
6. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
7. In the Microsoft Excel spreadsheet, click the **choices** tab. The location list defines the choices for the **Campus, Building, or Place Name** question.
8. Update the list to reflect the locations you loaded in the previous steps.
9. Save and close the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
10. In Survey123 Connect, click **Publish** on the side toolbar.
11. Click **Publish survey** to publish your changes and click **OK**.

Extend health screening surveys

The Coronavirus Health Screening solution includes a series of surveys (Employee Health Screening, Visitor Health Screening, Temperature Check) that can be used by an employee, contractor, or visitor to self-report coronavirus symptoms or contact before entering a facility or location.

Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies and any applicable laws. The screening surveys do not record any of the responses to the health-related questions and are only used to determine the result of the screening.

Add additional fields

The health screening surveys leverage a series of views created from the HealthScreenings feature layer. Organizations may want to modify the Employee Health Screening, Visitor Health Screening, and Temperature Check surveys by first adding new fields to the feature layers and then configuring the surveys to use the newly created fields. When doing so, the new fields must be exposed in the appropriate views.

When adding new questions, consider if you need to store the answer when the survey is submitted. For example, the health question responses are not stored with the feature layer and don't require a field.

To add one or more fields to a layer and update the views, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.
2. [Add a new field](#) to a layer in the HealthScreenings hosted feature layer.
3. Browse to the view.
4. Open the item page and click the **Visualization** tab.

[Back to top](#)

5. Click **More Options** on the appropriate layer or table, click **Set View Definition > Define Fields**.
6. Scroll to the newly created field and check the box next to the new field or fields.
7. Click **Apply**.
The new field is added to the view's definition.

Modify health screening surveys

To modify a Coronavirus Health Screening survey, complete the following steps:

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Employee Health Screening** to open the survey.

Note:

The Employee Health Screening survey is an example. The steps below are the same for the Visitor Health Screening and Temperature Check surveys.

3. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
4. Revise the survey to reflect your health screening needs.
5. Save and close the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.
6. In Survey123 Connect, click **Publish** on the side toolbar.
7. Click **Publish survey** to publish your changes and click **OK**.

Self-report temperature

Health screenings typically involve a temperature check before an individual is permitted to enter a facility. By default, the Coronavirus Health Screening solution assumes a health screener will perform the temperature check, record the result, and admit or turn away the individual based on the result. Some organizations may choose to have employees or visitors perform their own temperature checks and record the result using the original health screening survey. This eliminates the need for a health screener to perform a temperature check before entering the facility.

To enable employees or visitors to report their temperature in the health screening survey, complete the following steps:

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Employee Health Screening** to open the survey.

Note:

The steps below can also be used to modify the Visitor Health Screening survey.

3. On the side toolbar, click the **Open XLSForm Spreadsheet** button.

4. In the Microsoft Excel spreadsheet, find the ask_temperature question in the third row, column B (name).
5. Scroll to the right to column J (default) and change the text from No to Yes for this row.
6. Save and close the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.

Note:

After you answer no to the three COVID-19 symptom and contact questions, a new question asking for your temperature is now required.

7. In Survey123 Connect, click **Publish** on the side toolbar.
8. Click **Publish survey** to publish your changes and click **OK**.

Remove the temperature check list from the dashboard

When the health screening survey is configured to ask the employee or visitor for their temperature, the temperature check list in the screening dashboard no longer applies and can be removed.

1. Verify that you are signed in to your ArcGIS organization and browse to the Health Screening Dashboard.
2. Open the item page and click **Edit Dashboard**.
3. Hover over the upper left corner of the **Temperature Check** element and click **Delete**.
4. In the **Delete Element** window, click **Delete**.
5. Click **Save** to save the dashboard.

Use Coronavirus Health Screening

The Coronavirus Health Screening solution delivers a set of capabilities that help you screen employees and visitors by requiring that they self-report symptoms or contact, record the result of a temperature check, and track who was permitted to enter a facility or location on a given date.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Self-report symptoms or contact

You will start by assuming the role of an employee in a government agency, business, or utility. Each day before entering a facility, you are asked to attest that you are symptom free and have not had recent contact with anyone who has tested positive for COVID-19.

1. In a browser, from the Coronavirus Health Screening solution, view the Employee Health Screening form.
2. Complete the form with as much information as possible.

Note:

Required questions are marked with a red asterisk.

If you are signed in, the form automatically fills in your name and email address from your user profile. If you select **Yes** to any of the health-related questions, a message displays at the bottom of the form indicating that you are at risk for COVID-19 and are not permitted to enter the building, and no other questions display.

3. Click **Submit**.

Perform a temperature check

Now, you will assume the role of a health screener in the same government agency, business, or utility. You have been asked to perform a temperature check of employees or visitors before they will be permitted to enter the facility.

Note:

If an organization chooses to ask employees and visitors to self-report their temperature, these steps do not apply. [Follow these steps](#) to expose a temperature check question in the health screening surveys.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Health Screening solution.
2. View the Health Screening Dashboard app.
The Health Screening Dashboard app opens to a list of employees and visitors who require a temperature check. The list is populated with the names of employees and visitors who have submitted the Employee Health Screening form.
3. Locate an individual in the list, and then click the thermometer button to the right of the individual's name.
The **Temperature Check** form opens in a new tab.
4. Confirm that the value for **Full Name** matches the individual that you selected.
5. Type the temperature.

Note:

A temperature below 100.4 is not considered a fever and results in a message that states that the individual is permitted to enter the building. A temperature of 100.4 or higher returns a message that states that the person is not permitted to enter.

6. Click **Submit**.
7. Close the **Temperature Check** form and return to the Health Screening Dashboard app.

Monitor health screenings

You will continue your role as a health screener in the government agency, business, or utility. You have been asked to admit only employees or visitors who have passed the health screening into the building and to instruct those that have not passed the screening to return home. You have also been asked to monitor building occupancy to ensure that it doesn't exceed the maximum capacity.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Health Screening solution.
2. View the Health Screening Dashboard app.
The Health Screening Dashboard app has three tabs: **Temperature Check**, **Admit**, and **Rejected**. At the bottom of the dashboard, an indicator shows the building's current occupancy rate.

Note:

If an organization chooses to ask employees and visitors to self-report their temperature, the Temperature Check list does not apply.

3. On the left side of the app, click the arrow to display the filter panel.

Tip:

You can pin the filter panel to the dashboard by clicking the pin in the upper-right corner.

4. For **Location**, select a building.
The **Occupancy** indicator updates to show the building's maximum capacity and the number of employees and visitors who have been admitted to that building.
When additional individuals pass the health screening, the occupancy percentage updates. When occupancy reaches 100 percent, the value displays in red.
5. Adjust additional filters to further refine the results.
6. On the dashboard, click the **Admit** tab and review the list of individuals who have passed the screening and are permitted to enter the building.
7. Click the **Rejected** tab and review the list of individuals who did not pass the screening and are not permitted to enter the building.

Export a list of admitted employees and visitors

You will assume the role of a human resources executive. An employee has tested positive for COVID-19 and was recently in one of your buildings. You need to export a list of every employee and visitor who was admitted to the facility on the same day and follow up with the health department.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Health Screening solution.
2. Open the **Employee Health Screening** form item page.
3. Click **Open in Survey123** and choose **Manage in Survey123 website**.
4. At the top right, click the **Data** tab.
5. On the left, click **Filter**.
6. Set the first expression to `result is admit`.
7. Click **Add expression**.
8. Set the second expression to `EditDate is on` and specify the date.
9. Click **Apply**.
10. Click **Export** and choose your output format.
After you select the format, the file downloads.

Coronavirus Recovery Dashboard

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Recovery Dashboard

Coronavirus Recovery Dashboard can be used to tabulate and monitor key recovery metrics and trends that support phased coronavirus disease 2019 (COVID-19) recovery efforts.

As communities begin to reopen, balancing public health metrics with economic growth is essential and understanding how these metrics vary from one geography to another helps decision makers develop strategic reopening plans. Coronavirus Recovery Dashboard is typically implemented by government organizations that want to visualize key recovery metrics over time to help inform health restrictions, social distancing decisions and recommendations made to open certain sectors of the economy.

The Coronavirus Recovery Dashboard solution delivers a set of capabilities that help you tabulate recovery and reopening metrics, monitor key trends and performance targets for defined geographies, and communicate progress to interested stakeholders.

Requirements

Coronavirus Recovery Dashboard requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)

Information products

Coronavirus Recovery Dashboard includes the following information products:

Item	Description	Minimum user type
Coronavirus Recovery Dashboard	An ArcGIS Dashboards app used by health and human services staff to monitor symptoms, cases, and hospital capacity metrics and trends to support phased recovery efforts	Viewer

[Back to top](#)

Coronavirus Recovery Mobile Dashboard	An ArcGIS Dashboards app optimized for mobile devices, used by health and human services staff to monitor symptoms, cases, and hospital capacity metrics and trends to support phased recovery efforts	Viewer
Coronavirus Recovery Data Management	An ArcGIS Pro project used by health and human services staff to tabulate key recovery metrics and calculate symptoms and case trends	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Coronavirus Recovery Dashboard

Configure Coronavirus Recovery Dashboard

In this topic, you will learn how to configure the Coronavirus Recovery Dashboard solution to meet specific needs in your organization.

Configure recovery dashboard

The Coronavirus Recovery Dashboard includes a series of key recovery indicators defined by the United States Centers for Disease Control and Prevention (CDC) and specific metrics identified by the United States National Governors Association (NGA). The indicators and metrics are tabulated for a specific reporting area. The reporting areas can be a country, state or province, region, county, zip code, municipality, or any other geographic area you are using to tabulate results.

To configure the dashboard for new metrics and trends you want to monitor, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the Coronavirus Recovery Dashboard item.

Note:

The steps below are the same for the Coronavirus Recovery Mobile Dashboard item.

2. Open the item page and click **Edit Dashboard**.
3. Hover over the upper left corner of a element and click **Duplicate**.
4. Hover over the upper left corner of the duplicated element and click **Configure**.
5. Click the **Data** tab.
6. For an indicator element, change the **Value** setting to the new metric field. For a serial chart element, change **Series 1** to the new value field and change **Series 2** to the new value trend field.
7. Click the **General** tab.
8. Change the name of the element.
9. Modify the **Title** setting by clicking **Edit** and updating the title for the metric.
10. Click **Done**.
11. Hover over the **Coronavirus Recovery Dashboard** in the upper right corner of the dashboard and click **Configure**.
12. Click the **Actions** tab.
13. For **Filter**, click **Add Target** and select the element you added.
14. Scroll to the bottom, and for the new element, select **Name** for both **Source** and **Target**.
15. Click **Done**.
16. Click **Save** to save the dashboard.

Set metric targets

The Coronavirus Recovery Dashboard has target goals of 90 percent for testing and health care metrics. The target percentage is provided as an example of how you can set a target and indicate whether you are meeting the target. You will want to configure these targets to meet your community's goals.

To set the target for a testing or health care metric, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the Coronavirus Recovery Dashboard item.

Note:

The steps below are the same for the Coronavirus Recovery Mobile Dashboard item.

2. On the dashboard item page, click **Edit Dashboard**.
3. Hover over the upper left corner of the indicator element and click **Configure**.
4. Click the **Data** tab.
5. Change the **Reference** value to the desired target.
In some cases, you may not have a target associated with a metric and only want to indicate that the value is being measured. If so, you can disable the **Conditional Formatting** option. If you want to keep the target and don't want to disable this option, skip to step 10.
6. Click the **General** tab.
7. Click **Edit** to modify the **Description** setting.
8. Click **Source** and copy the following HTML snippet into the editor:

```
<table style="background-color:#2695bc; color:#ffffff; font-size:16px; padding:2px; text-align:center; width:100%">
  <tbody>
    <tr>
      <td>
        <p>Measured</p>
      </td>
    </tr>
  </tbody>
</table>
```

9. Click **Source**.
10. Click **Done**.
11. Click **Save** to save the dashboard.

Use Coronavirus Recovery Dashboard

The Coronavirus Recovery Dashboard solution delivers a set of capabilities that help you tabulate recovery and reopening metrics, monitor key trends and performance targets for defined geographies, and communicate progress to interested stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Tabulate recovery metrics

Past case and symptom information can be used to calculate 14-day trends to indicate if the community is seeing a downward or upward trend. New metric information can be added as frequently as you receive updates, and trend lines can be recalculated with the latest information to give an accurate picture of the current state in the community.

You will start by assuming the role of an epidemiologist. You are asked to use the Coronavirus Recovery Data Management project to tabulate coronavirus disease 2019 (COVID-19) cases each morning.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Recovery Dashboard solution.
2. Download the Coronavirus Recovery Data Management project, and then unzip the folder.
3. From the unzipped folder, open the Coronavirus Recovery Data Management project in ArcGIS Pro.
4. In the **Catalog** pane, expand the **Tasks** folder, and then double-click the **Coronavirus Recovery Data Management** task.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Task** Pane, expand the **How to Use Coronavirus Recovery Data Management** task group to see the collection of tasks.
6. Open each task and follow the steps provided.

Monitor coronavirus recovery

Now you will assume the role of a public health officer or executive in the same government agency. You have been asked to monitor case and symptom trends over the last 14 days and verify that testing and health care facilities are meeting specific requirements.

[Back to top](#)

Before beginning a phased reopening, you want to confirm that there is a downward trend in the number of new positive cases and individuals experiencing flu-like and COVID-19 symptoms. You also want to ensure a minimum percentage of testing sites and health care facilities are meeting minimum requirements defined by the community.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Recovery Dashboard solution.
2. View the Coronavirus Recovery Dashboard app.
The Coronavirus Recovery Dashboard solution opens with trend information for cases and symptoms and metrics for testing and health care facilities.
3. Observe whether the number of cases and symptoms has increased or decreased over the last 14 days.
4. View the testing and health care metrics and validate that each is meeting the specified target.
5. At the top right, from the drop-down list, choose another reporting area to view the metrics and trends for that area.

Coronavirus Site Safety

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Site Safety

Legacy:

Coronavirus Site Safety

has been moved to mature support.

Coronavirus Site Safety can be used to create coronavirus disease 2019 (COVID-19) health safety plans for their facilities, sites, and campuses and to monitor health safety plans as locations reopen.

As employees return to work and locations reopen to the public, organizations are developing health safety plans to protect individuals in their facilities. The health safety plans mitigate workers' concerns, reduce risk and communicate actions taken to key stakeholders. Location-enabled plans provide an efficient way to document and manage all aspects of a health safety plan (for example, temperature screening locations, handwashing or sanitizer stations, personal protective equipment (PPE) stations, and isolation areas) for a given facility. It improves an organization's ability to effectively execute a plan, mitigate risk at each site, and exercise health safety due diligence for a location. Coronavirus Site Safety is typically implemented by organizations that want to take a proactive, data-driven approach to planning and managing the health and safety of employees, visitors and other stakeholders during the COVID-19 pandemic.

The Coronavirus Site Safety solution delivers a set of capabilities that help you create a COVID-19 health safety plan, estimate crowd capacities and monitor social distancing, track cleaning and disinfecting, monitor restocking of PPE stations, and report coronavirus-related problems and issues.

Requirements

Coronavirus Site Safety requires the following:

- ArcGIS Enterprise
- ArcGIS AppStudio Player
- ArcGIS Field Maps

[Back to top](#)

Information products

Coronavirus Site Safety includes the following information products:

Name	Description	Minimum user type
Coronavirus Site Safety Form	A Survey123 form used internally by a health safety officer to define the health safety plan for a given site or location	Editor
Coronavirus Site Safety Manager	A Crowdsourcing Manager app used by a health safety officer to manage the status of health safety plans	Editor
Coronavirus Site Safety Map Editor	A Web AppBuilder app used by a health safety officer to locate health resources and create social distance capacity estimates required for a health safety plan	Editor
Coronavirus Site Safety Map Viewer	A Web AppBuilder app used by stakeholders to review a health safety map for a given location	Viewer (Not required for public access)
Coronavirus Site Safety Issue Reporter	A Survey123 form used by field staff to report social distancing concerns, potential cases, and other health safety issues	Field Worker
Crowd Counter App	An AppStudio app used by staff to count people entering and exiting an area	Field Worker
Coronavirus Site Safety Dashboard	An ArcGIS Dashboards app used by a health safety officer to monitor health safety plan operations at a given location	Viewer
Coronavirus Site Safety Mobile Dashboard	An ArcGIS Dashboards app used by a health safety officer on their mobile device to monitor health safety plan operations at a given location	Viewer
Cleaning and Restocking Status Map	A map used in ArcGIS Field Maps to manage the cleaning, disinfecting, and restocking of health safety resources	Field Worker

Release notes

The following are the release notes:

Version	Description
1.2	<ul style="list-style-type: none"> A new version of the Crowd Counter App that resolves an issue where the app would not load in the AppStudio Player
1.1	<ul style="list-style-type: none"> A new Coronavirus Site Safety Issue Reporter that resolves an issue where the form could not be opened in the ArcGIS Survey123 app.

[Back to top](#)

	<ul style="list-style-type: none">• A new Coronavirus Site Safety Manager map and app that resolves an issue where site plan updates were missing the associated plan identifier.• A new Coronavirus Site Safety Map Editor app that resolves an issue where site plan updates were missing the associated plan identifier.
1.0	<ul style="list-style-type: none">• First release of Coronavirus Site Safety

Configure Coronavirus Site Safety

You can use the ArcGIS Solutions app to deploy the Coronavirus Site Safety solution in your ArcGIS organization. After deploying the solution to your ArcGIS organization, configure it to meet specific needs in your organization and load your data if needed.

Define cleaning interval

Implementing coronavirus disease 2019 (COVID-19) health safety policies for your organization requires cleaning or disinfecting high-risk locations at a regular interval. The cleaning, disinfecting, or restocking interval varies according to your organization, the volume of people, or the risk level of the site. Intervals can be set in any increment from hourly to weekly or monthly.

The Coronavirus Site Safety Dashboard solution helps organizations track the cleaning status of high-risk locations to ensure compliance with organizational policies and local regulation. Using the Cleaning and Disinfecting Status map in ArcGIS Collector, janitorial staff can report each time they clean, disinfect, or restock a given location.

Update map

Using the Coronavirus Site Safety Dashboard, an organizational health safety officer can identify any locations that are overdue for cleaning based on the interval determined by their organizational policy. This information helps the health safety officer identify locations that are noncompliant with the organizational policy and immediately respond with dispatch of janitorial staff.

The Coronavirus Site Safety Dashboard can be configured to meet specific needs in your organization. Modify the default cleaning interval (1 hour) to the interval required by your organization.

To configure the map, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Coronavirus Site Safety Dashboard map.
2. Open the map in Map Viewer Classic.
3. Browse to **Health Points Status_currentjoin** and click the **Filter** button.
4. Click the **Edit** tab to view the filter: **StatusDate not in the last 1 hours**.
5. Modify the filter to reflect the appropriate interval for your organization.
6. Click **Apply Filter** and save your map.

Configure dashboard

Once the map has been configured to filter on a new interval, the title of the cleaning and restocking list element in the Coronavirus Site Safety Dashboard and Coronavirus Site Safety Mobile Dashboard needs to be updated to reflect the interval you defined.

To configure the dashboard label to reflect the changes you made to the map, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the Coronavirus Site Safety Dashboard.
2. On the dashboard item page, click **Edit Dashboard**.
3. Hover over the upper left corner of the **Overdue Locations (>60Min.) Cleaning | Disinfection | Re-stock** list element and click **Configure**.
4. Click the **General** tab.
5. Click **Edit** to modify the **Title** value, remove the default time interval (for example, >60Min), and update the title to reflect the new cleaning interval.
6. Click **Done**.
7. Click **Save** to save the dashboard.
8. Ensure you repeat steps 2 through 7 for the Coronavirus Site Safety Mobile Dashboard once you have completed the steps for the Coronavirus Site Safety Dashboard.

Add building floor information

For many sites, health and safety plans include interior floors and exterior spaces. [ArcGIS Indoors](#) is a complete indoor mapping system that can help you incorporate interior floors and floor awareness, and the ability to filter by indoor web layers by floor, into the Coronavirus Site Safety solution. The following apps support floor awareness:

- Coronavirus Site Safety Map Editor
- Coronavirus Site Safety Map Viewer
- Coronavirus Site Safety Dashboard
- Coronavirus Site Safety Mobile Dashboard

To complete this workflow, you must have your local ArcGIS Indoors geodatabase published as web layers into your ArcGIS organization.

Configure maps for ArcGIS Indoors

To configure the Coronavirus Site Safety solution maps to use ArcGIS Indoors web layers, you'll need to review the Level Name field values defined in your ArcGIS Indoors web layers and ensure the Floor Number field values your health safety officer is using when creating the health safety plan are the same as the values in the ArcGIS Indoors layers.

Using consistent values between Level Name field values and Floor Number field values ensures that the correct building floor information and related health safety plan information are displayed on the map and apps.

Once you have ensured consistency between your layers, add your ArcGIS Indoors web layers to the Coronavirus Site Safety Map Editor map, Coronavirus Site Safety Map Viewer map, and Coronavirus Site Safety Dashboard map.

Configure web mapping apps

1. Sign in to your ArcGIS organization and browse to the Coronavirus Site Safety Map Editor item page.
2. On the item page, click **Edit Application**.
3. Click **Widget** and click the edit button on the **Filter Safety Plan and Floor** widget.
4. In the **Filter Set Name: Floor Number** filter group, click **Add Layer**.
5. In the newly added row, in the **Layer** column, choose an ArcGIS Indoors web layer, and in the **Field** column, choose **Level Name**.
6. Repeat step 5 for all the remaining ArcGIS Indoors web layers.
7. In the **Use Value** column, choose the ArcGIS Indoors Levels web layer.
8. Click **OK** and click **Save**.

Repeat the process for the Coronavirus Site Safety Map Viewer app.

Configure dashboards

To configure the Coronavirus Site Safety Dashboard and CCoronavirus Site Safety Mobile Dashboard to use ArcGIS Indoors web layers, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Coronavirus Site Safety Dashboard.
2. On the dashboard item page, click **Edit Dashboard**.
3. Hover over the upper left corner of a Floor Number selector and click **Configure**.
4. In the **Selector** section, under **Selector Options**, click **Change** and choose your ArcGIS Indoors Levels web layer.
5. In the **Catogory Field** parameter, choose **Name**.
6. Click **Action**, click **Add Target** and choose an ArcGIS Indoors web layer, and then choose **LEVEL_NAME** for the **Target Field**.
7. Repeat step 6 for all the remaining ArcGIS Indoors web layers.
8. Click **Done** and click **Save** to save the dashboard.

Note:

Repeat the process for the Coronavirus Site Safety Mobile Dashboard.

Extend health planning resources

The Coronavirus Site Safety solution includes dashboards that can be used to monitor health safety plan operations.

On occasion, you may need to configure the dashboard to meet specific needs in your organization. Each solution generally includes one or more feature layers, maps, and apps that can be configured to meet your needs. Review this solution with stakeholders in your organization before defining the specific configurations you will make.

Update feature layer views

The Coronavirus Site Safety solution includes a series of feature layer join views that are used to display information in the Coronavirus Site Safety Dashboard and Coronavirus Site Safety Mobile Dashboard. Join views are created using the Join Features analysis tool by joining two sources together based on a matching field. The benefit of the join view is that it remains up to date as the source data changes. However, when new fields are added to the source layers, the join views must be re-created with the same name and URL for the dashboards to continue working properly.

To add a field to a layer and the update the join views, complete the following steps:

1. Add a new field to a layer (for example, the Health Points layer in the HealthSafetyPlanning hosted feature layer).
2. Browse to the join view in your contents (for example, Health Points Status_join).
3. On the item **Overview** page, scroll to the **URL** section. Click the **Copy** button.
4. Paste the copied URL into Microsoft Notepad or another text editor for reference.

Note:

The feature layer name will be used below when re-creating the join. The name can be found after services in the URL structure and may also contain a unique GUID, for example, Health_Points_Status_joina45f71a48587425c9b90ee5527cd26d1.

5. Delete the existing join view (for example, Health Points Status_join).
6. Add the source hosted feature layer to a new web map (for example, HealthSafetyPlanning).
7. Click **Analysis > Summarize Data > Join Features**.
8. Configure the join using the following table:

Name of join	Target layer	Layer to join to the target layer	Fields to match	Join operation	Define which record is kept
Health Points Status_join	Health Points (HealthSafetyPlanning)	Status	GlobalID = Health_Points_GlobalID	Join one to many	
Health Points Status_currentjoin	Health Points (HealthSafetyPlanning)	Status	GlobalID = Health_Points_GlobalID	Join one to one	Order by created_date/Newest

[Back to top](#)

Crowd Area CrowdCounts_join	Crowd Areas	CrowdCount	areaname = areaname	Join one to many	
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Note:

Ensure each new join view uses the names defined in the table. If you use the same names, the layers in the map and the existing dashboard widgets do not need to be reconfigured. If your join view contained a unique GUID, the new join view will need to be named with the unique GUID.

9. If necessary, uncheck **Use current map extent** and check **Create results as hosted feature layer view**.
10. Update the web map and app configurations for Coronavirus Site Safety Dashboard and Coronavirus Site Safety Mobile Dashboard to account for the new fields you added to the layers.

Use Coronavirus Site Safety

The Coronavirus Site Safety solution delivers a set of capabilities that help you create a coronavirus disease 2019 (COVID-19) health safety plan, estimate crowd capacities and monitor social distancing, track cleaning and disinfecting, monitor restocking of personal protective equipment (PPE) stations, and report coronavirus-related problems and issues.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Manage a site

Creating and implementing health and safety plans for sites, facilities, campuses, or locations is an important part of keeping communities and individuals safer, as schools, colleges, businesses, and facilities operate during the COVID-19 pandemic.

Coronavirus Site Safety offers a comprehensive system to manage all sites in one central location. Each site or facility can progress through the site safety planning process, site planning, and operations independently, so you have the flexibility to implement appropriate health safety measures.

In this workflow, you'll learn how to initiate and manage a site safety plan.

Create a site safety plan

You will start by assuming the role of a health safety officer who needs to initiate the site safety planning process. Using the Coronavirus Site Safety Form, you will document the site where a health safety plan will be created.

1. Sign in, to your ArcGIS organization and browse to the Coronavirus Site Safety Form.
2. Open the item page and navigate to the Coronavirus Site Safety Form.
3. In the Coronavirus Site Safety Form, fill in the following details on the first page:

Parameter	Value
Enter Plan Name	Type plan name
Description	Type description
Start Date	Enter the date and time the plan will become active.
Contact Name	Type your name.
Contact Phone	Type your phone number.

Contact Email	Type your email address.
Describe location	Type description
Additional Documents	Attach a diagram to describe the setup of a site.
Please locate the property	Type location information

4. At the bottom of the page, click **Submit**.

Manage and review site safety plans

Now, you will continue the role of a health safety officer using the Coronavirus Site Safety Manager to update the status of a site safety plan for a location.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Manager app.
2. Open the item page and navigate to the Coronavirus Site Safety Manager app.
3. Choose the Coronavirus Site Safety Manager map.
4. In the Coronavirus Site Safety Manager table, select the plan you created in the Coronavirus Site Safety survey, or another plan.
5. On the **Info** tab, click the edit button and edit the status.
As a health safety officer, you can update and monitor the status of an event throughout the planning process and identify when site safety maps have been created.
6. For **Status**, choose **Active**, and click **Save**.

Prepare site safety plans

To protect the people who work in, shop in, study in, and use their facilities, organizations are preparing comprehensive site health safety plans that include prevention, mitigation, and response capabilities. A site health safety plan, and the health safety officer who manages it, represents the front line of pandemic defense for any organization, and an essential component of a safe back-to-work strategy.

Health safety officers need to place preventative health resources, mitigate risk via socially distanced crowd management, identify high-touch surfaces in need of frequent cleaning, and prepare response plans for screening locations and the isolation of potential cases.

The Coronavirus Site Safety Plan Map Editor can be used to locate health resources and create social distance capacity estimates required for a health safety plan. The social distance capacity estimates for areas or lines are based on [U.S Fire Administration guidelines](#).

In this workflow, you'll learn how to locate and develop a site safety plan map.

Develop a health and safety plan

You will start by assuming the role of a health safety officer who needs to create a site safety plan map. You are asked to use the Coronavirus Site Safety Manager app to locate a site safety plan location and then the Coronavirus Site Safety Map Editor to create the health and safety plan map for your location.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Manager app.
2. Open the item page and navigate to the Coronavirus Site Safety Manager app.
3. Choose the Coronavirus Site Safety Manager map.
4. Select the site you created in the Coronavirus Site Safety Form survey, or another site.
5. On the **Info** tab, click **Edit Site Plan**.
The Coronavirus Site Safety Plan Map Editor app opens and zooms to the event. It also filters all related information, so you will see temporary features for your site plan and floor number, if applicable.
6. Click the **Create Site Safety Plan** widget, search for PPE Station, and enter details of the health asset. For **Floor Number**, type 1.
7. Place a PPE station on the map and enter details for the health and safety asset.
8. Search for a handwashing station, place it on the map, and enter details for the health and safety asset.
9. Search for a high-touch location, place it on the map, and enter details for the health and safety asset.
10. Repeat step 5 for each health and safety asset, route, and area you would like to add to your site plan map.
11. Click **Save**.
12. Select **Social Distancing Crowd Areas** from the drop-down list at the top of the **Create Site Safety Plan** widget.
13. Draw an area on the map and double-click to complete the sketch.
14. For **Area name**, type Waiting Area.

Note:

The **Area name** field must be unique

15. Draw an area on the map and double-click to complete the sketch.

Note:

The area on the map is labeled with the number of people that can safely enter an area of this size based on [U.S. Fire Administration](#) guidelines. Adjust the maximum capacity or area size if necessary.

16. For **Description**, type Crowd Area for Waiting Area.
17. Click **Save**.

[Back to top](#)

18. After completing your Site Safety map, click the **Site Safety Report** button, draw an area on the map, and click **Report**.
19. Click the **Print** button and save a hard copy of your site plan map and summary of your health assets.
20. Close the Coronavirus Site Safety Map Editor.

Share site safety plans

Employees, students, customers, and other people returning to a facility may be concerned about large crowds or other conditions that increase the likelihood of being exposed to the coronavirus. To ease those concerns, health safety officers need to communicate key aspects of their site health safety plans to their stakeholders, such as the locations of entry health screenings, hand sanitizer stations, or personal protective equipment (PPE) stations.

The Coronavirus Site Safety Map Viewer can be used by stakeholders to review a health safety map for a location. In this workflow, you'll learn how to share and view a health and safety plan.

Share a health and safety plan

You will start by assuming the role of a health safety officer who needs to share a site safety plan. You are asked to use the Coronavirus Site Safety Manager app to locate a site safety plan location and then use the Coronavirus Site Safety Map Viewer to share the health and safety plan map for your location.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Manager app.
2. Open the item page and navigate to the Coronavirus Site Safety Manager app.
3. Choose the Coronavirus Site Safety Manager map.
4. Select the site you created in the Coronavirus Site Safety Form survey, or select another site.
5. On the **Info** tab, click **Share Site Plan Viewer**.
The Coronavirus Site Safety Map Viewer app opens and zooms to the site plan. It also filters all related information, so you will only see features for your site plan and floor number, if applicable.
6. Copy the hyperlink, and share it with site staff, cleaning staff, and other interested stakeholders.

View a health and safety plan

Now, you will assume the role of site staff who need to view the health and safety plan for a location. You are asked to use the Coronavirus Site Safety Map Viewer app to explore the health and safety plan.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Map Viewer app.
2. Open the item page and navigate to the Coronavirus Site Safety Map Viewer app.

[Back to top](#)

3. In **Filter Safety Plan and Floor**, choose **Floor Number**, choose **1**, and click **Apply**.
The first floor is displayed.
4. Explore the health and safety map by zooming into the crowd areas and click the health points, lines and areas to see more information about each one.
5. Click the **Filter Resources** button, enable **Filter by Point Type**, and choose **Handwashing Station**.
Only handwashing stations appear on the map.
6. Optionally, click the **Print** button, choose a layout and format, and click **Print** to create a hard copy of the plan map.
7. Close the Coronavirus Site Safety Map Viewer.

Conduct health and safety operations

The Coronavirus Site Safety solution provides a complete set of capabilities that improve the efficiency and effectiveness of health safety officers, cleaning staff, and site staff working at a location during the COVID-19 pandemic by enabling staff with tools to capture information from the field to share with health officers in real time.

In this workflow, you'll learn how to use a collection of maps and apps to support health safety officers, cleaning staff, and site staff to visualize, monitor, and communicate real-time status during operational hours.

Report site safety issues from the field

When health safety issues occur at a site, staff need to be able to report the issues they observe in the field to the health safety officer for immediate response.

You will assume the role of a site employee that needs to report a face mask compliance problem you are observing. You are asked to use the Coronavirus Site Safety Issue Reporter to report the health safety concern.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Issue Reporter app.
2. Open the item page and navigate to the Coronavirus Site Safety Issue Reporter app.
3. In the Coronavirus Site Safety Issue Reporter, fill in the following details:

Type	Type issue description
Priority Level	Type 2
Narrative	Type narrative
Location	Choose a location on the map.

[Back to top](#)

Location Description	Type location description.
Floor	Type floor level

4. Optionally, add an image or picture of the issue you are reporting.
5. Click **Submit**.

Download and configure Crowd Counter App

The Crowd Counter App can be used by staff to count people entering and exiting an area. The app uses ArcGIS AppStudio Player on a mobile device to deliver a custom project that combines an ArcGIS QuickCapture project and an ArcGIS Dashboards (Crowd Counter Dashboard) into a single experience to support the crowd counting workflow.

If you have already set up the Crowd Counter App on your mobile device, proceed to the Track crowd capacity section below. If this is the first time you are using the Crowd Counter App on your mobile device, complete the following steps:

1. Download ArcGIS AppStudio Player onto your mobile device.
2. Open the app on your mobile device, and sign in to your ArcGIS organization.
3. Click the **Shared** button and click the Crowd Counter App button to download the app.
4. Click the Crowd Counter App button.
An ArcGIS QuickCapture screen prompts you to sign in to your ArcGIS organization again.
5. Click the **add** button and choose **Browse Projects**, and then click Crowd Counter App to download the project.
6. When the download is complete, choose Crowd Counter Dashboard, and when prompted, sign in to your ArcGIS organization and choose **Keep me signed in**.

Note:

The first time you set up your mobile device with the Crowd Counter App, you are prompted to sign in two separate times. This is expected. After the initial setup, you are only asked to sign in once, after you see the ArcGIS QuickCapture screen.

Track crowd capacity

You will assume the role of site staff. You are asked to use the Crowd Counter App to count people entering and exiting the area to ensure the number of people admitted does not exceed the maximum capacity allowed for a unique area.

1. Open and sign in to the Crowd Counter App using the ArcGIS AppStudio Player app on your mobile device, if it isn't already open from the previous workflow.
2. Click the edit button to edit the area name and enter the exact area name of the location you are tracking crowd capacity for (use **Waiting Area** if you completed the Prepare site safety plans workflow).

[Back to top](#)

Note:

The area name you type must match exactly with the area name specified in the health safety plan map. If you are unsure of the exact name, click the **Map** tab to see a map of your site containing labels with the exact name of each crowd area.

3. Click **Done**.
4. Choose **Enter** for each person entering the area and choose **Exit** for each person exiting the area.
5. Monitor the gauge on the **Occupancy** tab to understand the current capacity (middle number) relative to the maximum capacity (last number).

Tip:

The gauge displays different colors as capacity changes. The color green indicates capacity, orange indicates maximum capacity is near, and red indicates maximum capacity.

6. Continue to allow people to enter and exit the area based on the current capacity.

Note:

If the gauge does not display the correct results, click the refresh button in the upper right hand corner of the app, click the edit button to edit the area name, and click **Done**.

Tip:

When the Crowd Counter App is used to count high numbers of people, consider deleting or archiving entry and exit records from the Crowd Count layer to ensure better performance of the app.

Track cleaning and stocking status

You will now assume the role of janitorial staff. You are asked to use the ArcGIS Field Maps mobile app to update the status of locations after you clean, disinfect, or restock them with PPE.

1. Download ArcGIS Field Maps onto your mobile device.
2. Open the app on your mobile device and sign in to your ArcGIS organization.
3. Choose **Cleaning and Restocking Map**.
4. Choose a station for **PPE Station**, choose **Cleaning and Restocking Status** in the pop up, and click the **Add** button.

Note:

The space under the **Add** button displays all historical status records for a location, so as a station is restocked with PPE, a user can review this list to see when it was restocked and how much PPE it was restocked with.

[Back to top](#)

5. Choose **status**, choose **Re-stocked**, and add the number of boxes stocked of each PPE type.
6. Choose **Submit**.

Monitor site safety operations

Health safety officers need real-time information on the location issue reports, status of cleaning and restocking, and crowd capacity information to conduct health and safety operations of sites. The Coronavirus Site Safety Dashboard can be used in the command center on the day of the event.

You will assume the role of a health safety officer. You are asked to use the Coronavirus Site Safety Dashboard to monitor and manage health safety issue reports, site capacity, and cleaning and restocking status.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Dashboard app.
2. Open the item page and navigate to the Coronavirus Site Safety Dashboard app.
3. At the top of the dashboard, use **Select Site Safety Location** and choose a site. The dashboard information updates to reflect only what is visible on the map.
4. View the number of open issue reports in the **Issue Reports** section.
5. Click the **Open Reports** tab at the bottom of the dashboard to see open issues in priority order based on site safety issues reported by staff using the Coronavirus Site Safety Issue Reporter.

Note:

Learn how to update the status of issue reports using the Manage issue status workflow in the section below.

6. Click the **Report Log** tab at the bottom of the dashboard to see the last 50 issue reports, regardless of status, listed in order of importance. This allows you to compare issue reports, reopen closed issues, and identify any emerging patterns.
7. In the **Capacity Monitoring** section, you will see the real-time total capacity by percentage, as well as total capacity and maximum capacity by count across your site based on information from staff tracking crowd capacity using the Crowd Counter App.
8. On the **Area Capacities** tab at the bottom of the dashboard, click **Waiting Area** or another area in the list. The map zooms to the area and a pop-up appears with information about the area. The **Capacity Monitoring** section at the top of dashboard updates to reflect the capacity information for the area.
9. Click the **Live Count** tab at the bottom of the dashboard to see the real-time list of entries and exits from the selected area in the **Area Capacities** list.

[Back to top](#)

Note:

If an individual area is not selected in the **Area Capacities** list, you see the total entries and exits from all areas in the Live Count list.

10. Click the **Status List** tab on the bottom of the dashboard to see real-time cleaning and restocking status for PPE stations, high-touch locations, and other health assets.
11. Click the **Status History** tab on the bottom of the dashboard to see historical cleaning and restocking status for PPE stations, high-touch locations, and other health assets.
12. Close the app.

Manage issue status

Health safety officers need real-time information on reported health safety issues as well as the ability to update status, assignments, and other details of an issue.

You will assume the role of a health safety officer. You are asked to use the Coronavirus Site Safety Dashboard to locate an issue report at a site and then use the Coronavirus Site Safety Manager to update the status of the report.

1. In your ArcGIS organization and browse to the Coronavirus Site Safety Dashboard app.
2. Open the item page and navigate to the Coronavirus Site Safety Dashboard app.
3. At the top of the dashboard, use **Select Site Safety Location** and choose a site. The dashboard information updates to reflect only what is visible on the map.
4. Click the **Open Reports** tab at the bottom of the dashboard to see open issues in priority order, based on site safety issues reported by staff using the Coronavirus Site Safety Issue app.
5. Click the **Update Status** button. The Coronavirus Site Safety Manager app opens.
6. Click the **Coronavirus Issue Report Status** map.
7. In the Coronavirus Issue Reports table, select the issue you want to update.
8. On the **Info** tab, click the edit button and edit the status. As a health safety officer, you can update and monitor the status of an issue at any time.
9. For **Report Status**, choose **Closed**, and click **Save**.
10. Close the app.

Coronavirus Testing Sites

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

[Back to top](#)

Mature phase
Nov 2023 - Oct 2025

Retired phase
Nov 2025

Introduction to Coronavirus Testing Sites

Coronavirus Testing Sites can be used to identify at-risk populations and develop coronavirus disease 2019 (COVID-19) testing site plans.

Preventing the spread of infection is one of the most effective ways to stop the pandemic and reopen communities. Widespread testing helps residents determine if they have been infected and could spread coronavirus to others. Furthermore, testing matters more in communities affected the most. Communities of color and socioeconomically vulnerable communities are disproportionately burdened by the pandemic and the impact is acute. Understanding population demands and where racial and socioeconomic vulnerabilities exist helps communities locate ideal testing sites. Coronavirus Testing Sites is typically implemented by health and human services or public safety agencies that want to optimize the location of coronavirus disease 2019 (COVID-19) testing sites, maximize limited testing resources and ensure communities affected the most have access to coronavirus testing.

The Coronavirus Testing Sites solution delivers a set of capabilities that help you identify at-risk populations, locate optimal testing sites, manage testing site status, and share testing site information with the public.

Requirements

Coronavirus Testing Sites requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.9 (Advanced)
 - ArcGIS Geostatistical Analyst extension

Information products

Coronavirus Testing Sites includes the following information products:

Item	Description	Minimum user type
Testing Sites Locator	An ArcGIS Web AppBuilder app used by the public to locate the nearest coronavirus testing location	Viewer
Testing Sites Manager	A Crowdsourcing Manager app used by health and human services staff to inventory coronavirus testing locations	Editor
Testing Site Allocation	An ArcGIS Pro project used by health and human services analysts to identify at-risk populations and locate optimal testing sites	GIS Professional Advanced

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">Resolved an issue in the Solve Location Allocation with Risk model that prevented it from running properly.
1.0	<ul style="list-style-type: none">First release of Coronavirus Testing Sites.

Use Coronavirus Testing Sites

The Coronavirus Testing Sites solution delivers a set of capabilities that help you identify at-risk populations, locate optimal testing sites, manage testing site status, and share testing site information with the public.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Identify at-risk populations

At-risk populations can be quickly modeled using the Testing Site Allocation project. By default, the risk model helps you identify racial and socioeconomic vulnerability.

Organizations can select specific demographic variables that align with risk factors you are concerned about in your community. The variables will help you create a risk map and allocate testing sites to these areas of need.

You will start by assuming the role of an emergency response GIS analyst. You are asked to use the Testing Site Allocation project to create a community risk surface.

1. Start ArcGIS Pro and open the Testing Site Allocation project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Testing Site Allocation task.
4. In the **Task** pane, click the **Testing Site Allocation** task group to expand the collection of tasks.
5. Follow the steps in each task.

Locate the best testing sites

The best testing sites can be quickly located with the Testing Site Allocation project. Use the previously defined risk map, population demand, and a list of candidate sites to locate the best testing sites in your community.

You will start by assuming the role of an emergency response GIS analyst. You are asked to use the Testing Site Allocation project to select the best testing sites from a list of candidate sites that meet needs defined in the risk map and other population demand.

1. Start ArcGIS Pro and open the Testing Site Allocation project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Testing Site Allocation task.
4. In the **Task** pane, click the **Testing Site Allocation** task group to expand the collection of tasks.
5. Open the **Identify candidate sites** task and follow the steps provided.

Note:

The [GISCorps COVID-19 Testing Sites feature service](#) is a freely available source of nationwide existing testing sites that can be used in this task.

- Next, open the **Identify best testing sites** task and follow the steps provided.

Inventory testing sites

Laboratory tests can identify the virus that causes COVID-19 in respiratory specimens. As a result, health and human services officials are establishing testing sites to track the spread of disease and ensure proper treatment and isolation for those infected.

Coronavirus testing sites can be added to your inventory and shared with the public. The Testing Sites Locator app can be used to share status information with the public.

In this workflow, you'll learn how to add a new coronavirus testing site in your community and share this information with the public.

Add a testing site

You will start by assuming the role of an emergency response mapping technician. You are asked to use the Testing Sites Manager to add a new test site that was recently opened in your community.

- Sign in to your ArcGIS organization, search for **Testing Sites Manager**, and open the app.
- Click **Edit Testing Sites** and place the location of a testing site on the map.

Tip:

If you already have a list of testing sites in a spreadsheet, you can use the **Load Testing Sites** widget to load the entire list of testing sites.

- Enter details about the testing site:

Parameter	Value
Name of Facility	Type South Stadium Parking Lot
Full Address	Type 123 Main Street
Phone	Type 555-555-5555
Website	Type https://website.com
Operational Hours	Type 8am - 5pm

[Back to top](#)

Comments	Type Appointment required
Instructions	Type Multiple lines available with drive-through access
Status	Select Open

4. Click **Save** and click **Clear**.
5. Click an existing testing site to update the operational hours, status, and any other characteristics, and click **Save**.

Locate a testing site

Now, you will assume the role of a resident in the same community. You have coronavirus symptoms and want to locate the nearest testing site.

1. In a browser, go to the **Testing Sites Locator** app.
2. Type your address in the search box or click a location directly on the map.
3. Optionally, adjust the buffer slider to see a larger list of potential testing sites.
4. Select the closest testing site from the list and review the instructions provided.
5. Click the **Directions** tab to view driving directions to the testing site from your defined location.

Coronavirus Vaccine Distribution Dashboard

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Coronavirus Vaccine Distribution Dashboard

Coronavirus Vaccine Distribution Dashboard can be used to tabulate, visualize, and monitor key vaccine distribution metrics and trends that support a phased coronavirus disease 2019 (COVID-19) vaccination plan.

As communities begin to distribute vaccines, maintaining situational awareness is essential. Understanding how vaccine distribution and coverage metrics vary among target populations, and from one geography to another, helps decision makers develop strategic vaccine distribution plans. Coronavirus Vaccine Distribution Dashboard is typically implemented by health and human services agencies that want to visualize key vaccine distribution metrics over time and use the metrics to inform public education campaigns, make vaccine distribution decisions, adapt recommendations made to reach target populations, and ensure a successful vaccination program.

The Coronavirus Vaccine Distribution Dashboard solution delivers a set of capabilities that help you to tabulate vaccine distribution metrics, monitor key trends and performance targets for defined geographies, and communicate progress to interested stakeholders.

Requirements

Coronavirus Vaccine Distribution Dashboard requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123 Connect

Information products

Coronavirus Vaccine Distribution Dashboard includes the following information products:

Item	Description	Minimum user type
Vaccine Distribution Dashboard	A responsive ArcGIS Experience Builder app used by health and human services staff to visualize and monitor key vaccine distribution metrics and trends that support a phased vaccination plan.	Viewer (required for health and human services personnel only)

[Back to top](#)

Vaccine Distribution Reporter	An ArcGIS Dashboards app used by health and human services staff to tabulate vaccine distribution metrics.	Editor
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Coronavirus Vaccine Distribution Dashboard

Configure Coronavirus Vaccine Distribution Dashboard

Learn how to configure the Coronavirus Vaccine Distribution Dashboard solution to meet specific needs in your organization.

Load vaccine distribution reporting areas

The Coronavirus Vaccine Distribution Dashboard solution helps public health agencies visualize and share vaccine distribution metrics for a given set of reporting areas. The reporting areas can be a county, ZIP Code, state, municipality, or any other geographic area you are using to tabulate metrics. Once you identify the specific reporting area or areas you want to use, you can use the Vaccine Distribution Reporter to tabulate coronavirus disease 2019 (COVID-19) distribution metrics for the specific reporting area.

The Reporting Areas layer includes several important fields. The Name field stores the names of the reporting area and is used in the Reporting Area Category Selector in the Vaccine Distribution Reporter app. Use the **Aggregate Area** field to report distribution metrics by differing jurisdictions. For example, a county may want to share distribution metrics tabulated by the entire county as well as broken down by ZIP Code or municipality. In that case, the county has a value of **Yes** for the **Aggregate Area** field. The Points of Distribution (POD) field is used to store the number of locations where the vaccine can be accessed per reporting area. This metric is shown on the Vaccine Distribution Dashboard.

Reporting Areas also contains several population fields such as Total population and Healthcare workers population. These fields are used in the Vaccine Distribution Reporter app to calculate vaccine coverage rates. Populating each population field ensures vaccine coverage rates are calculated accurately in the Vaccine Distribution Reporter app and visualized properly in the Vaccine Distribution Dashboard.

To learn about enriching your data with information, for example, demographic data, see [About Data Enrichment](#).

Load data from a shapefile or file geodatabase

To load reporting areas from a shapefile or file geodatabase, complete the following steps:

1. Create a .zip file of a shapefile or file geodatabase of your reporting areas.
2. Sign in to your ArcGIS organization and browse to the VaccineDistribution feature layer.
3. Open the item page and click **Update Data > Append Data to layer**.
4. Click **Choose File**, browse to your .zip file, and click **OK**.
5. Click the **Contents** drop-down arrow and choose the appropriate file type.
6. Click **Upload and Continue**.
7. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Reporting Areas**.

[Back to top](#)

8. Uncheck **Update existing features**.
9. Click **Show field matching** to map the fields.
10. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Load vaccine distribution metrics information

Vaccine Distribution Dashboard can be used by public health agencies and other emergency response agencies to visualize and monitor COVID-19 vaccine distribution metrics. The solution includes a Vaccine Distribution Reporter app that you can use to enter updated vaccine distribution metrics at a regular interval. In some cases, you may find it easier to manage this information in a spreadsheet and load it into the solution as you receive new information.

To load your vaccine distribution information from a spreadsheet, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the VaccineDistributionSource item.
2. Open the item page and click **Download**.
3. Edit the .csv file and provide your vaccine distribution metrics information.
4. In your ArcGIS organization, browse to the VaccineDistribution feature layer.
5. Open the item page and click **Update Data > Append Data to layer**.
6. Click **Choose File**, browse to your .csv file, and click **OK**.
7. Click **Upload and Continue**.
8. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Metrics**.
9. Uncheck **Update existing features**.
10. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Extend the Vaccine Distribution Reporter app

The Vaccine Distribution Dashboard solution includes the Vaccine Distribution Reporter app that you can use to tabulate vaccine distribution information.

Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies. In addition, ensure that you secure the app and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Coronavirus Vaccine Distribution Dashboard solution includes a series of views created from the VaccineDistribution feature layer provided with the solution. Organizations may want to modify the Vaccine Distribution Reporter app by first adding new fields to the feature layer and then configuring the Vaccine Distribution Form to use the newly created fields. When doing so, you must expose the new fields in the appropriate views. Additionally, the VaccineDistribution_current view is created by joining two sources together, and you must re-create it with the same name and URL after a new field is added.

Organizations may want to modify the Vaccine Distribution Form by adding new survey questions. When adding new questions, begin with the Update feature layer views steps below. For changes such as removing questions or formatting the survey, proceed to the Modify response surveys section.

To add one or more fields to a layer and expose the field to feature layer views, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.
2. [Add a new field](#) to the Reporting Areas or Metrics layer in the VaccineDistribution hosted feature layer.
3. Browse to the VaccineDistribution_public or VaccineDistribution_reporter views in your contents.
4. Open the item page and click the **Visualization** tab.
5. Click **More Options** and click **Set View Definition > Define Fields**.
6. Check the check box next to the new field or fields.
7. Click **Apply**.
The new field is added to the view's definition.

To update a join view, complete the following steps:

1. Browse to the VaccineDistribution_current join view.
2. Open the item page and scroll to the URL section. Click the **Copy** button.
3. Paste the copied URL into Microsoft Notepad or another text editor for reference.

Note:

The feature layer name will be used below when re-creating the join. You can find the name after services in the URL structure. It may also contain a unique GUID—for example, VaccineDistribution_current_a45f71a48587425c9b90ee5527cd26d1.

4. Browse to the existing VaccineDistribution_current join view.
5. Open the item page and click the **Settings** tab.
6. Click the **Delete Item** button and click **Delete**.
7. Browse to the VaccineDistribution feature layer.
8. Open the item page and click **Open in Map Viewer**.
9. Click the **Analysis** button and click **Summarize Data > Join Features**.
10. When populating the Join Features tool, do the following:

- a. Click the **Choose target layer** drop-down arrow and choose **VaccineDistribution**.
- b. Click the **Choose layer to join to the target layer** drop-down arrow and choose **VaccineDistribution-Metrics**.
- c. Click **Choose the fields to match** as the type of join.
- d. Click the **Target field** drop down arrow and choose **name**, and click the **Join field** drop-down arrow and choose **name**.
- e. Click the **Choose join operation** drop-down arrow and choose **Join one on one**.
- f. Under the **Define which record is kept** drop-down arrow, click **Order by**, click the **Field** drop-down arrow and choose **Date reported**, and click the **Sort by** drop-down arrow and choose **Newest**.

Note:

Ensure the new join view uses the names defined in the table above. If you use the same name, the layers in the map and the existing dashboard elements do not have to be reconfigured. If your join view contained a unique GUID, you must name the new join view with the unique GUID.

- g. In the **Result layer name** text box, enter `VaccineDistribution_current`.
 - h. Uncheck **Use current map extent**, if checked.
 - i. Check **Create results as hosted feature layer view** check box.
11. Update the Vaccine Distribution Desktop and Mobile Dashboards account for the new fields you added to the layers.

Modify response surveys

To modify the Vaccine Distribution Form survey, complete the following steps:

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Vaccine Distribution Form** to download the survey.
4. Click **Vaccine Distribution Form** again to open the survey.
5. In the **Download** window, click **Download** and click **OK**.
6. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
7. Revise the survey to reflect your needs.
8. Save and close the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
9. In ArcGIS Survey123 Connect, click **Publish** on the side tool to publish your changes.

Configure vaccination goals

The Vaccine Distribution Dashboard vaccination coverage charts contain preconfigured goals to visualize progress toward vaccination goals. Organizations may want to modify the goals to better reflect their community's vaccination goals.

To modify the vaccination goal, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Vaccine Distribution Desktop Dashboard or Vaccine Distribution Mobile Dashboard item.
The following steps can be used to configure vaccination goals in both the desktop and mobile dashboards.
2. Open the item page and click **Edit Dashboard**.
3. Hover over the upper left corner of the **Vaccine Coverage by Total Population** serial chart element and click **Configure**.
4. Click the **Guides** tab.
The chart contains a preconfigured goal of 67%.
5. Using a decimal value, change the **Value** to your community's vaccination goal. For example, a goal of 70% would be .7.
6. Change the **Label** to reflect the updated goal and click **Done**.
7. Repeat steps 3 through 6 to modify the goal for the Full Series Coverage Priority Population, Full Series Coverage Age, Full Series Coverage Race & Ethnicity, and Full Series Coverage Gender serial chart elements.
8. Click the **Save** button to save the dashboard.

Add vaccination coverage categories

The Vaccine Distribution Dashboard solution helps public health agencies and interested stakeholders visualize full series vaccination coverage by priority population, age, race & ethnicity, and gender. Agencies may want to modify or extend the values within those categories. For example, data may be reported using different age ranges than those preconfigured. The VaccineDistribution hosted feature layer contains several custom fields that provide configuration flexibility.

The Reporting Areas layer contains two Custom priority population fields, Custom gender population, Custom age range population, and Custom race population fields. The Metrics layer contains two associated Custom priority population fields, Custom gender population, Custom age range population, and Custom race population fields. Additionally, the Metrics layer contains two Custom priority vaccinated coverage fields, Custom gender vaccination coverage, Custom age range vaccination coverage, and Custom race vaccination coverage fields that can be used to store coverage rates for additional categories.

To utilize a custom field, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the VaccineDistribution hosted feature layer.

2. Open the item page and click the **Data** tab. If necessary, choose **Reporting Areas** from the **Layer** drop-down arrow.
3. Click the **Fields** button.
4. Locate and click the **Custom priority population** field.
In the following steps, the priority1pop and associated fields are used as an example. The same process can be followed to use any of the included custom fields.
5. Click **Edit** to replace Custom priority population's alias with an alias of your choosing. For example, First Responder population.
6. Click **Save**.
7. Click the **Layer** drop-down arrow and choose **Metrics**.
Locate the associated fields, in this case, priority1 and priority1coverage.
8. Click each field and modify the alias. For example, priority1 would be First Responders vaccinated and priority1coverage would be First Responders (this alias will be used below in the Vaccine Distribution Dashboard serial chart).
In this example, be sure to populate the priority1pop field in the Reporting Areas layer. These fields are used in the Vaccine Distribution Reporter app to calculate vaccine coverage rates. Populating each population field ensures vaccine coverage rates are calculated accurately in the Vaccine Distribution Reporter app and visualized properly in the Vaccine Distribution Dashboard.
9. Repeat steps 5 and 6 for each set of custom fields you want to use in the Vaccine Distribution Dashboard.

To modify the Vaccine Distribution Reporter app to use the custom fields configured above, complete the following steps:

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Vaccine Distribution Form** to open the survey.
3. On the side toolbar, click **Open XLSForm Spreadsheet**.
4. In the name column, locate the priority1 field. In the type column, click the drop-down arrow to change the type from hidden to integer.
5. Update the label to use the field alias defined in the section above.
6. Repeat step 5 for each custom field you want to use in the Vaccine Distribution Dashboard.
7. Save and close the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
8. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar to publish your changes.

To modify the Vaccine Distribution Dashboard to use the custom fields configured above, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Vaccine Distribution Desktop Dashboard or Vaccine Distribution Mobile item.
The following steps can be used to configure both the Desktop and Mobile dashboards.
2. Open the item page and click **Edit Dashboard**.

3. Hover over the upper left corner of the **Full Series Coverage by Priority Population** serial chart element and click the **Configure** button.
4. If necessary, click the **Data** tab.
5. Click the **+Series** button, and click the **Series 6 Field** drop-down arrow and choose the First Responders decimal field configured above.
6. Click the **Series** tab. Modify the newly created series to match the existing series and according to your needs.
7. Click **Done**.
8. Repeat steps 3 through 7 for additional custom fields configured above to use them in the Full Series Coverage by Priority Population, Full Series Coverage by Age, Full Series Coverage by Race & Ethnicity, and Full Series Coverage by Gender serial charts.
9. Click the **Save** button to save the dashboard.

Use Coronavirus Vaccine Distribution Dashboard

The Coronavirus Vaccine Distribution Dashboard solution delivers a set of capabilities that help you to tabulate vaccine distribution metrics, monitor key trends and performance targets for defined geographies, and communicate progress to interested stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Tabulate vaccine distribution metrics

The Coronavirus Vaccine Distribution Dashboard solution helps health and human services agencies visualize key vaccine distribution metrics over time. The dashboard displays the most recent reported totals of doses obtained and administered to the public. It also displays the coverage, or percentage of the population that has been vaccinated, broken down by priority populations, age, race, and gender over time.

You will start by assuming the role of an employee in a health and human services agency who has been tasked with reporting the latest vaccine distribution metrics each week.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Vaccine Distribution Dashboard solution.
2. View the Vaccine Distribution Reporter app.
3. Click the **Reporting Area** drop-down menu in the upper right and choose the appropriate reporting area.
Reporting areas can be a county, public health region, ZIP Code, state, municipality, or any other geographic area you are using to tabulate results.
4. Provide the cumulative total of vaccine doses that have been obtained and administered to the public.
5. Provide the total number of people who have received a partial and full series vaccination.
As some vaccines require multiple doses, a partial series vaccination would include people who have, for example, received the first dose of a two-dose series.
6. If available, provide the total number of people who have received a full series vaccination by priority populations, gender, age range, and race and ethnicity.
The coverage or percent of the population that has been vaccinated will be calculated for you if you updated the corresponding population field in the Reporting Areas layer. See [Configure Coronavirus Vaccine Distribution Dashboard](#) for more information on populating your reporting areas.

[Back to top](#)

7. Click **Submit**.
8. Repeat this process for each additional reporting area.

Monitor vaccine distribution performance

Now, you will assume the role of a public health officer or executive in the same government agency. You are asked to monitor the current status of vaccine distribution in the community and are looking to see how the vaccine is being distributed across demographic segments of the population.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Coronavirus Vaccine Distribution Dashboard solution.
2. View the Vaccine Distribution Dashboard app.
The dashboard displays the most recent count of doses obtained and administered and partial and full series vaccination coverage for the selected reporting area. It also contains several time series charts that display vaccination coverage over time for different demographic segments.
3. In the filter on the top of the dashboard, click another reporting area to view the vaccine distribution metrics for a different geography.
4. Click the **Learn More** tab in the Map panel to read the descriptions of the different metrics, how they are calculated, and to view when the metrics were last updated.
5. Click the **Priority Population, Age, Race & Ethnicity**, and **Gender** tabs to view full series vaccination coverage over time for each demographic segment.

Crime Analysis

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Crime Analysis

Crime Analysis can be used to enhance public safety, identify emerging trends, organize law enforcement operations and plan crime-prevention strategies.

It improves productivity of crime analysts with specialized tools and a tailored desktop GIS interface for mapping data and performing spatial analysis, making it easier to quickly generate high-quality crime analysis map products. Improved crime analyst productivity helps law enforcement decision-makers optimize resource allocation, solve cases, and implement more effective crime reduction strategies. Crime Analysis is typically implemented by law enforcement agencies that want to use data-driven strategies to reduce crime and improve police operations.

The Crime Analysis solution delivers a set of capabilities to help you manage incident data, conduct tactical and strategic analysis, perform investigative analysis and share web-based or hardcopy information products with decision-makers.

Requirements

Crime Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.7 - 2.9 (Basic, Standard, or Advanced)
- ArcGIS Spatial Analyst (optional)

Information products

Crime Analysis includes the following information products:

Item	Description	Minimum User Type
CrimeAnalysis.esriAddInX	An ArcGIS Pro add-in used to map, identify, and communicate geospatial patterns in law enforcement data.	ArcGIS Desktop Basic or GIS Professional Basic
CrimeAnalysisSolution	An ArcGIS Pro project that leverages the capabilities included in the Crime Analysis add-in to generate a standard set of crime maps.	ArcGIS Desktop Basic or GIS Professional Basic

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
2.0	<ul style="list-style-type: none">• A new Crime Analysis Add-In (2020.12.17) that includes a new ribbon design and analysis gallery.• A series of new capabilities have been added: Add Graphics Layer, Colocation Analysis tool, Density-based Clustering tool, Link Charts, and Reports.• Existing tools have been updated to simplify parameters, streamline licensing and increase performance. In some cases, tool names have also been changed. See Crime Analysis tool updates for more details.
1.0	<ul style="list-style-type: none">• Crime Analysis is now available in the ArcGIS Solutions app.• The Crime Analysis Add-In (2019.10.16).

Configure Crime Analysis

The Crime Analysis solution can be deployed in your ArcGIS organization. After deploying the solution to your organizational portal, download, install and configure it to meet the needs in your organization.

Download and install Crime Analysis solution

The Crime Analysis solution includes the Crime Analysis Add-In, ArcGIS Pro project, sample data and maps you can use to explore common crime analysis workflows. Before you begin, you will need to download the CrimeAnalysis.zip file containing the ArcGIS Pro project and Crime Analysis add-in. After this file is downloaded to your computer and extracted, you can install the add-in and open the ArcGIS Pro project.

If you are upgrading from a previous version (2018.6.26 through 2019.10.16) of the Crime Analysis Add-In, then skip to the **Upgrade Crime Analysis Add-In (optional)** section. If you are using it for the first time, follow the steps below to download and install the Crime Analysis solution.

1. Sign in to your ArcGIS organization and click **Content** at the top of the website.

Note:

If you downloaded the solution directly then skip step 4.

2. Click **My Content** tab, and then click on CrimeAnalysis.zip to open the item page.
3. Click the **Download** button and browse to a folder on your computer.
4. Extract CrimeAnalysis.zip.
5. Browse to the CrimeAnalysis folder where you extracted the CrimeAnalysis.zip file.
6. Double-click CrimeAnalysis.esriAddInX to run the installer.
7. Click the **Install Add-In** button.

Upgrade Crime Analysis add-In (optional)

The current version of the Crime Analysis add-in includes significant updates from versions 2018.6.26 through 2019.10.16. If you are migrating from one of these versions, you will need to get familiar with the Crime Analysis ArcGIS Pro project and the Crime Analysis Add-In. See the **Migration workflows from previous version** section below to understand these changes prior to installing the new version.

Note: When you upgrade, the previous version of the add-in and tools will be removed. You will need to update any automated scripts or documented workflows. You can install the new version of the Crime Analysis Add-In on another computer to limit the impact to your daily work while you are updating any automated scripts or workflows. Learn more about how to remove your add-in [here](#).

Confirm your current version

Before you upgrade to Crime Analysis version 2020.12.17 or later you will need to confirm the version you have currently installed.

To verify the version currently installed use the following steps:

1. Open any ArcGIS Pro project and click the Project tab on the ribbon. Alternatively, on the ArcGIS Pro start page, click Settings in the lower left corner.
2. Click Add-In Manager then click on Crime Analysis.
3. In the Add-Ins tab of the Add-In Manager. The Add-Ins tab will provide the version information.

If your version is 2018.6.26 through 2019.10.16 then you will also need to consider migrating your scripts and workflows using the **Migrate workflows from previous version** section.

Install new Crime Analysis add-in

To upgrade from a previous version of the Crime Analysis add-in that is installed on your computer, you will need to follow the steps below to overwrite the installed add-in with the new add-in.

1. Close all ArcGIS Pro applications.
2. Browse to the CrimeAnalysis folder
3. Double-click CrimeAnalysis.esriAddInX to run the installer.
4. Click the **Install Add-In** button.
5. Open ArcGIS Pro.

Migrate workflows from previous version

Crime Analysis add-in (2020.12.17) has a significant number of updates. Specifically, several geoprocessing tools have been replaced, new tools have been added, and the solution user interface has changed. Review the changes below before migrating your workflows from a previous version.

User interface updates

The Crime Analysis ribbon now uses the analysis tool gallery interface design to organize all analytical geoprocessing tools in the solution. Within the gallery area, the tools retain their groupings (for example, tactical and strategic analysis) from previous version of the solution. The new ribbon design allows more space-efficient presentation of additional analytical tools on the Crime Analysis solution ribbon.

Geoprocessing tool updates

Many of the customized geoprocessing tools originally deployed with Crime Analysis solution have been updated to use system tools that are installed with ArcGIS Pro. These tools can now

be found in the [Crime Analysis and Safety toolbox](#) in the geoprocessing pane, and are available to all users of ArcGIS Pro. As part of that process, the names and functions of tools have changed slightly to conform to ArcGIS Pro standards. In addition, several new system tools that are relevant to crime analysis workflows have been added to the solution.

Crime Analysis tool updates

The chart below outlines the names of the original tools available with the Crime Analysis add-in version 2018.6.26 through 2019.10.16, that have been migrated to new tools in version 2020.12.17, and available in the updated Crime Analysis add-in.

Old Tool	New Tool	New Tool Changes
80-20 Analysis	80-20 Analysis (Crime Analysis and Safety toolbox)	Labeling is no longer applied by default. The parameter minimum cluster size is no longer configurable. The parameter attributes to preserve is replaced by output fields in the new tool.
Extract Date Parts to Field	Add Date Attributes (Crime Analysis and Safety toolbox)	Updated and simplified parameters.
Import Cell Records	Cell Phone Records to Feature Class (Crime Analysis and Safety toolbox)	Updated and simplified parameters.
Import Cell Sites	Cell Site Records to Feature Class (Crime Analysis and Safety toolbox)	Updated and simplified parameters.
Features To 3D By Time	Feature to 3D By Time (Crime Analysis and Safety toolbox)	The tool licensing requires ArcGIS Desktop Basic, Standard, or Advanced license. The 3D Analyst licensing has been removed.
Space Time Comparison	Find Space Time Matches (Crime Analysis and Safety toolbox)	Labeling is no longer applied by default. Updated and simplified parameters.
Repeat Call Patterns	Generate Call Links (Crime Analysis and Safety toolbox)	Labeling is no longer applied by default. Updated and simplified parameters.
Incident Path	Generate Origin Destination Link (Analysis toolbox)	Updated and simplified parameters. Different default symbology.

[Back to top](#)

		Descriptive Statistics Charts are automatically created.
Generate Sector Lines	Generate Sector Links (Crime Analysis and Safety toolbox)	Updated parameter names.
Append Attributes From Polygon	Join Attributes from a Polygon (Crime Analysis and Safety toolbox)	Updated and simplified parameters. The overwrite matching fields in Target Point Features parameter is no longer available.
Density Change	Minus (Spatial Analyst Toolbox)	The Minus tool is part of the Spatial Analyst toolbox requires a Spatial Analyst license and applies a different default symbology.
Incident Sequence	Points to Track Segments (Intelligence Toolbox)	Updated and simplified parameters. Output features are time enabled by default. Sequence points are no longer created default. Output sequence points location is an optional parameter. The Grouping Field parameter has been renamed to Group Field.
Select by Date and Time	Select Layer by Date and Time (Crime Analysis and Safety toolbox)	Updated and simplified parameters.
Incident Count	Summarize Incident Count (Crime Analysis and Safety toolbox)	Added support for point in the Input Features parameter Labeling is no longer applied by default. The Category Field parameter has been renamed to Group Field and now requires an ArcGIS Desktop Basic license. The tool licensing requires ArcGIS Desktop Basic, Standard, or Advanced license. Parameter specific licensing has been removed.
Percent Change	Summarize Percent Change (Crime Analysis and Safety toolbox)	Added support for point features in the Input Features parameter.

[Back to top](#)

		Labeling is no longer applied by default. The tool licensing requires ArcGIS Desktop Basic, Standard, or Advanced license. Parameter specific licensing has been removed.
Configure Record Import (Addresses), Configure Record Import (XY), Import Records	Update Features With Incident Records (Crime Analysis and Safety toolbox)	The Update Features With Incident Records includes all of the functionality of the Configure Record Import (Addresses), Configure Record Import (XY), and Import Records tools.

Note: The Export Near Repeat Calculator Table tool, Repeat and Near Repeat Classification tool, and Calculate Prediction Zones tool have not changed and are installed as part of the Crime Analysis add-in and have not been migrated into ArcGIS Pro.

Automate Geoprocessing Tools (optional)

All geoprocessing tools can be scheduled to run automatically on your computer using the [scheduling capabilities](#) in ArcGIS Pro or Windows Task Scheduler. Scheduling frequently run tools can improve productivity by reducing manual steps the analyst has to take during their daily work or in creating routine products. For example, by scheduling the Update Features With Incident Records tool to run nightly, their main datasets can get geocoded and updated into a web layer overnight, so the analyst has fresh data ready to use when they arrive in to work. Likewise, for analysts preparing monthly Compstat reports, Kernel Density or other hotspot tools can be automated to run on a monthly schedule to simplify the process of preparing the Compstat report.

Disable the Crime Analysis ribbon

The Crime Analysis ribbon is automatically added to your projects when you install the Crime Analysis add-in. To disable the Crime Analysis ribbon, follow these steps.

1. From an open project, click the **Project** tab on the ribbon. Alternatively, on the ArcGIS Pro start page, click Settings in the lower left corner.
2. Click **Options** then click on Crime Analysis.
3. Disable the Show Crime Analysis tab, click OK and the back arrow.

When the Crime Analysis ribbon is disabled it will no longer appear in ArcGIS Pro, but the tools will appear contextually in various locations throughout the ArcGIS Pro user interface. For example, on the Analysis ribbon, users will see a Crime Analysis button listing all the solution tools.

Note:

[Back to top](#)

[Learn more](#) about how to remove an add-in.

Use Crime Analysis

The Crime Analysis solution delivers a set of capabilities to help you manage incident data, conduct tactical and strategic analysis, perform investigative analysis and share web-based or hardcopy information products with decision-makers.

In this topic, you'll learn how to use the Crime Analysis solution by exploring the Crime Analysis ArcGIS Pro project and key crime analysis workflows it supports.

The [Getting started with Crime Analysis](#) learn path includes a series of complementary web courses that can be used to learn how to use the Crime Analysis solution.

Review the Crime Analysis project

Crime Analysis includes an ArcGIS Pro project with the Crime Analysis add-in. The project includes the Crime Analysis tab and ribbon that can be used to conduct a series of key analytical functions to support crime analysis. Before using the Crime Analysis tools with your data, familiarize yourself with the contents of the Crime Analysis project.

1. Browse to the CrimeAnalysis folder and open the CrimeAnalysisSolution.aprx ArcGIS Pro project.
2. On the ribbon, click the Crime Analysis tab. You will see the ribbon includes five groups of tools: Data Management, Selection, Analysis Tools and Information Products.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand **Maps** and review the sample maps and **notes** provided.

Manage incident data

To perform analysis, crime analysts must first import data from disparate record systems and prepare it for use in GIS. Data import and management activities like geocoding, date field transformations, and appending of spatial data must be performed daily. These time consuming but necessary activities leave little time for actual analysis, limiting analyst productivity. Crime Analysis provides tools to help analysts automate data import and simplify common data management activities.

To learn more about managing data using Crime Analysis, go to the CrimeAnalysisSolution ArcGIS Pro project and open the following maps:

- **Enhance Attributes map**
- **Import Incidents (Update Features With Incident Records)**

[Back to top](#)

Focus on specific incidents

Crime analysts ask a wide variety of analytical questions on behalf of the organizations they support, requiring them to query their data from a variety of date-based, spatial, and field attribute perspectives that can be challenging to perform without the use of GIS. Crime Analysis provides selection tools that can be used individually or in tandem to interrogate incident data and focus on specific problem subsets.

To learn more about performing selections using Crime Analysis, go to the CrimeAnalysisSolution ArcGIS Pro project and open the following maps:

- **Summarize Percent Change and Select Layer by Date and Time**
- **Kernel Density and Minus**

Conduct tactical and strategic analysis

Crime analysts support the data-driven crime reduction efforts of law enforcement agencies by using tactical analysis methods to identify short-term crime patterns, and strategic analysis methods to support the identification and evaluation of long-term crime problems and trends. Central to these methods are spatial analysis, specifically hotspot identification, but analysts can be challenged with understanding which techniques are available and are appropriate to the type of analysis they are trying to perform. Crime Analysis curates new and traditional spatial analysis tools appropriate for tactical and strategic crime analysis, making it easy for analysts to discover the right tool for the job.

To learn more about conducting tactical and strategic analysis using Crime Analysis, go to the CrimeAnalysisSolution ArcGIS Pro project and open the following maps:

- **80-20 Analysis**
- **Colocation Analysis**
- **Density-based Clustering**
- **Kernel Density and Minus**
- **Optimized Hotspot and Calendar Heat Chart**
- **Summarize Incident Count**
- **Summarize Percent Change and Select Layer by Date and Time**
- **RNR-Calculate Prediction Zones**
- **RNR-Export Near Repeat Calculator Table**
- **RNR-Repeat and Near Repeat Classification 2D**
- **RNR-Repeat and Near Repeat Classification 3D**

Perform investigative analysis

Crime analysts support investigations by using data to explore the relationships between people, events, and locations. Investigative analysis helps investigators uncover criminal networks and understand suspect activity patterns through analysis of cell phone records, financial transactions, and other investigative data sources. These forms of analysis have previously required specialized, expensive, single-purpose software programs. Crime Analysis provides a set of analytical tools to support common investigative workflows such as cell phone

analysis, financial analysis, temporal sequencing of GPS or incident data, and visualizing spatial relationships such as between locations of motor vehicle thefts with where those vehicles are recovered.

To learn more about performing investigative analysis using Crime Analysis, go to the CrimeAnalysisSolution ArcGIS Pro project and open the following maps:

- **CPA-2D Cell Phone Points to Track Segments**
- **CPA-3D Cell Phone Points to Track Segments**
- **CPA-Cell Site Records to Feature Class**
- **CPA-Cell Phone Records to Feature Class**
- **CPA-Dissolve**
- **CPA-Find Space Time Matches**
- **CPA- Generate Call Links**
- **CPA-Generate Sector Lines**
- **Origin Destination Links (MV Theft to Recovery)**
- **Origin Destination Links (Financial Crime)**
- **Origin Destination Links and Link Chart (Gang Turf to Member Homes)**
- **Points to Track Segments**

Share maps and reports

To share their work with stakeholders and decision makers, crime analysts prepare information products summarizing their results. Analysts get requests to deliver these products in both hardcopy and interactive forms. To support the needs of their customers, analysts need flexible options to deliver the results of their analysis in a wide array of forms. Crime Analysis provides a set of information product options include hardcopy map layouts, a rich charting library, tabular reports, link analysis charts, and the ability to publish layers and maps into web mapping applications in ArcGIS Enterprise or ArcGIS Online.

To learn more about sharing maps and reports using Crime Analysis, go to the CrimeAnalysisSolution ArcGIS Pro project and open the following maps:

- **Optimized Hotspot and Calendar Heat Chart**
- **Origin Destination Links and Link Chart (Gang Turf to Member Homes)**

Crime Analysis Tool Reference

The Crime Analysis solution delivers a set of capabilities to help you manage and query incident data, conduct tactical, strategic, and investigative analysis, and share web-based and hardcopy information products with decision-makers.

In this topic, you'll learn how to use the Crime Analysis solution by exploring the Crime Analysis navigating the Crime Analysis Add-In, and reviewing the Repeat and Near Repeat tools.

Crime Analysis tools

The Crime Analysis Solution contains many tools to support key analytical functions to manage data, select crime incidents, conduct tactical and strategic analysis, investigate crime patterns and share information with other law enforcement personnel. These tools are accessed using the Crime Analysis tab and ribbon which is automatically added to your projects when you install the Crime Analysis add-in. The following sections contain a list of the tool groups in the ribbon with details for each tool in chronological order according to a typical crime analysis process.

Note: You will need to ensure the Crime Analysis add-in is installed before you can review the Crime Analysis tools. See [Configure Crime Analysis](#) for more information.

Data Management tools

Crime Analysts can import data from disparate record systems in order to perform spatial analysis using ArcGIS Pro. In many cases, the data must also be geocoded and prepared for analysis by appending information about police operational boundaries, transforming date values, or other transformation functions. The Data Management group includes a series of tools that can be used for manual or automatic data import, geocoding, and enhancing of data for use in crime mapping and spatial analysis.

The following tools and commands are included in the Data Management group of the Crime Analysis ribbon.

Name	Description
Add Data	An ArcGIS Pro menu command that references data management tools that adds data to the map.
Add Graphics Layer	An ArcGIS Pro menu command that provides a way to include simple notations on a map or layout that highlight particular areas or label places.
Import Records	An ArcGIS Pro Crime Analysis and Safety toolbox that converts a nonspatial table to point features based on x,y-coordinates or street addresses and updates an existing dataset with the new or updated record information from the table.
Convert Time Field	An ArcGIS Pro Data Management tool that converts time values stored in a string or numeric field to a date field.
Feature To 3D By Time	An ArcGIS Pro Crime Analysis and Safety toolbox that creates a 3D feature class using date values from input features.
Convert Coordinate Notation	An ArcGIS Pro Data Management tool that converts coordinate notations contained on one or two fields from one notation format to another.
Add Date Attributes	An ArcGIS Pro Crime Analysis and Safety toolbox that adds fields containing date or time properties from an input date field, for example, day full name, day of the month, month, and year.
Join Attributes From Polygon	An ArcGIS Pro Crime Analysis and Safety toolbox that joins attributes from input polygon features to input point features.

[Back to top](#)

Enrich	An ArcGIS Pro Analysis tool that enriches data by adding demographic and landscape facts about the people and places that surround or are inside data locations.
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Selection

Before applying spatial analysis methods, crime analysts use queries to select subsets of data related to their topic of analysis. The Selection group in the ribbon includes a series of tools to perform spatial, temporal, or location-based queries of your data.

The following tools and commands are included in the Selection group of the Crime Analysis ribbon.

Name	Description
Explore	An ArcGIS Pro command that allows you to explore maps and scenes, you can zoom in and out, move around, and in the case of scenes, move up, down, and look around.
Select	An ArcGIS Pro commands that provide interactive feature selection involves clicking a single feature in the view or digitizing a shape to select a set of features.
Select By Attributes	An ArcGIS Pro Data Management tool that adds, updates, or removes a selection on a layer or table view based on an attribute query.
Select By Location	An ArcGIS Pro Data Management tool that selects features in a layer based on a spatial relationship to features in another dataset.
Select Layer By Date and Time	An ArcGIS Pro Crime Analysis and Safety toolbox used to select records based on date and time ranges or date properties, for example, single date, time range, time period, days of the week, month, or year.
Attributes	An ArcGIS Pro command that displays the Attribute pane.
Clear	An ArcGIS Pro command that clears the current selection in the active map.
Layer From Selection	An ArcGIS Pro command that creates on new layer based on a selected set of features in an existing layer.

Analysis Tools

Crime Analysts perform many types of analyses to support the needs of law enforcement decision-makers in their organization. The Analysis Tools group includes a gallery of tools that can be used to perform a variety of hotspot detection techniques and other spatial methods that can be applied as part of tactical or strategic crime analysis projects. The gallery also includes tools to apply spatial methods in support of investigations, like cell phone analysis, crime series sequencing, or motor vehicle theft to recovery linking.

The following tools and commands are included in the Analysis Tools group of the Crime Analysis ribbon.

Name	Description
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[Back to top](#)

Summary Statistics	An ArcGIS Pro Analysis tool that calculates summary statistics for field(s) in a table.
Buffer	An ArcGIS Pro Analysis tool that creates buffer polygons around input features to a specified distance.
80-20 Analysis	An ArcGIS Pro Crime Analysis and Safety toolbox used to conduct an 80/20 analysis of features and determines cluster locations by creating a graduated symbol layer based on the number of incidents occurring at each location.
Summarize Incident Count	An ArcGIS Pro Crime Analysis and Safety toolbox used to create a feature class with coincident point counts. Coincident point counts for line and point features are determined by a specified maximum distance. Point counts for polygon features are determined by whether point features or portions of features overlap with the polygon feature.
Summarize Percent Change	An ArcGIS Pro Crime Analysis and Safety toolbox used to calculate the percent change for features that correspond with point features representing two equal comparison time periods.
Optimized Hotspot	An ArcGIS Pro Spatial Statistics tool that creates a map of statistically significant hot and cold spots using the Getis-Ord G_i^* statistic.
Kernel Density	An ArcGIS Pro Spatial Analyst tool that calculates a magnitude-per-unit area from point or polyline features using a kernel function to fit a smoothly tapered surface to each point or polyline. This tool requires a Spatial Analyst license.
Minus	An ArcGIS Pro Spatial Analyst tool that subtracts the value of the second input raster from the value of the first input raster on a cell-by-cell basis.
Create Space Time Cube	An ArcGIS Pro Space Time Pattern Mining tool that summarizes a set of points into a netCDF data structure by aggregating them into space-time bins.
Emerging Hot Spot	An ArcGIS Pro Space Time Pattern Mining tool that identifies trends in the clustering of point densities.
Colocation Analysis	An ArcGIS Pro Spatial Statistics tool that measures local patterns of spatial association, or colocation, between two categories of point features using the colocation quotient statistic.
Density-based Clustering	An ArcGIS Pro Spatial Statistics tool that finds clusters of point features within surrounding noise based on their spatial distribution.
Points To Tracks Segments	An ArcGIS Pro Spatial Statistics tool that converts a series of output paths from time-enabled sequences of input point data, such as GPS points.
Generate Origin-Destination Links	An ArcGIS Pro Spatial Statistics tool that generates connecting lines from origin features to destination features. This is often referred to as a spider diagram.
Cell Site Records to Feature Class	An ArcGIS Pro Crime Analysis and safety tool used to create cell site points and sector polygons based on input latitude, longitude, azimuth, beamwidth, and radius information from a cell site table.

[Back to top](#)

Cell Phone Records to Feature Class	An ArcGIS Pro Crime Analysis and Safety toolbox used to imports cell phone records from wireless network providers and associates those records with a cell site and sector feature classes as generated by the Cell Site Records To Feature Class tool based on identifier fields.
Generate Call Links	An ArcGIS Pro Crime Analysis and Safety toolbox used to creates line features that represent the call links between phones, using cell site points or cell site antenna sectors, based on the start date and time of the call.
Find Space Time Matches	An ArcGIS Pro Crime Analysis and Safety toolbox that identifies matches between two feature classes based on proximity, time extent, or both.
Generate Sector Lines	An ArcGIS Pro Crime Analysis and Safety toolbox used to create line features that represent the extent of cell site antenna sectors.
Dissolve	An ArcGIS Pro Data Management tool aggregates features based on specified attributes.
Export Near Repeat Calculator Table	A Repeat and Near Repeat tool that creates a CSV file in the format required by the Near Repeat Calculator from an input feature class. The Near Repeat Calculator is a tool published by Temple University for examining the statistical significance of repeat and near repeat patterns in a dataset.
Repeat and Near Repeat Classification	A Repeat and Near Repeat tool that identify areas at risk of repeat and near repeat incidents by specifying the spatial and temporal range of influence of past incidents.
Calculate Prediction Zones	A Repeat and Near Repeat tool that identify areas at risk of repeat and near repeat incidents by specifying the spatial and temporal range of influence of past incidents.

Information Products

After the analysis is complete, Crime Analysts often prepare hard copy maps and web-based information products to help their organizations make data-driven decisions. The Information Products group includes a series of tools to create information products for analysis consumers, including link charts, hard-copy maps, charts, and reports, and publishing of maps and layers to organizational web GIS portals.

The following tools and commands are included in the Information Products group of the Crime Analysis ribbon.

Name	Description
Create Chart	An ArcGIS Pro command that creates a chart to visualize categories, distribution, change and relationships in your data.
New Link Chart	An ArcGIS Pro command used to generate a link chart to visualize relationships between entities in your data and is a complementary view to the map.
New Report	An ArcGIS Pro command used to generate a report to share a well-formatted, multipage representation of your data. A report can contain a tabular list of attributes, summary information, or both.

[Back to top](#)

New Layout	An ArcGIS Pro command that creates a new layout and add it to the project.
Web Map	An ArcGIS Pro command used to share the active map as a web map to your organization.
Web Layer	An ArcGIS Pro command used to share all data layers in the active map as a new web layer to your organization.

Repeat and Near Repeat Analysis Tools

[Repeat Victimization](#) is an empirically observed phenomenon where when a location becomes the victim of a specific type of crime, that location has an elevated risk of subsequent victimization, a risk which drops precipitously over time. A corollary phenomena is known as [Near-Repeat Victimization](#), whereby locations immediately around a location that has been victimized are at elevated risk, a level that drops both as time passes, and as the distance from the originating victim increases. Repeat and Near Repeat patterns have been observed across a wide variety of crime types, are believed to be spatial artifacts of serial offending behaviors, and thus have important implications for crime prevention and investigations.

The Crime Analysis solution includes three custom geoprocessing tools to support analyses relative to Repeat and Near Repeat Victimization patterns. The Export Near Repeat Calculator Table tool can be used with Temple University's Near Repeat Calculator to identify statistically significant patterns of Repeat and Near Repeat Victimization. The Near Repeat Classification tool can be used to identify historical patterns of repeat and near-repeat victimization, which can support investigative efforts to connect and clear cases that were not otherwise known to be part of a pattern. The Calculate Prediction Zones tool can be used to generate daily tactical crime risk predictions based on Repeat Victimization and Near-Repeat Victimization risk for recent crime locations. These risk predictions can be used to inform police operational strategies for crime reduction.

The tools in the Crime Analysis solution related to Repeat and Near Repeat Victimization (Export Near Repeat Calculator Table, Repeat and Near Repeat Classification, and Calculate Prediction Zones) were developed in cooperation with Spencer Chainey, Ph.D., Associate Professor in Security and Crime Science at the Jill Dando Institute of Security and Crime Science, University College London.

Export Near Repeat Calculator Table Tool

The Near Repeat Calculator is a tool published by Temple University for examining the statistical significance of repeat and near repeat patterns in a dataset. When a statistically significant repeat or near repeat pattern is found, the spatial and temporal bandwidths of the pattern can then be used as parameters for analyses involving the Repeat and Near Repeat Classification Tool and the Calculate Prediction Zones tool. of This tool creates a comma-separated values (CSV) file in the format required by the Near Repeat Calculator from an input feature class.

Usage

- Input features must have a date field.
- The output comma-separated values (CSV) file does not contain any field headers as these are not supported by the Near Repeat Calculator. The output fields are, in order: X, Y, Date.

Syntax

ExportNearRepeatCalculatorTable_crime (Input_Feature_Class, Output_Table, Date_Field)

Parameter	Explanation	Data Type
Output Table	Specify the path and file name of output comma-separated values (CSV) file.	File
Date Field	The field in the input feature class containing the date on which each incident occurred. If the date of the incident spans a range (for example, date information is recorded in two fields representing the from and to dates), choose the date field you consider to be most appropriate. This will usually be the date at the beginning of the date range.	Field

Licensing information:

- ArcGIS Desktop Basic: Yes
- ArcGIS Desktop Standard: Yes
- ArcGIS Advanced: Yes

Repeat and Near Repeat Classification tool

Use a series of distance and time values to classify incidents as originators, repeats, or near-repeats, and to identify potential spatial and temporal relationships between incidents.

Usage

- The Input Features must be a point feature class or shape file with a date field, representing the locations of incidents.
- The tool will use all points with date values. Incidents without valid dates will be excluded and a warning message will print to the screen listing the skipped incidents.
- This tool will honor a selected set of features. When the Input Features contain a selection, only the selected features will be considered when classifying features and building connections.
- Incidents are classified as O (Originator), NR (near-repeat), or R (repeat) according to their proximity to each other in space and time using each combination of the specified spatial and temporal band values, and the specified repeat distance.

[Back to top](#)

- Incidents are classified as originators if they are the originator of at least one other incident and have no preceding incidents within the current spatial and temporal ranges.
- Incidents are classified as near-repeat incidents when they follow a previous repeat, near-repeat, or originating incident within the current spatial and temporal ranges, and do not meet the criteria to be classified as a repeat incident.
- Incidents are classified as repeat incidents when they occur within the specified repeat distance and the current temporal range. An incident that meets the requirements for both a repeat and a near-repeat incident is classified as a repeat.
- Incidents that do not meet the criteria for any of the above are left unclassified.
- This tool creates the following three outputs:
 - A copy of the input incident features with classification fields added. These fields are populated with the classification values for each incident within each set to spatial and temporal ranges. For example, if a repeat distance of 1 map unit (Feet), spatial bands of 100 and 200 map units (Feet), and temporal bands of 7 and 14 days are specified, the tool will append 6 fields with the following field names and aliases:
 - sb0tb1 (1 ft / 7 Days): Classification of incidents that are originators of repeat incidents occurring no more than 7 days later, and incidents that occurred within the repeat distance and 7 days of a previous incident.
 - sb0tb1 (1 ft / 14 Days): Classification of incidents that are originators of repeat incidents occurring no more than 14 days later, and incidents that occurred within the repeat distance and 14 days of a previous incident.
 - sb1tb1 (100 ft / 7 Days): Classification of incidents that are originators of repeat and near-repeat incidents occurring no more than 7 days later, and incidents that occurred within 100 map units and 7 days of a previous incident.
 - sb1tb2 (100 ft / 14 Days): Classification of incidents that are originators of repeat and near-repeat incidents occurring no more than 14 days later, and incidents that occurred within 100 map units and 14 days of a previous incident.
 - sb2tb1 (200 ft / 7 Days): Classification of incidents that are originators of repeat and near-repeat incidents occurring no more than 7 days later, and incidents that occurred within 200 map units and 7 days of a previous incident.
 - sb2tb2 (200 ft / 14 Days): Classification of incidents that are originators of repeat and near-repeat incidents occurring no more than 14 days later, and incidents that occurred within 200 map units and 14 days of a previous incident.
 - The tool also appends a field called ZVALUE with values representing the number of days between each incident and the smallest date value in the dataset. These values can be used to visualize the time sequence of incidents in ArcGIS Pro so that oldest incidents appear

near the ground and more recent incidents appear further from the ground.

- A line feature class that is populated with z-enabled line features representing the potential relationships between repeat and near-repeat incidents and their originators. The z values for each vertex correspond to the ZVALUE field value for the incident that occurs at that vertex.
 - A comma-separated values (CSV) file summary report with the number of incidents processed, the counts and proportions of incidents that fall within each spatial and temporal band combination, and the estimated half-life and half-distance values which can be used as inputs for the Calculate Prediction Zones tool.
- All distances are calculated using geodesic measurements.

Syntax

RepeatNearRepeatClassification_crime (Input_Feature_Class, Output_Incident_Points, Output_Incident_Connection_Lines, Output_Summary_Report_Location, Date_Field, Repeat_Incident_Distance, Spatial_Bands, Temporal_Bands)

Parameter	Explanation	Data Type
Input Feature Class	Feature class containing points representing the location of incidents to classify. The data contained in the features class will typically cover a long time period (e.g., one year). The feature class must have a date field (in date format) and all features must have date values.	Feature Layer
Output Incident Points	Output feature class containing calculated classification values.	Feature Layer or Feature Class
Output Summary Report Location	The results from the analysis of repeats and near repeats will be written into a Summary report (csv file format) for review. The report can be found in this folder after the tool has completed successfully. The results are also written to the Messages section of the Results window.	Folder
Date Field	The field in the input feature class containing the date on which each incident occurred. If the date of the incident spans a range (e.g., date information is recorded in two fields representing the from and to dates), choose the date field you consider to be most appropriate. This will usually be the date at the beginning of the date range. Values in the date field are used to calculate the number of days between each incident.	Field
Repeat Incident Distance	Maximum distance in the units of the input feature class where adjacent incidents are considered repeats rather than near repeats. A value of 0 is exact to the accuracy of the coordinate system. If the geocoding of the input feature class is likely to vary	Double

[Back to top](#)

	slightly vary it is recommended this value is set to 1 (i.e., incidents will be classified as repeats if the distance between them is less than or equal to 1 map unit).	
Spatial Bands	Distance in the units of the input feature class to classify near incidents. Multiple bands can be entered. For example, bands of 200m and 400m will classify features that are located up to and including 200m from a previous incident, and up to and including 400m of a previous incident.	Multiple Value
Temporal Bands	Number of days to classify near incidents. Multiple bands can be entered. For example, bands of 7, 14 and 21 days will classify features that took place up to and including 7 days, 14 days, and 21 days of a previous incident.	Multiple Value

Licensing information:

- ArcGIS Desktop Basic: No
- ArcGIS Desktop Standard: No
- ArcGIS Advanced: Yes

Introduction to Daily Activity Dashboard

Daily Activity Dashboard can be used to visualize calls for service and incidents sourced from computer-aided dispatch or records management systems and monitor daily activity.

The solution improves operational awareness for supervisors in law enforcement agencies and allows them to rapidly identify emerging incident patterns and diagnose response problems. The increased operational awareness helps command staff allocate law enforcement resources and monitor the performance of officers under their command. Daily Activity Dashboard is typically implemented by law enforcement agencies that want to take a data-driven approach to resource allocation and crime reduction strategies.

The Daily Activity Dashboard solution allows you to source incident records from computer-aided dispatch or records management systems, visualize law enforcement incidents, and monitor trends or patterns.

Calculate Prediction Zones tool

Identify areas at risk of repeat and near repeat incidents by specifying the spatial and temporal range of influence of past incidents.

Usage

- The Input Features must be a point feature class or shape file with a date field, representing the locations of incidents.

- The tool will use all points with date values in the Temporal Range of Influence preceding the Initial Processing Date. Features with date values outside this range and features with null or invalid date values will not be processed.
- This tool will honor a selected set of features. When the Input Features contain a selection, only the selected features will be considered when building the prediction zones.
- Incidents that occur closer in time to the Initial Processing Date will have more influence over the prediction zones than older incidents. Areas nearer to incidents will be considered to have a greater risk of future incidents, up to the Spatial Range of Influence. Use the Spatial Half Distance and Temporal Half Life parameters to modify the rate of decay of influence.
- The following fields are populated in the output feature class:
 - CREATEDATE: Text field populated with the date and time the features are created.
 - STARTDATE: The Initial Processing Date, or the calculated date if TODAY or YESTERDAY is the input value.
 - TIMEBAND: The Temporal Range of Influence used to generate the features.
 - SPACEBAND: The Spatial Range of Influence used to generate the features.
 - RISK RANGE: The classification of risk for the area defined by that polygon. Higher values have a higher level of risk and lower values have a lower value of risk based on the location and dates of nearby incidents.
- This tool creates up to two outputs:
 - A raster representation of the levels of risk over the area covered by the incidents.
 - Polygons generated by binning the raster values into a number of Risk Ranges are appended to the Output Prediction Zones Feature Class as described above.
- While storing the output raster in a geodatabase is supported, it is recommended to store the raster in a folder rather than a geodatabase, especially if this tool will be run as a scheduled task.
- All distances are calculated using geodesic measurements.
- This tool requires the Spatial Analyst extension.

Syntax

CalculatePredictionZones_crime (Input_Features, Output_Prediction_Zones_Raster, Output_Prediction_Zones_Feature_Class, Date_Field, Initial_Processing_Date, Spatial_Range_of_Influence, Spatial_Half_Distance, Temporal_Range_of_Influence, Temporal_Half_Life, Risk_Calculation_Method, Number_of_Risk_Ranges)

Parameter	Explanation	Data Type
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Input Features	Feature class containing points representing the location of incidents and from which prediction zones will be calculated. The feature class must have a date field (in date format) and all features must have date values.	Feature Layer
Point Join Features	Point features coincident with the input polygon or line features.	Feature Layer
Output Prediction Zones Raster	Output prediction zone raster.	Raster Layer
Output Prediction Zones Feature Class	Output feature class with polygons representing the prediction zones.	Feature Class or Feature Layer
Date Field	The field in the input feature class containing the date on which each incident occurred. If the date of the incident spans a range (for example, date information is recorded in two fields representing the from and to dates), choose the date field you consider to be most appropriate. This will usually be the date at the beginning of the date range. Values in the date field are used to calculate the level of future risk based on a combination of when the incident occurred, the Initial Processing Date and the temporal decay in risk (determined from the Temporal Range of Influence and the Temporal Half Life).	Field
Initial Processing Date	The date to use from the Input Feature Class for creating the prediction zones.	Date
Spatial Range of Influence	This value determines the size of the prediction zones around each incident (in the units of the coordinate system of the Input Feature Class). The value refers to the maximum distance from an incident that the incident is estimated to have on influencing the risk of future incidents taking place. Additionally, this value can be based on the area around an incident that is considered to be practical for resource targeting and deployment (for example, the area to which additional patrols are targeted).	Double
Spatial Half Distance	The distance from an incident at which the risk is estimated to be half that of another incident taking place (a near-repeat). This value is used to calculate the exponential rate of decay in the spatial risk of a near-repeat incident and must be lower than the value for the Spatial Range of Influence. Distance units are the units of the coordinate system of the input feature class. A useful initial value to apply is half the value of the Spatial Range of Influence.	Double
Temporal Range of Influence	This value refers to the number of days before the Initial Processing Date that incidents are estimated to have an influence on the risk of future incidents taking place. More recent incidents have the greatest level of influence on future	Double

[Back to top](#)

	<p>risk. Incidents that took place between the Initial Processing Date and the value for the Temporal Range of Influence are used for creating prediction zones. For example, if this value was set to 3, only incidents for the Initial Processing Date and the two days prior would be used for creating prediction zones. Incidents that took place 3 days ago would have less of an influence on the risk of future incidents than those that took place on the Initial Processing Date.</p>	
Temporal Half Life	<p>The number of days before the Initial Processing Date on which the risk is estimated to be half that of further incidents taking place immediately after the Initial Processing Date (for example, incidents that took place on the Initial Processing Date are considered to have the greatest influence on the risk of future incidents taking place. Incidents before the Initial Processing Date have less of an influence on future risk). This value is used to calculate the exponential rate of decay in the temporal risk of a repeat and near-repeat incident and must be lower than the value for the Temporal Range of Influence. A useful initial value to apply is half the value of the Temporal Range of Influence.</p>	Double
Risk Calculation Method	<p>Choose the method for calculating the predictive risk.</p> <p>'CUMULATIVE' (default) creates prediction zones where the value of each cell is the sum of any prediction zone cells that overlap.</p> <p>'MAXIMUM' creates prediction zones where the value of each cell is the maximum value of any prediction zone cells that overlap</p>	String
Number of Risk Ranges	<p>Integer value representing the number of ranges that will be used in the polygon version of the output for representing the variation in predicted risk (for example, if this value was set to 2, two Risk Ranges would determine areas of primary risk from areas of secondary risk).</p>	Long

Licensing information:

- ArcGIS Desktop Basic: Requires Spatial Analyst
- ArcGIS Desktop Standard: Requires Spatial Analyst
- ArcGIS Advanced: Requires Spatial Analyst

Daily Activity Dashboard

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Requirements

Daily Activity Dashboard requires the following.

- ArcGIS Enterprise
- ArcGIS Pro 2.4 or later (Basic, Standard, or Advanced) (optional)

Information products

Daily Activity Dashboard includes the following information products:

Item	Description	Minimum user type
Daily Activity Dashboard	An ArcGIS Dashboards app used by law enforcement command staff to monitor calls for service, crimes, and arrest data sourced from computer-aided dispatch or records management systems	Viewer
Record Import Tools	A geoprocessing toolbox for geocoding records from a computer-aided dispatch or records management system and publishing into a local file geodatabase or hosted feature service (optional)	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of the Daily Activity Dashboard application

[Back to top](#)

Configure Daily Activity Dashboard

The Daily Activity Dashboard solution can be configured to meet the specific needs in your organization. In this topic, you will learn how to use the **Update Features with Incident Records** tool to automatically load data from records management systems (RMS) and computer-aided dispatch systems (CAD) into the layers in your Daily Activity Dashboard, and modify or remove dashboard elements unsupported by your data schema.

Load data

The layers can be loaded with data using ArcGIS Pro. Optionally, you can automated the current RMS or CAD incident data to run on a schedule to ensure you are reviewing the most up-to-date information while using the dashboard.

Load data using ArcGIS Pro

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

1. In ArcGIS Pro, and ensure you are signed into your ArcGIS organization where the Daily Activity Dashboard solution is deployed.
2. Click **View**, and then click **Catalog Pane**.
3. In the **Catalog Pane**, click **Portal**, click **My Content** and choose the folder containing the solution.
4. Add the LawEnforcementDistricts layer, Crimes layer, CallsforService layer, and Arrests layer to the map.
5. Click **Analysis**, then navigate to the **Append** tool, open the tool, use the tool to load the districts layer of the LawEnforcementDistricts layer.
6. Navigate to the [Update Features With Incident Records](#) tool, open the tool and use it to load data into the Crimes layer. Then use the tool to load data for the CallsforService layer, and Arrests layer.

Automate incident data updates

You can use the ArcGIS Pro and the [Update Features With Incident Records](#) tool to update incident layers on a regular interval. Scheduled updates ensure users have access to current information to support more dynamic decision making.

To update crimes, calls for service, arrests data on a schedule, use the [Update Features With Incident Records](#) tool with the **Update Existing Target Features** parameter enabled. Once the tool is configured to use your dynamic incident data, follow the [schedule geoprocessing tools](#) documentation to learn how to run the tool on a schedule.

Configure dashboard elements

When loading data from your RMS or CAD system into the layers of the Daily Activity Dashboard (Crimes, Calls for Service, Arrests), you may find that your source data does not contain specific fields (Day of Week, Hour of Day) used in the charts or filters. Since the Daily Activity Dashboard is a configuration of ArcGIS Dashboards, all elements can be reconfigured to point to different fields, or deleted entirely, as the schema of your data necessitates.

See [Configuring ArcGIS Dashboard elements](#) for more information.

Use Daily Activity Dashboard

The Daily Activity Dashboard solution allows you to source incident records from computer-aided dispatch or records management systems, visualize law enforcement incidents, and monitor trends or patterns.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Understand recent patterns of activity

Daily Activity Dashboard allows supervisors to use data about recent trends and patterns to make smarter resource deployment decisions within their scope of control.

In this workflow, you will learn how to use the Daily Activity Dashboard solution to explore recent crime, call for service, and arrest data to discover patterns of interest for operational responses.

Visualize recent activity

Follow these steps to visualize recent activity by precinct:

1. In a browser, go to the Daily Activity Dashboard app.
2. In the panel on the left side, click the **Date** drop-down list, and select **Last 28 days**.
The map now displays all calls, crimes, and arrests from the previous day. Calls for service will appear as blue circles with a phone icon, arrests will appear as gray circles with a handcuff icon, and crimes will appear in multiple colors—navy for violent crime, gold for property crime, and light gray for lesser crimes. Each crime type has its own unique symbol type.
3. Select a precinct from the **Precinct** drop-down list.
The indicator elements on the right side display totals for each layer based on the filter selected.

Note:

You may continue to apply as many filters as you want—the filters will continue to narrow down the incidents displayed on the map based on the parameters you specify in your filter. To cancel your filter, click any filter and select **All**.

4. Click one of the incident points on the map. A pop-up in the upper left corner of the map will appear, displaying key facts about the incident, including the date, location, and incident type.

Note:

Crimes, calls for service, and arrests layers all have slightly different fields. So the specific fields you observe in the pop-up may differ depending on the type of incident layer that you clicked.

5. Click **Zoom in** to zoom in to an incident on your map using the scroll wheel on your mouse forward. Reversing the scroll wheel zooms the map out. Alternatively, you may click the zoom in and zoom out buttons located in the lower left corner of the map to control zoom level.
6. Select the **basemap icon** in the upper right corner of the map that looks like four maps. Then select the Imagery Hybrid basemap to see the imagery near the incident.
7. When finished, reset each filter to **All**.

Explore calls for service activity

In this workflow, you will be preparing for a meeting with a neighborhood association. The group is particularly concerned about Friday night quality of life issues such as vice, drugs, alcohol complaints, and loud parties.

1. Click the **Calls for Service** tab in the lower middle of the dashboard.
2. Select a precinct from the Precinct filter list.
3. In the Day of Week filter, select a day of the week.
You can now see the number of calls for service in your selected precinct, as well as a breakdown of the day of week, hour of day, and call for service type.
4. Browse the Call for Service list to find any report of Vice/Alcohol/Narcotics or Loud Party Or Noise. Click the first record you find.
As you click, the map will zoom to the location of the call and flash a pink halo around the location.
5. Click the point to open a map pop-up to get the specific location of the call, the officer who responded, date of call, call type, and call ID.
6. When finished, reset all filters to the **All**.

Explore crime activity

You have just received grant funding to implement addition patrols in problem areas for burglary. To identify where and when to run these patrols, you would like to review all Burglaries year to date.

1. Click the **Crimes** tab in the lower middle of the dashboard.
2. Select **Year to date** in the Date filter.
3. Select **Burglary** in the Activity Type filter.
The results on the dashboard will show all Burglaries year to date. In the Days of Week chart at the bottom of the dashboard, we can see that Burglaries peak slightly on certain days of the week. Additionally, you can see the Hour of Day when burglaries appear to be most active.
4. Click any bar in the bar charts to filter the map for just the burglaries occurring in that period.
This filtering capability helps you to search for unique time-specific spatial patterns that may indicate the work of a serial offender.

5. When finished, reset all filters to **All**.

Note:

To deactivate a filter from a chart, click the chart bar again.

Explore arrest activity

Your first shift sergeant has recommended a commendation for an officer who has made several recent high-profile arrests. To consider the commendation, you need to review the recent arrests made by the officer.

1. Click the **Arrests** tab in the lower middle of the dashboard
2. Select the officer's id number from the Officer filter
You can now see all arrests made by the officer. Zoom in to the extent of the arrests.

Note:

The number in the Officer filter refers to each officer's badge number.

3. Click one of the arrest records in the list.
As you click, the map will zoom to the location of the arrest and flash a pink halo around the location.
4. Click the arrest point to open a map pop-up to get the specific location of the arrest, the officer who responded, date of arrest, arrest type, and arrest ID.
5. When you are done, close the Daily Activity Dashboard.

Dam Safety

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Dam Safety

Dam Safety can be used to routinely inspect dams to ensure the dams they regulate are in good condition and provide the service for which they were intended.

It provides dam safety programs the necessary resources to adequately inspect and monitor their inventories. This standardized approach minimizes failure risk and improves safety of this critical infrastructure used for flood protection, water supply, hydropower, irrigation, and recreation. Dam Safety is typically implemented by natural resource departments and other government agencies that want to modernize their dam inspection programs.

The Dam Safety solution delivers a set of capabilities that help you routinely inspect dams, manage work assignments, and monitor inspection programs.

Requirements

Dam Safety requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Basic, Standard, or Advanced)
- ArcGIS Survey123
- ArcGIS Workforce
- Survey123 Connect

Information products

Dam Safety includes the following information products:

Item	Description	Minimum user type
Dam Inspection Dashboard	An ArcGIS Dashboards app used by dam safety staff to review fieldwork activity and monitor the progress of dam inspection programs	Viewer
Dam Inspection Survey	An ArcGIS Survey123 form used by mobile workers to inspect upstream reservoirs, downstream hazards, and other relevant information at dam sites	Field Worker

[Back to top](#)

Dam Inspection Assignments	An ArcGIS Workforce Classic project used by dam safety staff to manage dam inspection assignments and track the status of each inspection. Mobile workers access the Dam Inspection Assignments project using the Workforce for ArcGIS mobile app	Field Worker
Dam Safety	An ArcGIS Pro project used by mapping technicians to inventory dam information (for example, location and specifications) and assign dam sites to mobile workers	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Dam Safety

Use Dam Safety

The Dam Safety solution delivers a set of capabilities that help you routinely inspect dams, manage fieldwork assignments, and monitor inspection programs.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Prepare dam inspections

You will start by assuming the role of a dam safety staff member responsible for coordinating dam safety field operations. You are asked to use the Dam Safety ArcGIS Pro project to setup your organization's dam safety field operations. Follow the defined tasks to add inspectors, inventory dam information, and assign dam sites to mobile workers.

To open the ArcGIS Pro project tasks, complete the following steps:

1. In a browser, sign in to your ArcGIS organization, and then browse to the Dam Safety solution.
2. Download the Dam Safety desktop application template and unzip the folder.
3. From the unzipped folder, open **Dam Safety.aprx** in ArcGIS Pro.

[Back to top](#)

4. In ArcGIS Pro, in the **Catalog** pane, expand **Tasks**, and then double-click the Dam Safety task.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand the **How to Use Dam Safety** task group to see the collection of tasks.
6. Follow the steps in each task.

Complete a dam inspection

Next, you will assume the role of a dam safety inspector responsible for conducting safety inspections of dams. You are asked to use the Dam Inspection Survey to conduct a dam safety inspection.

1. Install the Survey123 field app on your mobile device, if necessary.
2. Open the Survey123 field app, and then download and open the Dam Inspection Survey.
3. Tap **Inbox**.
4. Select a survey from the inbox, and then complete it.
5. After the survey is complete, tap the check mark, and then tap **Send Now** to submit the survey.

Create dam inspection reports

In the previous section, you completed a dam safety inspection. You will now create an inspection report of the dam safety inspection to provide to the dam owner.

1. In a browser, go to the Survey123 website and sign in, if necessary.
2. Open the Dam Inspection Survey, and then click the **Data** tab.
3. From the Dam Inspection Survey table, select a survey.
4. Click the **Report** button.
5. In the **Report** panel, type a report name, and then for **Format**, choose **PDF**.

Note:

Generating reports consumes credits. To see how many credits your report will consume, click **Show credits**.

6. Click the **Generate** button to create the inspection report.

Note:

[Back to top](#)

To learn more about printing reports in ArcGIS Survey123, see [Print survey results](#).

Monitor dam inspections

Finally, you will assume the role of a dam safety program manager responsible for managing a dam safety program. You are asked to review key metrics to better understand your dam safety program.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Dam Safety solution.
2. View the Dam Inspection Dashboard app.
3. On the left, adjust the filters to refine the inspection list results by the hazard classification, specific watershed, inspector name, inspection type, or inspection date.
4. In the Dam Condition chart, click any bar to filter by dam condition.
5. In the **Inspections Completed** panel, select any inspection to see important inspection details.

Damage Assessment

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Damage Assessment

Damage Assessment can be used to collect initial property damage and other impacts immediately after a natural disaster or catastrophic incident.

The solution provides a rapid damage assessment that helps government agencies prioritize activities undertaken by emergency management agencies to stabilize critical infrastructure, minimize health and safety threats, and restore services in a community. The initial damage assessment precedes the Joint Preliminary Damage Assessment (PDA) conducted with federal, state, and local officials after a disaster declaration is made. Damage Assessment is typically implemented by emergency management agencies that want to quickly understand the impact of a natural disaster or catastrophic incident and immediately assign resources to appropriate response and recovery activities.

The Damage Assessment solution allows you to conduct an initial damage assessment and monitor the impact on residential buildings, commercial structures, and public facilities.

Requirements

The Damage Assessment solution requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123

Information products

Damage Assessment includes the following information products:

Item	Description	Minimum user type
Damage Assessment Dashboard	An ArcGIS Dashboards app used to monitor field assessments and determine whether damage costs exceed state or federal declaration thresholds	Viewer
Damage Assessment: Commercial Buildings	An ArcGIS Survey123 form used by field inspectors to conduct initial damage assessments for commercial buildings in a connected or disconnected environment	Field Worker

[Back to top](#)

Damage Assessment: Public Facilities	An ArcGIS Survey123 form used by field inspectors to conduct initial damage assessments for public facilities in a connected or disconnected environment	Field Worker
Damage Assessment: Residential Buildings	An ArcGIS Survey123 form used by field inspectors to conduct initial damage assessments for residential buildings in a connected or disconnected environment	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Damage Assessment

Use Damage Assessment

The Damage Assessment solution delivers a set of capabilities to collect and monitor damage to local structures including residential, commercial buildings, and public facilities.

Note:

In the United States, the Federal Emergency Management Agency (FEMA) manages two programs to assist recovery and restoration, the Public Assistance and Individual Assistance programs. If the results of the initial damage assessment are significant, a Joint Preliminary Damage Assessment (PDA) may be conducted. For more information on the FEMA Preliminary Damage Assessment (PDA) process, see [Damage Assessment Operations Manual](#). Esri has created surveys using ArcGIS Survey123 to support both the FEMA Individual Assistance and Public Assistance programs. For more information on these surveys, see [Esri Community blog post](#).

Conduct field surveys

Immediately after the emergency response and rescue operations are completed, initial damage assessments can be conducted by emergency management field personnel to determine the impact of the incident. Using field apps with location-based information helps emergency management personnel prioritize recovery efforts.

Initial damage assessment can be conducted for commercial, residential and public infrastructure using ArcGIS Survey123 on a mobile device in a connected or disconnected environment.

Note:

The Survey123 field app is available from [Google Play](#), the [App Store](#), and the [Microsoft Store](#). You can install Survey123 directly onto your device from these stores.

Submit damage assessments for commercial buildings

In some cases, local emergency managers may assign field inspectors who are experienced in assessing damages for commercial properties such as hotels, office parks, or shopping centers. The Damage Assessment: Commercial Buildings solution is a configuration of ArcGIS Survey123 that can be used by field inspectors to collect initial damage assessments on a mobile device in a connected or disconnected environment.

In this workflow, you'll assume the role of a field inspector who has been assigned to collect local damage assessments; you will assume you are at the field location collecting the necessary information.

1. Sign in to the ArcGIS Survey123 app, and choose Damage Assessment: Commercial Buildings.
2. Enter an **Incident Number**, **Incident Name**, **Inspection Date**, and **Time**.

[Back to top](#)

3. Click the **Set Location** button. In the map search box, enter 22 W. Chicago Ave. Naperville, IL.
4. Scroll down the list and enter site information for the commercial property.
5. Select **Yes** for the **Is the Business Open** option, enter values for the **Estimated \$ Loss Structure** and **Estimated \$ Loss Contents** parameters.
6. For the **Extent of Damage**, select **Minor** and for the **Primary Cause of Damage**, select **Flood**.
7. Continue scrolling down the list to enter a **Description of Damage**, **Impact to Jurisdiction**, and **Additional Comments**.
8. Under **Photos**, attach a picture or diagram to make it easy to see the extent of damage.
9. Scroll down and enter the **Inspectors Information** to make it easy to follow up with any questions.
10. Click **Yes** for **Is the Owner or Occupant Present** to open a cascading list of Owner/Occupant Information.

Note:

If the owner is present, the field inspector can capture contact and insurance information, which will help expedite the damage assessment process.

11. Enter all the necessary **Owner/Occupant Information**, then scroll down.
12. Enter all the necessary **Insurance Information**.
13. Click **Submit** to complete the damage assessment survey for the commercial property.

Submit damage assessments for public facilities

In this workflow, you'll assume the role of a field inspector who has been assigned to public facilities such as schools, water and sewer, or transportation infrastructure.

1. Sign in to the ArcGIS Survey123 app, and choose Damage Assessment: Public Facilities survey.
2. Enter an **Incident Number**, **Incident Name**, **Inspection Date**, and **Time**.
3. Click the **Set Location** button. In the map search box, enter Naperville Central High School, 440 Aurora Ave, Naperville, IL.
4. Scroll down the list and enter **Site**, **Facility**, and **Address** information for the facility.
5. For the **Damage Category** option, select **CAT E – Public Buildings**.
6. Enter a **Description of Damage**, **Impact to Jurisdiction**, and **Impacted Department**.
7. Enter values for the **CostEstimate** and **County's CostEstimate**, **Percent Complete** and any **Additional Comments**.
8. Under **Photos**, attach a picture or diagram to make it easy to see the extent of damage.
9. Scroll down and enter the **Inspectors Information** to make it easy to follow up with any questions.

[Back to top](#)

10. Click **Submit** to complete the damage assessment survey for the Public Facility.

Submit damage assessments for residential buildings

In this workflow, you'll assume the role of a field inspector who has been assigned to assess damage to residential structures.

1. Sign in to the ArcGIS Survey123 app, and choose Damage Assessment: Residential Buildings survey.
2. Enter an **Incident Number**, **Incident Name**, **Inspection Date**, and **Time**.
3. Click the **Set Location** button. In the map search box, enter 23 E Hillside Rd, Naperville, IL.
4. Scroll down the list and enter **Site** and **Parcel** information for the residence.
5. Under **Type of Home**, select **Detached Home**.
6. Enter the **Address** information.
7. For the **Extent of Damage**, select **Minor**, and for the **Primary Cause of Damage**, select **Flood**.
8. Enter a **Description of Damage**, enter values for the **Estimated \$ Loss Structure** and **Estimated \$ Loss Contents** parameters.
9. Enter an **Impact to Jurisdiction** and any **Additional Comments** such as the number of floors damaged, basement, or garage.
10. Under **Photos**, attach a picture or diagram to make it easy to see the extent of damage.
11. Scroll down and enter the **Inspectors Information** to make it easy to follow up with any questions.
12. Select **No** for the **Is the Owner or Occupant Present** option.

Note:

In many cases, the owner or occupant may have left to seek shelter in another location.

13. Click **Submit** to complete the damage assessment survey for the residential building.

Monitor damage assessment reports

Initial damage assessment reports can be used by local officials to determine the severity and magnitude of a natural disaster or catastrophic incident. The information from the reports is then analyzed to determine whether the disaster-related costs and damages could qualify for any state and/or federal assistance.

The Damage Assessment Dashboard can be used to monitor damage assessments as they are submitted by field inspectors and determine whether damage costs exceed state or federal declaration thresholds.

1. In a browser, sign in to your ArcGIS Enterprise organization, navigate to your the Damage Assessment Dashboard item, then choose view dashboard.
2. Click the **Residential Buildings** tab in the lower left corner of the dashboard.
3. Review the number of residential buildings in each extent of damage category.

[Back to top](#)

Note:

The damage assessment categories are Destroyed, Major, Minor, Affected, and Inaccessible.

4. Review the total sum of damage assessments in the upper right corner of the dashboard.
5. Click one of the residential damage estimates in the list.
The map zooms in to the selected residential damage estimate location and a pop-up window appears in the upper left corner of the dashboard with information and options to flash the selected feature.
6. Click the **Commercial Buildings** tab in the lower left corner of the dashboard.
7. Review the number of commercial buildings in each damage category.
8. Review the total sum of damage assessments in the upper right corner of the dashboard.
9. Click one of the commercial damage estimates in the list.
The map zooms in to the selected residential damage estimate location and a pop-up window appears in the upper left corner of the dashboard with information and options to flash the selected feature.
10. Click the **Public Facilities** tab in the lower left corner of the dashboard.

Note:

The public facilities don't have the same damage categories as residential or commercial buildings but instead have symbols indicating the damage category.

11. Review the total sum of damage assessments in the upper right corner of the dashboard.
12. Click one of the damaged public facility estimates in the list.
The map zooms in to the selected residential damage estimate location and a pop-up window appears in the upper left corner of the dashboard with information and options to flash the selected feature.
13. Close the Damage Assessment Dashboard.

Introduction to Development Impact Analysis

Development Impact Analysis can be used to evaluate proposed developments and assess their impact on solar radiation, shadows, and viewsheds in a community.

It provides specialized workflows to produce information products for a comprehensive planning review. This optimized approach helps create powerful 3D visuals that can be used to inform stakeholders and improve public involvement in the development process. Development Impact Analysis is typically implemented by planning departments, design firms, and other local government agencies that want to create effective visualizations that highlight the impact of proposed developments.

The Development Impact Analysis solution delivers a set of capabilities that help you create solar radiation maps, evaluate how proposed developments will cast shadows on existing buildings, and review the impact on viewsheds.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Development Impact Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Advanced)
 - ArcGIS 3D Analyst extension
 - ArcGIS Spatial Analyst extension

Information products

Development Impact Analysis includes the following information products:

Item	Description	Minimum user type
Solar Radiation Analysis	An ArcGIS Pro project used by government planners to calculate solar radiation maps for the wider community	GIS Professional Advanced
Shadow Impact Analysis	An ArcGIS Pro project used by government planners to evaluate the shadow impact of proposed or existing buildings on the surrounding community	GIS Professional Advanced
Visibility Analysis	An ArcGIS Pro project used by planners to assess the visibility from or visibility of a proposed development within the community	GIS Professional Advanced

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Development Impact Analysis

Use Development Impact Analysis

The Development Impact Analysis solution delivers a set of capabilities that help you create solar radiation maps, evaluate how proposed developments will cast shadows on existing buildings, and review the impact on viewsheds.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Shadow impact analysis

Planners can use Shadow Impact Analysis to evaluate the shadow impact of proposed or existing buildings on the surrounding community.

Two tasks are available to assess shadow impact:

- Check Shadows
- Analyze Shadows

Check shadows

You will start by assuming the role of a planner responsible for evaluating the shadow impact of proposed or existing buildings on the surrounding community. You are asked to use the Shadow Impact Analysis ArcGIS Pro project to review potential shadow impacts of proposed or existing buildings. Follow the Check Shadows task to do a quick visual shadow check.

1. Download the ShadowImpactAnalysis Desktop Application Template and unzip.
2. Open the ShadowImpactAnalysis.aprx in the unzipped folder.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Check Shadows task.
5. Follow the steps in each task.

Note:

Only use the created sun point locations for display purposes. All shadow impact calculations are based on the attributes of the sun points features, not the display location. Use **Observer Horizon Distance** to set the distance to the observer.

Analyze shadows

Next, you will continue with the role of a planner responsible for evaluating the shadow impact of proposed or existing buildings on the surrounding community. Follow the Analyze Shadows task to evaluate shadow impact of features by calculating cumulative shadow duration and area for the time period of interest.

1. Download the ShadowImpactAnalysis Desktop Application Template and unzip.
2. Open ShadowImpactAnalysis.aprx in the unzipped folder.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Analyze Shadows task.
5. Follow the steps in each task.

[Back to top](#)

The Create Shadows step creates shadow panels on the observer features that will hold the shadow attributes:

- shadow_h—The number of hours each observer panel is in shadow
- shadow_hits—The number of time intervals (sun positions) each observer panel is in shadow
- num_suns—The number of suns
- start_date—The start date and time
- end_date—The end date and time

Note:

Check Shadows task only shows shadows as graphics in the scene, giving you a visual indication of where the shadows are going to be. The Analyze Shadows task allows you to evaluate shadow impact of features by calculating cumulative shadow duration and area for the time period of interest. This analysis takes longer to run than the Check Shadow task but calculates cumulative shadow duration and area as features with shadow attributes as opposed to only a visual display of the shadows.

Shadow hits are the number of suns that cannot be seen from the observer panel. Depending on the time interval, the shadow hits can be the same as the shadow hours (time interval is 1 hour), less than the shadow hours (time interval is more than 1h), or more than the shadow hours (time interval is less than 1h).

If your goal is to compare shadow impacts between different conditions, you must run this task multiple times, once per scenario in the comparison, such as existing versus proposed conditions. For example, the proposed scenario includes a model for a new development in the list of obstruction features along with existing buildings, whereas the existing conditions only include existing buildings in the obstruction features.

To create shadow panels for a specific time during the day (for example, 10 a.m.), open the Sun Positions attribute table and click a record that corresponds to the time interval of interest. This selection is honored by the Create Shadow step.

Solar radiation analysis

You will now assume the role of a planner responsible for calculating solar radiation maps for the wider community. You are asked to use the Solar Radiation Analysis ArcGIS Pro project to visualize solar radiation on the ground as well as on the roofs of buildings in a 3D scene and evaluate total solar radiation per selected roof area. Follow the defined tasks to calculate solar radiation rasters, visualize solar radiation on building roofs, summarize solar radiation for selected roof areas, and publish the results.

1. Download the SolarRadiationAnalysis Desktop Application Template and unzip.
2. Open the SolarRadiationAnalysis.aprx in the unzipped folder.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Solar Radiation Analysis task.
5. Follow the steps in each task.

Note:

The atmospheric parameters used in this analysis are calibrated to historic solar radiation averages provided by the [NASA Surface meteorology and Solar Energy global datasets](#).

These averages are provided at a one-degree resolution for the globe. While this resolution is adequate for most analyses, there may be some inaccuracy in areas with high variability in weather patterns over short distances. The accuracy of the solar radiation values is dependent on the quality of the input data.

Visibility analysis

Government agencies can use Visibility Analysis to assess visibility for the wider community. For example, planners, architects, and real estate appraisers can use Visibility Analysis to determine visibility of or from a proposed development from or of surrounding locations. Event planners can use the solution to calculate event visibility from specific locations or surrounding buildings.

Two tasks are available to assess visibility:

- Explore Visibility
- Analyze Visibility

Explore visibility

You will now assume the role of a planner responsible for conducting visibility assessments. You have been asked to use the Visibility Analysis ArcGIS Pro project to determine visibility of or from a proposed development from or of surrounding locations. Follow the Explore Visibility task to quickly explore visibility in your scene.

1. Download the VisibilityAnalysis Desktop Application Template and unzip.
2. Open the VisibilityAnalysis.aprx in the unzipped folder.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Explore Visibility task.
5. Follow the steps in each task.

Note:

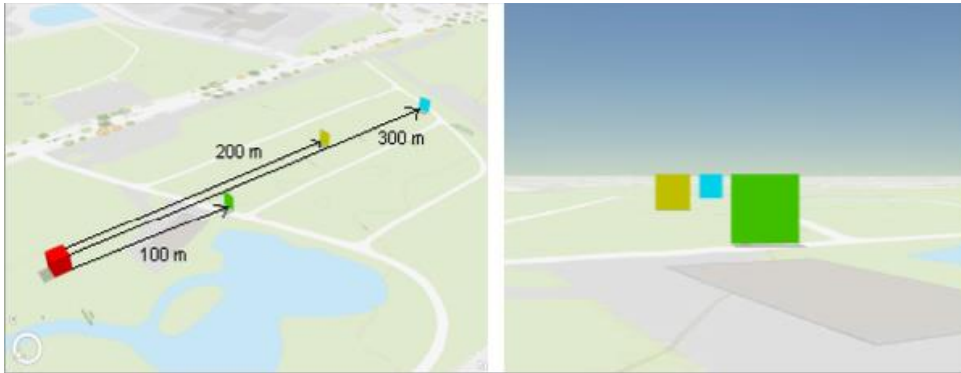
Typically, these tools are used to get an idea of visibility in your scene. The analytical results displayed by these tools are temporary and are not saved with the project, nor are they included in map packages. If you require analytical results as data including a measurement of how visible an object is, consider using the Analyze Visibility task.

Analyze visibility

Next, you will continue with the role of a planner responsible for conducting visibility assessments. You have been asked to use the Visibility Analysis ArcGIS Pro project to determine visibility of or from a proposed development from or of surrounding locations. Follow the Analyze Visibility task to perform a detailed visibility assessment.

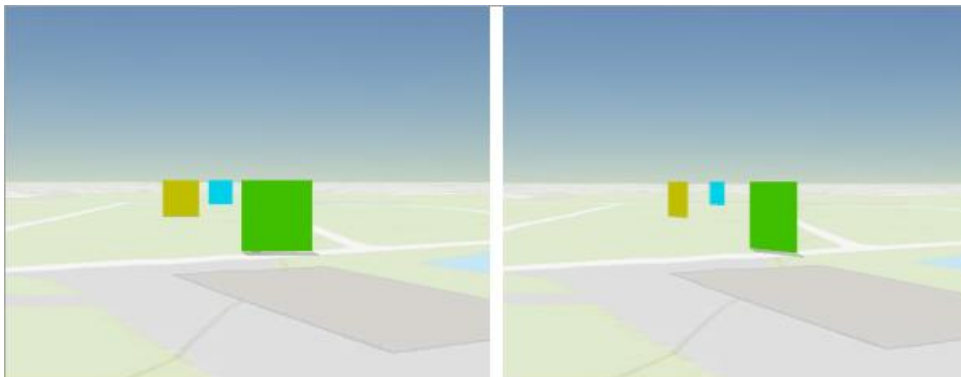
Note:

This task calculates the perceived and actual visible area of the target as an attribute of the observer. Distance and angle are considered when calculating perceived visibility because targets that are further away and under an angle from the observer appear smaller.



Objects that are further away from the observer appear smaller and are less visible compared to the objects that are closer to the observer.

Also, the angle of the targets in relation to the observer is considered because if a target is facing slightly away from the observer, it is less visible.



Targets facing away from the observer appear smaller.

1. Download the VisibilityAnalysis Desktop Application Template and unzip.
2. Open the `VisibilityAnalysis.aprx` in the unzipped folder.
3. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Analyze Visibility task.
5. Follow the steps in each task.

Note:

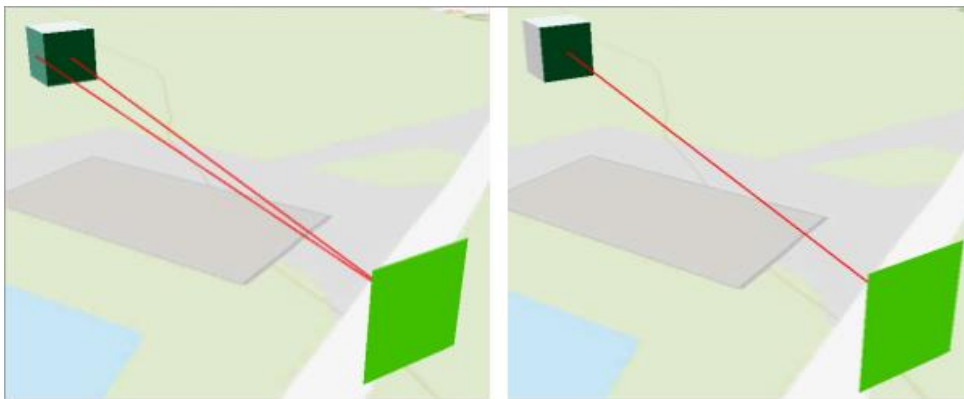
Analyze Visibility samples the observer and target features in 3D space and creates the following attributes on each observer panel describing the target visibility from the observer panel:

- Deviation—Average angle between the observer and target panels.

[Back to top](#)

- **ActualArea**—The actual area of all targets visible from the observer.
- **PerceivedArea**—The perceived area of all targets from the observer, adjusted for distance and angle. The area of the closest target is used to proportionally calculate the target areas that are further away.
- **PerceivedAreaPercentage**—Percentage value of **PerceivedArea**. This attribute is typically used for symbolization.
- **NumOfSightLines**—Number of sight lines from the observer to all visible target panels.

The average angle of the observer feature panel in relation to the target lines of sight is saved in the **Deviation** attribute. Currently, the observer deviation is not used in the visibility calculations, meaning all observer panels that have a deviation of less than 90 degrees are considered to have line of sight on the targets. Use **Select By Attributes** on the **Deviation** attribute to find the panels that have a smaller angle or window of visibility.



Visibility is shown on the observer in the upper left without taking into account deviation (left image) and with deviation less than 45 degrees (right image).

Introduction to Election Management

Election Management can be used to manage election day activities, monitor performance, and gauge voter sentiment.

The elections office is often the smallest agency in a government until Election Day, when it becomes the largest. Aging business systems and volunteer workforces that have varying skill levels present unique challenges. Election offices, in communities large and small, respond to Election Day issues and requests from polling places and voting centers. Issues with computer hardware, facilities, or supplies (for example, ballots, pens, and pencils) impact wait times and confidence in the election process. As a result, timely response from elections staff is imperative. Election Management is typically implemented by clerks, election commissions, or secretary of state offices that want to run efficient elections and increase confidence in the voting process.

The Election Management solution delivers a set of capabilities that help you report wait times and request assistance at voting centers and polling places, dispatch field staff to respond to requests, monitor the performance of voting locations, and gauge the satisfaction of voters on Election Day.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Election Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)
- ArcGIS Workforce

Information products

Election Management includes the following information products:

Item	Description	Minimum user type
Election Assistant	A Crowdsourcing Polling app used by poll workers to routinely report wait times and request assistance (for example, additional ballots or computer support) at their assigned voting center or polling place	Editor
Election Manager	An ArcGIS Workforce Classic project used by elections staff to manage election day requests for assistance and track the resolution of each request. Field users access the Election Manager project using the ArcGIS Workforce mobile app.	Field Worker
Voter Satisfaction Survey	An ArcGIS Survey123 form used by elections staff to gauge voter satisfaction and sentiment during an ongoing election	Not required
Election Performance Dashboard	An ArcGIS Dashboards app used by elections staff to monitor wait times, requests for assistance, and voter satisfaction during an ongoing election	Viewer
Election Data Management	An ArcGIS Pro project used by mapping technicians to inventory and maintain electoral districts, precincts, voting centers, and polling places	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Date	Description
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[Back to top](#)

Configure Election Management

Learn how to configure the Election Management solution to meet specific needs in your organization.

Manage election data

You will assume the role of a mapping technician responsible for maintaining an inventory of electoral districts, voting locations, and voting precincts. The Election Data Management ArcGIS Pro project includes a series of tasks to help guide you through these workflows.

Get started

To get started with Election Data Management, complete the following steps.

1. Sign in to your ArcGIS organization and browse to the Election Data Management Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Election Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Election Data Management** task item.
6. In the **Tasks** pane, click the **Getting Started** task group to expand the collection of tasks.

Election Data Management is used to load, create, and edit foundational election data used in Election solutions such as My Elected Representative, Election Polling Places, and Election Manager. The solution uses three foundational datasets:

- Voting Locations
- Voting Precincts
- Electoral Districts

Voting Locations contains facilities where voters can cast ballots and is defined by a point layer. They can be either polling places or voting centers, depending on your community's needs. Voting centers can be modified to allow early voting.

Voting Precincts contains areas that define your community's precincts and is defined by a polygon layer. They are related to voting locations by a unique ID and define the unique polling place where voters in a precinct should cast ballots.

Electoral Districts contains geographies that define an elected office's area of representation and is defined by a polygon layer. For example, a mayor's Electoral District is the municipal boundary. Key attributes are used in My Elected Representative solution.

Before proceeding to subsequent tasks, follow the instructions in the **Add election geography layer** task to add the ElectionGeography feature layer deployed with the solution.

Load existing election data

Your election agency may have existing polling place, voting center, voting precinct, or electoral district data, which can be loaded into the ElectionGeography feature layer.

Voting Locations are designated as either Polling Places or Voting Centers using the Voting Facility Type field. Both Voting Centers and Polling Places use a standard for operational days and hours in the Voting Centers and Election Polling Places apps included with the Election Outreach solution. To load existing voting location data, designate the type, and format the operation days and hours, follow the instructions in the **Polling places** and **Voting centers** tasks.

The polling precinct's relationship with a polling place is defined by populating the Polling Place ID field with the GlobalID from the corresponding polling place. Establishing this relationship allows the Election Polling Places app and the Election Outreach solution to display the appropriate polling place when a user searches by address or defines a location on the map. Follow the instructions in the **Polling precincts** task to load existing data and establish the relationship.

Follow the instructions in the **Load electoral district** to load existing data.

Create new election data

You may need to create new election data if existing data is not available. Follow the instructions in the **Create new election data** task group to create new voting locations, voting precincts, or electoral districts.

Note:

Map layers must be visible to create new data.

Prepare for next election

Election data changes over time as new voting locations are established, precincts are modified, and election cycles are completed. You must update key fields such as the next election date to maintain election data accuracy and ensure that public facing apps included with the Election Outreach solution display the correct information. Use the **Next election date** and **Early voting data** tasks to update key data fields as election cycles are completed. Use the **Modify voting locations**, **Modify precincts**, and **Modify electoral districts** tasks to edit your election data.

Modify election request types

When poll workers create requests using Election Assistant and the Election Requests form, requests are automatically created as assignments in the corresponding Election Manager Workforce project. Using Election Manager, dispatchers can assign requests to field rovers. Follow the steps below to add additional request types to the Election Requests ArcGIS Survey123 form and add the same request types to the Election Manager Workforce project.

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Election Requests** to download the survey.
4. In the **Download** window, click **Download** and click **OK**.
5. Click **Election Requests** again to open the survey.

[Back to top](#)

6. In the **XLSForm Modified** window, click **Yes**.
7. On the side toolbar, click **Open XLSForm Spreadsheet**.
8. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.
9. Update the name and label of the ASSIGN_TYPE with additional request categories such as Sanitation Supplies. Add additional Election Request types as needed.

Note:

Each ASSIGN_TYPE entry has a coded domain value listed in the name column. Increment new request types by 1, ensuring each entry is unique.

10. Save and close the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.
11. In Survey123 Connect, click **Publish** on the side toolbar.
12. Click **Publish survey** to publish your changes and click **OK**.

Update assignment types

Occasionally, a dispatcher may need to create an assignment directly without a request from a poll worker. Optionally, add the newly defined request types defined above into the Election Manager project.

1. Verify that you are signed in to your ArcGIS organization and browse to Assignments feature layer.
2. Open the item page and click the **Data** tab.
3. Click **Fields**.
4. In the list of fields, click **Assignment Type** display name.
5. Click **Edit** next to **List of Values (Domain)**.
6. Add the request types created above in the Election Requests form, and match both the label and the code you set in the survey.
7. Click **Save**.

Update voter satisfaction survey

The Voter Satisfaction Survey allows you to solicit feedback from voters to help you gauge voter sentiment during an ongoing election. In some cases, you may want to add or remove questions from the survey.

1. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
2. Click **Voter Satisfaction Survey** to download the survey.
3. In the **Download** window, click **Download** and click **OK**.
4. Click **Voter Satisfaction Survey** again to open the survey.
5. In the **XLSForm Modified** window, click **Yes**.
6. On the side toolbar, click **Open XLSForm Spreadsheet**.
7. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.

8. Click the **survey** tab.
This tab comprises all the questions in the survey.
9. Revise the survey to reflect your needs.
10. Save and close the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.
11. In Survey123 Connect, click **Publish** on the side toolbar.
12. Click **Publish survey** to publish your changes and click **OK**.

Create Election Assistant direct URLs

Election Assistant is accessed through a URL in a web browser. To report a wait time or request assistance, election workers then use either the map or list to select their assigned polling place or voting center. Organizations that have many voting locations may want to provide poll workers a direct URL to the Election Assistant app. You can use a web browser URL parameter to help poll workers by opening the Election Assistant app with the proper voting location already selected.

By adding a `facilityid` parameter to the app URL, Election Assistant selects the location without user interaction. Ensure each voting location has a unique identifier in the `facilityid` field in the ElectionGeography feature layer. For example, by adding `&facilityid=89` to the app URL, Election Assistant selects facility ID number 89. The full URL is similar to this:

```
https://myorganization.maps.arcgis.com/apps/CrowdsourcingPolling/index.html?appid=449f9c890c584c9395a393ad5a541bc6&facilityid=89
```

Use Election Management

The Election Management solution delivers a set of capabilities that help you report wait times and request assistance at voting centers and polling places, dispatch field staff to respond to requests, monitor the performance of voting locations, and gauge the satisfaction of voters on Election Day.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Report wait times

You will first assume the role of an Election Day poll worker tasked with reporting voter wait times at a regular interval throughout the day.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Management solution.
2. View the Election Assistant app.
3. Select a voting location from the list.

Note:

[Back to top](#)

You can also select a voting location using the map.

4. Click the **Report wait time** button.
5. In the Election Wait Times form, enter and submit a wait time in minutes.
6. Return to the Election Assistant app.

Request assistance

Election officials, in communities large and small, respond to Election Day issues and requests from polling places and voting centers. Issues with computer hardware, facilities, or supplies (for example, ballots, pens, and pencils) are reported by poll workers, triaged by central election office staff, and resolved by field workers. You will assume the role of an Election Day poll worker requesting assistance.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Management solution.
2. View the Election Assistant app.
3. Select a voting location from the list.

Note:

You can also select a voting location using the map.

4. Click the **Request assistance** button.
5. In the Election Requests form, do the following:
 - In the **Request Type** section, choose **Election Supplies**.
 - In the **How critical is your request** section, click the drop-down arrow and choose **Critical**.
 - Add additional details such as `Additional ballots needed` in the **Provide additional details** text box.


Note:

To help the election office understand the request, you can attach images.

6. Click **Submit**.

Manage election requests

As requests for assistance are submitted by poll workers, election staff review requests and assign field staff to resolve the request. Now, you will assume the role of a dispatcher who needs to assign field open requests to field staff.

1. In a browser, sign in to your ArcGIS organization and click the **Apps** button  in the header of the site.
2. From the app launcher, click **ArcGIS Workforce** to open the app.
3. Under **Classic projects**, click Election Manager to open the project.

Tip:

[Back to top](#)

When implementing the Election Management solution in your organization, add election staff responsible for resolving election requests in the field to the Election Manager ArcGIS Workforce Classic project with a Mobile Worker role. You can add users and assign roles in the configuration settings of the project. To access configuration settings, hover over **Election Management** project and click **Configure**. Click the **Users** tab. For the purposes of this exercise, ensure your named user account is assigned as a dispatcher and as a mobile worker. Click **My Projects** tab to return to your projects.

4. In assignments list, click on assignment type header or an election request on the map.
5. Review the request details, click **Assign** drop-down arrow and choose a field worker to resolve the issue.
6. Click the **Assignments** back button to return to the assignments list.

Resolve election requests in the field

You will now assume the role of a field worker on Election Day. As a field worker, you are responsible for responding to and resolving requests submitted by poll workers. Using the Election Manager Workforce Classic project, you will review and update the status of your assignments.

1. Download Workforce for ArcGIS app onto your mobile device.
2. Open the Workforce for ArcGIS app and sign in to your ArcGIS organization.
3. Tap the Election Manager project.
4. Select an assignment by tapping on it in the **To Do** list.
5. Tap **Start**.
6. Add notes or attachments to the assignment as needed.
7. Tap **Finish** to complete the assignment.

Gauge voter satisfaction

You will now assume the role of a voter who wants to help improve the voting experience for the next election by providing feedback on your voting experience.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Management solution.
2. View the Voter Satisfaction Survey.
3. Click **Yes** to indicate you did vote in the most recent election.
4. Complete the remaining questions in the survey and click **Submit**.

Monitor performance

You will now assume the role of a clerk or election official. As an election official, you want to know how Election Day is functioning throughout the community by monitoring requests, wait times, and voter satisfaction.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Management solution.
2. View the Election Performance Dashboard app.
3. On the **Overview** tab, review the high-level metrics.

[Back to top](#)

4. Click the **Requests** tab on the bottom of the dashboard.
5. Click the graphs to explore the active and resolved requests.
6. Click a request in the **Requests** list to review additional information about a request.
7. Click the **Wait Times** tab on the bottom of the dashboard.
8. Review the **Average Wait by Hour** graph noting wait time trends throughout Election Day.
9. Click the **Survey Results** tab on the bottom of the dashboard.
10. Explore the survey responses.
11. Click a survey in the **Completed Surveys** list to see additional details.

Introduction to Election Outreach

Election Outreach can be used to educate the public and help voters find an appropriate voting center or Election Day polling place.

State and local governments strive to improve voter participation through open communication and a sense of collaboration. Elections departments look for ways to increase voter turnout and engage constituents but are faced with changing behaviors of citizens who seem disconnected from the democratic process. Helping voters locate where they can vote and understand voting alternatives removes voter confusion. Communicating wait times to voters reduces congestion at polling places or voting centers and increases participation by helping voters decide when they want to cast their ballot on Election Day. Election Outreach is typically implemented by clerks, election commissions, or secretary of state offices that want to inform voters and increase participation in the elections.

The Election Outreach solution delivers a set of capabilities that help you share information about current elected representatives with the public, get voters to an appropriate voting center or Election Day polling place, communicate voting wait times and recruit poll workers.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Election Outreach requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)

Information products

Election Outreach includes the following information products:

Item	Description	Minimum user type
Promoting Transparent Elections	An ArcGIS Hub site used by the general public to access election information	Not required

[Back to top](#)

My Elected Representative	An ArcGIS Web AppBuilder app used by the general public to determine who represents them in local, state, and federal elected offices	Not required
Election Polling Places	An ArcGIS Web AppBuilder app used by voters to locate a polling place where ballots can be cast on Election Day	Not required
Voting Centers	An ArcGIS Web AppBuilder app used by voters to locate a voting center where ballots can be cast in person or by mail	Not required
Poll Worker Application	An ArcGIS Survey123 form used by the general public to volunteer to become a poll worker	Not required
Election Data Management	An ArcGIS Pro project used by mapping technicians to inventory and maintain electoral districts, precincts, voting centers, and polling places	GIS Professional Standard

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Election Outreach

Configure Election Outreach

In this topic, you will learn how to configure the Election Outreach solution to meet specific needs in your organization.

Manage election data

You will assume the role of a mapping technician responsible for maintaining an inventory of electoral districts, voting locations, and voting precincts. The Election Data Management ArcGIS Pro project includes a series of tasks to help guide you through these workflows.

Get started

To get started with Election Data Management, complete the following steps.

1. Sign in to your ArcGIS organization and browse to the Election Data Management Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Election Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.

[Back to top](#)

5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Election Data Management** task item.
6. In the **Tasks** pane, click the **Getting Started** task group to expand the collection of tasks.

Election Data Management is used to load, create, and edit foundational election data used in Election solutions such as My Elected Representative, Election Polling Places, and Election Manager. The solution uses three foundational datasets:

- Voting Locations
- Voting Precincts
- Electoral Districts

Voting Locations contains facilities where voters can cast ballots and is defined by a point layer. They can be either polling places or voting centers, depending on your community's needs. Voting centers can be modified to allow early voting.

Voting Precincts contains areas that define your community's precincts and is defined by a polygon layer. They are related to voting locations by a unique ID and define the unique polling place where voters in a precinct should cast ballots.

Electoral Districts contains geographies that define an elected office's area of representation and is defined by a polygon layer. For example, a mayor's Electoral District is the municipal boundary. Key attributes are used in My Elected Representative solution.

Before proceeding to subsequent tasks, follow the instructions in the **Add election geography layer** task to add the ElectionGeography feature layer deployed with the solution.

Load existing election data

Your election agency may have existing polling place, voting center, voting precinct, or electoral district data, which can be loaded into the ElectionGeography feature layer.

Voting Locations are designated as either Polling Places or Voting Centers using the Voting Facility Type field. Both Voting Centers and Polling Places use a standard for operational days and hours in the Voting Centers and Election Polling Places apps included with the Election Outreach solution. To load existing voting location data, designate the type, and format the operation days and hours, follow the instructions in the **Polling places** and **Voting centers** tasks.

The polling precinct's relationship with a polling place is defined by populating the Polling Place ID field with the GlobalID from the corresponding polling place. Establishing this relationship allows the Election Polling Places app and the Election Outreach solution to display the appropriate polling place when a user searches by address or defines a location on the map. Follow the instructions in the **Polling precincts** task to load existing data and establish the relationship.

Follow the instructions in the **Load electoral district** to load existing data.

Create new election data

You may need to create new election data if existing data is not available. Follow the instructions in the **Create new election data** task group to create new voting locations, voting precincts, or electoral districts.

Note:

Map layers must be visible to create new data.

Prepare for next election

Election data changes over time as new voting locations are established, precincts are modified, and election cycles are completed. You must update key fields such as the next election date to maintain election data accuracy and ensure that public facing apps included with the Election Outreach solution display the correct information. Use the **Next election date** and **Early voting data** tasks to update key data fields as election cycles are completed. Use the **Modify voting locations**, **Modify precincts**, and **Modify electoral districts** tasks to edit your election data.

Modify elected offices

My Elected Representative allows the general public to determine who represents them in local, state, and federal elected offices. My Elected Representative includes several elected office layers, such as Mayor, County Clerk, Governor, and United State Senate. You can modify the elected offices available in the app to fit your needs. For example, a city can configure My Elected Representative to display only locally elected offices.

Update domain values

Review the ElectionGeography feature layer elected offices and identify an elected office your organization you may want to add to My Elected Representative.

1. Verify that you are signed in to your ArcGIS organization and browse to the ElectionGeography feature layer.
2. Open the item page and click the **Data** tab.
3. Click **Fields**.
4. Click the **Layer** drop-down menu and choose **Electoral Districts**.
5. In the list of fields, click the **Elected Office** display name.
6. In the **List of Values (Domain)** section, review the existing categories and identify ones that are not applicable and ones that are missing.
7. Click **Edit** next to **List of Values (Domain)**.
8. Optionally, click the **Delete** button to remove a category from the list, and click **Save**.
9. Click **Add**.
10. Type the new elected office name into the **Displayed Value** and **Stored Value** text boxes.
11. Repeat steps 9–10 to add the remaining elected offices.
12. Optionally, drag the elected office to a new location in the list to reorder them.
13. Click **Save**.

Update map

Next you will configure the My Elected Representative map to display the elected offices you want to display in the My Elected Representative app.

1. Verify that you are signed in to your ArcGIS organization and browse to the My Elected Representative map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Contents** button.
The map **Content** pane displays a list of several preconfigured elected office map layers ranging from Mayor to President of the United States. Each layer is filtered using the Elected Office field on the Electoral Districts feature layer.
4. To remove an unneeded elected office layer, click **More Options**, and click **Remove**.
5. To copy a layer, click **More Options** and click **Copy**.
A new layer appears at the top of the **Contents** pane.
6. To update the new layer's name, click **More Options**, click **Rename**, type the elected office name in the text box, and click **OK**.
7. Click **Filter** on the new layer.
8. Click the **Edit** tab.
An existing filter query displays Elected Office is Value. You will modify the query to display the elected office. The **Value** drop-down menu displays the values you configured in a previous task.
9. Choose the appropriate elected office domain value from the drop-down menu and click **Apply Filter**.
10. Optionally, drag the layer to a new location in the **Contents** pane.

Tip:

You can also configure existing layers using the above steps. Modify the name and filter of an existing layer to match your configuration needs.

11. Click **Save**.

Update app

You will now configure the My Elected Representative app to use the elected offices configured in the My Elected Representative map.

1. Verify that you are signed in to your ArcGIS organization and browse to the My Elected Representative app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab.
4. Click **Set the widgets in this controller**.
5. Hover over the lower right corner of the Find My Elected Representative widget and click **Configure this widget**.
6. Click the **Search Settings** tab.
7. Click **Set** next to **Select search layer(s)** to configure the layers searched in the app.
8. Use the **Select search layer(s)** window to configure the layers searched in the app.

[Back to top](#)

Check the check box next to each of the layers available.

9. Click **OK**.
10. Click **Save**.

Share wait times

When paired with the Election Management solution, Election Polling Places and Voting Centers can display election wait times on the map so that voters can make an informed decision about when to vote.

Share polling place wait times

The Election Polling Places map includes a Polling Place Wait Times layer that displays the current wait time. To share wait times in the Election Polling Places app, you'll make use of the included Polling Place Wait Times map layer.

1. Verify that you are signed in to your ArcGIS organization and browse to the Election Polling Places map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Content** button.
4. Uncheck the **Polling Places** layer (do not remove).
5. Check the **Polling Place Wait Times** layer.

The map now displays the most recently reported wait time symbolized by the length of the wait reported. When an election is completed, and you want to remove the wait times symbol, turn on the Polling Places layer, and turn off the Polling Place Wait Times layer.

6. Click **Save**.

Share voting center wait times

When paired with the Election Management solution, Voting Centers can display election wait times so that voters can make an informed decision about when to vote. The Voting Centers map includes a Voting Center Wait Times layer that displays the current wait time. To share wait times in the Voting Centers app, you'll make use of the included Voting Center Wait Times map layer.

1. Verify that you are signed in to your ArcGIS organization and browse to the Voting Centers map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Content** button.
4. Uncheck the **Voting Centers** layer (do not remove).
 - a. Click **Change Style**.
 - b. Click **Location (Single Symbol)** style and click **Options**.
 - c. Move the transparency slider to set the transparency level to 100 percent.
 - d. Click **OK**.
 - e. Click **Done**.
5. Check the **Voting Center Wait Times** layer.

The map now displays the most recently reported wait time symbolized by the length of the wait reported. When an election is completed and you want to remove the wait times

[Back to top](#)

symbols, turn on the Voting Centers layer and set its transparency to 0 percent, and turn off the Voting Center Wait Times layer.

6. Click **Save**.

Hide wait times

When paired with the Election Management solution, Election Polling Places and Voting Centers will display election wait times in the information panel. In some cases, your organization may track election wait times for internal use without sharing those wait times in the public facing app.

Hide polling place wait times

On Election Day, the Election Polling Places app automatically displays wait times tracked using the Election Management solution. Follow the below steps to remove wait times from the Election Polling Places app.

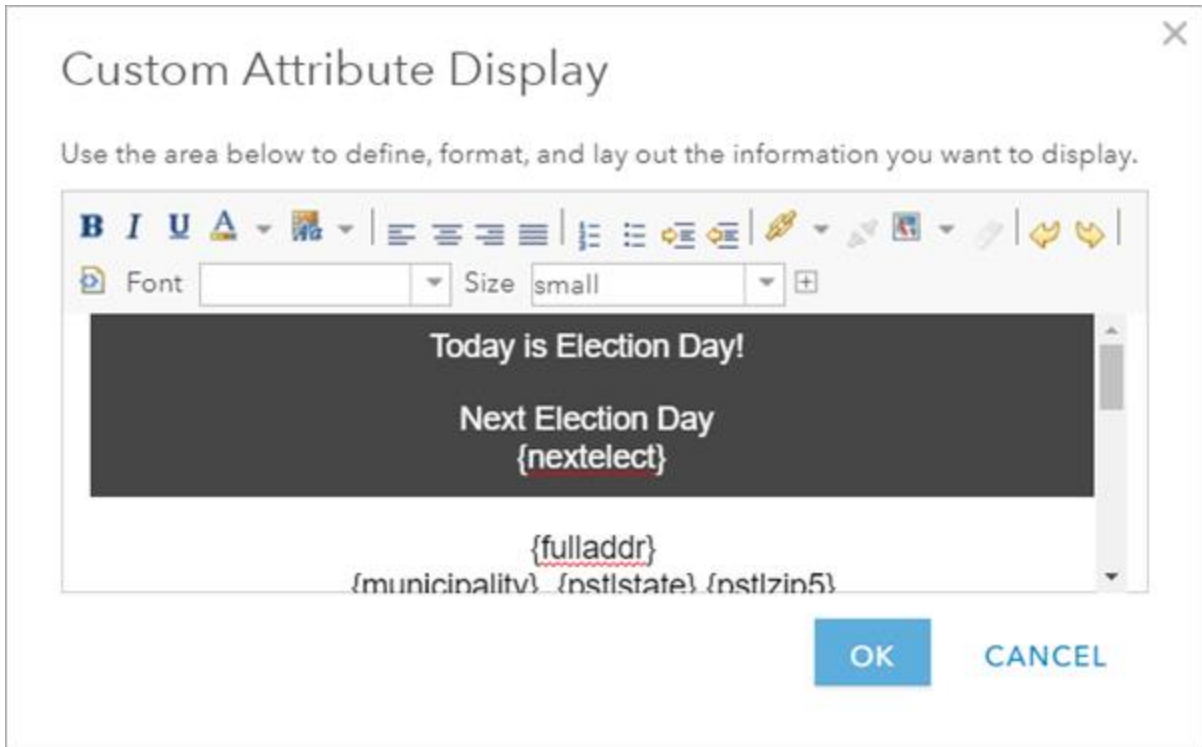
1. Verify that you are signed in to your ArcGIS organization and browse to the Election Polling Places map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Content** button.
4. On the Polling Places layer, click **More Options** and click **Configure Pop-up**.
5. Click the **Configure** button.

Tip:

Click the **View HTML Source** button in the editor. Copy and save all the HTML syntax into the editor. This allows you to restore wait times or discard changes. From the editor, you can copy and paste the original HTML syntax into the **Custom Attribute Display** window after clicking the **View HTML Source** button.

6. Delete {expression/expr0} from the pop-up. Backspace so the entire line is removed.

The result should look like this:



7. Click **OK** to close the **Custom Attribute Display** window.
8. Click **OK** to finish configuring the pop-up.
9. Click **Save**.

On Election Day, the pop-up does not display wait times but continues to display current information such as the Today is Election Day message and operational status.

Hide voting center wait times

A vote center can be open on Election Day as well as for a period prior to Election Day. When a vote center is open and active, the Voting Centers app automatically displays wait times tracked using the Election Management solution. Follow the below steps to remove wait times from the Voting Centers app.

1. Verify that you are signed in to your ArcGIS organization and browse to the Voting Centers map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Content** button.
4. On the Voting Centers layer, click **More Options** and click **Configure Pop-up**.
5. Click the **Configure** button.

Because voting centers can be configured to be open on Election Day only or over a period of time, you will remove wait times from two places in the pop-up configuration.

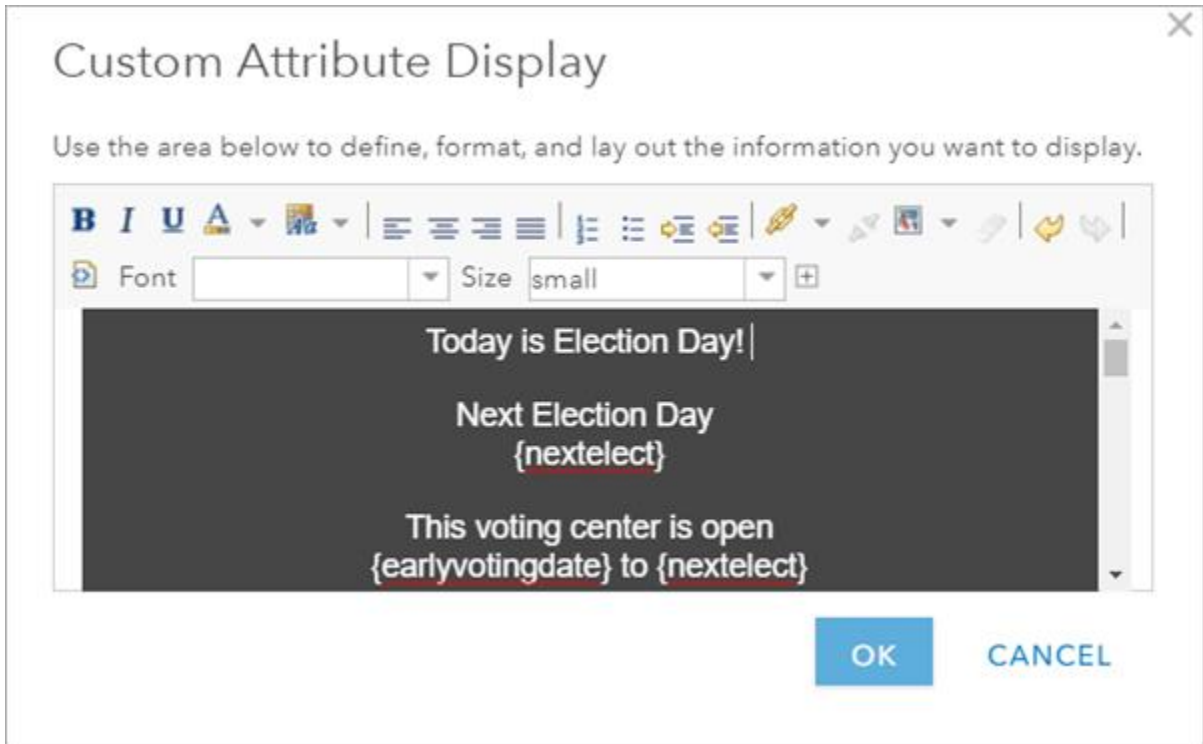
Tip:

Click the **View HTML Source** button. Copy and save all the HTML syntax into the editor. This allows you to restore wait times or discard changes. From the editor, you can copy

and paste the original HTML syntax into the **Custom Attribute Display** window after clicking the **View HTML Source** button.

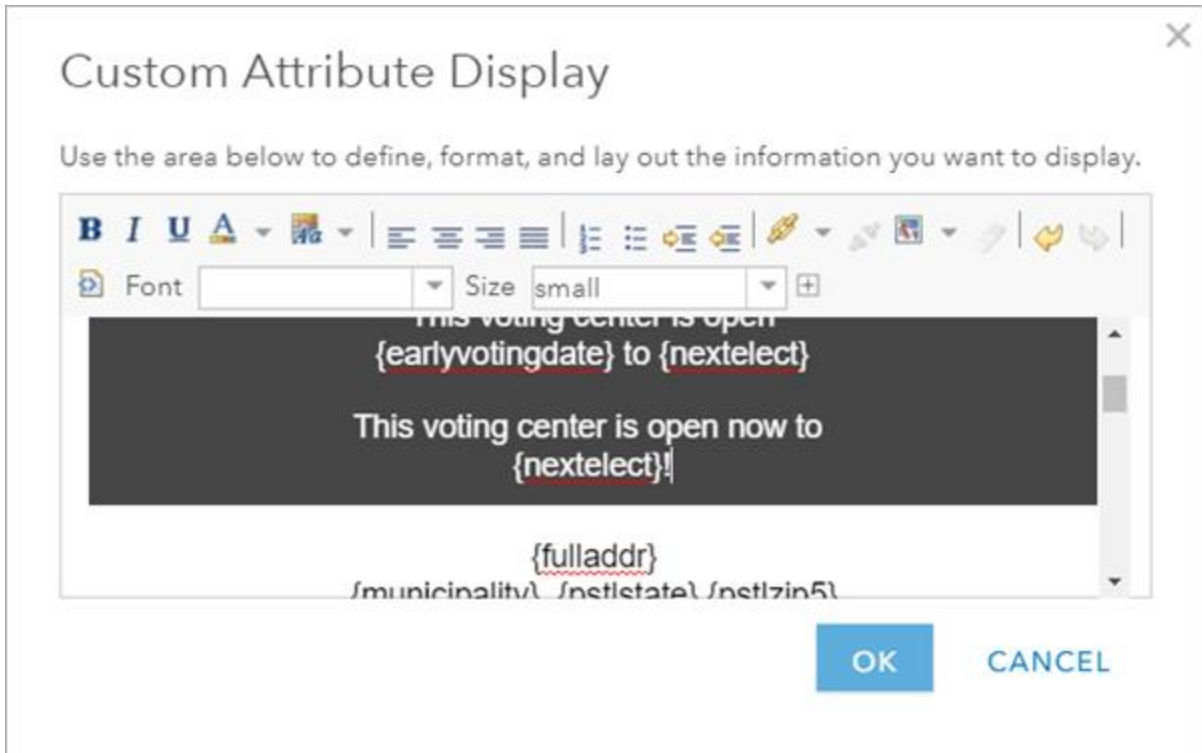
6. Delete {expression/expr0} from the pop-up. Backspace so the entire line is removed.

The result should look like this:



7. Scroll until {expression/expr8} is visible.
8. Delete {expression/expr8} from the pop-up. Backspace so the entire line is removed.

The result should look like this:



9. Click **OK** to close the **Custom Attribute Display** window.
10. Click **OK** to finish configuring the pop-up.
11. Click **Save**.

When a voting center is open and active, the pop-up does not display wait times but continues to display current information such as the This voting center is open message and operational status.

Sharing solution items

Several layer views, maps and apps included in the Election Outreach solution must be shared with everyone so they can be accessed by the public on the Promoting Transparent Elections site. To share your election outreach items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Election Outreach folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	VotingLocations_currentwait
Feature Layer (hosted, view)	ElectionGeography_public
Feature Layer (hosted, view)	PollWorkerApplications_public

[Back to top](#)

Web Map	My Elected Representative
Web Map	Voting Centers
Web Map	Election Polling Places
Web Mapping Application	My Elected Representative
Web Mapping Application	Voting Centers
Web Mapping Application	Election Polling Places
Form	Poll Worker Application
Site Application	Promoting Transparent Elections

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Use Election Outreach

The Election Outreach solution delivers a set of capabilities that help you share information about current elected representatives with the public, get voters to an appropriate voting center or Election Day polling place, communicate voting wait times, and recruit poll workers.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Find elected representatives

You will assume the role of a resident in the community who wants to find information on your election representatives.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Promoting Transparent Elections site and review the sections.
3. Scroll to the **Who's My Elected Representative** section and click the **Find My Representative** button.

The My Elected Representative app opens in a new tab or window.

4. In the **Find My Elected Representative** widget, under **Search for an address or locate on map**, type an address in your community and press the Enter key.
5. Review the list of elected offices.
Using the list of elected offices, you can discover your elected representatives and their contact information. For example, county commissioners are responsible for the management of county funds and have fiscal and regulatory powers.
6. In the Elected Representative list, click **County Commissioner**.
The list of county commissioners updates to display representatives. The number of representatives displayed in the pop-up varies by elected office.
7. Click the **Back** button to return to the list of elected representative.
8. In the Elected Representative list, click **United State Senate** to review senators representing this location.
9. When finished, close the My Elected Representative app and return to the Promoting Transparent Elections site.

Find a polling place

Many states divide communities into geographic areas and assign registered voters to designated polling places based on their residential address. On Election Day, ballots are cast at these designated polling places and then tabulated to determine the winner of a political contest or proposal.

You will assume the role of a voter interested in locating the polling place where your ballot can be cast on Election Day.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Promoting Transparent Elections site.
3. Scroll to the **Voting Locations** section and click the **Find Polling Place** button to open the Election Polling Places app.
4. In the **Find My Polling Place** widget, under **Search for an address or locate on map**, type an address in the community and press the Enter key.
The map updates to display the area covered by the voting precinct where the address is located.

The **Information** tab displays details about the polling place such as the election date, location, operational hours, and status.
5. Click the **Directions** tab.
The tab displays turn-by-turn directions from the address to the polling station.
6. On the map, zoom out and note that the area surrounding your initial address has multiple polling places serving voters.
7. Click a different location on the map and observe how the app identifies a different precinct and how polling place details on the **Information** tab are updated.
Information in the pop-up varies by location, depending on the election details.
8. Click the **Directions** tab to view turn-by-turn directions to the polling place.

[Back to top](#)

9. When finished, close the Election Polling Places app and return to the Promoting Transparent Elections site.

Locate voting centers

Voting centers are an alternative to traditional, neighborhood-based precincts. When a jurisdiction opts to use voting centers, voters may cast their ballots on Election Day at any voting center in the jurisdiction, regardless of their residential address. Voting centers may also communicate early voting options such as mail-in drop boxes.

As a voter in the community, you are also interested in locating nearby voting centers and early voting options.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Promoting Transparent Elections site.
3. Scroll to the **Voting Locations** sections and click the **Find Voting Centers** button to open the Voting Centers app.
4. In the **Locate Voting Center** widget, click and slide the buffer distance to 5 miles. The slider allows a user to define a distance within which to locate voting centers once an address is entered or a location is identified on the map.
5. Under **Search for an address or locate on map**, type an address in the community and press the Enter key. The map updates to display a proximity of 5 miles around the address location.
6. Click a voting center from the search results. The **Information** tab displays center-specific information such as location details, operational hours, status, and drop box location.
7. Click the **Directions** tab. The tab displays turn-by-turn directions from the address to the voting center. The information in the pop-up varies by location, depending on the election details.

View wait time at a polling place

Communicating wait times to voters can reduce congestion at polling places and voting centers as well as help voters decide when to cast their ballot on Election Day.

You'll assume the role of a voter on Election Day. Previously, you've located your polling place using the Election Polling Places app. You're now interested in using the app to view the current wait time to decide when to cast your ballot.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Election Polling Places app.
3. In the **Find My Polling Place** widget, under **Search for an address or locate on map**, type an address in the community and press the Enter key. The **Information** tab updates to display details on the closest polling place to your address, including location, operational hours, and status. In addition, the tab reports the approximate wait time, which is also visualized on the map, where polling place symbols are color-coded according to reported wait times.

[Back to top](#)

4. Click the **Directions** tab.
The tab displays turn-by-turn directions from the address to nearest polling place.
5. On the map, zoom out and review additional polling places.

Note:

Depending on when you access the app, you will see an operational status of Open Now or Closed below the hours of operation.

View wait times at voting centers

After locating a voting center using the Voting Centers app, you are interested in using the app to view current wait times to decide when best to cast your ballot.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Voting Centers app.
3. In the **Locate Voting Center** widget, click and slide the buffer distance to 5 miles.
4. Under **Search for an address or locate on map**, type an address in the community and press the Enter key.

The **Locate Voting Center** widget and the map update to display several voting centers within a 5 mile radius of your location.

Voting centers symbols on the map are color-coded according to reported wait times.

5. Click a voting center from the search results.

Note:

Both the map and the pop-up display the current wait time as reported by the local election office. The map symbol is color-coded according to the wait time reported.

In addition to the current wait time, the pop-up also displays election day information such as location details and operational hours and status.

Note:

Depending on when you access the app, you will see an operational status of Open or Closed to the right of today's hours of operation.

Volunteer as a poll worker

As an engaged voter in the community, you want to volunteer to help conduct transparent elections as a poll worker. You will fill out a survey to provide your contact information and qualifications so the election agency can connect with you about election volunteer opportunities.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Outreach solution.
2. View the Promoting Transparent Elections site.

[Back to top](#)

3. Scroll to the **Volunteer as a poll worker** section and click the **Volunteer** button to open the Become a Poll Worker survey.
4. Complete the survey and click **Submit**.

Introduction to Election Results

Election Results can be used to share results tabulated on election night and historical results shared after each election.

Election results for political contests, proposals, and voter turnout for one or more jurisdictions are integral to election night or post-election night reporting. Election results are often shared through files and tables that are difficult to examine. Sharing election results in a map-based application helps voters and other interested stakeholders quickly visualize voting trends in a community. Election Results is typically implemented by clerks, election commissions, or secretary of state offices that want to make election results accessible and understandable by voters, the media, and other interested stakeholders.

The Election Results solution delivers a set of capabilities that help you organize map-based election results, share results for each elected office or proposal, and communicate voter turnout for one or more jurisdictions.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Election Results requires the following:

- ArcGIS Enterprise

Information products

Election Results includes the following information products:

Item	Description	Minimum user type
Election Results	An ArcGIS Dashboards app used by the general public and other interested parties to view map-based election results	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
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[Back to top](#)

1.0	• First release of Election Results
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Configure Election Results

In this topic, you'll learn how to configure the Election Results solution to meet specific needs in your organization.

Understand the Election Results feature layers

The Election Results solution includes the ElectionResults feature layer used to store your tabulated election results data. The ElectionResults feature layer has two sublayers, Voting Jurisdictions, and the Election Results table. Voting Jurisdictions stores the geographic jurisdiction you're using to visualize election results on a map (for example, County, Municipality, or Precinct). The Election Results table stores the results of ballot measures where each record represents the results of a ballot measure by contest, candidate, and jurisdiction. Each record in the Election Results table is also categorized as an Elected Office or Proposal using the Contest Category field.

In the below example, two candidates ran for mayor in a community with three precincts.

Contest	Contest Category	Jurisdiction Name	Candidate	Party	Number of Votes	Percent Vote
Mayor	Elected Office	Precinct 1	John Doe	Democratic	306	51
Mayor	Elected Office	Precinct 2	John Doe	Democratic	147	39
Mayor	Elected Office	Precinct 3	John Doe	Democratic	350	51
Mayor	Elected Office	Precinct 1	Jane Smith	Republican	245	49
Mayor	Elected Office	Precinct 2	Jane Smith	Republican	153	51
Mayor	Elected Office	Precinct 3	Jane Smith	Republican	294	49

You can use the Election Results table to store the results of ballot measure proposals. Yes and No are populated in the Candidate field. In the below example, Proposal 1 was voted on in a community with three precincts.

Contest	Contest Category	Jurisdiction Name	Candidate	Party	Number of Votes	Percent Vote
Proposal 1	Proposal	Precinct 1	Yes		306	51
Proposal 1	Proposal	Precinct 2	Yes		147	39
Proposal 1	Proposal	Precinct 3	Yes		350	51

[Back to top](#)

Proposal 1	Proposal	Precinct 1	No		245	49
Proposal 1	Proposal	Precinct 2	No		153	51
Proposal 1	Proposal	Precinct 3	No		294	49

Load election results

You may need to load election results data from a spreadsheet sourced from your tabulation system. The Election Results solution includes a .csv file that you can use to load data into the ElectionResults feature layer. Populate the ElectionResults.csv fields with your election results data, and complete the steps below to load your election results data:

1. Sign in to your ArcGIS organization and browse to the ElectionResults.csv item.
2. Open the item page and click **Download**.
3. Edit the .csv file and provide your election results data.
4. In your ArcGIS organization, browse to the ElectionResults feature layer.
5. Open the item page and click **Update Data > Append Data to layer**.
6. Click **Choose File**, browse to your .csv file, and click **OK**.
7. Click **Upload and Continue**.
8. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Election Results**.
9. Uncheck **Update existing features**.
10. Click **Show field matching** to map the fields.
11. Click **Apply Updates**.

Extend election results

The Election Results solution also includes two feature layer views created from the ElectionResults feature layer: ElectionResults_join and ElectionResults_dashboard. These feature layer views are used in the Election Results dashboard. Your organization may want to modify the ElectionResults feature layer fields to include additional information. When doing so, the new fields must be exposed in the appropriate views. Additionally, some views are created by joining two sources together, and you must re-create these views with the same name and URL after a new field is added.

Update feature layer view

Review the ElectionResults feature layer and identify additional fields your organization may want to add to the Election Results app.

1. Verify that you are signed in to your ArcGIS organization and search for the ElectionResults feature layer.
2. [Add a new field](#) to a layer in the ElectionResults feature layer.
3. Browse to the ElectionResults_dashboard view in your contents.
4. Open the item page and click the **Visualization** tab.

[Back to top](#)

5. Click **More Options** on the appropriate layer or table, and click **Set View Definition > Define Fields**.
6. Check the box next to the new field or fields.
7. Click **Apply**.
The new field is added to the view's definition.

Share historical results

You can deploy the Election Results solution multiple times to share results for multiple election cycles. You can configure each Election Results dashboard to share the results of an election. You can then share the Election Results dashboards with the Minimal Gallery app and embed them in your website.

Create your Historical Election Results group

To create the Historical Election Results group, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.
2. [Create](#) the following group in your ArcGIS organization:

Parameter	Value
Summary	Type A collection of historical election results apps hosted by your organization.
Description	Type A collection of historical election results apps hosted by your organization. The public can use this gallery of apps to access specific information on past elections.
Tags	Historical Election Results, Primary Election Results, General Election Results.
Who can view this group	Choose Everyone (public) .
Who can join this group	Choose Only those invited by a group manager .
Who can contribute content to the group	Choose Group members .
Sort group content by	Choose Title and Ascending .

Create your Historical Election Results Gallery app

The Historical Election Results Gallery app is a configuration of the Minimal Gallery configurable application template. The app consumes the Election Results solution dashboards that you

[Back to top](#)

have authored and shared in the Historical Election Results group. This app can be hosted in your ArcGIS organization or downloaded and hosted on your local web server.

To create a historical Election Results gallery app, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Historical Election Results group.
2. On the group page, click **Create a web app** and click the **Minimal Gallery** configurable application template.
3. Click **Create web app** and specify a title, tags, and a summary.
4. Click **Done**.
5. Configure the app and save your edits, and click **Close**.
6. Edit the [item details](#).
7. Click **Share** and share the app with **Everyone (public)**.
8. Embed the Historical Election Results Gallery app in your election website.

Use Election Results

The Election Results solution delivers a set of capabilities that help you organize map-based election results, share results for each elected office or proposal, and communicate voter turnout for one or more jurisdictions.

Note:

Use your organization's data or configured apps to follow these workflows.

Explore Election Results

You are a member of the general public who wants to explore the results of an election in your community.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Election Results solution.
2. View the Election Results app.
3. Under Elected Offices, explore additional contests using the filters in the left panel.

Note:

Both the map and the results graph at the bottom update when the contests are selected.

4. Under **Area of interest**, click the **Municipality** button.

Note:

Both the map and Elected Offices list update to display contests by municipality rather than precinct. You can use Election Results to display results by any jurisdiction type such as state, county, municipality, or precinct.

5. Select a Municipality on the map to view the candidate who received the most votes for the currently selected elected office.
6. Select a municipality from the **Area of interest** drop-down menu.

Note:

The map, results graph, and voter turnout metrics update to display results for the municipality.

7. Select the **Proposal** tab on the bottom of the dashboard.
8. Explore the different proposals with the selectors on the left panel.
9. Explore the proposal results using the **Area of interest** options, **Proposals** list, and map.
10. Select the **Voter Turnout** tab on the bottom of the dashboard.
11. Explore voter turnout using the **Area of interest** options and map.

Introduction to Electric Data Management for ArcGIS Enterprise

Electric Data Management for ArcGIS Enterprise can be used to map and manage asset information with the ArcGIS Utility Network.

The solution configures ArcGIS Enterprise and the ArcGIS Utility Network to be an authoritative repository of information for an electric network and provides workflows that facilitate capturing information correctly and keeping it up to date.

Electric Data Management for ArcGIS Enterprise delivers a data model that makes a utility network behave like a electric network, editing apps configured for ArcGIS Pro, and preconfigured maps for data sharing. It also provides a sample utility network dataset so users can experience a utility network in a single user environment. You can use the solution's deployment framework to experience an electric utility network with sample data or in a single-user environment.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Electric Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 (Standard or Advanced)

Information products

Electric Data Management includes the following information products:

Item	Description	Minimum user type
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[Back to top](#)

Electric Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with ArcGIS Utility Network user type extension
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> The first release of Electric Data Management for ArcGIS Enterprise The data model in the solution has been updated to version 4. For a full list of updates, refer to the change log.

Use Electric Data Management for ArcGIS Enterprise

The Electric Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Electric Data Management project guide you through creating your own utility network using the provided schema and data loading options and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your electric utility network.

Use the instructions in the Electric Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Electric Data Management For ArcGIS Enterprise V1** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Electric Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the **Tasks** pane.

[Back to top](#)

Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the solution

The data management solution is designed for organizations that want to experience a fully functional electric utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create and model your own utility network to behave like a electric system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes workflows for critical traces for electric such as Upstream Protective Device. The Upstream Protective Device task walks through how use this trace to identify potential upstream devices that may have caused an outage.

This task group includes the following tasks:

- Open Ducts
- Cable Support Trace
- Upstream Protective Device
- Upstream Reclosing Device
- Downstream Customer Load
- Downstream Transformer Load

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following editing tasks:

- Create Duct Bank
- Customer Service with new Overhead Transformer

[Back to top](#)

Install Implementation Prerequisite

Now that the sample utility network has been explored, move on to building out a utility network for your own organization. Before getting started, set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been developed specifically to support electric utilities to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your electric network.

This task group includes the following tasks:

- Project and Remove Sample Data
- Create Modifications Tables (Optional)
- Loading Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Electric Data Management project, review the [Electric Data Management Attribute Rules](#) document.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Deploy Solution to an Enterprise Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services
- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map
- Reset Trace Location Feature Classes
- Adjust Maps
- Share with Organization

Introduction to Emergency Management Operations

Emergency Management Operations can be used to manage incident operations and maintain situational awareness during emergency response and recovery phases.

The solution provides an integrated suite of role-based apps that helps emergency response personnel (for example, duty officers, field operations, incident commanders, and public information officers) share information as they perform the unique tasks required to accomplish incident objectives. Emergency Management Operations is typically implemented by emergency management agencies that want to use shared information during emergency response and recovery operations.

The Emergency Management Operations solution delivers a set of capabilities that help you to identify an emergency incident, define the impact, allocate resources, and communicate status to internal and external stakeholders.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

The Emergency Management Operations solution requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.7 - 2.9 (Basic, Standard, or Advanced)

Note:

To use this solution ensure the following content and services are enabled and configured in ArcGIS Enterprise: [directions and routing utility service](#), [Living Atlas content](#) and Living Atlas subscriber content.

Information products

Emergency Management Operations includes the following information products:

Item	Description	Minimum user type
Situational Awareness Viewer	An ArcGIS Web AppBuilder app that can be used by emergency management personnel to understand the impact of an incident on public infrastructure and human populations	Editor
Operations Response	An ArcGIS Web AppBuilder app used by emergency management personnel to understand the status of emergency facilities and response teams	Editor
Incident Status Dashboard	An ArcGIS Dashboards app used by emergency management personnel to monitor response activities and measure progress on incident objectives	Viewer
Incident Briefing	An ArcGIS StoryMaps app used by emergency management personnel to brief key stakeholders during an incident or event	Viewer
Public Information	A Nearby app used by the public to review authoritative information and understand the status of an incident or event	Not required
Emergency Management Maps	An ArcGIS Pro project used by mapping technicians to create a standard set of briefing and response maps	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">First release of Emergency Management Operations

Configure Emergency Management Operations

The Emergency Management Operations solution includes several data layers that use facility information to support emergency response activities. Below is a list of facility types that are used in those data layers.

[Back to top](#)

- Emergency Facilities—Police and fire
- Industrial Facilities—Factories, utilities
- Commercial Facilities—Shopping centers and businesses
- Medical Facilities—Hospitals and clinics
- Educational Facilities—Schools

If you do not have an inventory of facility information in your ArcGIS organization, you may have them in a spreadsheet or another system you can export to a spreadsheet. Once you have created a spreadsheet for each facility type, you can load the data into the facility layers provided with the solution.

Load emergency management facilities

To load your facilities information from a spreadsheet, complete the following steps:

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Emergency Management Operations in the search box.
4. Under **Item Type**, click **Layers**, then click **Feature Layers**.

Note:

Some of the feature layers have a suffix added such as **public**. These are layer views of the of the original source feature layer. These layer views are used to share information with the public without showing all the details or allowing the public to edit the layers. The original source layers do not have a suffix.

5. Click the title of the original source layer into which you want to load data to view the item details.
6. Click **Update Data**, then click **Append Data to Layer**.
7. Under **Filename**, choose your spreadsheet.
8. Click **Upload**, then click **Continue**.
9. Click **Show field matching** to match the fields from the spreadsheet to the fields in the selected feature layer.
10. After you have matched the fields, click **Apply Updates**.
11. Click the **Data** tab on the banner of the item page to confirm your data has loaded successfully.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Configure the Public Information app

The Public Information app requires access to display the National Weather Service watches, warnings, and advisories layer publicly. Follow the steps below to allow access to the layer and, optionally, configure directions to be used in the app.

[Back to top](#)

Configure the National Weather Service watches, warnings, and advisories

To configure the ArcGIS Living Atlas layers from the National Weather Service, which are included in the deployed map, and to share this app publicly, you will need to allow access to these layers through your subscription. Follow the steps below to enable the layers in the app.

1. Sign in to your ArcGIS organization and browse to the Public Information app.
2. View the app and identify changes you may want to make to it to support specific business needs in your organization.
3. On the app item page, click **Edit Application**.
4. On the **Attribute** tab, click **Subscriber content access**.
5. Select the ArcGIS Living Atlas layers to allow public users to access them through your subscription.
6. Click **Save** to save the app and edit the item details.

Configure directions

Optionally, the Public Information app can be configured to provide directions to the nearest facilities.

This configuration draws routes and provides directions using the [ArcGIS Online World Route Service](#). This service requires authorization to consume premium content as it consumes credits. [Learn more about credit usage when creating simple routes](#).

Follow the steps below to connect to a routing service and configure the app to enable directions.

1. If necessary, sign in to your ArcGIS organization.
2. Browse to the web app item page and click **Configure App**.
3. In the left panel, click **Interactivity**.
4. Click the slider to enable **Show directions**.
5. Click **Publish**.
6. Click **Confirm**.
The **Authorize premium content** dialog box appears, indicating this functionality will consume credits.
7. Click **Authorize**.
8. Click **Launch** and explore the capabilities of enabling directions.

Use Emergency Management Operations

The Emergency Management Operations solution delivers a set of capabilities that help you to identify an emergency incident, define the impact, allocate resources, and communicate status to internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

[Back to top](#)

Assess impact

The Situational Awareness Viewer can be used by emergency management personnel to understand the impact of an incident on public infrastructure and human populations. Situational Awareness Viewer includes incident information used in a suite of related emergency operations solutions essential to maintaining situation awareness.

In this workflow, you will assume the role of a duty watch officer responsible for assessing the incident impact and sharing that information with other users in the EOC.

Define incident area

The incident area can be defined by selecting an existing incident, weather warning area, or storm report from Active Incidents and Warnings. An incident can also be created by creating a buffer around a point, line, or polygon.

To define the incident area using the sample data, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Situational Awareness Viewer.
2. From the **Active Incidents and Warnings** list, click an incident perimeter.

Note:

You can also define an incident area by clicking any existing polygon.

3. Click the more options button in the lower right corner of the pop-up window and choose **Set Location** to define the incident area.
The **Understand Impact** widget will open at the bottom of the screen with the impact of a one-mile buffer around the flooding incident.

Note:

The point, line, and polygon icons can be used to create another incident area by specifying a buffer distance around another location. This can be useful for accidents, chemical spills, tornado paths, wildfires, or any other type of incident.

4. Click the **Save** button in the Situation Awareness panel at the bottom of the screen to save the incident location in the Incident layer.
A pop-up will appear allowing you to enter parameters for this incident.
5. Enter an incident number, name, and type, then click **Done**.

Identify potential impact

After the incident area has been defined, the impact to population, facilities, and infrastructure can be determined.

To identify the potential impact of an incident using a previously defined area, complete the following steps:

1. To determine the potential impact to the population, select the **Potential impact** tab in the Situation Awareness panel at the bottom of the screen.

The estimated potential impact to vulnerable populations in the incident area is displayed by age group.

2. To further understand the impact to population, select the **Special Needs** tab. This tab displays a list of residents who have registered for assistance during an emergency.
3. To determine the impact to facilities, select the **Schools**, **Shelter**, and **Hospitals** tabs. Each tab displays the number of facilities in the incident area.
4. To determine the impact to road infrastructure, select the **Road Closures** tab. This tab displays the number of Road Closures in the incident area.
5. Click the **Incident** tab, then click the **Download** button to download all the incident information into a CSV file.

Note:

This CSV file can be given to the emergency management staff or volunteer coordinators.

6. Click the **Print** button to create a report of the potential impacted facilities, infrastructure, and human populations. In the properties window, enter a title, orientation, page size, and any comments, then click **OK**.

Note:

This report can be printed or saved electronically to share with emergency management staff.

7. The **Snapshot** button can be used to create a time-stamped folder in your ArcGIS organization containing a map and feature layers. The map and feature layers can be used for after-action reports or other analysis.

Note:

The **Snapshot** button is enabled when deployed in your organization and is enabled.

8. Close the Situational Awareness Viewer app.

Understand operational needs

After the incident area has been defined and the impact has been determined, the operations personnel can plan and assign response activities. The Operations Response app can be used by emergency management personnel to understand the status of emergency facilities and response teams.

In this workflow, you will assume the role of the operations section personnel responsible for locating and assigning emergency response resources.

Find resources near incident

Operations response begins by identifying the incident area and finding nearby resources to support tactical operations. You can search for an address or place to find a given location to help plan response activities near that location.

To locate resources near an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Operations Response app.
2. In the search box, type an address.
3. Click the more options button in the lower right corner of the search result pop-up window.
4. Choose **Set Location** to define the incident area and specify a buffer distance of 1 mile.
5. Click the **MRP Deployments** tab to display a list of mission-ready packages within the specified buffer.
6. Click the **Response Facilities**, **Road Closures**, and **Closest Hospitals, Schools, Shelters** tabs to find other resources.
7. Click the **Incident** tab, then click the **Download** button on the left side and open the CSV file to see the list of resources.

Note:

This information can be shared with other agencies or saved for an after-action report.

8. Explore other methods of defining incident boundaries by using the line tool to locate a linear incident such as a train derailment along the train tracks and use a buffer distance of 1 mile to see the impact area.
9. Click the **Start Over** button to remove the selected incident area, if necessary.

Locate response teams assigned to incident

Mission teams that have been assigned to response activities can be located on the map with attributes and symbology for each type of response team. These locations and attributes can then be updated from the field as teams change or complete assignments.

To locate a response team assigned to an incident, complete the following steps:

1. Click the **Add Resources** widget in the upper right corner to view the resource that can be assigned to this incident.
2. In the Search Templates box, type Emergency to see a list of resources with that name.
3. Select **Emergency Medical Services** to add a point on the map near the point of the incident address.
4. In the Add Resources list for Mission Ready Packages, add the following attributes:

Parameter	Value
-----------	-------

Name	EMS 1
MRP Type	medical
MRP Status	Acceptance of Mission
MRP Description	public requested assistance
NIMS Resource	Medical/Public Health System Assessment Team
NIMS Discipline	Emergency Medical Services
NIMS Resource Kind	Team/Equipment
NIMS Type	III

Leave the remaining attributes blank for now and close the Resources widget.

5. Use the **Directions** widget to get directions from the incident location to the nearest hospital.
6. Click the **Print** button in the Directions widget to print a map of the route with directions.

Note:

Operations Response can be used on a mobile device or printed directions can be sent to a mobile device if necessary.

7. Click **Clear** to clear the directions from the map.

Visualize incident status

As the incident unfolds, it is important for incident commanders to monitor response activities as they occur in real time. Typically, the county or state Emergency Operations Center displays the incident status on a big screen so all command staff can monitor events and make informed decisions.

In this workflow, you will assume the role of the incident command personnel responsible for monitoring the status of the incident and emergency response activities.

Monitor incident status

The Incident Status Dashboard can be used by emergency management staff to monitor response activities in the Emergency Operations Center and measure progress toward the incident objectives.

To monitor the status of an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Incident Status Dashboard app.

Note:

The Incident Status Dashboard is designed to be a passive dashboard, meaning no interaction is necessary since it typically will be viewed on a big screen in the Emergency Operations Center.

2. Review the number of Active Incidents and Weather Warnings on the left side of the dashboard. As the active incidents increase, so does the demand on resources.
3. Review the number of Open Shelters and Shelter Occupancy on the right side of the dashboard. Each green symbol on the map indicates both the location and status of shelters. Closed shelters will appear in red. As the shelter occupancy increases past 75 percent, the gauge will turn red, indicating additional shelters will need to be opened to meet the demand.
4. Review the indicators at the bottom of the screen.
 - MRPs Deployed indicates the number of Mission Ready Packages that have been assigned or deployed. An MRP type describes a specific capability that has been developed, trained, and equipped to respond to a unique incident or situation.
 - Road Closures indicates the number of road closures within the current map extent.
 - PODs indicate the number of Points of Distribution where public safety agencies can distribute critical supplies to the public.
5. After you are done reviewing the information, close the Incident Status Dashboard.

Brief key stakeholders

During an incident, emergency management personnel must provide key decision makers with accurate and current information that communicates the scope of the emergency incident, the status of operational response, and resource availability. Using digital maps to brief key stakeholders ensures clear communication across all command levels and enables effective executive-level decision-making.

In this workflow, you will play the role of the incident command staff who is responsible for conducting the incident briefing. The briefing is conducted using a series of interactive apps in the Incident Briefing app.

To brief key stakeholders during an incident, complete the following steps:

1. In a browser, from the Emergency Management Operations solution, view the Incident Briefing app.
2. Review information in the **Introduction** tab to see how the briefing app can be used.
3. Click the **Situational Awareness** tab to see active incidents and warnings.

Note:

The Situational Awareness app is embedded in the Incident Briefing app to provide an interactive map showing the status of the incident. You can select an active incident to show the current situation and impact to the community.

4. Click the **Operations Response** tab to see current emergency response activities.

Note:

Questions often arise during an incident briefing such as how many teams are currently deployed or how many roads are closed. Because the Operations Response is embedded in the Incident Briefing app, questions such as this can be quickly answered with current information.

5. Click the **Incident Status** tab to see the overall picture of the current situation.
6. Close the **Incident Briefing** app when done reviewing.

Inform the public

Citizens need access to information before, during, and after an incident to assess their personal risk and determine when to act. The Public Information app can be used by the public to review authoritative information and understand the status of an incident or event.

In this workflow, you will assume the role of a resident or member of the public that is interested in obtaining information about a current incident.

Locate incident information

Follow the steps below to get incident information using the sample data.

1. In a browser, from the Emergency Management Operations solution, view the Public Information app.
2. In the **Public Information** pane, drag and use the buffer distance slider to set a distance of 3 miles.
The slider allows a user to define a distance once an address is entered or a location is identified on the map.
3. In the **Public Information** pane under **Search for an address or locate on map**, search for an address.
4. Click the **Expand All** button to review all the incident information near the specified address.
5. Scroll down the list of incident information to review the local incidents, open shelters, evacuation notices, and weather warnings.
6. Click **Open Shelter** to review additional information about the selected shelter.
7. Close the Public Information app when you are done reviewing the incident information.

Produce emergency maps

Often, field support personnel don't have access to the internet or real-time maps on devices during an emergency incident. Therefore, it may be necessary to produce paper maps of the

current situation quickly. Emergency Management Maps can be used by emergency management mapping technicians to update the data sources with local incident data, share maps and data, and create standard hard copy briefing and response maps.

In this workflow, you will assume the role of a mapping technician supporting an emergency incident.

Configure project

Emergency Management Maps is an ArcGIS Pro project used by mapping technicians to create a standard set of briefing and response maps. It can be used to update source data for the current incident which can be used in the other apps that are part of the Emergency Management Operations solution.

Follow the steps below to configure the Emergency Management Maps project.

1. In a browser, sign in to your ArcGIS Online organization, and then click **My Contents**.
2. Locate the Emergency Management Operations folder.
3. Download the Emergency Management Maps desktop application template.
4. Start the ArcGIS Pro application and [open the project package from the active portal](#).
5. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
6. In the **Catalog** pane, expand the **Using your data** task group.
7. Click the **Update data sources** task and follow the instructions to update the ArcGIS Pro project to reference hosted feature layers.
8. Click the **Append your data** task and follow the instructions to add your data to the existing data schemas provided with the project.
9. Click the **Use existing geodatabase** task and follow the instructions to source layers with your data or published web layers.
10. Click the **Use Esri Demographic data** task and follow the instructions to use data included in ArcGIS Living Atlas of the World.

Share incident maps

Some situations require sharing data and maps with other people within the organization. After you resource the data in the previous workflow, you can share layers and maps with your data. You can also share the desktop application template with other mapping technicians.

Follow the steps below to share an incident map.

1. In the tasks panel, expand the **Share with your organization** task group.
2. Click **Share Layers** and follow the task instructions to publish your data as a web layer.
3. Click **Remap layer to use published layers** to replace layers in the project with the new published layers.
4. Click **Share maps** to share the maps as web maps with your organization after referencing web layers in the project maps.
5. Click **Create Shared Map Package** to create a map package that can be shared with other people in your organization to edit data and create map books.

[Back to top](#)

Create a map book

One way to deliver standard hard copy briefing and response maps to field personnel is in the form of a map book. The map book can be either a series of the same map with individual pages covering the geographic extent of the incident or a collection of different maps with the same extent.

Follow the steps below to create an incident map book.

1. In the tasks panel, expand the **Create map books** task group.
2. Click **Create a field reference map series** and follow the task instructions to create a map series with pages of different extents of the same map.
3. Click **Create an incident map book** and follow the task instructions to create an incident map book with different maps of the same extent.

Archive incident

After the incident or event is over and operational features in the map are ready to be archived, the Operations Response app can be used to update the active incident flag and archive incident data quickly and efficiently. When you archive an incident, the features are no longer visible in the app but will continue to be stored in the associated feature layers. This allows you to manage multiple incidents from a single app and allows you to access your archived data from the associated feature layers for after-action analysis or reporting.

Follow the steps below to archive incident data and prepare for the next event.

1. In a browser, from the Emergency Management Operations solution, view the Operations Response app.
2. Click the **Archive Incidents** widget to view the operational layers available to be archived.
3. Check the check boxes next to the layers to be archived.
4. Click one of the **Drawing** tools, and then select the features on the map.
5. From the **Active Incident** drop-down list, choose **No**, and then click **Save**.
6. Close the Operations Response app.

Introduction to Environmental Analysis

Environmental Analysis can be used to evaluate and understand environmental impacts of proposed development projects and solicit feedback from stakeholders.

It provides ready-made analysis and reporting tools that help streamline environmental review, solicit feedback from stakeholders, and generate reports for proposed development projects. This improved process decreases the time required for project review and increases communication between all stakeholders involved. Environmental Analysis is typically implemented by government agencies and conservation organizations that want to take a data-driven approach to environmental review of proposed development projects.

The Environmental Analysis solution delivers a set of capabilities that help you evaluate proposed development projects and solicit feedback from stakeholders.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

[Back to top](#)

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Environmental Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Basic, Standard, or Advanced)

Information products

Environmental Analysis includes the following information products:

Item	Description	Minimum user type
Environmental Analysis	An ArcGIS Pro project used by natural resource staff to conduct and report on an environmental impact analysis	GIS Professional Basic
Environmental Screening	An ArcGIS Web AppBuilder app used by natural resource staff to conduct an initial environmental impact assessment and share the impact with interested parties	Viewer
Environmental Impact Public Comment	A Crowdsourcing Polling app used by the general public to review projects and comment on the impact to the natural environment	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Environmental Analysis

Configure Environmental Analysis

Learn how to configure the Environmental Analysis solution to meet specific needs in your organization.

Load data

Environmental Analysis can be used to evaluate and understand environmental impacts of proposed development projects and solicit feedback from stakeholders.

[Back to top](#)

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflows below.

Load data from a shapefile

You can load data for EnvironmentalScreening and EnvironmentalPublicComment from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Environmental Analysis

The Environmental Analysis solution delivers a set of capabilities that help you evaluate proposed development projects and solicit feedback from stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Conduct initial environmental assessment

You will start by assuming the role of a project manager responsible for reviewing proposed development project scenarios. You are asked to use the Environmental Screening app to review several proposed development project scenarios.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Environmental Analysis solution.

2. View the Environmental Screening app.
In the app, the **Environmental Screening** widget is open on the right. The widget includes various tools that can be used to define an area of interest.
3. Define an area of interest with one of the provided tools.
4. Adjust the **Buffer** distance.
5. Click **Report** to view results.
6. In the **Environmental Screening** widget, expand the layer that you are interested in to view its details.
7. Optionally, at the top of the widget, click the **Choose units for analysis** button to adjust the search units.
8. Click the **Download** or **Print** button to export the report.

Conduct detailed environmental assessment

Now you will assume the role of a project review analyst responsible for reviewing proposed development projects. You are asked to use the Environmental Analysis ArcGIS Pro project to review a proposed development project. Follow the defined tasks to create analyses, format layouts, and create reports of your findings.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Environmental Analysis solution.
2. Download the Environmental Analysis desktop application template and unzip the folder.
3. From the unzipped folder, browse to the **MapsandGeodatabase** folder and open the Environmental Analysis.ppkx file in ArcGIS Pro.

Note:

The Environmental Analysis ArcGIS Pro project comes preloaded with sample data, geoprocessing tools, models, and layout templates for common analyses.

4. In ArcGIS Pro, in the **Catalog** pane, expand **Tasks**, if necessary, and then double-click the Environmental Analysis Workflows task.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, follow the steps of each task to begin your project review.

Provide stakeholder feedback

As an engaged resident in a community, you want to provide your feedback on several proposed development project scenarios. You will use the Environmental Impact Public Comment app to submit comments on each scenario.

1. In a browser, from the Environmental Analysis solution, view the Environmental Impact Public Comment app.

2. From the list on the right, select the project that you want to comment on.
3. Review the project details and comments.
 - Click the **Vote for this project** button to vote for the project.
 - Click the **Add a comment** button to leave a comment.

Introduction to Equitable Property Value

Equitable Property Value can be used to share authoritative property information, educate taxpayers and collect feedback from taxpayers when they are concerned about the equity of their property value.

It provides 24/7 access to answer common property and tax distribution questions in order to increase public trust and streamline the assessment appeals process. This approach helps stakeholders make well-informed property and development decisions. Equitable Property Value is typically implemented by property appraisal departments, assessors, fiscal offices, and other local government organizations that want to engage taxpayers in the property valuation process.

The Equitable Property Value solution delivers a set of capabilities that help you communicate parcel, property sales, and floodplain information as well as solicit assessment appeals from property owners in order to improve customer service and promote fair and equitable property values.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Equitable Property Value requires the following:

- ArcGIS Enterprise
- Survey123 Connect

Information products

Equitable Property Value includes the following information products:

Item	Description	Minimum user type
Equitable Property Value	An ArcGIS Hub site used by the general public to access tax parcel and related property information, find comparable sales, file assessment appeals, and identify properties impacted by FEMA floodplain boundaries	Not Required
Floodplain Inquiry	An ArcGIS Web AppBuilder app used by the general public, land development companies, and real estate professionals to locate parcels impacted by FEMA floodplain boundaries	Not Required
Residential Comp Finder	An ArcGIS Web AppBuilder app used by the general public, real estate agents, and appraisers to find comparable sales and related property information	Community Account

[Back to top](#)

Tax Parcel Viewer	An ArcGIS Web AppBuilder app used by the general public to access tax parcel, tax distribution, and related property information on smartphones, tablets, and desktop computers	Not Required
Property Tax Assessment Appeal	An ArcGIS Survey123 form used by the general public to file a formal request for the review of their property assessment	Community Account
Tax Liability Calculator	An ArcGIS Survey123 form used by the general public to compute their estimated tax liability	Not Required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Equitable Property Value

Configure Equitable Property Value

Learn how to configure the Equitable Property Value solution to meet specific needs in your organization.

Load data

Equitable Property Value can be used to share parcel, property sales, floodplain, and tax distribution information. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the hosted feature layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile

You can load data for TaxParcels, SiteAddresses, SchoolDistricts, FloodZones, and TaxParcelSales from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.

[Back to top](#)

5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Tip:

You can use the [Data Assistant](#) add-in, which is part of the [Community Data Aggregation](#) solution, to load your data into the TaxParcels hosted feature layer. The Data Assistant add-in allows you to [update and load data](#) manually or on a schedule.

Load tax distribution information

To configure the Tax Distribution table in the TaxParcels hosted feature layer in ArcGIS, you may use the sample .csv file included with the solution (TaxDistributionSources.csv).

To load tax distribution from a spreadsheet, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the **TaxDistributionSources** item.
2. On the item details page, click **Download**.
3. Once downloaded, open the **TaxDistributionSources.csv** and populate Parcel ID, Total Tax, and Tax District distribution totals (in dollars).

Note:

After these tax values are populated, you can compute the percent of total tax dollars for each Tax District and populate its corresponding Tax District % attribute—for example, $(TXDIST1/TOTTX)*100 = TXDIST1PER$ or $(\$1500/\$5000)*100 = 30\%$.

4. Alternatively, you can use ArcGIS Pro to populate these values based on their spatial relationship with tax districts.
5. Once TaxDistributionSources.csv is populated with all the necessary data.
6. In your ArcGIS organization, browse to the **TaxParcels** hosted feature layer.
7. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
8. Under **Filename**, click **Choose File**.
9. Browse to your .csv file and click **Open**.
10. Click **Upload and Continue**.

[Back to top](#)

11. From **Choose the layer that you wish to append data into**, select the **Tax Distribution** table to load into.
12. Uncheck **Update existing features**.
13. Click **Show field matching** and map the fields between the two layers.
14. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Configure the Equitable Property Value site

The Equitable Property Value solution includes the Equitable Property Value Hub site that your organization can configure with your branding and use to share property value information with the public.

Share Equitable Property Value items

When you deploy the Equitable Property Value solution, it will create an Equitable Property Value site, and two Groups (Core Team and Followers) in your ArcGIS organization. Several maps and apps included in the Equitable Property Value solution must be shared with taxpayers before reviewing comparable sales and filing a property tax assessment appeal. Sharing the appropriate maps and apps with the Followers group created with the initiative will allow business owners to access them after creating a community identity.

1. Verify that you are signed in to your ArcGIS organization and browse to the Equitable Property Value folder.
2. Check the check box next to each of the items below:

Item	Name
Web Mapping Application	Residential Comp Finder
Form	Property Tax Assessment Appeal
Web Map	Residential Comp Finder
Feature Layer (hosted, view)	PropertyTaxAssessmentAppeal_fieldworker
Feature Layer (hosted, view)	SchoolDistricts_public
Feature Layer (hosted, view)	TaxParcelSales_public

3. Click **Share**.
4. In the **Share** window, click **Edit Group Sharing**.
5. Click **Equitable Property Value Followers** and click **OK**.

[Back to top](#)

6. Click **Save**.
7. Next, you'll share items with Everyone (public).
8. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	FloodZones_public
Feature Layer (hosted, view)	SiteAddresses_public
Feature Layer (hosted, view)	TaxLiabilityCalculator_public
Feature Layer (hosted, view)	TaxParcels_public
Web Map	Floodplain Inquiry
Web Map	Tax Parcel Viewer
Web Mapping Application	Floodplain Inquiry
Form	Tax Liability Calculator
Web Mapping Application	Tax Parcel Viewer
Site Application	Equitable Property Value

9. Click **Share**.
10. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
11. Click **Update**.

Modify surveys

The Equitable Property Value solution includes two surveys (Tax Liability Calculator and Property Tax Assessment Appeal) that can be used to estimate tax liability for a given property and appeal property tax.

Review the preconfigured questions and adjust as necessary to fit your needs.

Add additional fields

Both surveys leverage hosted feature layer views created from the TaxLiabilityCalculator and PropertyTaxAssessmentAppeal hosted feature layers. Organizations may want to modify the Tax Liability Calculator and Property Tax Assessment Appeal surveys by first adding new fields

to the hosted feature layers and configuring the surveys to use the newly created fields. When doing so, the new fields must be exposed in the appropriate views.

To add one or more fields to a hosted feature layer and update the views, complete the following steps:

1. Add a new field to a layer in the `TaxLiabilityCalculator` or `PropertyTaxAssessmentAppeal` hosted feature layer.
2. Browse to the view in your contents.
3. Click **Open in Map Viewer Classic**.
4. Click the **More Options** button on the appropriate hosted feature layer or table, and click **Set View Definition**. Click **Define Fields**.
5. Scroll to the newly created field and check the box. Click **Apply**.
The new field is added to the view's definition.

Modify equation for tax liability

To modify a Equitable Property Value survey, complete the following steps:

1. Install Survey123 Connect.
2. Start Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Tax Liability Calculator** and download the survey.
4. Click **Tax Liability Calculator** again to open the survey.
5. On the left pane, click the **Open XLSForm** spreadsheet.
6. Revise the survey logic to reflect the calculation for tax liability in your community.
7. Save the Microsoft Excel spreadsheet and preview your changes in Survey123 Connect.
8. In Survey123 Connect, click **Publish** in the left pane to publish your changes.

Use Equitable Property Value

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Locate parcels impacted by a floodplain

When the public and real estate professionals search for properties, floodplain boundaries come into consideration. Knowledge of floodplain boundaries helps ensure that informed decisions can be made during the land development and home buying processes.

In this workflow, you will learn how to locate and view authoritative floodplain boundary information (DFIRM panels) provided by the Federal Emergency Management Agency (FEMA) using Floodplain Inquiry.

You will assume the role of a resident in a local community. You want to see whether a property that you are interested in purchasing sits within a floodplain boundary.

1. In a browser, from the Equitable Property Value solution, view the Equitable Property Value ArcGIS Hub site.
2. Scroll to the **Property Applications** section, and then click **Locate Floodplain**. The Floodplain Inquiry app opens.
3. On the right, in the **Search Parcels** widget, search for a parcel number or address, or click the location directly on the map.
4. Review the property's details, such as its parcel number or address, and whether the property is impacted by a flood zone.

Locate comparable sales

To determine fair market value of a subject or prospective property, the public and real estate professionals can use the Residential Comp Finder to look for properties with similar characteristics.

You will assume the role of a local homeowner. You want to find recently sold properties with similar characteristics to determine the value of your home.

1. In a browser, from the Equitable Property Value solution, view the Equitable Property Value ArcGIS Hub site.
2. Create a community identity or sign in with an existing user account.
3. Scroll to the **Get Involved** section and click **Get Involved** to follow the initiative. Following the initiative gives you access to the Residential Comp Finder app.
4. Scroll to the **How does my property compare** section, and then click **Find Comps**. The Residential Comp Finder app opens.
5. In the **Locate Sale** widget, search for a parcel number, address, or school district, or click the location directly on the map.
6. Optionally, adjust the buffer slider to see a larger list of potential properties.
7. Review the property's details, such as its address, parcel number, year built, floor area, assessed value, sale price, sales date, and sales ratio.
8. Optionally, use filters to refine the results; for example, use the **Sale Amount is between** filter to find homes with sale prices between \$250,000 and \$350,000.

Discover parcel and tax distribution information

Providing up-to-date and accurate information on taxes can help taxpayers know where their dollars go and allow local governments to operate with transparency. Using the Tax Parcel Viewer, the public can access property tax information and see where property tax dollars are being distributed, along with the amount of each distribution.

You will assume the role of a local homeowner. You want to find your property to see how your property taxes have been distributed.

1. In a browser, from the Equitable Property Value solution, view the Equitable Property Value ArcGIS Hub site.
2. Scroll to the **Property Applications** section, and then click **View Parcels**. The Tax Parcel Viewer app opens.

[Back to top](#)

3. On the right, in the **Search Parcels** widget, search for a parcel number, owner, or address, or click the location directly on the map.
4. Review the property's details, such as its address, parcel number, owner name, subdivision, structure types, and assessed and land values.
5. Review the tax distribution information to see how property tax from this parcel has been locally allocated.

Estimate tax liability and appeal assessment

To determine tax liability and review assessment of a property, property owners depend on the assessor's office to accurately determine and assess their property's value.

In this workflow, you will learn how to estimate tax liability and file a formal appeal of a property assessment.

Calculate estimated tax liability

Property owners can use the Tax Liability Calculator to compute their estimated tax liability.

1. In a browser, from the Equitable Property Value solution, view the Equitable Property Value ArcGIS Hub site.
2. Scroll to the embedded Tax Liability Calculator.
3. Complete the **Sale Price** field to see a property's estimated tax liability.

File a Property Tax Assessment Appeal

Property owners can use the Property Tax Assessment Appeal form to file a formal request for the review of their property assessment.

1. In a browser, from the Equitable Property Value solution, view the Equitable Property Value ArcGIS Hub site.
2. Create a community identity or sign in with an existing user account.
3. Scroll to the **Get Involved** section and click **Get Involved** to follow the initiative. Following the initiative gives you access to the Property Tax Assessment Appeal app.
4. Scroll to the **How does my property compare section**, and then under **Start the Appeal Process**, click **Apply**.
5. Complete the Property Tax Assessment Appeal form, and then click **Submit**.

Introduction to Fire Hydrant Inspection

Fire Hydrant Inspection can be used to perform fire hydrant inspections and ensure that every hydrant in a district performs reliably when an emergency occurs.

The solution provides a comprehensive inventory of fire hydrants, and their status that can be accessed in a station or the field. The hydrant inventory can be used by fire service agencies to prioritize inspection activities and quickly locate operational hydrants when an emergency occurs. This approach reduces staff time necessary to perform routine inspections, and ultimately increases the effectiveness of fire suppression efforts. Fire Hydrant Inspection is typically implemented by fire service agencies that want to take a data-driven approach to preparedness and response activities.

The Fire Hydrant Inspection solution delivers a set of capabilities that help you inventory fire hydrants, collect operational status on a regular schedule, and monitor the progress of firefighters performing routine hydrant inspections.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Fire Hydrant Inspection requires the following:

- ArcGIS Enterprise
- ArcGIS Collector

Information products

Fire Hydrant Inspection includes the following information products:

Item	Description	Minimum user type
Fire Hydrant Inspection Dashboard	An ArcGIS Dashboards app used by fire personnel to monitor fire hydrant inspections occurring in a community	Viewer
Fire Hydrant Inspection	An ArcGIS Collector web map used by fire personnel to inspect fire hydrants and ensure that every hydrant in a district performs properly and reliably when an emergency occurs	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Fire Hydrant Inspection

Configure Fire Hydrant Inspection

The Fire Hydrant Inspection solution can be used by fire personnel to perform inspections and ensure that every hydrant in a district performs properly and reliably when an emergency occurs. In some cases, you may already have fire hydrant location and attribute data in ArcGIS or a spreadsheet. To load your fire hydrant data into the solution, follow the instructions appropriate for the form of your data.

[Back to top](#)

Load fire hydrant data from a spreadsheet

To load fire hydrant data from a spreadsheet, complete the following steps:

1. If necessary, sign in to your ArcGIS organization
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type fire hydrant in the search box.
4. Click the Feature Layer item named **FireHydrants**.
5. Click the **Data** tab.
6. Click the **Fields** toggle button to display a view of all fields in the **FireHydrants** layer.
7. Right-click the **Overview** tab, and open a new window.
8. Click the **Update Data** button, then click **Append Data to Layer**.
9. Click the **Choose File** button and select your spreadsheet.
10. Click **Upload and Continue**. The spreadsheet may take several seconds to upload.
11. Click the **Show field matching** link.
12. Match the fields in your data to the appropriate corresponding field in the **FireHydrants** layer.

Tip:

Your spreadsheet must have fields containing the latitude and longitude coordinates of the fire hydrant location, and these fields must be matched to the Latitude and Longitude fields in the **FireHydrants** layer.

13. Click **Apply Updates**.

Load fire hydrant data

If you have fire hydrant data you can load it into the fire hydrant layer to conduct the inspections.

To load features from a shapefile into the fire hydrants layer, complete the steps below:

1. If necessary, sign in to your ArcGIS organization
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type fire hydrant in the search box.
4. Click the Feature Layer item named **FireHydrants**.
5. Click the **Data** tab.
6. Click the **Fields** toggle button to display a view of all fields in the **FireHydrants** layer.
7. Review the display names of all fields in the layer and consider how the fields in your data relate. In a later step, you will need to match the fields in your dataset to the associated field in the **FireHydrants** layer, so it is helpful to leave this page open for reference.
8. Right-click the **Overview** tab, and open a new window.
9. Click **Choose File** and browse to a .zip containing the shapefile with your fire hydrants and then click **Open**.

[Back to top](#)

10. Click the **Contents** drop-down arrow and choose whether the source is a shapefile.
11. Click **Upload and Continue**. The file may take several seconds to upload.
12. Click the **Show field matching** link.
13. Match the fields in your data to the appropriate corresponding field in the **FireHydrants** layer.
14. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Fire Hydrant Inspection

The Fire Hydrant Inspection solution delivers a set of capabilities that helps you inventory fire hydrants, update operational status on a regular schedule, and monitor the progress of fire personnel performing routine hydrant inspections.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Develop fire hydrant inventory

A field assessment of fire hydrants is the most efficient way to develop a hydrant inventory for a fire department. In some cases, fire departments may be able to access hydrant data maintained by the local water utility and use that data to start the collection of operational status. In other cases, hydrant data may not exist and the field assessment used to capture the location of hydrants and their operational status.

You will assume the role of a fire fighter in a fire department. In this workflow, you are asked to use the ArcGIS Field Maps mobile app to access your Fire Hydrant Inspection and inventory hydrants in your community.

Collect new hydrant

To collect a new fire hydrant in the field, complete the following steps:

1. Download ArcGIS Field Maps onto your mobile device.
2. Open the app on your mobile device, and sign in to your ArcGIS organization.
3. Tap **Fire Hydrant Inspection** to open it.
4. Tap the search box and type a local address, and then tap the suggested address in the search result list to zoom to that location on the map.
5. Tap **Collect Here** and tap **Operable**.
6. Swipe up on the form and tap **Fire Hydrant ID** and enter the identifier.
7. Tap **Station** to enter the station response area.
8. Tap **Location** to enter a more detailed description of the location.

[Back to top](#)

9. Swipe up and tap **Inspected On** to choose today's date.
10. Tap **Pumped** and choose a value.
11. Tap **Defects**, then tap **Hard to Open** and choose a value. Add other key characteristics in the form.
12. Swipe up and tap **Notes** to enter any other observations noted in the field.
13. When you're done, tap **Submit**.
14. Repeat steps 5 through 13 for each fire hydrant.

Update operational status

To update the operational status of an existing fire hydrant in the field, complete the following steps:

1. Download ArcGIS Field Maps onto your mobile device if you haven't already.
2. Open the app on your mobile device, and sign in to your ArcGIS organization.
3. Tap **Fire Hydrant Inspection** to open it.
4. Tap search, type your hydrant identifier and tap hydrant identifier in the search results.
5. Tap **Edit** and swipe up on the form.
6. Swipe up and tap **Inspected On** to choose today's date.
7. Tap **Operable** and choose **No**.
8. Tap **Pumped** and choose a value.
9. When you're done, tap **Submit**.
10. Repeat steps 4 through 9 for each fire hydrant.

Monitor fire hydrant inspection program

You will now assume the role of fire command staff and will use the Fire Hydrant Dashboard to monitor the progress of fire hydrant inspections.

To monitor the progress of your fire hydrant inspection program, complete the following steps:

1. In a browser, go to the Fire Hydrant Dashboard app.
2. Click the **Station** drop-down in the left panel and choose a station.
You can now see all fire hydrants in your district on the map. On the bottom of the dashboard, you can see the total number of hydrants in the station area along with the number of operable and inoperable hydrants in the same area.
3. Click the **Inoperable** bar in the chart to see inoperable fire hydrants.
4. Click the **Inspection Date** drop-down and choose **Last 30 Days** in the left panel.
You can now see how many hydrants have been inspected in the last 30 days.
5. Adjust the **Pressure** slider to identify hydrants with low pressure.
6. Close the app.

Introduction to Fire Incident Dashboard

Fire Incident Dashboard can be used to visualize fire and emergency medical service (EMS) incidents sourced from computer-aided dispatch or records management systems and monitor associated response times.

It improves operational visibility for supervisors in a fire service agency and allows them to rapidly identify emerging incident patterns and diagnose response problems. This increased operational awareness ensures accreditation standards are being met and community safety standards are satisfied. Fire Incident Dashboard is typically implemented by fire service agencies that want to proactively monitor response times and detect incident patterns quickly.

The Fire Incident Dashboard solution delivers a set of capabilities that help you source incident records from computer-aided dispatch or records management systems, visualize fire and EMS incidents, and monitor trends or patterns.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

The Fire Incident Dashboard requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.4 - 2.9 (Basic, Standard, or Advanced) (Optional)

Information products

Fire Incident Dashboard includes the following information products:

Name	Description	Minimum user type
Fire Incident Dashboard	An ArcGIS Dashboards application used by fire command staff to monitor fire and EMS incidents sourced from computer aided dispatch or records management data	Viewer
Record Import Tools	A geoprocessing toolbox for geocoding records from a computer aided dispatch or records management system and publishing into a local file geodatabase or hosted feature service (optional)	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Fire Incident Dashboard

[Back to top](#)

Configure Fire Incident Dashboard

The Fire Incident Dashboard solution can be configured to meet specific needs in your organization. In this topic, you will learn how to use the Record Import Tools toolbox to automatically load data from records management systems (RMS) and computer-aided dispatch (CAD) systems into the layers in your Fire Incident Dashboard and modify or remove dashboard elements unsupported by your data schema.

Load data using Record Import Tools

The layers in the solution can be updated using the Record Import Tools toolbox provided with the solution. These tools can be run from ArcGIS Pro manually or automated on a schedule using Windows Task Scheduler. The Record Import Tools toolbox supports the use of database tables from your computer-aided dispatch (CAD) or records management system (RMS) as well as Microsoft Excel spreadsheets (.xlsx) or comma-separated values (.csv) files.

For each dataset you import, you will follow a two-step process. First, create a configuration file for each layer, and then run the import tool using the configuration file.

The Configure Record Import tools are used to create a configuration file (.ini) that stores user-defined parameters about the dataset and target layer it is loading to. There are two versions of the Configure Record Import tool—to determine which one to use, you must first identify whether the data you want to load is using address information or x,y coordinates (longitude and latitude).

- If your dataset already has x,y data, create a configuration file based on x,y coordinates using the Configure Record Import (XY) tool.
- If your dataset only has addresses, create a configuration file based on addresses using the Configure Record Import (Addresses) tool.

Once you have created a configuration file based on x,y coordinates or addresses, use the Record Import Tools to update the layer or feature class.

Note:

The Record Import tool can be run manually using the script tool in the Record Import Tools toolbox, or it can be run automatically using Windows Task Scheduler.

Download the Record Import Tools toolbox

To begin this workflow, follow the instructions to download and unzip the Record Import Tools toolbox.

1. In a browser, go to the toolbox item that was deployed to your content section of your ArcGIS organization, and click **download** to download the zipped folder containing the toolbox.

Note:

If you deployed the solution on ArcGIS Enterprise, you need to [download](#) the toolbox separately.

2. Extract the Record Import Tools toolbox and add it to a new ArcGIS Pro project.

Create a configuration file based on x,y coordinates

The Configure Record Import (XY) tool creates a configuration file that is used when executing the Import Records tool. The configuration file stores unique information that is used by the Import Records tool to load from a table or spreadsheet into a feature class or a web layer.

To create a configuration file, complete the following steps:

1. In ArcGIS Pro, browse to the RecordImport.tbx file, open the Configure Record Import (XY) tool, and fill in the following parameters:

Parameter	Input
Configuration file name	Type the name for your configuration file.
Source Table	Browse to the incident file containing the data to be mapped.
Target Features	Browse to your incident feature class or web layer.
Portal URL	Add your ArcGIS Online organization or ArcGIS Enterprise portal URL.
Username	Type your user name.
Password	Type your password for the user name you provided.
Log File Directory	Browse to a directory to store the import records log files generated by the Import Records tool.
Summary Field	Provide a field from the source table containing values by which the records can be summarized.
Record Identifier Field	Choose a field containing a unique identifier value.
Record Date Field	Choose a date field containing the date the record occurred or was reported.
Delete Duplicates	Check this parameter to ensure duplicate records are deleted.

X Coordinate Field (Longitude)	Choose the field from the source table that represents the x-coordinate (decimal degrees or easting).
Y Coordinate Field (Latitude)	Choose the field from the source table that represents the y-coordinate (decimal degrees or northing).
Source Table Coordinate System	Choose the coordinate system used in the source table that represents the x,y coordinates.
Ignore Blank Coordinate System	Check this box to ignore the coordinate pair value 0,0 from being imported into the target features.
Schema Mapping Type	Choose Source Table Schema Matches Table if your schema matches the target features or Use Field Mapping if they are not the same.
Field Mapping	Choose the fields from the source table that contain information to preserve in the target features.
Target Field	Choose fields from the target features that correspond to the field in the source table.

Note:

Source and target information for the fields specified in the **Record identifier field**, **Record Date Field**, **X Coordinate Field**, and **Y Coordinate Field** parameters are required.

Tip:

If the **Source Table** parameter contains dates formatted as strings, you need to update the **Timestamp Format** parameter to define the original time and date format. For more information, see [Python strftime](#).

2. Run the tool to build a configuration file containing these parameter values.
3. Once you have created a configuration file based on x,y coordinates, use the Configure Record Import to update the web layer or feature class.

Create a configuration file based on addresses

The Configure Record Import (Addresses) tool creates a configuration file that is used when executing the Import Records tool. The configuration file stores unique information that is used to import records from a table or spreadsheet into a feature class or a web layer.

[Back to top](#)

To create a configuration file, complete the following steps:

1. In ArcGIS Pro, browse to the RecordImport.tbx file, open the Configure Record Import (XY) tool, and fill in the following parameters:

Parameter	Input
Configuration file name	Type the name for your configuration file.
Source Table	Browse to the incident file containing the data to be mapped.
Target Features	Browse to your incident feature class or web layer.
Portal URL	Add your ArcGIS Online organization or ArcGIS Enterprise portal URL.
Username	Type your user name.
Password	Type your password for the user name you provided.
Log File Directory	Browse to a directory to store the import records log files generated by the Import Records tool.
Summary Field	Provide a field from the source table containing values by which the records can be summarized.
Record Identifier Field	Choose a field containing a unique identifier value.
Record Date Field	Choose a date field containing the date the record occurred or was reported.
Delete Duplicates	Check this parameter to ensure duplicate records are deleted.
Street Address Field	Choose the field from the source table with the street address, for example, 123 Main Street, or full address, for example, 123 Main Street, Naperville, IL.
City Field	Choose the field from the source table with the name of the city, town, or village.
State Field	Choose the field from the source table with the state or province name.

[Back to top](#)

ZIP Field	Choose the field from the source table with the ZIP Code or postal code.
Address Locator	Choose the ArcGIS World Geocoding Service, your locator service, or browse to an Address locator file.
Schema Mapping Type	Choose Source Table Schema Matches Table if your schema matches the target features or Use Field Mapping if they are not the same.
Field Mapping	Choose the fields from the source table that contain information to preserve in the target features.
Target Field	Choose fields from the target features that correspond to the field in the source table.

Note:

If the configuration file from this tool references the ArcGIS World Geocoding Routing Service in the **Address Locator** parameter, this configuration will consume credits when it is run in the Record Import Tools . The credit consumption rate is the same as the Geocode Addresses tool. For more information, see [Geocode Addresses](#) in the System tool chart.

Tip:

If the **Source Table** parameter contains dates formatted as strings, you need to update the **Timestamp Format** parameter to define the original time and date format. For more information, see [Python strftime](#).

2. Run the tool to build a configuration file containing these parameter values.
3. Once you have created a configuration file based on addresses, use the Record Import Tools to update the web layer or feature class.

Run the Import Records tool

The Record Import Tools use the configuration file created from the Configure Record Import (XY) or Configure Record Import (Addresses) tools. Run the Import Records tool in ArcGIS Pro the first time you use this tool to verify it runs successfully.

To import records, complete the following steps:

1. In ArcGIS Pro, browse to the location of the RecordImport.tbx toolset and open the Record Import Tools tool.
2. In the **Configuration file** parameter, browse to the location of the configuration file created by the Configure Record Import (XY) or Configure Record Import (Addresses), and click **OK**.

[Back to top](#)

3. Click **Run** to run the tool.

Note:

To update your incident layer on a regular interval basis, you can use the Import Records tool (`import_records.py`) with Task Scheduler to automate import updates.

Automate Record Import Tools

You can use the Record Import Tools (`import_records.py`) with Microsoft Windows Task Scheduler to update incident layers on a regular interval. Scheduled updates ensure users have access to current information to support more dynamic decision making.

To update incident data on a schedule, complete the following steps:

1. Open Task Scheduler.

Note:

Use the Windows Start menu search box to find Task Scheduler.

2. Click **Action**, click **Create Task**, and name your task.
3. Click the **Actions** tab and click **New**.
4. Set **Action** to **Start a Program**.
5. Browse to the location of your Python installation (for example, `<default directory>\Program Files\ArcGIS\Pro\bin\Python\envs\arcgispro-py3\python.exe`).
6. In the **Add arguments** text box, type the name of the script, `import_records.py`, followed by the path of the configuration file in double quotation marks.

Note:

Ensure that you have double quotation marks around the configuration file path but not around the script name, for example, `import_records.py "C:\recordimports\scripts\records.ini"`.

7. In the **Start in** text box, type the path of the folder hosting your script and click **OK**.
8. On the **Trigger** tab, click **New** and set a schedule for your task, and click **OK**.

Log file reports

The Record Import Tools create a series of reports designed to help you understand any errors that occurred while processing your data. Each time the tools are run, a new set of reports are created and identified by the date and time.

Note:

The content of each import records report will vary based on your data and the configuration parameters. You can find the reports in the log file directory you specified when running the Configure Record Import (XY) or Configure Record Import (Addresses)

tool. The path to these reports can also be found in the **Geoprocessing Results** window after running the Import Records script tool.

Log file contents

The log file header includes basic envelope information about the processes that ran, including the user name that ran the tool, what datasets were used, and the locator that was used (if the data was geolocated).

The body of the log file includes reports and notes printed by the tool as the records were processed. As each stage of the tool begins, a time stamp and brief message are printed. The tool also reports the numbers of records that were successfully and unsuccessfully processed after completing many of the major processes. When records cause problems (for example, a record that was not successfully geocoded), they are removed from processing and are written out to another report. A note is printed in the log file stating the number of records that were not successfully processed, and in which report they can be found.

Note:

The tool copies the records from the source table into a temporary geodatabase table. Problem records are removed from this table—not the source table.

The configuration includes an option to print a summary of the processed data. If a summary field is provided, this summary also appears in the configuration file. For example, summarizing the data by report date or an administrative boundary can indicate days or areas that may have missing reports.

Unmatched report

The Unmatched report is only created when the data was located using the ADDRESSES location type. This report contains all records that did not meet two criteria:

- Geocoded with a **Status** value of **M** (matched) or **T** (tied)
- Geocoded with an **Addr_type** value of **AddrPoint**, **StreetAddr**, **BldgName**, **Place**, **POI**, **Intersection**, **PointAddress**, **StreetAddress**, **StreetInt**, or **StreetAddressExt**

Records may not meet these criteria for many reasons. To help troubleshoot these issues, records in this report contain all fields from the attempted geocoding (Loc_name, Shape, Status, Score, Match_type, Match_addr, Side, User_fld, Addr_type, ARC_Street, ARC_City, and ARC_ZIP) as well as all fields from the original record. Use these values to determine why records were not successfully processed and resolve the issues.

For more information, see [Geocode a table of addresses](#).

First, identify why the record was written to this report. Look at the value in the Status column.

- Records with M failed the second criteria: they were geocoded, but not to a scale conducive to incident mapping, likely to the city or ZIP Code level.
- Records with T (tied) had multiple options that were viewed by the locator as equally probable. There is likely some address information missing or slightly incorrect that is creating ambiguity for the locator.

[Back to top](#)

- Records with U (unmatched) were unable to be geocoded to an acceptable probability level. This probability threshold is set in the locator properties and is often near 80 percent.

Next, resolve the issue. You can make the necessary changes to the original report, get a corrected report from the data source, or make the necessary changes directly in the Unmatched report and reprocess the records using the same workflow and this report as the input spreadsheet.

- Confirm that the address is complete.

Whether the full address was contained in a single field (for example, FULLADDR) or spread across several fields (for example, FULLADDR, CITY, STATE, or ZIP), verify that the level of information provided matched your locator. Your local locator may be able to handle a house number and street name, but that isn't enough information to get a good result from the World Geocoding Service. Provide as much information as possible to get the best results from the locator.

- Confirm that the address is correct.

Many locators require at least an 80 percent match. Verify that the provided values are spelled correctly, house number values are reasonable for the range of the road, and the address falls within the provided city, state, and ZIP Code.

- Confirm that the address falls within the range of your locator.

Locators do not always cover all addresses. Private roads and new developments may not exist in the locator yet, or the record may fall outside the extents of your locator. In these cases, try another locator, or get the coordinates for the location of the record and process the record or records using the Configure Record Import (XY) and Configure Record Import (Addresses) tools.

Once the corrections are made, reprocess the report. You can use the **Delete Duplicates** option to ensure that records are not added to the target features.

To stop excluding results from processing, or to modify the Status or Addr_type values that are acceptable for your data, you can edit the Python script import_records.py that are found in the same directory as the ImportRecords.tbx file.

Near the top of the script is a section titled Accepted levels of geolocation. The section contains two list variables: addrOK and match_value. Both lists must contain at least one value enclosed in quotation marks. Add, remove, or modify the values as long as the following are true:

- Each list is enclosed in a single pair of square brackets.
- Each item is enclosed in a single pair of quotation marks.
- Multiple items are separated with a comma.

For example, allow the tool to only process results with a status of "M" by changing the value as follows:

- `match_value = ["M", "T"]` to `match_value = ["M"]`

Change the address locator

The Record Import Tools are configured to use the ArcGIS World Geocoding Service available with all organizational accounts but can also be configured to use your own locator or geocoding service.

[Back to top](#)

To use your own locator, complete the following steps:

1. Browse to the location of the Record Import Tools and create a backup copy of the import_records.py script.
2. Open the import_records.py script in a Python editor or a text editor.
3. Search for the first occurrence of all_locator_fields.

Parameter	Input
all_locator_fields	<p>These are the input address fields that the locator may use to identify the geography of an address.</p> <p>For a locator file (*.loc), these values can typically be found in the locator properties. The Input fields section contains a list of expected input address fields. If you are using a geocoding service, the expected input address fields are found on the service REST page under the Address Fields section. List the values in the same order they appear in the locator properties.</p>
loc_address_field	<p>The input address field that the locator expects to contain, at minimum, the address number and street name of the address. For single-line geocoding, this field may also contain the complete address. This input address field is typically named Street or Address.</p> <p>This value must also exist in the all_locator_fields list.</p>
loc_city_field	<p>The input address field that the locator expects to contain the city name. This input address field is typically named City. For single-line geocoding, use empty quotes for this value; otherwise, this value must also be included in the all_locator_fields list.</p>
loc_zip_field	<p>The input address field that the locator expects to contain the ZIP Code or postal code. This input address field is typically named ZIP or Postal. For single line-geocoding, use empty quotes for this value; otherwise, this value must also be included in the all_locator_fields list.</p>
loc_state_field	<p>The input address field that the locator expects to contain the state or province name or code. This input address field is typically named State, Province, or Region. For single-line geocoding, use empty quotes for this value; otherwise, this value must also be included in the all_locator_fields list.</p>

Remove or modify dashboard elements

When loading data from your RMS or CAD system into the layers of the Fire Incident Dashboard, you may find that your source data does not contain specific fields used in the filters or charts. You can configure the Fire Incident Dashboard to point to different fields or delete it entirely as the schema of your data necessitates. See [Configure an element](#) in ArcGIS Dashboards for more information.

[Back to top](#)

Use Fire Incident Dashboard

The Fire Incident Dashboard solution delivers a set of capabilities that help you source incident records from computer-aided dispatch or records management systems, visualize fire and EMS incidents, and monitor trends or patterns.

Note:

Use your organization's data or configured apps to follow these workflows.

Understand recent trends

In this topic, you'll assume the role of a fire chief who will use the Fire Incident Dashboard to explore response times to citywide fire incidents in the last 30 days, examine response-time performance on EMS calls year-to-date, and compare fire response times by station.

Explore response times to incidents

Follow these steps to examine the fire department's overall response-time performance.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Fire Incident Dashboard solution.
2. View the Fire Incident Dashboard app.
3. On the left, in the filter panel, click the **Call Date** drop-down list and choose **Last 30 days**.

The map filters to display all citywide fire incidents from the past 30 days.

4. On the right, review each gauge element for average turnout time, average travel time, and average total response time.

Note:

Values in the green range are within or below the acceptable range for that metric. Values in the red range are outside of the acceptable range for that metric. The National Fire Protection Association (NFPA) standard is shown below each corresponding gauge. For example the, NFPA standard average turnout time is 80 seconds. If the gauge shows that the citywide average turnout time is 1.1 minutes, or 70 seconds, citywide average turnout is barely acceptable because the standard average turnout time for incidents must be 80 seconds or fewer.

5. On the map, click any incident.
In the top-left corner of the map, a pop-up appears. It displays key facts about the incident, including which unit and shift responded, the incident type, the unit's response times, and the incident location.
6. Below the map, review the chart.
The chart displays the number of incident responses by each fire station and unit. You have already filtered for the last 30 days, so the chart shows which fire stations had the most responses in that time period.
7. In the chart, click the blue bar for one of the fire stations.

[Back to top](#)

The map and gauges update to show only that fire station's incident responses and response times.

8. In the chart, click the blue bar again to deselect the fire station.
9. On the left, in the filter panel, click the **Call Date** drop-down list and choose **All** to clear the date filter.

Note:

You can apply as many filters as you want. The filters continue to narrow the number of incidents displayed on the map based on the parameters that you specify. To cancel a filter, click any filter and select **All**.

Examine response-time performance by call type

Response-time performance varies depending on the type of unit responding to the call. You can filter the calls by type to get a more accurate assessment of response-time performance.

Follow these steps to examine response-time performance by call type.

1. On the left, in the filter panel, click the **Call Type** drop-down list and choose **EMS and Rescue**.
2. Click the **Call Date** drop-down list and choose **Year to date**.
The map updates to show only citywide EMS calls year to date.
3. On the right, review the gauges to determine if the average response times are within appropriate ranges.
4. In the **Responses by Station and Unit** chart, click the bar for one of the fire stations, and then review that station's EMS-incident response time.
5. Click the bar again to deselect that fire station.
6. Follow these steps to review each station's EMS-incident response time.
7. Reset all filters to **All**.

Compare fire response times by fire station

Response-time performance may vary depending on the station or unit responding. You can compare response time using the station and call-type filters.

Follow these steps to examine the response-time performance for each station.

1. On the left, in the filter panel, select a fire station.
The map and gauge elements filter to reflect only the incidents that the selected fire station responded to. Filtering for a single fire station allows you to review the incident types that the fire station responded to so that you can determine if future calls can be covered by another station.
2. Click the **Call Type** drop-down list and choose each call type one at a time, noticing the differences in response-type performance for each call type.
3. After you finish, reset all filters to **All**.
4. Repeat this process with the incidents in other fire stations to make help you make a data-driven decision on each station's performance.

Introduction to Fire Safety Survey

Fire Safety Survey can be used to conduct residential dwelling fire safety surveys that are part of a community's risk reduction program.

It provides fire service agencies with a comprehensive inventory of dwellings that have been surveyed and any fire safety issues discovered during an inspection. Fire service agencies can use the inventory to prioritize inspection activities. This approach reduces staff time necessary to perform safety inspections and ultimately increases the effectiveness of risk reduction programs. Fire Safety Survey is typically implemented by fire service agencies that want to take a data-driven approach to risk reduction and safety programming.

The Fire Safety Survey solution delivers a set of capabilities that help you perform fire safety surveys and monitor the progress of firefighters performing routine fire safety surveys.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Fire Safety Survey requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps

Information products

Fire Safety Survey includes the following information products.

Item	Description	Minimum user type
Fire Safety Survey Dashboard	An ArcGIS Dashboards app used by fire personnel to monitor fire safety surveys occurring in a community	Viewer
Fire Safety Survey	An ArcGIS Field Maps web map used by fire personnel to conduct dwelling fire safety surveys that are part of a community's risk reduction program	Fieldworker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
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[Back to top](#)

Configure Fire Safety Survey

The Fire Safety Survey can be used by fire personnel to conduct and monitor dwelling fire safety surveys that are part of a community's risk reduction program. Some agencies may want to perform additional configuration of the solution to meet their organizational needs. In this topic, you will learn how to modify questions in the Fire Safety Survey and how to incorporate additional filters to the Fire Safety Survey Dashboard.

Modify Fire Safety Survey

The Fire Safety Survey map for ArcGIS Field Maps is used by firefighters to perform fire safety surveys while inspecting a dwelling. To adjust the survey to the needs of your risk reduction program, add or delete fields from the FireSafetySurveys layer. Fire Safety Survey dashboard leverages a feature layer view that you must also update to reflect field changes.

Add new survey question

To add one or more fields to the FireSafetySurveys layer, complete the following steps:

1. Sign in to your ArcGIS Online organization and click **Content**, if necessary.
2. On the **My Content** tab, type **firesafety** in the search box.
3. Click the Feature Layer item titled **FireSafetySurveys**.
4. Click the **Data** tab.
5. Click the **Fields** toggle button.
6. Click the **Add** button to create a field.
7. Define the Field Name, Display Name, Field Type, and Length, and click **Add New Field**.
8. Follow the Update feature layer view section below to update your feature layer view to reflect the changes made to the layer.

Delete survey question

To delete one or more fields from the FireSafetySurveys layer, complete the following steps:

1. Sign in to your ArcGIS Online organization and click **Content**, if necessary.
2. On the **My Content** tab, type **firesafety** in the search box.
3. Click the **FireSafetySurveys** feature layer item and click the **Data** tab.
4. Click the check box next to the display name of the fields to delete.
5. Click the **Delete** button above and to the right of the field list.
6. Follow the Update feature layer view section below to update your feature layer view to reflect the changes made to the layer.

Update feature layer view

To update the feature layer view to reflect field changes you have made by adding or deleting a field, complete the following steps:

1. Browse to the **FireSafetySurveys_dashboard** feature layer view item.
2. Click **Visualization**
3. Click the **More Options** button on the layer, click **Set View Definition**, and select the **Define Fields** option.
4. Scroll to the newly created fields and check the boxes.
5. Click **Apply**.
The new fields are now added to the view's definition and are visible in the Fire Safety Survey Dashboard.

Use Fire Safety Survey

The Fire Safety Survey solution delivers a set of capabilities that help you perform fire safety surveys and monitor the progress of firefighters performing routine fire safety surveys.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Conduct Fire Safety Survey

Fire Safety Survey allows firefighters in the field to conduct fire safety surveys of dwellings using a smartphone or tablet.

In this workflow, you'll learn how to use the Fire Safety Survey map in ArcGIS Field Maps to document a fire safety survey during a dwelling inspection. You will assume the role of a firefighter. You are asked to use the ArcGIS Field Maps mobile app to access your Fire Safety Survey map and document fire safety inspections you perform in the field.

1. If necessary, download ArcGIS Field Maps onto your mobile device.
2. On your mobile device, open the app, and then sign in to your ArcGIS organization.
3. Tap Fire Safety Survey to open the map.
4. Search for an address, and then, in the results list, tap the address to zoom to that location on the map.
5. Tap the plus sign or **Collect Here** to open the survey form.

Note:

Your interface will vary depending on the type of mobile device that you use.

6. Tap **Yes** to collect survey information.
7. Complete the form with as much information as possible.

[Back to top](#)

8. At the upper right, tap the check mark or **Submit** to submit the form.
If necessary, a submitted form can be edited.
9. On the map, tap the point to open the form.
10. At the lower left, tap **Edit**, and then make any necessary changes to the form.
11. Tap the check mark or **Submit** to resubmit the form.
12. At the lower right, tap **More Options** to see additional options.
13. At the lower middle, tap **Copy** to complete another survey and add it to the map.

Monitor Fire Safety Survey inspections

The Fire Safety Survey Dashboard can be used by fire department personnel to monitor the progress of the fire safety program. It allows the viewer to see the locations where surveys were completed. You can also use it to find areas at risk in the community.

You will now assume the role of fire command staff to monitor how many safety inspections have been completed and review the results of those surveys.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Fire Safety Survey solution.
2. View the Fire Safety Survey Dashboard app.
On the right, in the **Surveys** panel, all submitted inspections are listed. At the top of the panel, the total number of surveys appears.
3. On the left, use filters to refine the results by occupant type, survey status, or date.
When you filter results, the bar chart and number of surveys in the **Surveys** panel update.
4. On the right, click an inspection address to zoom to that location on the map.
5. Click the point on the map to open a pop-up with information collected for that location.
This information can be useful in preparing for any necessary follow-up visits.
6. Below the map, review the chart to see the number of smoke detectors installed and batteries provided.
This information helps you to understand how many smoke detectors may be installed but not working correctly.
7. On the map, close the pop-up, and then in the **Surveys** panel, click the inspection address again to reset the map.
8. On the left, for **Survey Completed**, choose **No**.
No data appears in the chart area. The locations listed in the **Surveys** panel require follow-up visits to complete the surveys.
9. On the left, in the filter panel, uncheck any **Occupant Type** check boxes and for **Survey Completed**, click **All**.
10. For **Surveyed On**, click the drop-down arrow and choose **Between the dates**.
11. Set start and end dates to filter for all surveys completed within that time frame.
12. Close the app.

Introduction to Fire Service Maps

Fire Service Maps can be used to produce wall maps and run books that are placed in a fire station or apparatus to assist with response activities.

Fire personnel must understand their communities and quickly respond to calls for service. Delayed response times could result in the loss of life and property. While maps have made their way on to public safety mobile data computers (MDC), two primary hardcopy maps are still produced for reference in the fire service. Station wall maps are generally small scale maps hung on the wall of each fire station to help new personnel become more familiar with the service area. Run Books, on the other hand, are large scale maps that include a series of map pages along with a street index. They are combined in to a single map book and are placed in each apparatus to supplement maps provided on the MDC. Having an efficient way to produce station wall maps or run books ensure each hardcopy map product reflects changes that may occur in a community. Fire Service Maps is typically implemented by fire departments that want to quickly produce a standard set of hardcopy maps for their community.

The Fire Service Maps solution delivers a set of capabilities that help you produce station wall maps and run books for each fire response district and combine them in single map book when necessary.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

Fire Service Maps requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.7 or later
- ReportLab 3.4.0 or later

Information products

Fire Service Maps includes the following information products:

Fire Service Maps	Description	Minimum user type
Fire Service Maps	An ArcGIS Pro project used by fire fighters to produce wall maps and run books that are placed in a fire station or apparatus to assist with response activities.	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

[Back to top](#)

Version	Description
1.0	First release of Fire Service Maps

Configure Fire Service Maps

In this workflow, you will learn how to configure the Fire Service Maps solution to meet specific needs in your organization.

Configure Fire Service Maps project

The Fire Service Maps solution includes an ArcGIS Pro project and sample data you can use to explore the sample data schema and a set of tools. When you are ready to configure the project, a series of tasks are included to help you review the data, make modifications to the maps and layers, load your data, and set the data sources to your data.

1. Start ArcGIS Pro and open the Fire Service Maps project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Fire Service Maps task item.
4. In the **Task Pane**, click the **Configure Fire Service Maps** task group to expand the collection of tasks.

Review schema

The Fire Service Maps project contains two geodatabases.

- Fire Service Maps Sample.gdb contains sample data for learning how to use the tools.
- Fire Service Maps.gdb contains empty layers fields that can be used to create Fire Run Books and Fire Station Wall Maps with your data.

Use this task to review the geodatabase schema, layers, and fields to determine what changes you will need to make to use your data. See [Fields, domains, and subtypes](#) to learn more about how to edit the feature layer schema.

Define spatial reference

The Fire Service Maps.gdb is an empty geodatabase with the same schema and a spatial reference set to Web Mercator. This geodatabase can be used to define your spatial reference and load your data.

Use this task to define the spatial reference for your data. See [Specify a coordinate system](#) to learn more about coordinate systems for your data.

Load data

After you have completed any necessary schema modifications, you can add your data layers to the map and load them into the empty Fire Service Maps geodatabase by following the steps in the **Load data** task. This task contains steps to load your data into the following layers:

Layer name	Description
Site Addresses	Used to label building addresses in the fire service maps
Roads	Used to label road names and address ranges along a road. It is also used to create the street index report.
Fire Response Restrictions	Used to display the location of access restrictions such as gates, narrow roads, and blocked roads that would delay or preclude a fire truck in response to an incident
Fire Map Index	Used to create individual pages in Fire Run Books
Response Areas	Used to display administrative and response districts

As you load your data into each layer, you will be given the option to use the field map capabilities to map your data fields to the predefined fields in the empty feature layers.

Set data sources

Use this task to replace the sample data with your data for each layer in the Fire Service Maps project.

Use Fire Service Maps

The Fire Service Maps solution delivers a set of capabilities that help you produce station wall maps and run books for each fire response district and combine them in single map book when necessary. Fire Station Wall Maps can be produced for individual fire stations or combined into a single station wall map. Run books can also be produced for individual fire stations or combined into a single run book for the entire fire department.

In this topic, you'll learn how to use the Fire Service Maps solution by assuming the role of the user and performing these workflows.

Understand Fire Service Maps

While maps have made their way on to public safety mobile data computers (MDC), two primary hardcopy maps are still produced for reference in the fire service. Station wall maps are generally small scale maps hung on the wall of each fire station to help new personnel become more familiar with the service area. Run Books, on the other hand, are large scale maps that include a series of map pages along with a street index. They are combined in to a single map book and are placed in each apparatus to supplement maps provided on the MDC.

To learn more about the elements contained in each fire service map, follow these steps:

1. Sign in to your ArcGIS organization and browse to the Fire Service Maps Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Fire Service Maps ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Fire Service Maps task item.
6. In the **Task Pane**, click the **Getting to know Fire Service Maps** task group to expand the collection of tasks.

[Back to top](#)

7. Click on the **Understand Fire Service Maps** task and follow the steps provided.

Install ReportLab

ReportLab is a third-party Python library that can be used to create a street index in PDF format. The street index makes it easy to look up an address or street name and find the correct map page in a Fire Run Book. To install ReportLab, follow these steps:

1. Open the Fire Service Maps ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Fire Service Maps task item.
4. In the **Task Pane**, click the **Getting to know Fire Service Maps** task group to expand the collection of tasks.
5. Click on the **Install Report Lab** task and follow the steps provided.

Create fire run book

Fire Run Books include a cover page, several map pages, and a street index for each fire response district. They can be printed, placed in each apparatus, and used en-route to a call.

You will assume the role of a fire fighter responsible for producing a fire run book for your response district or fire department. The Fire Service Maps ArcGIS Pro project includes a series of tasks to help guide you through this workflow.

1. Open the Fire Service Maps ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Fire Service Maps task item.
4. In the **Task Pane**, click the **Create fire run book** task group to expand the collection of tasks.
5. Click on the **Create cover page** task. Follow the steps provided in this task and all subsequent ones.

Create station wall map

Station Wall Map are large-format wall maps that can be printed for each fire response area and hung near an engine or apparatus. The printed wall maps are used by fire personnel for route navigation before leaving the station.

You will assume the role of a fire fighter responsible for producing a station wall map for your response district. The Fire Service Maps ArcGIS Pro project includes a series of tasks to help guide you through this workflow.

1. Open the Fire Service Maps ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Fire Service Maps task item.
4. In the **Task Pane**, click the **Create station wall map** task group to expand the collection of tasks.
5. Click on the **Create station wall map** task. Follow the steps provided in this task and all subsequent ones.

[Back to top](#)

Introduction to Flood Impact Analysis

Flood Impact Analysis can be used to develop localized flooding scenarios and visualize the impact of flooding on public infrastructure, critical facilities, and vulnerable populations.

The solution allows you to understand and visualize the impact of flooding on the community by using flood depth and elevation data to analyze the impact of river flooding, storm surge, tidal surge, and sea level rise scenarios. The results of the analysis can be used to plan road closures, prioritize evacuation areas, and develop mitigation strategies. Flood Impact Analysis is typically implemented by emergency management, public works, and planning organizations that want to prepare for future flooding to protect their communities.

The Flood Impact Analysis solution allows you to prepare flood depth and elevation data, define flood impact areas, visualize the flood in 3D, and share the information with the public or other organizations.

Deploy now

This ArcGIS Solution can be deployed in your ArcGIS organization.

See [Deploy an ArcGIS Solution](#) for more information.

Requirements

The Flood Impact Analysis solution requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 - 2.9 (Advanced)
- The ArcGIS Spatial Analyst extension
- The ArcGIS 3D Analyst extension

Information products

Flood Impact Analysis includes the following information products:

Item	Description	Minimum User Type
FloodImpactAnalysis.ppkx	An ArcGIS Pro project package used by mapping technicians to create flood impact maps	GIS Professional Advanced

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Flood Impact Analysis

[Back to top](#)

Use Flood Impact Analysis

The Flood Impact Analysis solution delivers a set of capabilities that help you to prepare flood depth and elevation data, define flood impact areas, visualize the flood in 3D, and share the information with the public or other organizations.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Get to know Flood Impact Analysis

You will assume the role of a mapping technician responsible for analyzing the potential flood impact for your community. The Flood Impact Analysis ArcGIS Pro project includes a series of tasks to help guide you through these workflows. The first set of tasks will help you get to know Flood Impact Analysis.

Get to know Flood Impact Analysis by completing the following steps:

1. Start ArcGIS Pro and open the Flood Impact Analysis project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Getting to know Flood Impact Analysis** task and go through each subtask.

Understand the Flood Impact Analysis solution

Flood Impact Analysis supports a series of workflows that streamline the process of developing flooding scenarios to help plan for a flood event. These workflows include preparing the data for analysis, defining the flood impact area and the impact on infrastructure, facilities and buildings, sharing the flood impact information, visualizing the flood impact in 3D, and sharing the impact in 3D.

This task will introduce you to the capabilities, data requirements to analyze flood impact, and visualization in 3D.

Download sample data

Sample data is provided to help you learn how to use the Flood Impact Analysis solution. A link is provided to download sample data for Baltimore. Using the sample data the first time will help you learn how to use the tasks and how to organize your data.

Start using Flood Impact Analysis

The Flood Impact Analysis project includes a task workflow that provides a structured sequence using tasks and steps. Follow the steps in this task to learn how to use the Flood Impact Analysis solution.

How to use Flood Impact Analysis

You will assume the role of a mapping technician responsible for creating the flood impact analysis and sharing the results with emergency management, public works, and planning agencies. The Flood Impact Analysis ArcGIS Pro project includes a series of tasks to help guide you through the workflows below.

To conduct the flood impact analysis, complete the following steps:

1. Start ArcGIS Pro and open the Flood Impact Analysis project.

[Back to top](#)

2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **How to use Flood Impact Analysis** task.
4. In the **Task Pane**, click the **How to use Flood Impact Analysis** task group to expand the collection of tasks.
5. Follow the steps in each task.

Prepare flood depth and elevation data

Accurate analysis and visualization of the flood impact analysis will depend on several factors such as: availability of flood depth data in the form of raster, ground elevation data such as Digital Terrain Model (DTM) or lidar, and features describing the assets to be analyzed such as roads, bridges, and buildings. The data preparation workflow includes a series of tasks to help prepare the data for analysis. A description for each task in this group is listed below.

Prepare flood depth rasters

Flood depth data is necessary to determine flood impact to the community at each flood stage. Flood depth grids or raster files contain a flood depth value within each cell in the raster. Flood depth at a given point can help determine the impact to buildings, roads, or bridges.

The risk value for each raster is read from the riskTypeTable for the chosen risk type. You can find the riskTypeTable in the FloodImpactAnalysis.gdb. You can use the existing risk types, modify them, or you can add another entry.

To remove negative values, extract flooded areas, and create the flood depth geodatabase, follow the steps in the **Prepare flood depth rasters** task.

Prepare a water surface elevation raster

Water surface elevation (WSE) includes a value within each raster grid cell. However, the value describes the elevation of the water surface within each grid cell and is a measurement from a fixed zero elevation such as provided in the NAVD88 vertical datum. Water surface elevation data can be used to calculate bridge heights above flood stages and to visualize the flood stages as 3D surfaces.

To create a water surface elevation raster, extract flooded areas, and create the water surface elevation input geodatabase, follow the steps in the **Prepare water surface elevation raster** task.

Define flood impact

Effective flood response planning begins with a better understanding of the potential flood impact. This task is designed to step through a standardized process to create and analyze the impact of each flood scenario on your community. A flood scenario can be defined in the risk type table as a percent chance of flooding, historical average such as 100 year, or number of feet above normal. A description for each task in this group is listed below.

Create flood impact areas

The flood impact area defines the geographic extent for each flood depth scenario. The flood depth data prepared in the **Prepare flood depth and elevation data** task group will be used to create the flood impact area. These flood impact areas will be the foundation for analyzing impact to buildings, roads, or bridges in each of the subsequent tasks.

To create flood impact areas and add them to the map, follow the steps in the **Create flood impact areas** task.

Analyze roads

This task allows you to analyze impacted roads by calculating depth of flooding for each road segment for any number of flood levels. The flooded roads can be an impediment to successful evacuations for first responders and community members when it is unknown which roads will be impacted. You can also symbolize the impacted roads for each flood impact area. The result will be a new feature class representing road segments with a depth attribute for each flood scenario.

To analyze impacted roads and symbolize the impact, follow the steps in the **Analyze roads** task.

Analyze low water crossings

This task allows you to calculate depth of flooding for each low-level crossing for each flood scenario. The result can be used to identify watch points for observers to report flood depth during the flooding event. The parameters for this step are similar to the road flood depth except for the buffer distance. If this distance is specified to be greater than zero, the analysis will run against the buffered input features. This parameter helps you find points within the buffer distance that have been misplaced. You can then symbolize the low-level crossings by flood depth.

To identify low water crossings and symbolize the impact, follow the steps in the **Analyze low water crossings** task.

Analyze bridges

Use this task to calculate the bridge height above flood water surface for each flood scenario. Some bridges may have one side that is lower than the other. The bridge geometry is needed to calculate the height above the water surface instead of a single point along the bridge. Therefore, the bridge needs to be a 3D polygon feature instead of a 2D feature. This task will extract bridge surfaces from a lidar point cloud as 3D polygons, so they can be used in the next task to determine the height above flood level.

Note:

This task requires lidar point data stored in a [LAS dataset](#) . The bridge surfaces must have a separate class code in the LAS dataset.

Note:

This task requires that you have a water surface elevation (WSE) geodatabase as described in the **Prepare flood depth and elevation data** task.

Tip:

The result of this task is a new point feature with the minimum height above water surface for each water level in the WSE geodatabase. You can label the point with the minimum

height attribute value to show how much clearance there will be below the bridge or how deep the water will be over the bridge if the height above water has a negative value.

To analyze impacted bridges and symbolize the impact, follow the steps in the **Analyze bridges** task.

Analyze buildings

Understanding building exposure to flooding can help response personnel prioritize evacuations and stage equipment where it can be used effectively. It can also help mitigation planners understand buildings that are good candidates for purchase and removal. Use this task to calculate flood exposure on building polygons or 3D building multipatch feature layers. The tool will use your water depth geodatabase and the specified risk type to calculate the flood depth exposure to each building within the flood impact area. You can then symbolize the features according to the calculated flood exposure attribute such as the flood depth. Using a graduated color ramp will allow you to illustrate the severity of the building exposure.

To analyze impacted buildings and symbolize the impact, follow the steps in the **Analyze buildings** task.

Share flood impact information (optional)

Once the analysis is completed, share the results with community stakeholders who can use the information to begin flood response or mitigation planning. Use this task to choose which flood impact layers to share, such as the flood impact area, impacted roads, bridges, and buildings for each flood scenario. Share the results for each flood scenario.

Note:

These tasks require ArcGIS Online or ArcGIS Enterprise 10.5 or later.

To allow others to see the results of the analysis, follow the steps in the **Share flood impact information** task.

Visualize flood scenarios in 3D (optional)

The best way to communicate the impact of a flood scenario is to show how it will impact homes, streets, bridges, and neighborhoods. Visualizing the flood scenario in a 3D scene is a compelling way to communicate the potential flood impact in your community.

Note:

These tasks require ArcGIS Online or ArcGIS Enterprise 10.5 or later.

Show flood impact map in 3D

This task allows you to convert the map containing the results of the flood impact analysis to a 3D scene using 3D symbology and scene elevation. A digital terrain model (DTM) raster can be added to the 3D scene to provide a realistic scene for illustrating the impact of the flood.

Create 3D flood levels from raster

This task allows you to create 3D flood levels from raster input data. The result is a 3D version of the 2D raster data. For example, you may want to show a flood impact area at 5 feet against a building to illustrate the depth of flood on the building.

Source 3D basemap data (optional)

Visualization of 3D flood levels is more powerful when shown together with other 3D layers such as 3D buildings, 3D trees, and detailed elevation. Use your organization's 3D basemap to complement your flood impact map. If your organization does not have a 3D basemap, use 3D Basemaps to create your own 3D buildings, trees, and elevation surface.

Create a depth elevation raster

A depth elevation raster can improve the visualization of flood impact in 3D scenes, particularly in flood scenarios with very shallow flooding. Use the **Create depth elevation raster** task to create the depth elevation raster. You can repeat this task for every water surface elevation (WSE) raster.

To convert the map to a 3D scene and add the depth elevation raster, follow the tasks in the **Visualize flood scenarios in 3D** task group.

Publish a 3D flood impact scene (optional)

Once the task to visualize 3D flood scenarios is completed, you can publish a 3D web scene for your flood impact scenarios. The 3D web scene can be shared with stakeholders who are responsible for flood response planning and flood mitigation planning.

Note:

These tasks require ArcGIS Online or ArcGIS Enterprise 10.5 or later.

Publish a 3D flood impact scene

Use this task to set the coordinate system and publish the new 3D scene to ArcGIS Online or your organization.

Share the depth elevation raster

Use this task to share the depth elevation raster that was created previously to help improve the visualization of the 3D scene.

To share the flood impact in 3D, follow the tasks in the **Share 3D flood impact scene** task group.

After you have shared the 3D scene and depth elevation raster, you can view the results of the Flood Impact Analysis in a Scene Viewer in ArcGIS Online or ArcGIS Enterprise. Share the scene with your colleagues to help them understand the impact of local flooding on your community.

Fusion Center

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Fusion Center

Fusion Center can be used to conduct threat mitigation on incidents affecting organizational assets from multiple event feeds.

Understanding risk is achieved by using different sources of information to validate threats to each asset. Organizations have operators responsible for using best practices to detect, analyze, and alert others of any incidents that may impact the client's people, products, property, or brand image. These may range from extreme weather conditions, political instability, crime, terror, to technical failures. When a threat has been detected, the process of threat mitigation begins, allowing the organizational leaders to understand the steps that need to be taken or have been taken to remove the detected threat. Fusion Center is typically implemented by organizations that want to manage threats impacting business operations.

The Fusion Center solution delivers a set of capabilities to correlate information from multiple event layers and assess the impact to an organization's assets such as facilities, employee home locations, and travelers.

Requirements

Fusion Center requires the following:

- ArcGIS Enterprise 10.9
- ArcGIS Pro 2.6 - 2.7 (Basic)

Note:

To use this solution ensure the following content and services are enabled and configured in ArcGIS Enterprise: [GeoEnrichment Service](#), [directions and routing utility service](#), [Living Atlas content](#) and Living Atlas subscriber content.

Information products

Fusion Center includes the following information products:

[Back to top](#)

Item	Description	Minimum user type
Dataminr Alerts Dashboard	An ArcGIS Dashboards app used to visualize and interact with incidents from Dataminr	Viewer
Factual Incidents Dashboard	An ArcGIS Dashboards app used to visualize and interact with incidents from Factual	Viewer
Multi Source Data Feeds Desktop	An ArcGIS Pro project package used to connect and ingest data feeds from a variety of data providers	Editor
Facility Manager	An ArcGIS Web AppBuilder app used by organizations to manage their facilities	Editor
Incident Monitor Dashboard	An ArcGIS Dashboards app used to visualize impacted facilities	Editor
Incident Manager	A Crowdsourcing Manager app used to mitigate threats	Editor
Logging Dashboard	An ArcGIS Dashboards app used to display the status of the task running in Windows Task Scheduler	Viewer
Tactical Analysis	An ArcGIS Web AppBuilder app used to create assessment reports based on impacted facilities	Editor
Fusion Center Desktop	An ArcGIS Pro project package used to connect event layers to understand impacted facilities	GIS Professional Basic
FacilitySource	An Excel document that can be used to load and validate an authoritative list of facilities into ArcGIS	Not required

Release notes

The following are the release notes:

Version	Description
1.3	<ul style="list-style-type: none"> An enhancement to the Tactical Analysis app to improve performance and report creation. An enhancement to the Incident Manager app to support email updates, for a single event, impacting multiple facilities at one time.
1.2	<ul style="list-style-type: none"> An update to the ArcGIS Pro project, maps and apps to simplify the deployment of the Fusion Center solution.
1.0	<ul style="list-style-type: none"> First release of Fusion Center.

[Back to top](#)

Configure Fusion Center

In this topic, you will learn how to configure the Fusion Center solution to meet specific needs in your organization

Prevent duplicate records

To support the updating of data using the Append Data to Layer and to ensure accurate statistics within the information products of the solution. You'll need to add an attribute index which applies a [unique constraint](#) to facility_id field in the facilities layer.

To add an unique constraint, complete the steps below:

1. Sign in to your ArcGIS Enterprise portal.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Facilities in the search box.
4. On the left under **Folders**, click the folder Fusion Center was deployed to.
5. On the right side of the page, click **Facilities** to view it details.
6. Under the **Layers** section, click **Facilities**.
7. In the URL section , click **View**.
A new tab opens into the ArcGIS REST Service Directory for this item.
8. In the URL bar of the browser, edit the URL with the following changes:
 - a. Add the word admin between /rest/ and /services/. (For example: ArcGIS/rest/admin/services/facilities.)
 - b. Scroll to the bottom of the page and click on **Add to Definition**.
 - c. A window appears where you will be entering JSON to add an index to the layer.
 - d. In the text box , copy the following:

```
{
  "indexes" : [{
    "name" : "facility_id_Index",
    "fields" : "facility_id",
    "isAscending" : false,
    "isUnique" : true,
    "description" : ""
  }]
}
```
 - e. Click **Add To Layer Definition** to commit update.
The following message will appear if add was successful. {"success": true}
9. In the browser, return to the Facilities layer tab and click on the **Data** tab.
10. Click the **Fields** and click on Facility ID.
This page reveals the properties for the facility_id field. Under **Settings**, the **Unique** field is set to Yes.

Review the Fusion Center project

The Fusion Center solution includes an ArcGIS Pro project. Before configuring the solution and using the workflows with your data, familiarize yourself with the contents of the Fusion Center Desktop project.

To review, complete the following steps:

1. Start ArcGIS Pro.

Note:

Ensure you are [signed in to](#) the user name where Fusion Center was deployed.

2. In the lower left corner, click **Open another project**.
3. In the left pane, under **Portal**, click **My Content** and browse to the folder where Fusion Center was deployed. Select Fusion Center Desktop and click **OK** to open.
4. Click the **View** tab along the top of the ribbon.
5. Click **Tasks** in the **Windows** group to open the Fusion Center tasks to configure, manage, and automate the setup and use of the Fusion Center Desktop solution.

Extract the environment

The Fusion Center solution uses the Fusion Center Desktop package to set up and configure the solution. In this topic, you will extract the zip file into the folder location where the ArcGIS Pro package was placed.

Note:

The workflow assumes that you have the task pane open from the Review the Fusion Center project workflow list above.

Note:

The default location for the ArcGIS Pro package is
C:\Users\\Documents\ArcGIS\Packages\

1. Click step 1, **Extract the Fusion Center Environment**.
The group will expand in the task list.
2. Click **Extract the Fusion Center Solution Tools** in the task list.
3. Click **Finish**.
This will unzip the zip file, adding a new folder named **Profiling**, which will be located in the **Fusion Center Desktop** folder. You can explore in the **Catalog Pane** under **Project > Folders**.

Create an ArcGIS profile

The Fusion Center solution will need access to your ArcGIS credentials. To create your profile and store that profile in Windows Credentials Manager, complete the following steps:

Note:

The workflow assumes that you have the task pane open from the Review the Fusion Center project workflow list above.

1. Click **Create An ArcGIS Profile** in the task list.
The group will expand in the task list.
2. Click **Create ArcGIS Credential Profile** in the task list.
3. Enter the URL of your ArcGIS organization.
4. Enter the ArcGIS user name.
5. Enter the password.
6. Enter the profile name that will be used to store the credentials.
7. Click **Finish**.
When you click finish, the tool will store the credentials in Windows Credential Manager and update the profile script configuration file.

Configure event feeds

In this workflow, you will set the event feeds that will be used by the Fusion Center solution. These steps will allow the event layers to be set to enabled and updated with item IDs.

1. Click **Configure the Event Feeds** in the task list.
The group will expand in the task list.
2. Click **Setting Event Inputs for the Configuration File** in the task list.
3. Read the overview information and click **Next Step**.
4. In the drop-down menu, click **Select a Section** to choose an event layer and set that event layer to **enabled** if you want to have it as an input.

Note:

The configuration file has 10 event inputs with some enabled and some disabled. Choose each event number section and update information from each of these.

5. Choose event section 1 or 2 to update status and item IDs for Dataminr and Factual.

Note:

If you just deployed Multi Source Data Feeds, this section should be configured with the proper **item ids**.

Load data

There are a few options when loading facility data, depending on the format of your facility data. To load facilities data, complete the following steps:

1. Click **Load Facility Data** in the task list.
The group will expand in the task list.
2. There are three choices that allow the loading of facility data.
 - Validate Data and Append to a feature service

Note:

Use this option if you want to validate your facility data before importing. This includes ensuring unique **Facility IDs**.

- Append Data

Note:

Use this option if you have facility data in a feature class and an existing hosted feature layer.

- Append Data through ArcGIS Online

Note:

Use this option if you want to use the **Update Data** option in ArcGIS Online.

Once the steps have been finished, the facilities will be loaded and you can move on to creating geofences.

Create geofences

Once you have facilities loaded into the facility data, you can create geofences around those locations.

1. Click **Creating Geofenced Boundaries** in the task list.
The group will expand in the task list.
2. Click **Create Geofence Boundaries** in the task list.
3. Read the overview in the first step on how geofences are created. Then click **Run**.
4. Click the folder icon on the first input to add the facilities layer as an input.

Note:

A window will appear to allow you to add content from your ArcGIS organization.

5. Click **My Content** under the portal directory.
6. Select the folder where Fusion Center was deployed.

[Back to top](#)

7. Select the **Facilities** feature service and click **Open**.

Note:

This will navigate you to the layers part of the facilities layer.

8. Select the **Facilities** layer and click **Open**.

Note:

Repeat steps 2 through 8 to add geofences to the **Facility Geofence Boundary** layer as the second input.

9. Input a desired distance.
10. Choose a unit of measure for the desired distance.

Deploy the profiling tool

This set of tasks will help deploy the profiling tool as a scheduled task that, at default, will run every three minutes. This tool will identify new incidents from event layers that intersect the geofence boundaries surrounding each facility.

1. Click **Deploying the Profile Tool** in the task list.
The group will expand in the task list.
2. Click **Configuring Windows Task Scheduler** in the task list.
3. Read the overview information and click **Next Step**.
4. Click **Finish**.

Note:

The profile tool has been deployed as a task in Windows Task Scheduler.

Use Fusion Center

Fusion Center delivers a set of capabilities that allows an organization to mitigate threats to their organization. This is achieved by combining a variety of event layers into threat and hazard layers, to understand what facilities have been impacted.

In this topic, you'll learn how to use the Fusion Center solution by assuming the role of various users in the Global Security Operations Center (GSOC) and perform the following workflows.

Assess the threat status

You will assume the role of a security analyst responsible for assessing the incident impact on the organizational footprint.

1. In a browser, open the Incident Monitor Dashboard.
2. Click a facility from the **Impacted Facilities** list.

Note:

This will filter the list of incidents to the incidents that are affecting the selected facility.

3. Click the **Incident List** tab in the lower left corner of the dashboard.

Note:

This list shows all the incidents that are affecting the facility that was selected in the **Incident List**, and the map shows only those incidents as well.

4. Click the **Incident Overview** tab at the bottom of the dashboard.

Note:

The dashboard displays a complete breakdown of incidents by status **Incident List**, and the map shows only those incidents as well.

Change the incident status

When an incident has been identified as a threat to a facility, an analyst in the GSOC must gather information about the incident. This process is called threat mitigation.

1. In a browser, open the Incident Monitor Dashboard.
2. Click a facility from the **Impacted Facilities** list.

Note:

This will filter the list of incidents to the incidents that are affecting the selected facility.

3. Click the **Incident List** tab in the lower left corner of the dashboard.

[Back to top](#)

Note:

This list shows all the incidents that are affecting the facility that was selected in the **Incident List**, and the map shows only those incidents as well.

4. Click an incident in the **Incident List** to pan to the incident.

Note:

The pop-up for this incident will appear, providing more information about the incident.

5. Click the **Incident Source** button in the pop-up to access the raw information from this event feed.

Note:

The button will open a new tab to help you understand all information about the incident. Close the tab when finished and return to the Incident Monitor Dashboard.

6. Click the **Triage Incident** button in the incident pop-up.

Note:

The button will open the Incident Manager application in a new tab. The incident that was selected in the Incident Monitor Dashboard will be selected in the application.

7. Click the edit button in the lower left quadrant to change the status of this incident to **Under Review**.
8. Type any notes needed for others to understand the status in depth in the **Notes** section.
9. Click the **Save** button.

Note:

This status change will persist in the ArcGIS system.

Conduct Tactical Analysis

Throughout the threat mitigation process, further analysis may be necessary to better understand the potential impact. The Tactical Analysis app can be used to glean further information by creating reports and visualize the extent of the incident to enhance decision support.

In this workflow, you will learn how to access the Tactical Analysis app from Incident Manager and generate a set of reports that can be shared with key decision makers.

Perform Tactical Analysis

1. In a browser, open the Incident Manager application.
2. Select either **Hazards** or **Threats** to view active incidents.
3. Click an incident in the incident table.
4. Click the **Perform Tactical Analysis** button.
The Tactical Analysis app opens in a separate tab that filters all active impacts based on the facility from the selection in Incident Manager. The **Impact Summary** tool on the right displays details on the impacted facilities.
5. Click on one of the impacted facilities in the list.
6. In the pop-up, click **Click here to send email to Facility Administrator** to open your default email client.
This email will allow reports to be shared to the facility manager.
7. Minimize the email client and use any of the tools included in the app to share reports with those in your organization.
The section below provides additional guidance on creating reports that can be shared with key stakeholders.

Create Infographics and Reports

The Business Analyst tool allows you to gain social, demographic, or economic context of the community surrounding a facility, threat, or hazard in order to enhance decision support in operational response. Selecting a feature from the map enables you to generate contextual reports or infographics for your location of interest.

Note:

To use the Business Analyst widget in ArcGIS Enterprise, both the [GeoEnrichment service](#) and [Directions and Routing service](#) must be configured on the portal.

Note:

To include infographics, confirm that the [required](#) application files are installed and infographic starter templates are published to the portal so end users can run infographics from the widget.

1. In the **Impact Summary** tool, select a feature from **Impacted Facilities** list to select the feature on the map.
2. In the upper right corner, click the **Business Analyst** tool to open it.
When opened, the currently selected feature is set as the active feature for analysis.
3. Select rings, drive time, or walk time and specify desired value to create an analysis area.

Note:

If a hazard is selected, you do not need to supply a value as it will use the area extent of the feature.

4. Select a type of infographic or report and click the respective **Run** button to download a report for the analysis area.

Create Impact Reports

The **Understand Impact** tool allows you to view information and generate reports based on the impacted facilities, threats, and hazards layers.

1. In the **Impact Summary** tool, select a feature from **Impacted Facilities** list to select the feature on the map.
2. In the pop-up, click the more information button in the bottom right corner to see a list of feature actions, and choose **Set Location**.
The **Understand Impact** tool opens. By default, the tool draws a 5-mile buffer around your selected location.

In an area along the bottom of the browser, displays a series of tabs displaying information about threats, hazards, and facilities within this area.

3. Click the **Create Report** button to download the summarized information as a report.
4. Click the **Download** button to download the information in a series of csv files.
5. Click the **Create Snapshot** button to save the features within the buffer area as a series of standalone layers.

Maintain facility information

Facility Manager can be used by operators to maintain facility information, ad hoc areas of interest, and review or create geofences.

Create facilities

1. In a browser, open the Facility Manager app.
2. In the upper right corner, click the **Facility Editor** tool to open it.
3. Click **New Facility** and click anywhere on the map to add a new facility feature.
A new window appears where you can fill in facility information.

Note:

At a minimum, a unique **Facility ID** and **Facility Name** are required.

4. Click **Save**.

Edit an existing facility

1. In the upper right corner, click the **Facility Editor** tool to open it.
2. Select a facility from the map.
A new window appears where you can fill facility information.
3. Make the desired changes and click **Save**.

Add a new facility geofence boundary

1. In the upper right corner, click the **Facility Editor** tool to open it.
2. Click **Facility Geofence Boundary** and optionally select a drawing option from the drop-down list.
3. Draw a geofence around your facility of interest.

Note:

Only one geofence boundary can be drawn per facility. This boundary is used to identify whether a threat or hazard is within proximity.

4. A new window appears with the attributes for the geofence feature automatically populated based on the facility it covers.

Note:

If the geofence covers multiple facilities, you have the option to select which attributes to keep.

The geofence is linked to the facility based on the Facility ID. Ensure that the Facility ID field of the geofence is populated with the facility of interest.

5. Click **Save** to apply.

Edit an existing facility geofence boundary

1. In the upper right corner, click the **Facility Editor** tool to open it.
2. Select a geofence from the map.
A new window appears where you can update the geofence attributes. Ensure **Edit Geometry** is checked if you want to update the geometry.

Note:

To create a geofence from scratch, click **Delete** and follow the steps for adding a new facility geofence boundary.

3. Make the desired changes and click **Save**.

Gas and Pipeline Data Management for ArcGIS Enterprise

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Gas and Pipeline Data Management for ArcGIS Enterprise

Gas and Pipeline Data Management can be used to map and manage both networked and linear referenced gas and pipeline asset information in a unified environment.

The unified data management environment enables the use of both the ArcGIS Utility Network and ArcGIS Pipeline Referencing enabling pipeline asset management across the entirety of the supply chain. This solution features the Utility and Pipeline Data Model (UPDM) and includes common gas and pipeline data management workflows. Gas and Pipeline Data Management is typically implemented by vertically integrated gas utilities, and gas and hazardous liquid pipeline operators that want to an efficient way to manage gas and pipeline assets.

You can use the solution's deployment framework to experience a gas and pipeline utility network with sample data or in a single-user environment.

Requirements

Gas and Pipeline Data Management for ArcGIS Enterprise requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 (Standard or Advanced)

Information products

Gas and Pipeline Data Management for ArcGIS Enterprise includes the following information products:

Item	Description	Minimum user type
Gas and Pipeline Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with ArcGIS Utility Network user type extension

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.2	<ul style="list-style-type: none">• P_Redline was z enabled to support the ArcGIS Pipeline Referencing capabilities• ManageIsDirty setting has been changed to false for all subnetworks to improve performance in editing and validation
1.1	<ul style="list-style-type: none">• Solution name changed from Gas and Pipeline Enterprise Data Management to Gas and Pipeline Data Management for ArcGIS Enterprise.• Reduced name of sequences to less than 31 characters to support Oracle 12.1.• Renamed ID Generation Attribute Rules.• Updated the Asset Type domain from Asset_Type_Structure_Vault_Boundary to Asset_Type_Structure_Boundary_Pipeline_Pipe_Vault.
1.0	<ul style="list-style-type: none">• The first release of Gas and Pipeline Data Management for ArcGIS Enterprise.

Use Gas and Pipeline Data Management for ArcGIS Enterprise

The Gas and Pipeline Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Gas and Pipeline Data Management project guide you through creating your own utility network using the provided schema and data loading options and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your gas and pipeline utility network.

Use the instructions in the Gas and Pipeline Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Gas and Pipeline Data Management for ArcGIS Enterprise V1.2** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Gas and Pipeline Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the **Tasks** pane.

Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the Data Management Solution

The data management solution is designed for organizations that want to experience a fully functional gas and pipeline utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create and model your own utility network to behave like a gas and pipeline system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks:

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

[Back to top](#)

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes workflows for critical traces for gas and pipeline such as leak isolation. The Isolate Leak task walks through identifying a leak location and running an isolation trace to determine which devices need to be closed in order to isolate the leak.

This task group includes the following tasks:

- Isolate Leak

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following tasks:

- Add Customer Service
- Create Cathodic Protection Zone
- Extend Distribution Pipe

Install implementation Prerequisite

After exploring the sample utility network, move on to building out a utility network for your own organization. Before getting started, set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been

developed specifically to support gas and pipeline utilities to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your gas and pipeline network.

This task group includes the following tasks:

- Calculate Tolerances and Resolutions (Option - LRS/APR Only)
- Project and Remove Sample Data
- Create Modification Tables (Optional)
- Load Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Electric Data Management project, review the [Gas and Pipeline Data Management Attribute Rules](#) document.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Deploy Solution to an Enterprise Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization.

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services
- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map

[Back to top](#)

- Reset Trace Location Feature Classes
- Adjust Maps
- Share with Organization

Homeless Point-in-Time Counts

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Homeless Point-in-Time Counts

Homeless Point-in-Time Counts can be used to conduct point-in-time counts of sheltered and unsheltered homelessness individuals.

It provides the ability to rapidly conduct homelessness counts of persons experiencing homelessness who are sheltered in transitional housing, an emergency shelter and safe havens. Using field apps and location-based information to conduct point-in-time counts helps meet the requirements of Department of Housing and Urban Development (HUD) in Continuum of Care (CoC) communities. Communities that meet these requirements can increase homelessness service capability and funding. Using field apps and location-based information to conduct point-in-time counts helps Continuum of Care communities quickly summarize the extent of homelessness and streamlines requests for federal funding. Homeless Point-in-Time Counts is typically implemented by health and human services agencies that want to understand the state of homelessness and collect information necessary to redirect services, funding, and resources to those in need.

The Homeless Point-in-Time Counts solution delivers a set of capabilities that help you capture surveys during counts, visualize the extent of homelessness and filter key metrics captured in the survey, and export this information in a report that can be delivered to HUD.

Requirements

Homeless Point-in-Time Counts requires the following:

- ArcGIS Enterprise
- ArcGIS Notebook Server

Information products

Homeless Point-in-Time Counts includes the following information products:

Item	Description	Required user type
Homeless Counts	An ArcGIS Survey123 form used by health and human service agencies and their network of volunteers to conduct sheltered and unsheltered homelessness surveys	Field Worker

[Back to top](#)

Homeless Count Dashboard	An ArcGIS Dashboards app used by health and human service agencies to monitor results of a point-in-time count of sheltered and unsheltered persons experiencing homelessness	Viewer
HUD Report	An ArcGIS Notebooks app used by health and human service staff to generate a report of homelessness point in-time counts to meet Housing and Urban Development (HUD) requirements	Creator

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none"> A new version of the HUD Report notebook that resolves an issue where the point in-time observations were not calculated
1.0	<ul style="list-style-type: none"> The first release of Homeless Point-in-Time Counts

Configure Homeless Point-in-Time Counts

Learn how to configure the Homeless Point-in-Time Counts solution to meet specific needs in your organization and load your data if needed.

Extend homeless count survey

The Homeless Point-in-Time Counts solution includes a Homeless Counts survey that can be used by volunteers to conduct annual point-in-time counts. The questions provided are standard from guidance provided by the U.S. Department of Housing and Urban Development (HUD). However, you can extend this survey with your own questions. Review the pre-configured questions and adjust as necessary to remain in compliance with your organizational policies. In addition, ensure you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

When adding new questions, begin with the steps listed below. For changes such as removing questions or formatting the survey, proceed to the Modify homeless count form survey section.

To add one or more fields to a layer and recreate the views, complete the following steps:

1. Sign in to your ArcGIS Online organization and search for the Homeless Counts hosted feature layer.
2. Add a new field to a layer in the Homeless Counts hosted feature layer.

Modify homeless count survey form

To modify the Homeless Counts survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS Online organization.
3. Click Homeless Counts to download the survey.
4. Click Homeless Counts again to open the survey.
5. On the left pane, click **Open XLSForm Spreadsheet**.
6. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.
7. Revise the survey to reflect your needs.
8. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Add shelter names pick list

Organizations conducting point-in-time counts may want to add a list of selectable shelter names. Adding the shelter names as a pick list can help maintain data consistency and save time in the field.

To add your list of shelter names to a pick list, complete the following steps:

1. [Download](#) and install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click Homeless Counts to download the survey.
4. Click Homeless Counts again to open the survey.
5. On the left pane, click **Open XLSForm Spreadsheet**.
6. In the Microsoft Excel spreadsheet, click the **choices** tab.
This tab comprises all the selectable options for survey questions.
7. Update the name and label for shelter_name with your local areas shelters. Add additional shelter names and rows as needed, and if necessary delete all placeholder information.
8. Click the **survey** tab and in cell A5, change the word text to select_one shelter_name.
9. In cell I5, type in the word minimal.
10. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
11. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Note:

To view your changes in ArcGIS Survey123 Connect, on the Download Surveys page, click **Download** to download the updated survey.

Add spatial query to Homeless Count Dashboard

Organizations conducting point-in-time counts may want to add features such as neighborhoods, or city boundaries, as a spatial query to the Homeless Count Dashboard.

To add geometries as a spatial query, complete the following steps:

1. Sign in to your ArcGIS Online organization.
2. Browse to the Homeless Count Dashboard map.
3. Click **Add** and choose a layer, and then change the layer style.
4. Save the map.
5. Browse to Homeless Count Dashboard and click **Edit Dashboard**.
6. Click the arrow on the left to open the left panel. Hover over the top right corner and click Add Category Selector in the drop-down menu.

[Back to top](#)

7. In Selector Options, change **Categories Form** to **Features**. Choose your layer and click **Select Layer**.
8. Change **Selection** to **Multiple**.
9. In the **Title** text box, type in a selector's title.
10. Click the **Actions** tab on the left pane.
11. Click the **Add Action** drop-down list and choose **Filter**.
12. Click the **Add Target** drop-down list and choose an available target, exception for category, number, and date selectors. Once the target has been chosen, set the **Method** to **Spatial**.
13. Click **Done**.
14. Save the dashboard.

Use Homeless Point-in-Time Counts

Homeless Point-in-Time Counts delivers a set of capabilities that help you capture surveys during counts, visualize the extent of homelessness and filter key metrics captured in the survey, and export this information in a report that can be delivered to Department of Housing and Urban Development (HUD).

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Conduct point-in-time counts

You'll assume the role of a volunteer conducting an interview for a homeless point-in-time count.

To conduct a point in time count, follow the steps below.

1. In a browser, go to the Homeless Count survey.
2. In the Homeless Counts survey, provide the following information:

Note:

Many of the questions will appear based upon the previous answer.

Parameter	Value
Surveyor name	Type your name.
Is the person in a shelter?	Select Yes
What is the name of the shelter/program?	Type the name of the shelter or program.
What is the type of shelter/program?	Select Emergency Shelter.
Are you able to survey this person?	Select Yes
Can I have 10 minutes of your time?	Select Yes

[Back to top](#)

Did another volunteer or survey worker already ask you questions about where you are staying tonight?	Select No
Including yourself (Person 1), how many adults are there in your (their) household, who are sleeping in the same location tonight?	Type 1
How many children <18 are there in your (their) household, who are sleeping in the same location tonight?	Type 2

3. Proceed with the interview by filling in the following questions.
 - For all of the **Household Questions** text boxes, enter any values as if you were conducting the interview.
 - For Location, type an address in the search box and press Enter.
4. Click **Submit**.

Tip:

If you don't have the Survey123 mobile app, you can download it for free as a mobile app from the App Store, Google Play or Amazon. Alternatively, you can download it for free as a desktop app from the ArcGIS Survey123 resource page.

Visualize point-in-time data

You'll assume the role of staff from a health and human service agency that want to see the results in real time of the point-in-time count.

1. In a browser, go to the Homeless Count Dashboard.
2. Zoom around on the map to note how the heat map changes based upon the extent of the map.
All information entered in the Homeless Counts survey automatically appears in this dashboard when submitted.
3. To the left of the app, click the arrow to expand the pane to filter.
4. Under **Gender**, click Male. Notice how the map and all associated charts change.
5. Under **Gender**, click All.
Examine the other filters on the map.
6. Close the dashboard when done exploring the various filters.

Examine point-in-time data details

You'll assume the role of staff from a health and human service agency that wants to see more in-depth results from the point-in-time data.

1. In a browser, go to the **Homeless Point-in-Time Count Survey** site and sign in.
2. Click the Homeless Count survey.

[Back to top](#)

3. Click the **Analyze** tab.
4. Scroll down to examine the various questions that were asked during the survey. The results will visualize the data differently depending on the type of data collected.
5. Click the **Filter** button in the upper left corner of the app.
6. Select **What is the type of shelter/program?** in the **Surveyor name** drop-down menu.
7. Select **Emergency Shelter** in the drop-down list for the value.
8. In the bottom of the filter panel, click **Apply**.
All of the associated data and charts are now filtered.
9. In the upper right corner of the app in the green bar, click **Data**.
10. Click any individual record in the table to see the details of that survey.

Tip:

You can export the data and create reports from this data.

Generate HUD Report

The Department of Housing and Urban Development (HUD) has specific guidelines that govern how Continuums of Care must report the results of their point-in-time counts. The Homeless Point in Time solution accounts for these requirements in the data schema and provides a tool that generates a Microsoft Excel workbook in the format required by HUD.

Note:

1. In a browser, go to your content in your ArcGIS organization and find the HUD Report ArcGIS Notebook included with the solution.
2. Browse the instructions included with the notebook.

Note:

There are two cells that need to be executed. The first allows the notebook to create Excel spreadsheets and may take a few minutes to execute. The second cell creates the spreadsheet.

3. Upon completion of the notebook, click the link to the report and download the spreadsheet.
This HUD Report is a summary of all the individual point-in-time surveys that were conducted compiled with metrics that can then be shared with HUD. Each HUD Report is given a date time stamp and stored in your ArcGIS Online account for future reference.

Homeless Risk Reduction

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Homeless Risk Reduction

Homeless Risk Reduction can be used to identify where regular reports of homeless activity may originate and address regular reports of homelessness activity in a community.

It provides the ability to leverage continual reports of homeless individuals and encampments in the community and identify which areas are at risk for generating homelessness. This collaborative approach between the public and local government agencies help determine where resources can be deployed to assess the situation, offer services to homeless persons, and determine if additional steps are required. Homeless Risk Reduction is typically implemented by health and human services agencies that want to proactively address homelessness and connect homeless individuals with available resources.

The Homeless Risk Reduction solution delivers a set of capabilities that help you understand where homelessness may originate in your community and actively monitor regular reports of homelessness so assistance can be offered to individuals in need.

Requirements

Homeless Risk Reduction requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.7 - 2.9

Information products

Homeless Risk Reduction includes the following information products:

Item	Description	Minimum user type
Homeless Activity Reporter	An ArcGIS Survey123 form used by organizational staff or the public to report the locations of homeless individuals and encampments in the community	Fieldworker
Homeless Activity Manager	A Crowdsense Manager app used by health and human service agencies to manage reports of homeless individuals and encampments in the community	Editor

[Back to top](#)

Homeless Activity Dashboard	An ArcGIS Dashboards app used by health and human service agencies to monitor reports of homeless individuals and encampments in the community	Viewer
Homeless Risk Reduction	An ArcGIS Pro project used by data analysts to learn which areas in their community are at risk for generating homelessness and how to prioritize and site intervention programs	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none"> A new version of the Homeless Risk Reduction ArcGIS Pro project that leverages the Enrich geoprocessing tool.
1.0	<ul style="list-style-type: none"> First release of Homeless Risk Reduction

Use Homeless Risk Reduction

The Homeless Risk Reduction solution delivers a set of capabilities that help you understand where regular reports of homeless activity may originate in your community and actively monitor regular reports of homelessness so assistance can be offered to individuals in need.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Report homeless activity

In this workflow, you will assume the role of a public safety staff in your community who is reporting the location of homeless individuals and encampments in a community.

Follow these steps to report homeless activity.

1. In a browser, go to the **Homeless Activity Reporter** survey.
2. In the Homeless Activity Reporter , provide the following information:

Parameter	Value
Activity Observed	Individual
Details	Type Observed new individual in the park with a tent and dog.
Observed On	Select a date
Photo	Add a photo
Would you like to be contacted for more information?	Select Yes
Your Name	Type your name
Phone Number	Type your phone number
Email	Type your email address

[Back to top](#)

Observed at	Type location information of where you observed the activity.
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3. Click **Submit**.

Note:

While using the app in the field, you can use ArcGIS Survey123 mobile app to use your current location from your mobile device GPS.

Manage homeless reports

Health and human services personnel, public safety, and nonprofit organizations can use Homeless Activity Manager and Homeless Activity Dashboard to monitor, verify, and assign homeless reports to agencies responsible for resolving health and safety concerns or providing aid to individuals and families experiencing homelessness.

In this workflow, you'll assume the role of a staff member from a health and human service agency that wants to manage reports of homeless individuals and encampments in the community.

1. In a browser, go to the **Homeless Activity Manager**.
The Homeless Activity Manager shows a list of all reports that were made.
2. In the table, highlight the first record in the table. Verify this is the record you just submitted via the Homeless Activity Reporter .
3. On the dialog box, in the lower left, click the **Edit** record button.
4. Change the **Status** to Submitted, if necessary.
5. In the Assigned To field, select **Health and Human Services**.

Note:

In many cases, individual follow up may be needed to further document and add to ensure you are capturing an accurate representation of homelessness in your community.

6. Scroll down, if necessary, and click **Save**.

Note:

If you want to automate this process more, you can automatically send emails to individuals that are assigned. Refer to the [Survey 123 Webhooks](#) document to learn more.

Visualize homelessness

In this workflow, you'll assume the role of staff from a health and human service agency that wants to view the current state of homeless activity in your community.

1. In a browser, go to the **Homeless Activity Dashboard** app.
2. On the left under Type, check **Individual**. Explore the various filtering capabilities.
3. On the left under Date Observed, choose **Last 7 days**.

Note:

You see the report you submitted in the first workflow.

4. Close the dashboard when you are done exploring the Homeless Reports.

Identify risk of homelessness

Data analysts can use the Homeless Risk Reduction ArcGIS Pro project to learn which areas in their community are at risk for generating homelessness and how to prioritize site intervention programs. It leverages authoritative data and uses indicators such as unemployment rate, rental prices, public assistance, health insurance coverage, minority population, and number of veterans to compute a vulnerability to homelessness layer. The resulting risk surface is then used to prioritize intervention program siting. The results of this tool can be used as a foundation for public education and awareness campaigns, operational improvements, and policy discussions across an entire community.

Identify areas at risk

In this workflow, you'll assume the role of a staff member from a health and human service agency who wants to evaluate data to guide policy discussions.

1. Open the Homeless Risk Reduction ArcGIS Pro project and sign in to your ArcGIS organization.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand **Tasks** and double-click the **Homeless Risk Reduction** task.
4. Open the **Identify areas at risk of generating homelessness** task.
This task contains steps to help you define the homeless risk criteria.
5. In the **Add risk factor point data** step, select the following information.
 - In the **Target Features** parameter, select **Census Naperville**.
 - In the **Join Features** parameter, select **Assault**.
 - In the **Output Feature Class** parameter, browse to **Databases** to open the HomelessnessRiskReduction.gdb and type JoinedAssaults for the feature class in the **Name** text box.
6. Click **Run**
7. Click **Next Step**.

[Back to top](#)

8. Click the **Contents** tab.
9. Right-click the output layer from the Spatial Join tool and choose **Attribute Table**.
10. Right-click Join_Count and choose **Fields**.
11. Change Join_Count field name and field alias to AssaultCount.
12. Delete the TARGET_FID field the tool created.
13. On the **Fields** tab, in the **Changes** group, click **Save**.
14. Close the attribute table and fields table.
15. Click the **Tasks** tab.
16. Click **Next Step** to continue.
17. In the **Add key demographic data** step, fill out the information below.
 - In the **Input Features** parameter, click the drop-down menu and choose JoinedAssaults.
 - In the **Output Feature Class** parameter, browse to **Databases** to open the HomelessRiskReduction.gdb and type EnrichedDemographicData for the feature class in the **Name** text box.
18. Click **Save**.
19. To add additional variables, click the **Add** button and browse to your variable of interest.
20. Click **OK**. Repeat this step to add the remaining variables.
21. Click the **Remove variables** button.
22. Click **Run**.
23. Click **Next Step**.
24. In the **Create homeless risk surface** step, fill out the information below.
 - In the **Input Features** parameter, click the drop-down menu and select EnrichedDemographicData or your own data set.
 - In the Output Feature Class parameter, browse to **Databases** to open HomelessnessRiskReduction.gdb and type HomelessnessRiskSurface for the feature class in the **Name** text box.
25. Click **Save**.
26. In **Risk Factors (High Value)**, click the drop-down menu and choose all your high to low ranking variables.
27. In **Risk Factors (Low Value)**, click the drop-down menu and choose all your low to high ranking variables.
28. Click **Run**.

Note:

The AssaultCount field was created in a previous step after performing the join.

Based upon the factors you specified, you will see a new Risk layer appear that ranks the polygons from high to low. You can run the previous task multiple times ranking values differently. In many cases you may want to provide more inputs for data you are tracking in addition to assaults, such as known individuals that your organization has perhaps been assisting, or areas of renting issues.

29. Click the **Prioritize prevention program locations task**.
30. In **Program Design** step, fill out the information below.
 - In the **Input Features** parameter, click the drop-down menu and choose HomelessnessRiskSurface.
 - In the **Output Feature Class** parameter, browse to **Databases** to open HomelessRiskReduction.gdb and type VulnerableSurvivorsPrograms for the feature class in the **Name** text box.
31. Click **Save**.
32. In the **Contributing factors** parameter, click the drop-down menu and choose **AssaultCount** and **ACS HHs w/Public Assist Income:Percent**.
33. Type Assist Vulnerable Survivors in the **Program Name** text box.
34. Type a value in the **Number of Results** text box.
35. Click **Run**.

Repeat the above for any other programs. Use the output from your previous run as the Input Features.
36. Click **Next Step**.

The result is prioritized locations where a new program can be placed, such as a woman's shelter.

Note:

The next step allows you to finalize the program rankings. You may have many specific programs you want to act upon. Prioritizing helps you better focus your efforts.

37. Share the map as a web layer.

This allows others in your organization to see the prioritized risk factors.

Invasive Pest Inspections

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Invasive Pest Inspections

Invasive Pest Inspections can be used to establish and inspect invasive pest monitoring sites.

It streamlines the inspection of invasive pest monitoring sites that help detect and track the spread of invasive pests. This accelerated approach increases the likelihood of detecting harmful plant pests and diseases before they have an opportunity to cause significant damage to agriculture commodities. Invasive Pest Inspections is typically implemented by agriculture agencies that want to take a data-driven approach to monitoring invasive pests and diseases.

The Invasive Pest Inspections solution delivers a set of capabilities that help you establish invasive pest monitoring sites, conduct invasive pest inspections, and monitor invasive pest programs.

Requirements

Invasive Pest Inspections requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Basic, Standard, or Advanced)
- ArcGIS Survey123
- Survey123 Connect

Information products

Invasive Pest Inspections includes the following information products:

Item	Description	Minimum user type
Invasive Pest Survey: New Site	An ArcGIS Survey123 form used by mobile workers to establish a new agricultural pest monitoring site	Field Worker
Invasive Pest Survey: Site Visit	An ArcGIS Survey123 form used by mobile workers to conduct field inspections at an existing monitoring site	Field Worker

[Back to top](#)

Invasive Pest Survey: New Site Map	A map used by agriculture staff to create multiple agricultural pest monitoring sites at a single location	Editor
Invasive Pest Viewer	An ArcGIS Web AppBuilder app used by agriculture program managers to identify the impact of a suspected pest infestation on agricultural commodities and human populations	Editor
Invasive Pest Status	An ArcGIS Dashboards app used by agriculture program managers to monitor pest inspections and ensure monitoring sites are meeting federal and state goals	Viewer
Invasive Pest Reports	An ArcGIS Pro project used by mapping technicians to create invasive pest inspection reports	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Invasive Pest Inspections

Configure Invasive Pest Inspections

In this topic, you will learn how to configure the Invasive Pest Inspections solution to meet specific needs in your organization.

Load data

Invasive Pest Inspections can be used to establish and inspect invasive pest monitoring sites. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete one of the data loading workflows below.

Load data from a shapefile

You can load data for InvasivePestSurveys, AgricultureLayers, PublicSafetyLocations, and TreatmentExemptions from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Navigate to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you wish to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Create a new monitoring site

You can also create a monitoring site from scratch using the new site form in ArcGIS Survey123.

To create a monitoring site without using existing information, complete the following steps:

[Back to top](#)

1. Open ArcGIS Survey123.
2. If the Invasive Pest Survey: New Site survey has not yet been downloaded, browse to **Download Surveys** in the main menu.
3. Search for the Invasive Pest Survey: New Site survey you published and click to download it. Once it's downloaded, return to **My Surveys**.
4. Select the Invasive Pest Survey: New Site survey to open it.
5. Click the **Collect** button to start creating a new monitoring site.
6. Complete the survey by answering all the questions. This includes information about the program this site will support, the monitoring site and site contacts, the species being targeted, and the type of inspections that will take place at this monitoring site.

Note:

The form exposes more questions depending on your answers; for example, trap information is required when the inspection type includes trapping.

7. Click the check mark to submit the survey.

Create a new monitoring site at an existing location

You may want to create many monitoring sites at one site. To do this, you can use information in an existing monitoring site to prepopulate the ArcGIS Survey123 form.

1. Open the Invasive Pest Survey: New Site Map.
2. Search for an existing site using its site ID in the search bar.
3. With the pop-up open for the existing site, click the link to launch the Invasive Pest Survey: New Site.
4. When prompted, click to open ArcGIS Survey123.
The form opens with the site information prepopulated.
5. Complete the rest of the information in the form. This includes information about the program this site will support, the species being targeted, and the type of inspections that will take place at this site.
6. Once complete, click the check mark to submit the survey.

Update Survey123 Connect forms

Though Invasive Pest Survey: New Site and Invasive Pest Survey: Site Visit have been configured to gather comprehensive information on an invasive pest inspection, two updates should be made to ensure local accuracy.

Update surveyor names in the Site Visit survey

To update the surveyor names included in the survey, complete the following steps:

1. Download and install Survey123 Connect.
2. Start Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Invasive Pest Survey: Site Visit** to download the survey.
4. Click **Invasive Pest Survey: Site Visit** again to open the survey.
5. In the left panel, click **XLSForm** to open the XLSForm spreadsheet.
A Microsoft Excel spreadsheet opens.
6. In the Microsoft Excel spreadsheet, click the **Choices** tab.
This tab comprises all the selectable options for survey questions.
7. In the surveyors choice list, add or remove names and labels as needed.
8. Click **Save** to save the Microsoft Excel spreadsheet and preview your changes on the **Form Preview** tab of Survey123 Connect.
9. In Survey123 Connect, click **Publish** in the left panel to publish your changes.

Update the species target list in the Site Visit survey

To update the species target list in the Site Visit survey, complete the following steps:

1. Download and install Survey123 Connect.
2. Start Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Invasive Pest Survey: Site Visit** to download the survey.
4. Click **Invasive Pest Survey: Site Visit** again to open the survey.
5. In the left panel, click **Open** to open the XLSForm spreadsheet.
A Microsoft Excel spreadsheet opens.
6. In the Microsoft Excel spreadsheet, click the **Choices** tab.
This tab comprises all the selectable options for survey questions.
7. In the target_species choice list, add or remove names and labels as needed.
8. Save the Microsoft Excel spreadsheet and preview your changes on the **Form Preview** tab of Survey123 Connect.
9. In Survey123 Connect, click **Publish** in the left panel to publish your changes.

Use Invasive Pest Inspections

The Invasive Pest Inspections solution delivers a set of capabilities that help you establish invasive pest monitoring sites, conduct invasive pest inspections, and monitor invasive pest programs.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Conduct invasive pest inspections

The Invasive Pest Survey forms support capturing information about existing or new monitoring sites and keeping a record of site visits throughout a season. The survey forms were designed to capture information required for the Cooperative Agricultural Pest Survey (CAPS) or Farm Bill programs and in a format to report details from site visits to the National Agricultural Pest Information System (NAPIS).

After monitoring sites have been established, an abbreviated version of the Invasive Pest Survey form can be used to streamline the process for field inspectors. In this workflow, you will assume the role of an inspector who will use the ArcGIS Survey123 inbox to load your planned visits into the application, and then you will complete the streamlined form for each monitoring site from the field.

1. On a mobile device, in ArcGIS Survey123 open the Invasive Pest Survey: Site Visit form.

Tip:

If the Invasive Pest Survey: Site Visit survey has not yet been downloaded, browse to **Download Surveys** on the main menu. Search for the Invasive Pest Survey: Site Visit form that you published and click to download it. After it downloads, return to **My Surveys** and tap the form to open it.

2. Tap **Inbox** and, if no surveys appear, click **Refresh**.
3. Find your site in the list or tap **Map** to find sites near you.
4. After you find your site, tap it to open the form.
The form opens with the site information prepopulated.
5. Complete the rest of the information in the form.
6. Click the check mark to submit the survey.
7. Repeat these steps to conduct additional inspections as necessary.

Monitor invasive pest status

Now, you will assume the role of an agriculture program manager who will use the Invasive Pest Status dashboard to monitor pest inspections.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Invasive Pest Inspections solution.
2. View the Invasive Pest Status dashboard.
On the right, in the **Monitoring Sites** panel, all of the monitoring sites are listed. At the top of the panel, the total number of sites appears.
3. On the left, use filters to refine the results for site status, pest status, species, and survey type.
The results on the map and in the **Monitoring Sites** panel update.
4. At the bottom right, click the **Inspections** tab and review the inspection details.
5. At the bottom middle, click the **Monthly Comparison** tab and review the metrics.

View invasive pest impact

Next, you will continue the role of an agriculture program manager who will now use the Invasive Pest Viewer app to identify the impact of a suspected pest infestation on agricultural commodities and human populations.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Invasive Pest Inspections solution.
2. View the Invasive Pest Viewer app.
3. Use the provided drawing tools to select an area of interest.
4. View the results to understand the potential impact of invasive pests for the selected area.

Export surveys for NAPIS reporting

Invasive Pest Reports allows you to export information captured during field inspections for the CAPS or Farm Bill programs into a format that can be used to report monitoring activities to the NAPIS database.

This workflow will guide you through exporting field surveys and transforming the data structure for use in reporting to the NAPIS database.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Invasive Pest Inspections solution.
2. Download the Invasive Pest Reports desktop application template, and then unzip the folder.
3. From the unzipped folder, open the `InvasivePestReports.aprx` file in ArcGIS Pro.
4. In the **Catalog** pane, expand the **Tasks** folder, and then double-click the **Invasive Pest Monitoring** task.

[Back to top](#)

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand **How to Use Invasive Pest Reports**, if necessary, and then double-click the **Export Surveys for NAPIS Reporting** task to begin.
6. Follow the instructions in the task to export survey responses to a NAPIS report.

Know Your Zone

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Know Your Zone

Know Your Zone can be used to share multitiered evacuation zones established to help residents evacuate when a hurricane or storm occurs.

The solution provides round-the-clock access to an organization, and the location-enabled search helps residents quickly find evacuation zone information. This transparent approach improves communication with the public and promotes efficient use of transportation and public safety resources. Know Your Zone is typically implemented by emergency management agencies that want to avoid unnecessary evacuation travel, reduce congestion on traveled ways, and ease overcrowding at storm shelters.

The Know Your Zone solution delivers a set of capabilities that help you to share evacuation zones and promote current evacuation instructions when an order is issued.

Requirements

Know Your Zone requires the following:

- ArcGIS Enterprise

Information products

Know Your Zone includes the following information products:

Item	Description	Minimum user type
Know Your Zone	An ArcGIS Web AppBuilder app used by the public so residents can determine which evacuation zone they reside in and obtain evacuation notices when issued	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"><li>• First release of Know Your Zone

Configure Know Your Zone

In this topic, you will learn how to configure the solution to meet specific needs in your organization and load your data if needed.

Load evacuation zones

You may have evacuation zones that you would like to use in the Know Your Zone solution. To do so, you will need to load your data into the evacuation layer schema provided with the app.

Note:

To append your data, it must be in a shapefile format.

To load your facilities information from another data source, complete the following steps:

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Know Your Zone in the search box.
4. Under **Item Type**, click **Layers**, then click **Feature Layers**.

Note:

Some of the feature layers have a suffix such as **public**. These are layer views of the original source feature layer. These layer views are used to share information with the public without showing all the details or allowing the public to edit the layers. The original source layers do not have a suffix.

5. Click the title of the original source layer into which you want to load data to view the item details.
6. Click **Update Data**, then click **Append Data to Layer**.
7. Under **Filename**, choose your shapefile.
8. Click **Upload**, then click **Continue**.
9. Click **Show field matching** to match the fields from the spreadsheet to the fields in the selected feature layer.
10. After you have matched the fields, click **Apply Updates**.
11. Click the **Data** tab on the banner of the item page to confirm your data has loaded successfully.

Tip:

If you plan on using the Know Your Zone app to communicate active evacuation notices, you will need to set the **Active Incident** field in the Evacuation feature layer to **Yes** to ensure it is visible on the map.

Note:

When you deploy the Emergency Management Operations solution and the Know Your Zone solution and both solutions are owned by the same user, the Evacuations layer is shared between both solutions. This allows the emergency evacuation status to be updated using the Operations Response app. The updates are visible in Know Your Zone and other apps that are part of the Emergency Operations solution.

Enable evacuation status

When a storm is approaching, emergency managers can configure Know Your Zone to identify zones that are most at risk. Evacuation status can be enabled on each high-risk zone. This information can be shared with the media and residents so they will know what zone they are in and when to evacuate.

To enable evacuation status, complete the following steps:

1. If necessary, sign in to your ArcGIS organization.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Know Your Zone in the search box.
4. **Open in Map Viewer** the Know Your Zone web map.
5. Turn on the **Active Evacuation Notices** layer.
6. Turn off the **Your Evacuation Zone** layer.
7. Click **Save** to save the map.
8. Open the **Know Your Zone web application** item page and click **Edit Application**.
9. On the banner at the top of the left panel, click the **Widget** button.
10. Click **Set the widgets in this controller**.
11. Click the edit button to edit the **Find Your Zone widget**.
12. On the **Search Settings** tab, click **Set**, and check the box to add the **Active Evacuations Notices** layer to the search layers and uncheck the box to remove the **Your Evacuation Zones** layer.
13. Click **OK** to save the Select search layers changes.
14. Click **OK** to save the changes to the **Configure Find Your Zone** window.
15. Click **Save** to save the changes to the Know Your Zone web app.

Note:

To test your changes, you will need to load some evacuation zones into both the multitiered evacuation zones and evacuations layers. You will need to populate the **Evacuation Zone**, **Evacuations Type**, and **Starts** fields to see the results.

16. After you load data into the evacuations layer, open the web app to test the configuration changes.
17. Enter an address or click a location within the orange evacuation areas.

The result of the search will indicate the evacuation zone and status of the specified address. In this case, the address is in Evacuation Zone B and the status is Voluntary Evacuation Notice.

18. Click one of the **red** evacuation areas (Evacuation Zone A).

Use Know Your Zone

The Know Your Zone solution delivers a set of capabilities that help you to share evacuation zones and promote current evacuation instructions when an order is issued.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Find your zone

Know Your Zone can be used by the public to locate an address or place and obtain information about the evacuation zone and current evacuation status of that location. Search for an address in the search bar or click a location directly on the map to define the location to be searched.

In this workflow, you will assume the role of a resident in Baltimore who wants to know in which evacuation zone you're located.

1. In a browser, from the Know Your Zone solution, view the Know Your Zone app.
2. On the right, in the **Find Your Zone** panel, type the address.
The map zooms to the location, and the result that displays in the panel indicates in which evacuation zone, if any, the address is located.
You can also find evacuation zone information by clicking a point on the map.
3. On the map, click a point.
On the right, the results indicate in which evacuation zone, if any, the point that you clicked resides.
4. Close the Know Your Zone app.

Note:

When a storm is approaching and evacuation orders are implemented, Know Your Zone can be configured to inform users of the current evacuation status of each zone. See [Configure Know Your Zone](#) to learn more.

Land Use Outreach

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Land Use Outreach

Land Use Outreach can be used to share development regulations, construction activity, and solicit feedback on current land cases from the public.

It provides 24/7 access to an organization and streamlines the development process. The inclusive approach increases public trust reduces the need to attend meetings in person, and helps government agencies harness feedback from the public to make better decisions about development in the community. Land Use Outreach is typically implemented by planning departments, public work agencies and other local government agencies that want to increase transparency and encourage public participation.

The Land Use Outreach solution delivers a set of capabilities that help you share land use, zoning and other (for example, floodplain) regulations, generate awareness about permitted construction activity and engage the public when new developments are proposed.

Requirements

Land Use Outreach requires the following:

- ArcGIS Enterprise

Information products

Land Use Outreach includes the following information products:

Item	Description	Minimum user type
Land Use Inquiry	An ArcGIS Web AppBuilder app used by the general public, developers, and real estate professionals to identify land use and zoning designations that impact the use of land	Not required
Floodplain Inquiry	An ArcGIS Web AppBuilder app used by the general public, land development companies, and real estate professionals to locate parcels impacted by FEMA floodplain boundaries	Not required
Construction Activity Tracker	An ArcGIS Web AppBuilder app used by the general public to track individual building permits and general construction activity	Not required

[Back to top](#)

Public Comment	A Crowdsourced Polling app used by the general public and other interested parties to review land use cases or capital projects and submit feedback on a given case or project	Not required
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Land Use Outreach

Configure Land Use Outreach

Learn how to configure the Land Use Outreach solution to meet specific needs in your organization.

Load data

Land Use Outreach can be used to share development regulations, construction activity, and solicit feedback on current land cases from the public. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you want to load. Then load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Data for TaxParcels, SiteAddresses, ConstructionActivity, LandUse, Zoning, OverlayDistricts, and Floodzones can be loaded from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Land Use Outreach

The Land Use Outreach solution delivers a set of capabilities that help you share land use, zoning and other (for example, floodplain) regulations, generate awareness about permitted construction activity and engage the public when new developments are proposed.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Locate a parcel impacted by a floodplain

As the general public and real estate professionals search for properties, floodplain boundaries come into consideration so that informed decisions can be made during the land development and home buying processes.

In this workflow, you will learn how to locate and view authoritative floodplain boundary information (DFIRM panels) provided by the Federal Emergency Management Agency (FEMA) using Floodplain Inquiry. You will assume the role of a resident in a local community. You want to see if a property you are interested in purchasing sits in a floodplain boundary.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Land Use Outreach solution.
2. View the Floodplain Inquiry app.
3. Search for a parcel number or address or click the location directly on the map.
4. Review the property's details, such as the parcel number, address, and if the selected property is impacted by a flood zone.

Identify land use impact

As development occurs in a community, the general public, developers, and real estate professionals must identify land use and zoning designations that affect land use.

In this workflow, you will learn how to locate and view current land use, future land use, and zoning designations using Land Use Inquiry. You will assume the role of a resident in a local community. You want to see what the current and proposed land use is for a particular property.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Land Use Outreach solution.
2. View the Land Use Inquiry app.
3. On the right, in the **Locate Regulations** widget, search for a parcel number or address or click the location directly on the map.
4. Review current land use, future land use, and current zoning designations.

Review construction activity

As development occurs in a community, the general public, developers, and real estate professionals must locate open, under review, approved, and closed building permits.

In this workflow, you will learn how to track individual building permits and general construction activity. You will assume the role of a resident in a local community. You want to check the status of a recently submitted construction permit.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Land Use Outreach solution.
2. View the Construction Activity Tracker app.
3. On the right, in the **Locate Permit** widget, search for an address, applicant name, or permit number or click the location directly on the map.
4. Review the details and current status of the construction permit.

Submit feedback in the Public Comment app

As land use cases and capital projects are reviewed in a community, the general public and other interested parties can submit feedback on a given case or project.

In this workflow, you will learn how to submit feedback and help make better development decisions in the community. You will assume the role of a resident in a local community. You want to submit feedback on a current land use case.

1. In a browser, from the Land Use Outreach solution, view the Public Comment app.
2. On the right, select a current case up for public comment; alternatively, click a case directly on the map.
3. Review the details and current status of the case.
4. Click the **Add a comment** button, complete the comment form, and click **Submit**.

Market Development

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Market Development

Market Development can be used to understand market characteristics and performance.

Executives and retail analysts need to understand the performance of the market landscape based on location. Organizations strive to increase profits by using market indicators to drive the decisions on where to close locations and open new locations. Understanding market performance based on regional and market breakdown is critical in enhancing the business strategy for decision makers. Market Development is typically implemented by organizations that want to take a data-driven approach to understand market characteristics and the performance of their business.

The Market Development solution delivers a set of capabilities that helps you visualize the overall market landscape and communicate key business metrics with decision makers.

Requirements

Market Development requires the following:

- ArcGIS Enterprise

Information products

Market Development includes the following information products:

Item	Description	Minimum user type
Market Explorer Dashboard	An ArcGIS Dashboards app used by analysts to understand the overall performance of retail stores in an organization from various geographies	Viewer
Sales Performance Dashboard	An ArcGIS Dashboards app used by analysts to understand the overall performance of each retail store in an organization	Viewer
AssetSource	An Excel document that can be used to load and validate an authoritative list of assets into ArcGIS	Not required

[Back to top](#)

SalesdataSource	A .csv file that can be used to load an authoritative dataset of sales data into ArcGIS	Not required
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.2	<ul style="list-style-type: none"> General schema update to the joined layer view.
1.0	<ul style="list-style-type: none"> First release of Market Development

Configure Market Development

In this topic, you will learn how to configure the Market Development solution to meet specific needs in your organization.

Prevent duplicate records

To support the updating of data using the Append Data to Layer and to ensure accurate statistics within the information products of the solution. You'll need to add an attribute index which applies a [unique constraint](#) to facility_id field in the facilities layer.

To add an unique constraint, complete the steps below:

1. Sign in to your ArcGIS Enterprise portal.
2. At the top of the site, click **Content**.
3. On the **My Content** tab, type Assets in the search box.
4. On the left under **Folders**, click the folder Market Development was deployed to.
5. On the right side of the page, click **Assets** to view it details.
6. Under the **Layers** section, click **Assets**.
7. In the URL section , click **View**.
A new tab opens into the ArcGIS REST Service Directory for this item.
8. In the URL bar of the browser, edit the URL with the following changes:
 - a. Add the word admin between /rest/ and /services/. (For example: ArcGIS/rest/admin/services/assets.)
 - b. Scroll to the bottom of the page and click on **Add to Definition**.
 - c. A window appears where you will be entering JSON to add an index to the layer.
 - d. In the text box , copy the following:

```
{
  "indexes" : [{
    "name" : "asset_id_Index",
    "fields" : "asset_id",
    "isAscending" : false,
    "isUnique" : true,
    "description" : ""
  }]
}
```
 - e. Click **Add To Layer Definition** to commit update.
The following message will appear if add was successful. {"success": true}
9. In the browser, return to the Assets layer tab and click on the **Data** tab.
10. Click the **Fields** and click on Asset.
This page reveals the properties for the asset_id field. Under **Settings**, the **Unique** field is set to Yes.

Load data

Information must be loaded before using the Market Explorer Dashboard and Sales Performance Dashboard. The AssetSource and SalesdataSource can be used to organize your business information before loading into ArcGIS the accompanying sales data in your organization.

Note:

Ensure you populate the Asset_ID column in the AssetSource with unique values.

You may need to load existing assets or sales data from a spreadsheet. Review the maps or applications provided with the solution and determine what, if any, source data you would like to load.

If you do not have an inventory of assets and sales data in ArcGIS, you may have them in a spreadsheet or another system you can export to a spreadsheet. If you don't have a spreadsheet already, you can use the sample .csv files included with the solution (AssetSource, SalesdataSource) to inventory your assets and sales data.

To load your assets or sales data from a spreadsheet, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the AssetSource item.
2. Open the items details page.
3. Click **Download**.
4. Edit the CSV file and populate your facility information in the document.

Note:

At a minimum, you must provide a unique Asset_ID and the latitude and longitude for each facility in the FacilitySource. If you don't have a unique ID, you can edit the CSV file in Excel and copy this formula into the first row of the facilityid column: =CONCATENATE("Asset-", TEXT(ROW(A1),"00000")). You can then drag the right corner of the cell to fill the formula down for all facilities, giving each a unique ID.

5. In your ArcGIS organization at the top of the site, click **Content**.
6. Browse to the **Assets** feature layer.
7. On the item details page, click **Update Data** and select **Append Data to Layer**.
8. Under **Filename**, choose your .csv file.
9. Click **Upload and Continue**.
10. Uncheck **Update existing features**.
11. Click **Show field matching** to map the fields.
12. Click **Apply Updates**.
13. Repeat steps 1 through 12 by downloading the SalesdataSource CSV file and updating the **Asset Sales Data** table.

To load your data for Region Overlay, Subregion Overlay, and Competitors from a shapefile or file geodatabase, complete the following steps:

1. Create a .zip file of your shapefile.

[Back to top](#)

2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Use Market Development

The Market Development solution delivers a set of capabilities that helps you visualize the overall market landscape and communicate key business metrics with decision makers.

In this topic, you will learn how to use the Market Development solution and the set of capabilities and features that it provides.

Note:

Use your organization's data or configured apps to follow these workflows.

Investigate market characteristics

The Market Explorer Dashboard application includes your organization's assets overlaid with demographic information such as median disposable income, retail goods spending, and population growth. The application allows you to conduct a series of key exploratory functions that support the visualization of markets in and around your business by region, market, or store.

Note:

Assets may represent your retail establishments, businesses you sell into, or distributors.

Visualize market characteristics

In this workflow, you'll assume the role of a business analyst who is assigned the task of exploring a particular market. You will assume that this is a market that your organization is considering extending operations within and examine the potential likelihood of growth, and communicate this with key leadership.

1. In a browser, go to the Market Explorer Dashboard application.
2. In the **Select a Region** drop-down list, select a region.
Filtering will zoom in to that specific region and automatically updates the set of metrics along the bottom of the application and the locations in the list on the right side.

Note:

The competitor indicator panel represents the number of features within the map view.

3. In the **Select a Sub-Region** drop-down list, select a sub-region.
4. In the upper right corner of the map are a set of [map settings](#). Click the layer visibility button to reveal operational layers that can be switched on or off.
5. Switch on the layer labeled USA Population growth.
6. Zoom in to a particular market to start exploring in more detail.

[Back to top](#)

Notice as you zoom in or pan around, the metrics along the bottom as well as the list on the right side update. This map-driven capability provides context into what is within your view, in and around areas of interest. Also note how the USA population growth layer dynamically updates to more granular level of detail depending on the scale.

Note:

Holding the Shift key on your keyboard enables the area selection tool in the map. This will zoom in to the extent of the selected area.

Explore the performance of your business

The Sales Performance Dashboard contains your organization's assets, with panels that represent your business sales data broken down by category and sales for each store. The application is designed to digest key information about the financial performance of your organization's assets. The functionality of the Sales Performance Dashboard is used to explore and visualize retail stores and sales information for each retail store and overall financial performance of your business by region, market, or store. The map-driven metrics provide an overview of key financial business metrics that provide insight into the market potential.

Note:

Assets may represent your retail establishments, businesses you sell into, or distributors.

Understand store performance

In this workflow, you'll assume the role of a business analyst who is assigned the task of understanding the sales performance in a particular market. You will assume that this is a market that your organization is considering extending operations within and examine the potential likelihood of growth, and communicate this with key leadership.

1. In a browser, go to the Sales Performance Dashboard
2. In the **Select a Region** drop-down list, select a region.
Filtering to the Middle Atlantic will zoom in to that specific region and automatically updates the set of metrics and locations in the list along the left side of the application.
3. In the **Select a Sub-Region** drop-down list, select a sub-region.
4. Zoom in to a specific market to start exploring in more detail.
Notice as you zoom in or pan around, the metrics and the list along the left update. This map-driven capability provides context into what is within your view, in and around areas of interest.

Note:

Holding the Shift key on your keyboard enables the area selection tool in the map. This will zoom in to the extent of the selected area.

5. In the **Select a Category** drop-down list, select a category.
Notice the metrics along the left are now only showing overall sales for that specific category, based on the assets within the map view.
6. Select an asset from the list. This will zoom to the selected feature and open the pop-up for additional sales. The metrics will also reflect the currently selected feature.
7. Optionally, to filter the assets in the list to a specific area of interest, click the button in the upper left corner of the map to enable the layer selection mode.
8. To change the selection method, click the drop-down arrow and click the lasso tool.
9. Hold the left mouse button and dynamically draw around an area of features to be selected.
Notice that the metrics and the list along the left update based on the selected features. This selection-driven capability provides an additional level of focusing based on an area of interest.

Add premium content

Esri Demographics provides ArcGIS access to global demographics and business listings and is used for mapping and analysis. Esri Demographics data supports commercial market analytics and noncommercial usages, such as economic development, planning, and at-risk population assessment. The data is accessible as dynamic web maps, data enrichment, reports, and infographics.

Market Development is configured by default with a set of information-rich demographic layers that can be used to visually explore key market characteristics.

In this workflow, you will assume the role of a business analyst who is tasked with adding new demographic content to help enhance the ability to make decisions with new context.

1. In a browser, sign in to your ArcGIS organization and click the **Content** tab.
2. On the left side, under **Folders**, click **Market Development**.
3. Click **Market Explorer (map)** to open into the item description page, then click **Open in Map Viewer**.
4. Above the contents pane, click the **Add** button, then click **Browse Living Atlas Layers**.
5. Under **Search for Layers** are a set of buttons to filter and sort layers by relevance. Click the filter button to show additional options.
6. Under the **Categories** group are a set of themes that can be selected to filter from over 4,500 layers of ArcGIS Living Atlas content. Select a theme to explore layers and select a layer to view more details.
7. Once a layer has been identified, click **Add to Map**.
8. Click the **Save** button along the upper middle of the map and click **Save**.
9. If necessary, repeat steps 1 through 8 for **Sales Performance (map)**.

Mosquito Service Requests

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Mosquito Service Requests

Mosquito Service Requests can be used to solicit reports of mosquito activity and locations of potential breeding sites from the general public.

Mosquitoes are a serious threat to public health, beyond nuisance swarms and annoying bites. During peak times, the risk for the spread of diseases such as encephalitis, yellow fever, dengue, Zika, and malaria drastically increase. 24/7 access to responsible agencies ensures mosquito activity is reported sooner and responsible agencies address problem areas faster. This accelerated approach improves the quality of life in a community and reduces risks associated with large infestations of mosquitoes. Mosquito Service Requests is typically implemented by public works and mosquito control agencies that want to take a data-driven approach to the control of mosquito populations.

The Mosquito Service Requests solution delivers a set of capabilities that help you solicit mosquito activity reports from the public, triage reports to staff and field crews for resolution and monitor the resolution of reports in a community.

Requirements

Mosquito Service Requests requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps

Information products

Mosquito Service Requests includes the following information products:

Item	Description	Minimum user type
Mosquito Control	An ArcGIS Hub site used by public works and mosquito control agencies to share how they are controlling mosquito populations and the spread of vector-borne disease	Not required
Mosquito Service Request	A Crowdsourcing Reporter app template used by the general public to submit mosquito activity reports in their community	Editor (required for public works or

[Back to top](#)

		mosquito control personnel only)
Mosquito Service Request Manager	A Crowdsourcing Manager app used by public works and mosquito control personnel to triage submitted mosquito activity reports and update the status of each report as needed	Editor
Mosquito Service Request Dashboard	An ArcGIS Dashboards app used by public works and mosquito control personnel to monitor mosquito activity reports submitted by the general public	Viewer
Mosquito Field Operations	An ArcGIS Field Maps map used by public works and mosquito control personnel to address mosquito activity reports submitted by the general public	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Mosquito Service Requests

Configure Mosquito Service Requests

Learn how to configure the Mosquito Service Requests solution to meet specific needs in your organization.


Configure the Mosquito Control site

The Mosquito Service Requests solution includes an Mosquito Control ArcGIS Hub site that your organization can configure with your own branding and use to share important mosquito control information and abatement activities with the public.

Update with organizational information

After you deploy the Mosquito Service Requests solution, the Mosquito Control site layout only requires a few updates to fit your organization's context. Follow the steps below to update the site with your organization's needs:


1. Sign in to your ArcGIS organization and browse to the Mosquito Control site.
2. Open the item page and click **Configure App**.

3. Click the edit button  to open the site editor.
4. Scroll to the statistics section under the website title. The **Requests Completed** card is already linked to the Mosquito Service Requests solution's MosquitoObservations feature layer. These stats automatically update as service requests are completed.

The Vector-borne Disease Cases statistic is provided in a text card but styled to resemble the summary statistics card; this allows you the option to manually enter a statistic of your choice, independent of the solution data. Update the **Vector-borne Disease Cases** statistic card using a metric of your choice, or replace the text card with a summary statistics card and configure it to another feature layer in this solution or a related solution (see below).


To replace the text card with a summary statistics card, click **Layout** in the side panel. Drag a **Summary Statistics** card from the side panel onto the row and position the card to the right of the **Surveillance Sites** card. Once the card is configured, hover over the

existing **Vector-borne Disease Cases** card and click the delete button  .

5. Scroll to the **Report a Problem** section, hover over the card, and click the settings button  , and then update your call center and contact information, hours, and phone number.

Note:

The **Submit a Request** button is already configured to open the Mosquito Service Request app.

6. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
7. Scroll to the **Mosquito Open Data** section, hover over the open data card, click the settings button, and update the various category links using tags, categories, or groups that reference your ArcGIS Open Data in the side panel.
8. To modify your site's footer, click **Customize Toggle**  on the side panel.
9. Click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
10. Click the **HTML** text box.
The **HTML** window appears.
11. Make the necessary changes and click **Apply**.
12. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Mosquito Service Requests solution must be shared with everyone so they can be accessed by the public on the Mosquito Control site. To share your mosquito service request items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Mosquito Service Request folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	MosquitoObservations_public
Web Map	Mosquito Service Requests
Web Mapping Application	Mosquito Service Requests
Site Application	Mosquito Control



3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Deploy related solutions

This site references content from the Mosquito Surveillance, Mosquito Treatments, and Adopt-A-Catch Basin solutions. To deploy these solutions, follow the steps in the [Deploy an ArcGIS Solutions](#) section.

Update solution references

This site has references to solutions deployed in the previous section. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Mosquito Control site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Surveillance Sites** section under the website title, hover over the card, and click the settings button .
5. In the side panel, click **Find an Item** and search for the MosquitoSurveillance_public feature layer.
6. In the search results, click the circle in the upper left corner next to MosquitoSurveillance_public.
7. In the side panel, click the **Surveillance Sites (Point)** layer. This feature layer was deployed in the previous step (part of the Mosquito Surveillance solution).
8. Click **Select**.
9. In the side panel, do the following:
 - a. For **Statistic Field**, click **Location**.
 - b. Leave **Statistic Type** as **Count**.
 - c. Expand the **Filter by Attributes** section, click the drop-down arrow, and choose **Status** as the attribute.
 - d. Click **Add**.
 - e. Click the **Status** drop-down arrow and choose **Active**.
10. Scroll to the **Surveillance** section, hover over the **Surveillance Results** card, and click the settings button.
11. Click the **Learn More** button and click **Edit**.
12. Enter the Mosquito Population Surveillance Charts app URL in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Mosquito Population Surveillance Charts app. Open the item page, click **View Application**, and copy the app URL.

13. Under **Health Concerns**, hover over the card and click the settings button.
14. Click the **Learn More** button and click **Edit**.

[Back to top](#)

15. Enter the Mosquito Health Concerns Summary app URL in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Mosquito Health Concerns Summary app. Open the item page, click **View Application**, and copy the app URL.

16. Scroll to the **Treatments** section, and under **Treatment Areas**, hover over the card and click the settings button.
17. Click the **Learn More** button and click **Edit**.
18. Enter the Mosquito Spray Areas app URL in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Mosquito Spray Areas app. Open the item page, click **View Application**, and copy the app URL.

19. Under **Exclusion Requests**, hover over the card and click the settings button.
20. Click the **Learn More** button and click **Edit**.
21. Enter the Mosquito Spray Exclusion app URL in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Mosquito Spray Exclusion app. Open the item page, click **View Application**, and copy the app URL.

22. Scroll to the **How you can help** section.
The **Take the Pledge** text is provided as a placeholder for your organization to add your own Survey123 form or organization resource. Update the **Pledge Now** button URL or remove this section if not applicable. To update the button, hover over the card and click the settings button. Click the **Pledge Now** button and click **Edit**. Enter the Survey123 form or organization resource URL in the **Link Destination** text box and click **Add Link**. Or remove the **Pledge Now** button by clicking the settings button, selecting the button text, and pressing the Backspace key.
23. Under **Adopt-A-Catch Basin**, hover over the Adopt a Catch Basin card and click the settings button.
24. Click the **Learn More** button and click **Edit**.
25. Enter the Adopt-A-Catch Basin app URL in the **Link Destination** text box and click **Add Link**.

Tip:

Browse to the Adopt-A-Catch Basin app. Open the item page, click **View Application**, and copy the app URL.

26. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Mosquito Surveillance, Mosquito Treatments, and Adopt-A-Catch Basin solution must be shared with everyone so they can be accessed by the public on the Mosquito Control site. To share your items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Mosquito Surveillance folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	MosquitoSurveillance_public
Feature Layer (hosted, view)	MosquitoHealthConcerns_public
Web Map	Mosquito Population Surveillance Charts
Web Map	Mosquito Health Concerns Summary
Web Mapping Application	Mosquito Population Surveillance Charts
Web Mapping Application	Mosquito Health Concerns Summary

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.
6. Browse to the Mosquito Treatments folder.
7. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	MosquitoTreatments_public
Feature Layer (hosted, view)	SprayExclusions_survey
Web Map	Mosquito Spray Areas

[Back to top](#)

Form	Mosquito Spray Exclusions
Web Mapping Application	Mosquito Spray Areas

8. Click **Share**.
9. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
10. Click **Update**.
11. Browse to the Adopt-A-Catch Basin folder.
12. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	CatchBasins_public
Web Map	Adopt-A-Catch Basin
Web Mapping Application	Adopt-A-Catch Basin

13. Click **Share**.
14. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
15. Click **Update**.

Share Mosquito Service Requests maps and app

For the Mosquito Service Requests app to be publicly accessible through guest and social media access, the maps and layers must be shared with everyone. Follow the steps below to share your maps and layers with everyone.

1. Click **Groups** at the top of the site.
2. Open the Mosquito Service Requests group page and click **View all group content**.

Note:

Review the maps shared to the group. The maps shared to this group will be displayed in the Mosquito Service Requests app.

3. Optionally, add a map or maps to the group by clicking the **Add items to group** and browse to the map or maps. Check the check box next to the map or maps you want to add to the group and click **Add items**.

[Back to top](#)

4. Optionally, remove a map or maps from the group by checking the check box next to the map and click **Remove from group**.
5. Click the **Settings** tab.
6. Under **Who can view this group**, click **Everyone (public)**, and click **Save**.
7. Click **Content** at the top of the site.
8. On the **My Content** tab, under **Folders**, type Mosquito Service Requests in the search box.
9. Click the **Mosquito Service Requests** folder.
10. Under **Item Type**, click **Maps**.
11. On the right side of the page, check the check box next to the maps you want to appear in the Mosquito Service Requests app, and click **Share**.
12. In the **Share** window, click **Everyone (public)** and click **Save**.
13. In the **Update sharing** window, click **OK**.

Note:

The layers associated with the maps should also be shared publicly.

14. Next to **Item Type**, click **Clear**.
15. Under **Item Type**, click **Apps**.
16. On the right side of the page, click the **Mosquito Service Request** app.
17. On the item page and click **Share**.
18. In the **Share** window, click **Everyone (public)** and click **Save**.
19. Click **View Application**.
20. Sign in to the app using one of the sign in options and review the app.

Execute Mosquito Service Requests tools

You can extend the Mosquito Service Requests solution with a set of Python tools that can be used to generate report IDs, moderate reports, send email notifications, and enrich reports. These tools can be executed automatically via Task Scheduler, and as new problem reports are submitted, or updated, the corresponding action will occur.

Add the ServiceFunctions toolbox

The ServiceFunctions toolbox contains tools for generating report IDs, moderating reports, sending email notifications, and enriching reports. Download and add the ServiceFunctions toolbox to your ArcGIS Pro project before configuring the appropriate tools.

1. [Download](#) the ServiceFunctions toolbox.
2. Browse to the ServiceSupport.zip file and unzip the file to the location from which you want to the tools to execute.
3. Open ArcGIS Pro and create a new project.

4. Sign in to the ArcGIS organization to which you deployed the Mosquito Service Requests solution, if necessary.
5. On the **View** tab, in the **Windows** group, click the **Catalog** pane, if necessary.
6. In the **Catalog** pane, right-click **Toolboxes** and choose **Add Toolbox**.
The **Add Toolbox** dialog box appears.
7. Browse to the ServiceSupport folder.
8. Click the **ServiceSupport.pyt** Python toolbox, and click **OK**.
9. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
If you've never used the ServiceSupport toolbox before, run the Define Connection Settings tool to establish a connection between the toolbox and the MosquitoObservations feature layer.
10. In the **Catalog** pane, in the **ServiceSupport.pyt** Python toolbox, double-click the **Define Connection Settings** tool.
11. In the **ArcGIS Online organization or ArcGIS Enterprise portal URL** parameter, click the drop-down arrow and choose a URL.
12. In the **Username** parameter, type your user name for the organization you chose in step 11.
13. In the **Password** parameter, type your password for the user name provided in the **Username**.
14. Click **Run**.

Generate report IDs

Many workflows require you to generate a unique identifier when a feature or record is created so it can be referenced and tracked in other workflows. You can use the Generate IDs tool to configure custom unique identifiers that will be applied to features at a regularly scheduled interval of your choosing. The tool only generates the configuration; you must run an additional script (provided) to update the features with incrementing identifier values.

Note:

You may need to add a new field to the MosquitoObservations feature layer to store the unique identifier created in this workflow.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**, if necessary.
2. Double-click the **Generate IDs** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Mosquito Service Requests** folder.
6. Double-click the **MosquitoObservations** feature layer.
7. Click **Mosquito Observations** and click **OK**.
Expand **General Identifier Settings**. If the tool has not been run previously, start by specifying at least one identifier sequence.

8. In the **Sequence Name** parameter, type a name for the sequence.
This value appears in the drop-down menu for selecting the sequence to assign to each layer.
9. In the **Pattern** parameter, type a pattern to use for the sequence.
This can be a combination of letters, numbers, and symbols. Mark the location for the incrementing value with a pair of curly braces {}. Python formatting is applied to the pattern text, so string formatting syntax such as {0:03d} pads the incrementing number section with zeros to a length of 3. For example, the expression seq-{0:05d} creates the following pattern of values: seq-00001, seq-00002, seq-00003, and so on.
10. In the **Next Value** parameter, type a value.
When initially creating the sequence, this must be the first value in the identifiers. After this point, this value shows the value to be used for the next identifier generated.
11. In the **Interval** parameter, type a value.
The interval by which the identifier values increase between features. For example, an initial Next Value of 1 and an Interval of 10 creates identifiers with the incrementing values of 1, 11, 21, and so on.

Deleting or changing these sequences impacts all the layers that are configured to use the edited sequences.
12. Optionally, edit the identifier configuration and run the tool to overwrite the existing identifier configuration for the selected layer.

Note:

If an identifier configuration already exists, a check box appears that, when checked, deletes the existing identifier configuration for the selected layer.

13. Choose the moderation list to use to process the features in the selected layer.
14. Choose the sequence to use to generate the identifiers for each feature in the layer.
15. Choose a text field to store the generated identifier.
16. Click **Run** to write out the identifier configuration for the layer and any changes to the identifier sequences.
17. To configure identifiers for another layer, rerun the tool with the settings for the next layer.

Moderate reports

Public comment apps can occasionally generate feedback that should not be made publicly visible. Data entered into specific fields, such as personal information, can be hidden and protected using the pop-up configuration and layer security, but sometimes entire comments need to be hidden to avoid displaying sensitive or explicit content to other users.

You can hide features by updating the value of a field so that it no longer meets the requirements of a filter applied to that layer in the map. You can use the **Moderate Reports** tool to configure which layers and fields to scan for explicit or sensitive words and phrases and how to update the feature so that it can be filtered from the map. You can choose how often to scan

[Back to top](#)

features and records. The tool only generates the configuration; an additional script (provided) must be run to scan the features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Moderate Reports** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Mosquito Service Requests** folder.
6. Double-click the **MosquitoObservations** feature layer.
7. Click **Mosquito Observations** and click **OK**.
Expand **General Moderation Settings**. If the tool has not been run previously, start by specifying at least one moderation list.
8. In the **List Name** parameter, type a name.
This value appears in the drop-down menu for selecting the moderation list use when scanning each layer.
9. In the **Filter Type** parameter, click the drop-down arrow and choose to scan feature for words and phrases that exactly match the provided list of words and phrases.
For example, when the filter type is EXACT, if the list contains the word duck, the script updates the specified field when the feature contains the word duck, but not when it contains the word duckling. When the filter type is FUZZY, the script updates the feature when either duck or duckling are found.
10. In the **Words and Phrases** parameter, type a word or phrase. Provide a comma-separated list of words or phrases to scan for.
Keep in mind that deleting or changing these lists will impacts all the layers that are configured to use the edited sequences.
11. If a moderation configuration already exists for the selected layer, choose to edit an existing configuration by selecting the name of the moderation list used in the configuration, or choose the option to add a new moderation configuration.
If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing moderation configuration for the selected layer. Alternatively, edit the moderation configuration and run the tool to overwrite the existing moderation configuration for the selected layer and moderation list.


To add a new moderation configuration, click the **Add New** button and continue with the following steps.
12. Choose the moderation list to use to process the features in the selected layer.
13. Choose the fields that will be scanned for content that matches the words and phrases in the selected moderation list.
14. Optionally, provide an SQL query to only apply moderation to some features.
If no query is provided, all features are processed.
15. Use the **Field to Update** parameter when a match is found between the value of a field and the content of a moderation list. Use the **Found Value** parameter to specify the value that should be written to this field indicating a match.

[Back to top](#)

16. Click **Run**.

Send email notifications

Many workflows require that an email be sent when a feature or record is created and updated. You can use the **Send Emails** tool to configure emails that can be sent based on attribute values and a schedule of your choosing. The tool only generates the configuration; you must run an additional script (provided) to actually generate and send the emails.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Send Emails** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Mosquito Service Requests** folder.
6. Double-click the **MosquitoObservations** feature layer.
7. Click **Mosquito Observations** and click **OK**.
All existing email settings for the layer load and can be edited by updating the parameter values for each configuration. To delete a single email configuration, click the **Remove** button  next to the configuration. To delete all the email configurations for the layer, check the **Delete all existing email configurations for this layer** check box. Run the tool to save your changes.
8. In the **Email Template** parameter, click **Browse** to access the ServiceSupport folder.
9. Click one of the HTML templates for the body of the email, and click **OK**.
To add attributes from the triggering feature to the email, use unique string keys in the places where the values should appear in the HTML and reference these strings in the **Find** parameter of the **Email Substitutions** section of the **General Email Settings** along with the name of the field that contains the value to be substituted for the string key in the **Replace** parameter.
10. Click one of the HTML templates for the body of the email, and click **OK**.
To add attributes from the triggering feature to the email, use unique string keys in the places where the values should appear in the HTML and reference these strings in the **Find** parameter of the **Email Substitutions** section of the **General Email Settings** along with the name of the field that contains the value to be substituted for the string key in the **Replace** parameter.
11. In the **Recipient Email Address** parameter, type an email address of the recipient or the name of a field in the layer that contains the address of the recipient.
12. In the **Email Subject** parameter, type the subject for the email.
Similar to the email body provided in the HTML document, this text can contain string keys that will be swapped out for attribute values based on the **Find** and **Replace** values defined in the Email Substitutions list in the General Email Settings section.

13. In the **Field to Update** parameter, type Email. When the email has been sent for each feature, use the **Sent Value** parameter to specify the value that should be written to this field indicating that the email has been sent.
This field and value can be used in the previously described SQL query to prevent duplicate emails from being sent.
14. Configure additional emails to be sent for the currently selected layer by clicking the **Add New** button.
Emails will be sent in the order they are configured. Expand **General Email Settings**. If the tool has not been run previously, start by specifying the connection information for your SMTP server in the tool.
15. In the **SMTP Server** parameter, type the URL of the SMTP server used for sending emails.
16. In the **SMTP Username** parameter, type the user name required to authenticate to the SMTP server. This is not required if authenticating through a port.
17. In the **SMTP Password** parameter, type the password required to authenticate to the SMTP server. This is not required if authenticating through a port.
18. In the **From Address** parameter, type the address from which the emails should be sent.
19. In the **Reply Address** parameter, type the address that should be used for any replies to the email message.
20. Check or uncheck the **Use TLS** check box to turn on or off TLS.
21. In the **Email Substitutions** section, type **Find** and **Replace** values. Swap out one piece of text for another in the outgoing email subject or body.
Anywhere a value in the **Find** parameter is found in the email subject or body, it will be replaced with the corresponding value from the **Replace** parameter. If the value in the **Replace** parameter is a field in the layer, the **Find** value will be replaced with the value in that field in the triggering feature. For example, to add the ID of a feature from the REQUESTID field to the email subject, include a piece of text such as {ID} in the configured Email Subject, and add {ID} to the **Find** parameter and REQUESTID to the **Replace** parameter. All specified substitutions are applied to all emails configured for all layers so, while the Find values can be any piece of text, it's suggested that you use something that is clearly variable-like and unlikely to appear elsewhere in the messages in a literal form.

Deleting or changing these settings impacts all the emails for all the layers configured with this tool.
22. Click **Run**.

Enrich reports

Reports made in public comment apps can be enriched with information about the report location. You can then use this information to efficiently direct the report to the correct person or agency responsible for its resolution.

You can then use the Enrich Reports tool to configure which attribute values to calculate from a coincident or intersecting set of features at a regularly scheduled interval of your choosing. Note

[Back to top](#)

that the tool only generates the configuration; you must run an additional script (provided) to update the features based on intersecting features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Enrich Reports** tool.
3. In the **Layer** parameter, click the browse button.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Mosquito Service Requests** folder.
6. Double-click the **MosquitoObservations** feature layer.
7. Click **Mosquito Observations** and click **OK**.
8. In the **Enrichment** parameter, if an enrichment configuration already exists for the selected layer, choose to either edit an existing configuration by selecting the configuration from the drop-down list, or choose the option to add a new enrichment configuration.
If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing enrichment configuration for the selected layer. Alternatively, edit the configuration and run the tool to save the changes. To add a new enrichment configuration, click the **Add New** button and continue with the following steps.
9. Choose the polygon feature layer that will provide the enriching attribute values by either choosing a layer from the active map or by browsing to your hosted content and choosing a polygon feature layer.
10. In the **Source Field** parameter, click the drop-down arrow and choose a field from the enrichment layer.
11. In the **Target Field** parameter, click the drop-down arrow and choose a field from the MosquitoObservations feature layer.
The script does not process features that already have a value in the target field.
12. In the **Priority** parameter, type a value. Specify the priority that should be given to this enrichment configuration relative to the other configurations for the MosquitoObservations feature layer.
Enrichment configurations for a layer that have a lower priority value will override enrichment configurations with a higher value. For example, a layer has two enrichment configurations that use the same target field, but one has a priority value of 1 and the other has a priority of 2. If the configuration with priority 1 does not produce a valid value for the field, the field is populated with the value produced from the configuration with priority 2.
13. Click **Run**.

Set up Task Scheduler

Use Windows Task Scheduler to schedule the script to generate report IDs when a feature or record is created, moderate reports when feedback contains inappropriate language, send email notifications when a feature or record is created or updated, or enrich reports. All the tools in this toolbox share a common configuration file and execution script, so only one scheduled task is required to automate running all the associated processes.

1. Open the Task Scheduler on the computer that is hosting the scripts.
2. Click **Action > Create Task** and name your task.
3. Click the **Action** tab and click **New**.
4. Set **Action** to **Start a Program**.
5. Browse to the location of your Python 3 installation (for example, <default directory>\C:\Program Files\ArcGIS\Pro\bin\Python\envs\arcgispro-py3\python.exe).
6. In the **Add arguments** text box, type the name of the script (servicefunctions.py).
7. In the **Start in** text box, type the path to the folder where your script is and click **OK**.
8. Click the **Trigger** tab, click **New**, and set a schedule for your task.
9. Click **OK**.

When the trigger occurs, the scripts begin scanning the configured layers and, for each one, processing (in order) configurations for generating identifiers, enriching reports, moderating reports, and sending emails.

Use Mosquito Service Requests

The Mosquito Service Requests solution delivers a set of capabilities that help you solicit mosquito activity reports from the public, triage reports to staff and field crews for resolution and monitor the resolution of reports in a community.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Report mosquito activity

You will first assume the role of a member of the community seeking information about mosquito control services. You will use the Mosquito Control site to learn about mosquito abatement services in your community and how you can report mosquito activity and potential breeding sites. Reports you submit using the Mosquito Service Request app will be immediately available to the local Mosquito Control Agency.

1. In a browser, from the Mosquito Service Requests solution, view the Mosquito Control site.
2. Scroll to the **Report a Problem** section, and then click **Submit a Request** to open the Mosquito Service Request app.

Tip:


You can jump directly to the **Report a Problem** section by clicking the **Outreach** button in the **What are we doing to help** section.

3. On the Mosquito Service Request splash page, click **Proceed as Guest**.
4. At the lower right, in the **Mosquito Reports** panel, click **Submit a Report**.
5. For **Type of Problem**, click the drop-down arrow and choose the problem type.
6. Complete the form with as much information as possible.
7. At the bottom of the form, for **Location**, type the address to set the report location; alternatively, click the location on the map.
8. Click **Report It** to submit the report.
9. At the top of the **Mosquito Reports** form, click the **Back** button.
10. At the top of the **Mosquito Reports** panel, click your problem report submission. Your problem report appears. You will be able to monitor changes to the report here as the report moves through its life cycle (Submitted, Received, In Progress, and Completed).

[Back to top](#)

Respond to mosquito reports

Next, you will assume the role of an operations manager responsible for handling submitted mosquito activity reports. You will use the Mosquito Service Request Manager app to triage submitted reports and assign reports to the field inspectors responsible for resolution.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Service Requests solution.
2. View the Mosquito Service Request Manager app.
All submitted reports are listed in the table at the top. The table can be sorted and filtered in various ways.
3. In the table, use the column header filters and arrows to filter results.
4. In the table, select a report with a status of **Submitted**.
The report details open at the lower left.
5. In the report details, click the **Edit Record** button .
6. Change the status to **Received**, and then click **Save**.
Field inspectors are ready to address the problem. You'll change the status to **In Progress** and assign the report to the specific mosquito abatement district.
7. Click the **Edit Record** button again.
8. Change the status to **In Progress**.
9. Click the **Assigned To** drop-down arrow and choose the appropriate district.
10. Click **Save**.

Update reports from the field

Now, you will assume the role of a field inspector responsible for addressing mosquito activity reports submitted by the public.

In addition to verifying and updating the status of public reports, field inspectors can also record the type of mosquitoes found on site, recommend treatments, and record any adulticide or larvicide treatments applied while on site. Status updates that are provided in the Mosquito Field Operations app will be immediately viewable to the public in the Mosquito Service Request app, and detailed information will be immediately available to operations managers in the Mosquito Service Request Dashboard app.

1. Download ArcGIS Field Maps onto your mobile device.
2. Open ArcGIS Field Maps and sign in to your ArcGIS organization.
3. Tap **Mosquito Field Operations** to open the map.
4. On the map, locate a reported problem, and then tap it to see details and additional options.
5. At the lower left, tap **Edit**.
6. Swipe up on the form and tap **Status**, and then tap **Completed**.
7. Complete the rest of the form with information from your field inspection, such as information related to the people contacted at the location; the date; observations

about the mosquitoes or larvae found on site; and what type of treatments, if any, were used.

8. If applicable, tap **Take Photo** to take and attach a photo to document any standing water or water-retaining receptacles found during the inspection.
9. When you're finished, tap **Submit**.

Monitor activity reports

Finally, you will assume the role of an operations manager responsible for overseeing mosquito abatement activity and reports submitted by the public. You will use the Mosquito Service Request Dashboard app to monitor incoming reports submitted by the public. Relevant metrics can be viewed at a glance or examined in more detail if time permits.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Service Requests solution.
2. View the Mosquito Service Request Dashboard app.
3. Review the metrics.
4. On the left, use the filters to refine the results by request type, status, or date. When you filter results, the bar charts and number of reports in the **Mosquito Reports** panel update.
5. On the right, in the **Mosquito Reports** panel, click a report to view the location.
6. Click the point on the map to get detailed report information.

Mosquito Surveillance

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Mosquito Surveillance

Mosquito Surveillance can be used to monitor mosquito populations and track the location of positive vector-borne disease test results.

Routine monitoring of larval and adult mosquito populations is critical to a successful mosquito control program. When data is tracked and compared over time, agencies can use this knowledge to predict recurring problem areas, times of year, and the potential for increased risk of vector-borne diseases. When vector-borne disease cases do arise, health and human services agencies must communicate information in a timely and effective manner with the public and mosquito control agencies. Mosquito control agencies can then use this information to plan adulticide spray operations that prevent the spread of vector-borne diseases. Mosquito Surveillance is typically implemented by public works, health and human services, and mosquito control agencies that want to use data to proactively plan spray areas and reduce the risk of vector-borne diseases.

The Mosquito Surveillance solution delivers a set of capabilities that help you record mosquito counts by species at surveillance sites; visualize trends over time; track where mosquitoes, chickens, birds, or humans have tested positive for vector-borne diseases; and share this information with internal and external stakeholders.

Requirements

Mosquito Surveillance requires the following:

- ArcGIS Enterprise

Information products

Mosquito Surveillance includes the following information products:

Item	Description	Minimum user type
Mosquito Health Concerns	An ArcGIS Web AppBuilder app used by mosquito control and public health staff to track locations where mosquitoes, chickens, birds, or humans have tested positive for a vector-borne disease	Editor

[Back to top](#)

Mosquito Health Concerns Summary	An ArcGIS Web AppBuilder app used by mosquito control and public health staff to communicate positive vector-borne disease test results to the general public	Not required
Mosquito Population Surveillance	A Crowdsourcing Polling app used by biologists and field inspectors to record mosquito counts by species at surveillance sites	Editor
Mosquito Population Surveillance Charts	An ArcGIS Web AppBuilder app used by mosquito control agencies to visualize population changes over time through informative charts	Viewer (required for internal stakeholders)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Mosquito Surveillance

Use Mosquito Surveillance

The Mosquito Surveillance solution delivers a set of capabilities that help you record mosquito counts by species at surveillance sites; visualize trends over time; track where mosquitoes, chickens, birds, or humans have tested positive for vector-borne diseases; and share this information with internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Monitor mosquito populations

You will first assume the role of a biologist with the mosquito control agency responsible for processing the samples collected at the trap sites across the community. You will use the samples to identify the species of mosquitoes and the size of the population and record the counts for each surveillance site.

You can then visualize trends and share current and historical mosquito population data with internal stakeholders. This information can also be used to educate the public about the types of mosquitoes prevalent in the area, the diseases they can carry, when they are most active, and how to best protect themselves from the spread of vector-borne diseases.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Surveillance solution.
2. View the Mosquito Population Surveillance app.
3. From the list or the map, select one of the surveillance sites.
You see the details on the site and a history of counts by species recorded in past observations.
4. Click the **Add a comment** button.
5. Fill in the counts for each species found at the surveillance site.
6. Click **Submit**.
7. Repeat these steps for each surveillance site.
You can now visualize the trends of the various species of mosquitoes at each surveillance site over time.
8. From your ArcGIS organization, view the Mosquito Population Surveillance Charts app.
9. In the **Population Charts** widget, search for a location; alternatively, click a point on the map.
10. In the widget, click a mosquito species to see the population trend for the surveillance site.

Track vector-borne diseases

You will continue your role as a biologist with the mosquito control agency. You typically send a small sampling of mosquitoes collected at each surveillance site to the lab to be tested for vector-borne disease. Dead birds are often reported or found in the community and sent for testing as well. Health departments may share with mosquito control agencies the general locations (so that personal health information is protected) where a vector-borne disease has been transmitted to a human.

You will track where mosquitoes, chickens, birds, or humans have tested positive for vector-borne diseases. This information can be used to plan adulticide spray operations that prevent the spread of a disease. It can also be used to educate the public about the types of vector-borne diseases found in the community and how they can help prevent the spread of disease.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Surveillance solution.
2. View the Mosquito Health Concerns app.
3. In the **Edit** widget, click a template.
4. Click the map to place the location at which the disease was found.
5. Complete the **Public Health Reports** form with the details of the agent carrying the disease, when it was reported, and any additional comments.
6. Click **Save**.
7. At the top of the **Edit** widget, click the **All** drop-down arrow and choose **Public Health Concerns**.

The **Public Health Concerns** template can be used to generalize the location of positive tests in a human to avoid revealing personal health information.

8. Click the **Public Health Concerns** template.
9. On the map, draw the boundary of the generalized location of the positive human case.
10. Complete the **Public Health Concerns** form with the details of the type of disease, when it was reported, and any additional comments.
11. Click **Save**.

You can now visualize locations and counts of vector-borne cases across the community.

12. From your ArcGIS organization, view the Mosquito Health Concerns Summary app.
13. In the **Health Concerns** widget, expand **Mosquito and Bird Cases** and **Human Cases** to view the counts by each disease.
14. Pan and zoom around the map to see how the counts change for different areas in the community and find areas of concentration.

Mosquito Treatments

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Mosquito Treatments

Mosquito Treatments can be used to manage adulticiding and larviciding activities and share treatment plans with the general public.

Protecting public health is at the center of all mosquito control programs, and effective treatment strategies are critical to controlling mosquito populations. Public works and mosquito control agencies use adulticides to kill adult mosquitoes and larvicides to target mosquito larvae in breeding habitats. When adulticides are applied to control mosquito populations, agencies must proactively share this information with the public and give residents an opportunity to request an exclusion or be notified prior to treatment. This ensures that individuals who have concerns about chemical treatments can avoid having their home sprayed or seek temporary shelter when spraying does occur. Mosquito Treatments is typically implemented by public works and mosquito control agencies that want to increase transparency, grow public trust, and improve relationships with the communities they serve.

The Mosquito Treatments solution delivers a set of capabilities that help you plan adulticide spraying operations, solicit requests for spray notifications and exclusions, maintain spray exclusion areas, record larvicide treatments in the field, and share spray areas with internal and external stakeholders.

Requirements

Mosquito Treatments requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps
- ArcGIS Survey123 Connect

Information products

Mosquito Treatments includes the following information products:

[Back to top](#)

Item	Description	Minimum user type
Mosquito Larvicide Reporting	An ArcGIS Field Maps map used by public works and mosquito control personnel to test larvicide sites and record any treatments applied at those sites	Field Worker
Mosquito Adulticide Planning	An ArcGIS Web AppBuilder app used by public works and mosquito control personnel to plan adulticide spraying operations and maintain spray exclusion areas	Editor
Mosquito Spray Areas	An ArcGIS Web AppBuilder app used by the general public to locate recent and planned adulticide spraying areas near their home or business	Not required
Mosquito Spray Notifications	An ArcGIS Survey123 form used by the general public to request a notification of adulticiding or larviciding near their home or business	Not required
Mosquito Spray Exclusions	An ArcGIS Survey123 form used by the general public to request an exclusion from adulticiding or larviciding near their home or business	Not required
Mosquito Spray Exclusions Manager	A Crowdsorce Manager app used by public works and mosquito control personnel to manage adulticide and larvicide exclusion requests from the general public	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Mosquito Treatments

Use Mosquito Treatments

The Mosquito Treatments solution delivers a set of capabilities that help you plan adulticide spraying operations, solicit requests for spray notifications and exclusions, maintain spray exclusion areas, record larvicide treatments in the field, and share spray areas with internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Plan spray operations

First, you will assume the role of a mosquito control agency staff member responsible for managing adulticide operations. You will use the Mosquito Adulticide Planning app to plan adulticide spray operations, update the status of spray areas to indicate whether treatments were completed, and maintain exclusion areas in the community.

Updates to adulticide treatment areas will be immediately available to the public and viewable in the Mosquito Spray Areas app.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Treatments solution.
2. View the Mosquito Adulticide Planning app.
The **Edit** widget enables you to create new and update existing adulticide treatment or treatment exemption areas.
3. To create an adulticide treatment area, click the **Adulticide Treatment Areas** template.
4. Click the map to draw the adulticide treatment area and double-click to finish drawing the polygon.
After you finish drawing the area, the **Planned Adulticide Areas** form opens in the **Edit** widget.
5. Complete the form with as much information as possible, and then click **Save**.
Existing adulticide treatment areas and treatment exemption areas can also be edited and deleted.
6. On the map, select an existing planned adulticide area.
The area's **Planned Adulticide Areas** form opens in the **Edit** widget. Here, you can correct errors, update information, or modify the area's geometry.
7. Make necessary updates to the form:
 - a. Correct errors directly in the form.
 - b. To edit the area's geometry, check the **Edit Geometry** check box, and then modify the area's vertices.

[Back to top](#)

- c. After the spray occurs, add the **Actual Spray Date** parameter.
- d. Alternatively, to delete the area, click the **Delete** button.

Updating the planned adulticide area with an actual spray date changes the symbology to show the area as an actual adulticide area.

8. Click **Save**.
You can also choose which layers are visible on the map.
9. On the right, at the top of the panel, click the **Layer List** button to open the widget.
10. To view the layer of recently treated areas, check the **Actual Adulticide Area** check box.

Locate mosquito spray areas

Now, you will assume the role of a resident in the community who is interested in learning about mosquito spraying near your home or business. You will use the Mosquito Spray Areas app to locate recent and planned adulticide spraying areas near your home.

1. In a browser, from the Mosquito Treatments solution, view the Mosquito Spray Areas app.
2. In the **Find Spray Areas** widget, search for an address; alternatively, click the location on the map.
3. In the widget, review the **Recent Spray Area** details.
The app provides details on when the spray occurred or is planned to occur, along with the method and any comments from the agency.

Request spray notifications

After reviewing recent and planned adulticide spraying in the community, you have determined that you want to be notified of future spraying. You will use the Mosquito Spray Notifications app to submit your contact information to the mosquito control agency so you can be notified of future operations.

1. In a browser, from the Mosquito Treatments solution, view the Mosquito Spray Notifications app.
2. Complete the **Mosquito Spray Notifications** form with as much information as possible.
Required fields are marked with a red asterisk. The **Request Date** field is automatically populated with the current date.
3. Click **Submit**.

Request a spray exclusion


You will now assume the role of a resident in the community with strong allergies to pesticides. You want to have your home excluded from adulticide spraying. You will use the Mosquito Spray Exclusion app to submit your exclusion request to the mosquito control agency. The

agency will review your request and may follow up for more information, and if approved, it will include your exclusion into its adulticide operation planning for future spraying.

1. In a browser, from the Mosquito Treatments solution, view the Mosquito Spray Exclusion app.
2. Complete the **Application for Pesticide Exclusion** form with as much information as possible.
Required fields are marked with a red asterisk. The **Request Date** field is automatically populated with the current date.
3. Sign the form and click **Submit** to complete the exclusion request.

Manage exclusion requests

As an operations manager, you will use the Mosquito Spray Exclusions Manager to manage adulticide and larvicide exclusion requests from the public. Approved exclusion requests will be immediately available to biologists and other staff planning adulticide operations.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Mosquito Treatments solution.
2. View the Mosquito Spray Exclusions Manager app.
All exclusion requests are listed at the top of the table. The table can be sorted and filtered in various ways.
A **Submitted** status indicates requests that have not yet been reviewed by staff.
3. In the table, in the **Status** column, click the filter, and then for **Status is**, choose **Submitted**.
4. Click an exclusion request.
The request details open at the lower left. After a request has been received, staff members review it for completeness, including forms, signatures, and justification.
5. On the **Application Info** tab, click the **Edit** button , and then for **Status**, choose **Staff Review**.
6. Click an exclusion request to open its details.
7. Click **Edit**, and then for **Status**, choose **Approved**.
8. Click **Save**.

Approving the exclusion request removes the request from the Mosquito Spray Exclusions Manager app and promotes it to the Mosquito Adulticide Planning app, where you can use it to plan mosquito spray areas and known exemption areas.

Control juvenile mosquitoes

As a field biologist for a mosquito control agency, you are responsible for inventorying larvicide sites, recording inspection results at each site, and documenting larvicides applied. Using the Mosquito Larvicide Reporting map, you will also be able to add new inspection sites as well as update the status of each site.

Add a new inspection site

On occasion, new inspection sites will be added. You will use the Mosquito Larvicide Reporting map to make these changes.

1. Download ArcGIS Field Maps onto your mobile device.
2. Open ArcGIS Field Maps and sign in to your ArcGIS organization.
3. Tap the **Mosquito Larvicide Reporting** map to open it.
4. Tap **Add** to add a new inspection site.
By default, ArcGIS Field Maps uses your current location.
5. Pan or zoom to the site location, and then tap **Add Point**.
6. Swipe up on the form, if necessary, and then for **Location**, type a location name or description.
7. Tap **Status** and choose **Active**.
8. When you're finished, tap **Submit**.

Complete a site inspection

After an inspection at each site is complete, a history of larviciding in a community can be reported.

1. On the **Mosquito Larvicide Reporting** map, tap an existing larvicide site.
2. In the form, under **Related**, tap **Larvicide Inspections**.
3. Tap **Add** to begin documenting your larvicide inspection results.
4. Swipe up, if necessary, and then complete the inspection form.
5. When you're finished, tap **Submit**.

Retire an inspection site

On occasion, inspection sites will need to be retired. You will use the Mosquito Larvicide Reporting map to make these changes.

1. On the **Mosquito Larvicide Reporting** map, tap the existing larvicide site that you want to retire.
2. Tap **Edit**.
3. Tap **Status** and choose **Retired**.
4. When you're finished, tap **Submit**.

Multi Source Data Feeds

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Multi Source Data Feeds

Multi Source Data Feeds solution can be used to visualize global incidents in ArcGIS.

Businesses need access to critical information with confidence, to enable organizational response to incidents at different levels and across different business units. This is needed to allow organizations to see beyond the horizon and react to real-time incidents across the globe. Round-the-clock access to incident data is at the cornerstone of this need. Multi Source Data Feeds is typically implemented by organizations that rely on event feeds to understand incidents across the globe.

The Multi Source Data Feeds solution delivers a set of capabilities that provides awareness in near real time to incidents around the globe. This access is enabled by Esri business partners that curate event information into one location and allow consumption through the business partner APIs.

Requirements

Multi Source Data Feeds requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 - 2.7 (Basic)

Information products

Multi Source Data Feeds includes the following information products:

Item	Description	Minimum user type
Dataminr Alerts Dashboard	An ArcGIS Dashboards app used to visualize and interact with incidents from Dataminr	Viewer
Factal Incidents Dashboard	An ArcGIS Dashboards app used to visualize and interact with incidents from Factal	Viewer
Multi Source Data Feeds Desktop	An ArcGIS Pro project package used to connect and ingest data feeds from a variety of data providers	GIS Professional Basic

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">Shortened the field length for all fields to cut down on storage.Added support to store credentials in Credential Manager.
1.0	<ul style="list-style-type: none">First release of Multi Source Data Feeds

Configure Multi Source Data Feeds

In this topic, you will learn how to configure the Multi Source Data Feeds solution to meet specific needs in your organization.

Review the Multi Source Data Feeds project

The Multi Source Data Feeds solution includes an ArcGIS Pro project. Before configuring the solution and using the workflows with your data, familiarize yourself with the contents of the Multi Source Data Feeds Desktop project.

To review, complete the following steps:

1. Start ArcGIS Pro.

Note:

Ensure that you are [signed in to](#) the user name with which Multi Source Data Feeds was deployed.

2. In the lower right corner, click **Open another project**.
3. In the left pane under **Portal**, click **My Content** and browse to the folder where Multi Source Data Feeds was deployed. Select Multi Source Data Feeds Desktop and click **OK** to open.
4. Click the **View** tab along the top of the ribbon.
5. Click **Tasks** in the **Windows** group to open the Multi Source Data Feeds Tasks to configure, manage, and automate the data feeds.

Use Multi Source Data Feeds

The Multi Source Data Feeds solution delivers a set of capabilities that provides awareness in near real time to incidents around the globe. This access is enabled by Esri business partners that curate event information into one location and allow consumption through the business partner APIs.

Note:

To view content from premium providers, API keys must be acquired from the data provider.

In this topic, you will learn how to use the Multi Source Data Feeds solution and the set of capabilities and features that it provides.

Explore the Dataminr dashboard

1. In a browser, sign in to your ArcGIS organization and click the **Content** tab.
2. On the left side, under **Folders**, click Multi Source Data Feeds.
3. Click the Dataminr Alerts Dashboard to open into the item description page, then click **View Dashboard**.
4. Zoom in to an area of interest in the United States.

Note:

Holding the Shift key on your keyboard enables the area selection tool in the map. This will zoom in to the extent of the selected area.

Notice as you zoom in or pan around, the set of metrics along the bottom of the application and the alerts in the list on the left side dynamically update. This map-driven capability provides context into what is within your view.

5. Along the bottom of the map are a set of tabs; click **Data Overview**.
This tab contains a set of metrics to provide context into the magnitude of alerts over time and by category. The metrics are based on alerts within your view.
6. Switch to the **Map Overview** tab and in the **Publisher Category** drop-down list, select a value.
Notice that with this filter enabled, the set of metrics along the bottom of the application, the alerts in the list on the left side, and the map automatically update.
7. Click an incident in the list. This will zoom to the selected feature and open the pop-up with additional alert details.
8. Scroll to the bottom of the pop-up and click the link to view more details on this alert in Dataminr by signing in to your Dataminr account.

[Back to top](#)

Explore the Factal dashboard

1. In a browser, sign in to your ArcGIS organization and click the **Content** tab.
2. On the left side, under **Folders**, click Multi Source Data Feeds.
3. Click the Factal Incidents Dashboard to open into the item description page, then click **View Dashboard**.
4. In **Filter Incidents by**, click **This Week**.
Notice that with this filter enabled, the inset map and the set of metrics along the right side of the application, the locations in the list on the left side, and the map automatically update.
5. Zoom in to an area of interest in the United States.

Note:

Holding the Shift key on your keyboard enables the area selection tool in the map. This will zoom in to the extent of the selected area.

Notice as you zoom in or pan around, the set of metrics along the right side of the application and the locations in the list on the left side dynamically update. This map-driven capability provides context into what is within your view.

6. Along the bottom of the map are a set of tabs; click **Data Overview**.
This tab contains a set of metrics to provide context into the magnitude of incidents over time. The metrics are based on incidents within your view.
7. Switch to the **Map Overview** tab and click on an incident in the list. This will zoom to the selected feature and open the pop-up with additional incident details.
Notice the inset map on the right side of the application zooms in and centers on the incident. This map provides regional context and awareness of where other incidents have appeared.
8. Scroll to the bottom of the pop-up and click the link to view more details on this incident in Factal by signing in to your Factal account.

My Neighborhood Services

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to My Neighborhood Services

My Neighborhood Services can be used to share information about available facilities and services in a community.

It provides 24/7 access to amenities and services to residents, businesses and visitors to help them determine if they would like to live, work, or locate a business in the community. This approach allows government agencies to communicate available facilities and services timely and flexible manner and improves overall quality of life. My Neighborhood Services is typically implemented by economic development departments, planning departments, chambers of commerce, and other local government agencies that want to promote government services to the public.

The My Neighborhood Services solution delivers a set of capabilities that help you promote government facilities and services to the public.

Requirements

My Neighborhood Services requires the following:

- ArcGIS Enterprise

Information products

My Neighborhood Services includes the following information products:

Item	Description	Minimum user type
My Neighborhood Services	An ArcGIS Web AppBuilder app used by the general public to locate government facilities and available services that increase the quality of life in a community	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"><li>• First release of My Neighborhood Services

Configure My Neighborhood Services

In this topic, you will learn how to configure the My Neighborhood Services solution to meet specific needs in your organization.

Load data

My Neighborhood Services can be used to share information about available facilities and services in a community. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you would like to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data-loading workflows below.

Load data from a shapefile

Data for EmergencyResponseFacilities, GovernmentFacilities, LandmarkFacilities, MailShippingFacilities, MedicalFacilities, ParkRecreationFacilities, and TransportationFacilities can be loaded from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer into which you want to load data and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Configure directions

Follow the steps below to connect to a routing service and configure the widget to enable directions in the app.

Configure widget

To configure an app to use routes and provide directions, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the ArcGIS Web AppBuilder app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab and click **Set the widget in this controller** to open the page for an in-panel widget.
4. Hover over the **Near Me** widget and click the **Configure this widget** button to open the widget configuration window.
5. Check the **Enable Directions** check box if it is not checked.
6. Click the **Direction Settings** tab, click **Set**, and choose a routing service.
7. Click **Next** and choose one or more route layers, click **OK**, and click **OK** again.
8. Save the app and share it with everyone.
9. Open the app.

Esri premium content

The app draws routes and provides directions using the ArcGIS Online World Route Service. This service requires subscriber access because it consumes credits. See [Configure Living Atlas content](#) to enable access to premium content.

[Learn more about credit usage when creating simple routes](#)

Use My Neighborhood Services

The My Neighborhood Services solution delivers a set of capabilities that help you promote government facilities and services to the public.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Find services

My Neighborhood Services is an application for the public to find services near them. Members of the public can search for an address or click the corresponding map to find information about services near them.

In this workflow, you are a member of the public and want to learn what services are in your area.

1. In a browser, from the My Neighborhood Services solution, view the My Neighborhood Services app.
2. In the **Locate Services** widget, search for an address; alternatively, click a location directly on the map.
In the widget, an expandable list of available services near your defined location appears.
3. Optionally, adjust the slider to increase or decrease the search area.
4. In the widget, click a service.
The map zooms to and highlights the service's location, and details about the service appear in the widget.
5. Review the information provided.
6. In the widget, click the **Directions** tab to view driving directions from your defined location.

My Trash Services

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to My Trash Services

My Trash Services can be used to share waste pickup schedules and recycling information with the general public.

It provides 24/7 access to an organization, and the location-enabled search helps residents quickly find waste pickup schedules and recycling centers and learn what materials are accepted. This transparent approach improves communication with the public and addresses one of the most frequently asked questions in a community. My Trash Services is typically implemented by public works agencies and other local government organizations that want to educate the public and promote waste and recycling services available in their community.

The My Trash Services solution delivers a set of capabilities that help you share typical waste pickup schedules with the public, highlight schedule changes, and promote nearby recycling centers and the materials accepted.

Requirements

My Trash Services requires the following:

- ArcGIS Enterprise

Information products

My Trash Services includes the following information products:

Item	Description	Minimum user type
My Trash Services	An ArcGIS Web AppBuilder app used by the general public to locate recycling centers and obtain information about curbside trash services	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"><li>• First release of My Trash Services

Configure My Trash Services

In this topic, you'll learn how to configure the My Trash Services solution to meet specific needs in your organization.

Load data

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile

Load data into the PublicWorksDistrict and TrashRecyclingFacilities layers from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. Sign in to your ArcGIS organization and browse to the feature layer you want to populate.
3. Open the item page and click **Update Data > Append Data to Layer**.
4. Click **Choose File** and browse to your .zip file, and click **Open**.
5. Click **Upload and Continue**.
6. Click **Choose the layer that you wish to append data into** drop-down arrow and choose the layer that contains the updated data.
7. Uncheck **Update existing features**.
8. Click **Show field matching** and map the fields between the two layers.
9. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Configure directions

Follow the steps below to connect to a routing service and configure the widget to enable directions in the app.

Configure widget

To configure an app to use routes and provide directions, complete the following steps:

[Back to top](#)

1. Sign in to your ArcGIS organization and browse to the ArcGIS Web AppBuilder app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab and click **Set the widget in this controller** to open the page for an in-panel widget.
4. Hover over the **Near Me** widget and click the **Configure this widget** button to open the widget configuration window.
5. Check the **Enable Directions** check box if it is not checked.
6. Click the **Direction Settings** tab, click **Set**, and choose a routing service.
7. Click **Next** and choose one or more route layers, click **OK**, and click **OK** again.
8. Save the app and share it with everyone.
9. Open the app.

Esri premium content

The app draws routes and provides directions using the ArcGIS Online World Route Service. This service requires subscriber access because it consumes credits. See [Configure Living Atlas content](#) to enable access to premium content.

[Learn more about credit usage when creating simple routes](#)

Use My Trash Services

The My Trash Services solution delivers a set of capabilities that help you share typical waste pickup schedules with the public, highlight schedule changes, and promote nearby recycling centers and the materials accepted.

Note:

Use your organization's data or configured apps to follow these workflows.

Find recycling centers and curbside service information

You will assume the role of a resident in the community, and you want to know when your next trash pickup day is and find nearby recycling centers.

1. In a browser, sign in to your ArcGIS organization, and then browse to the My Trash Services solution.
2. View the My Trash Services app.
3. In the **Locate Services** widget, under **Search for an address or locate on map**, type an address in the community and press Enter.
4. Optionally, click and slide the search buffer by distance.

Note:

The list updates to display recycling centers and trash, recycling, and yard waste pickup details.

5. Click **Recycling Facilities** and click one of the facilities.
The **Information** tab displays details about the recycling facility, including materials accepted, location, hours of operation, and contact details.
6. Click the **Directions** tab. The tab displays turn-by-turn directions from the searched address to the closest recycling facility.
7. Click the **Recycling Facilities** button once to return to the list of recycling facilities, and click it again to return to the full list of trash and recycling services.
8. Click **Trash Pickup** and review information and directions about trash pickup.
9. Click the **Back** button to return to the full list of trash and recycling services. Repeat step 6 to view recycling and yard pickup details.

Neighborhood Early Warning

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Neighborhood Early Warning

Neighborhood Early Warning can be used to identify neighborhoods trending in a positive or negative direction and ultimately measure the fragility of neighborhoods over time.

It leverages authoritative data and key indicators (for example, blight violations, demolitions, crime, utility shutoffs, sales, rental units) to identify tipping neighborhoods. The resulting maps are a foundation for public education and awareness campaigns, operational improvements, and community-based policy discussions. Neighborhood Early Warning is typically implemented by planning departments, building officials, health and human services agencies, blight task forces, and other local government agencies that monitor neighborhood change over time, investing in stabilization programs and need to evaluate whether their investments are effective.

The Neighborhood Early Warning solution delivers a set of capabilities that help you create a neighborhood change index, measure the fragility of neighborhoods over time and share the results with key stakeholders.

Requirements

Neighborhood Early Warning requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Basic, Standard, or Advanced)

Information products

Neighborhood Early Warning includes the following information products:

Item	Description	Minimum user type
Neighborhood Early Warning	An ArcGIS Pro project used by data analysts to identify neighborhoods trending in a positive or negative direction and ultimately measure the fragility of neighborhoods over time	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included

[Back to top](#)

with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Neighborhood Early Warning

Use Neighborhood Early Warning

The Neighborhood Early Warning solution delivers a set of capabilities that help you create a neighborhood change index, measure the fragility of neighborhoods over time and share the results with key stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Identify neighborhood change

The Neighborhood Early Warning project can be used to understand neighborhoods trending in a positive or negative direction and ultimately measure the fragility of neighborhoods over time.

You will start by assuming the role of a data analyst in a neighborhood revitalization task force responsible for organizing key neighborhood indicators. You are asked to use the Neighborhood Stabilization project to identify neighborhoods trending in a positive or negative direction.

1. From the Neighborhood Stabilization solution, click the Neighborhood Stabilization item under Solution Contents to open the item details of the desktop application template.
2. Click **Download** and place the contents on your computer.
3. Using Explorer, browse to the NeighborhoodEarlyWarning.zip folder and extract it.
4. Open the Neighborhood Stabilization ArcGIS Pro project.
5. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
6. In the **Catalog** pane, expand **Maps** and review the maps provided.

Note:

The map provided in this project is used by data analysts to identify neighborhoods trending in a positive or negative direction and ultimately measure their fragility over time.

7. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Neighborhood Early Warning task.
8. In the **Tasks** pane, click the **How to Use Neighborhood Early Warning** task group to expand the collection of tasks.
9. Follow the steps in each task.

Neighborhood Stabilization

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Neighborhood Stabilization

Neighborhood Stabilization can be used to understand current property conditions, return blighted properties to productive use, and engage the public in neighborhood stabilization conversations.

It provides neighborhood stabilization program managers the ability to develop strategies that assist in the rehabilitation of properties that might otherwise become sources of abandonment and blight. The result can be used to rehabilitate, resell, or redevelop properties in order to stabilize neighborhoods and help to curtail the decline of property values in neighborhoods. Neighborhood Stabilization is typically implemented by planning departments, building officials, health and human services agencies, and other local government agencies that want to develop a location-driven approach to neighborhood stabilization.

The Neighborhood Stabilization solution delivers a set of capabilities that help you conduct property surveys, measure the fragility of neighborhoods, track blight, demolition activity, and publish a focused set of information products for citizens in your community.

Requirements

Neighborhood Stabilization requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Standard or Advanced)

Information products

Neighborhood Stabilization includes the following information products:

Item	Description	Minimum user type
Neighborhood Stabilization	An ArcGIS Hub site used by the general public to access blight complaints, track demolition activity, locate mortgage or housing counselors, and conduct property surveys	Not required

[Back to top](#)

Blight Status Dashboard	An ArcGIS Dashboards app used by local government leaders to proactively monitor the status of blight complaints and efforts made to reduce blighted properties	Viewer
Demolition Tracker	An ArcGIS Web AppBuilder app used by the general public to track building demolitions and the financial cost to a community	Not required
Mortgage Counseling Locator	An ArcGIS Web AppBuilder app used by the general public to locate mortgage or housing counselors in a community	Not required
Tax Liability Calculator	An ArcGIS Survey123 form used by citizens to compute their estimated tax liability	Not required
Property Condition Survey	A Photo Survey app used by local governments to publish street-level photo collections, conduct property surveys, and automate the classification of property condition using ML/AI	GIS Professional Standard
Neighborhood Early Warning	An ArcGIS Pro project used by data analysts to identify neighborhoods trending in a positive, or negative, direction and ultimately measure the fragility of neighborhoods over time	GIS Professional Standard

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Neighborhood Stabilization

Configure Neighborhood Stabilization

Learn how to configure the Neighborhood Stabilization solution to meet specific needs in your organization.

Load data

Neighborhood Stabilization can be used to understand current property conditions, return blighted properties to productive use, and engage the public in neighborhood stabilization conversations.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Note:

Prior to loading data, ensure you populate the Status field in DemolitionSites with values represented in the layer: Planned Demolition, Contracted Demolition, or Completed Demolition.

Load data from a shapefile

Data for DemolitionSites or MortgageCounselingFacilities can be loaded from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

[Back to top](#)

Configure property surveys

Blighted and vacant structures can have a significant impact on property value and may have substantial remediation costs associated with them. Property Condition Survey can be used by local governments to publish street-level photo collections, conduct property surveys, and automate the classification of property condition using ML/AI.

Publish a property survey app

The Property Condition Survey app consumes the map you authored during the publish map step in the ArcGIS Pro project.

To configure the Photo Survey app, complete the following steps:

1. Using Windows Explorer, browse to the `\Documents\ArcGIS\Packages\PropertyConditionSurvey\commondata\userdata\PhotoSurvey` folder and unzip it.
2. Open the `configuration.json` file in Microsoft Notepad or another text editor.
3. Enter the web map ID for your photo survey map, for example, "webmap" : `daa3eeae86954f4cba87c044466c4c2f`.

Note:

The web map ID can be found at the end of the map URL in ArcGIS Online. For example, in `http://myorganization.maps.arcgis.com/home/item.html?id=2ef11dad8ff04178b2b236e867e9c952`, the web map ID is `2ef11dad8ff04178b2b236e867e9c952`.

4. Save and close the file.
5. Copy the PhotoSurvey folder to your web server so it can be accessed as a website or virtual directory. In IIS, the default web server directory is `<your directory>\Inetpub\wwwroot\`.
6. Browse to **Start > Control Panel > Administrative Tools > Internet Information Services (IIS) Manage**.
7. Click **<your server> > Sites > Default Web Sites**.
8. Right-click the web server directory folder for the app and choose **Convert to Application**.
9. Choose the **DefaultAppPool** application pool.
10. Click **OK**.
11. Begin using Property Condition Survey by browsing to `http://<your server>/PhotoSurvey/default.htm`.

Configure the property survey app

Use the configuration.json file to configure the Photo Survey app to your organization's needs. Photo randomization, guest access, thumbnail image display, and Twitter credentials can all be configured by modifying the following parameters:

Parameter	Description
randomizeSelection	Controls how the Photo Survey app will display photos. <ul style="list-style-type: none">• True for random photo display (default)• False for ordered photo display
allowGuestSubmissions	Specifies if the Photo Survey app will allow guest or anonymous survey submissions. <ul style="list-style-type: none">• True to allow guests (anonymous) to submit survey submissions• False to disallow guests (anonymous) to submit survey submissions
showGuest	Specifies if the Photo Survey app will allow guest or anonymous access. <ul style="list-style-type: none">• True to allow guest (anonymous) access• False to disallow guest (anonymous) access
thumbnailLimit	Sets the maximum number of thumbnails displayed in the Photo Survey carousel. If the number of photos for a given property exceeds this number, the photo carousel will not be displayed in the app.
includeOverviewMap	Specifies if the Photo Survey app will include an overview map. <ul style="list-style-type: none">• True to show overview map• False to remove overview map
showSkip	Specifies if the Photo Survey app will include a skip button. This requires all surveys to be submitted. <ul style="list-style-type: none">• True to show skip button• False to remove skip button

[Back to top](#)

Configure survey questions

There are several options available regarding the types of survey responses that can be displayed in the survey panel. Choose from the options below based on the structure of your data as well as the desired user experience.

Once you have determined which response type to use, choose the appropriate options in the Survey Questions table.

Field	Description	Required information
Field name in Photo Points	Field name in the Photo Points layer that the survey response will be stored in.	Field name
Question Type	Survey question type. Choose from the drop-down list.	Parent, Child
Parent OBJECTID	If the question should be dependent on the response to a parent question, add the parent ObjectID of this question.	ObjectID
Display Condition(s)	Value required to display this question.	Value
Question Text	Text displayed for each survey question.	Text
Question UI Type	Available question types. Choose from the drop-down list.	Button, List, Drop-down list, Text, Number
Image URL	To display images on the survey panel, add the image URL.	URL
Image Position	Position of image in the survey panel. Choose from the drop-down list.	Before, After
Required?	If the question is required for the survey, choose from the drop-down list.	Yes, No
Question Order	Order of the questions as they appear in the survey form.	Numeric value

Use Neighborhood Stabilization

The Neighborhood Stabilization solution delivers a set of capabilities that help you conduct property surveys, measure the fragility of neighborhoods, track blight, demolition activity, and publish a focused set of information products for citizens in your community.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Identify neighborhood change

The Neighborhood Early Warning project can be used to understand neighborhoods trending in a positive or negative direction and ultimately measure the fragility of neighborhoods over time.

You will start by assuming the role of a data analyst on a neighborhood revitalization task force responsible for organizing key neighborhood indicators. You are asked to use the Neighborhood Stabilization project to identify neighborhoods trending in a positive or negative direction.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Neighborhood Stabilization solution.
2. Download the Neighborhood Early Warning desktop application template, and then unzip the folder.
3. From the unzipped folder, open the Neighborhood Early Warning.aprx file in ArcGIS Pro.
4. In the **Catalog** pane, expand **Maps** and review the maps provided.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

The map provided in this project is used by data analysts to identify neighborhoods trending in a positive or negative direction and ultimately measure their fragility over time.

5. In the **Catalog** pane, expand the **Tasks** folder, and then double-click the Neighborhood Early Warning task.
6. In the **Tasks** pane, expand the **How to Use Neighborhood Early Warning** task group to see the collection of tasks.
7. Follow the steps in each task.

Perform property condition surveys

Property Condition Survey uses location-enabled photos produced by many commercially available cameras and simplifies data processing so street-level photo collections can be gathered on a regular basis. Photo collections can then be used in the Property Condition Survey app or be classified using the Microsoft Custom Vision service to identify property where overgrowth, graffiti, and boarded windows may exist.

Perform street-level photo acquisition

To start, you'll assume the role of a data analyst who needs to decide what type of camera will be used to acquire street-level photos. The Photo Survey toolbox has been designed to work with standard EXIF data captured by commercially available cameras, and there are several on the market that can be used to collect photos.

When selecting cameras and planning photo collection for your community, consider the following questions:

- Is the camera well suited for diverse weather conditions, and can it be mounted on the side of a vehicle or on a window of a vehicle?
- Does the camera take photos at predefined intervals (for example, every two seconds) and acquire GPS coordinate values for each photo taken?
- Does the camera write photo data in a standard EXIF format?
- How many photos can be stored on a given camera, and how will you get photos off the device?
- How many vehicles will you use to acquire photos for your entire community? You will need two cameras for each vehicle used to acquire photos.
- What is the speed you will travel to acquire the photos? The slower you can drive, the more photos you will acquire for each property.
- What are the routes used to acquire photos? Will those routes cover every property in your community?
- Can you use vehicles (for example, trash trucks and street cleaners) or employees (for example, code enforcement officers and assessors) who already canvass the community to acquire photos?
- Would volunteer organizations working in your community partner with you to acquire photos?

Review the Property Condition Survey project

Now you will assume role of a data analyst on a neighborhood revitalization task force responsible for configuring the property condition survey. You are asked to configure the Property Condition Survey app using the map authored during the publish map step in the ArcGIS Pro project.

1. Start ArcGIS Pro and open the Property Condition Survey project package from the active portal.

[Back to top](#)

2. In the **Catalog** pane, expand **Databases** and review the sample survey questions provided with the Property Condition Survey project.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

3. In the **Catalog** pane, expand the **Tasks** folder, if necessary, and then double-click the Property Condition Survey task.
4. In the **Tasks** pane, follow the steps in the Property Condition Survey task to set up the Property Condition Survey app.

Calculate blight probability

Now you will assume role of a data scientist on a neighborhood revitalization task force responsible for configuring the Property Condition Survey. You are asked to calculate the blight probability in the images taken at street level to augment manual surveys.

1. In a browser, go to [Microsoft Custom Vision](#), and then sign in or create an account.

Note:

If you created an account, after your account has been created, be sure to accept the terms and conditions.

2. If necessary, in the Azure Portal, create a resource group for Custom Vision.
3. On the Custom Vision landing page, in the upper right, click the **settings** button.
4. Copy the training key, prediction key, prediction resource ID, and prediction endpoint for your account.
5. In the Property Condition Survey project, for the **Detect Blight** task, use the copied values.
6. After you have run the Detect Blight task, review your results in the Photo Points layer published in the Publish Map task in the Property Condition Survey project.

Survey the property condition

Now you will assume the role of a community volunteer. You are concerned with neighborhoods in your community and want to contribute by completing the Property Condition Survey.

1. In a browser, from the Neighborhood Stabilization solution, view the Neighborhood Stabilization ArcGIS Hub site.
2. Scroll to the **Understanding Neighborhood Conditions** section, and then under **Survey Property Conditions**, click **Learn More**.
The Property Condition Survey sign-in page appears.
3. Sign in with your Twitter credentials, if applicable, or click **Guest** to complete the survey anonymously.

Tip:

If you choose to sign in with your Twitter credentials, you can keep track of the total number of surveys that you've completed and your overall ranking.

4. Answer the survey questions based on the photo that is displayed in the main panel.

Tip:

You can use the thumbnail images in the lower area of the screen to cycle through all the photos available for the property, if available. To select the photo that best shows the property, click the favorite button in the upper-left corner of the photo.

5. Click **Submit survey** to complete the report.

Track demolition activity

Demolition activity can have a significant impact on property value and the financial cost to a community. Demolition Tracker can be used by the public to locate planned, contracted, and completed building demolition.

Now, you will assume the role of a resident in a local community. You are concerned with where demolitions have occurred, where they are contracted and planned, and what the total cost is to the community.

1. In a browser, from the Neighborhood Stabilization solution, view the Neighborhood Stabilization ArcGIS Hub site.
2. Scroll to the **Understanding Neighborhood Conditions** section, and then under **Track Demolition Activity**, click **Learn More**.

The Demolition Tracker opens. On the right, the **Demolition Tracker** widget lists the number of planned, contracted, and completed demolitions visible in the map extent.

3. On the map, in the search field, type your address or zoom to a location directly on the map.

The demolition information in the **Demolition Tracker** widget updates to the new map extent.

4. In the **Demolition Tracker** widget, click **Planned Demolitions** to view specific addresses of buildings planned for demolition.
5. Click a specific planned demolition address.
On the map, a pop-up shows the demolition's neighborhood, use description, comments, planned date, and estimated cost.
6. In the **Demolition Tracker** widget, click **Contracted Demolitions** to view specific addresses of buildings contracted for demolition.
7. Click a specific contracted demolition address.
On the map, a pop-up shows the demolition's neighborhood, use description, comments, contractor, scheduled date, and quoted cost.

[Back to top](#)

8. In the **Demolition Tracker** widget, click **Completed Demolitions** to view specific addresses of buildings that have been demolished.
9. Click a specific completed demolition address.
On the map, a pop-up shows the demolition's neighborhood, use description, comments, contractor, completed date, and actual cost.

Monitor blight status

Blight complaints can have a significant impact on property value and may have substantial remediation costs associated with them. Blight Status Dashboard can be used by local government leaders to proactively monitor the status of blight complaints and efforts made to reduce blighted properties.

Now you will assume the role of a local government leader. You are concerned with where blight reports have been submitted and the resolution status.

1. In a browser, from the Neighborhood Stabilization solution, view the Blight Status Dashboard app.
The Blight Status Dashboard opens with an overview of the current blight-related reports.

Note:

The overview displays key metrics. This information gives management a quick overview of the number of blight reports in their community.

2. At the lower left, click the **Blight Dashboard** tab and explore the blight reports.
3. On the left side of the app, click the arrow to display the filter panel.

Tip:

You can pin the filter panel to the dashboard by clicking the pin in the upper-right corner.

4. Use filters to refine the results by status or submission date.
5. Below the map, in the **Report Type** panel, review the charts to see a breakdown of the report types.

Network Path Planner

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Network Path Planner

Network Path Planner can be used to plan fronthaul routes to wireless equipment such as 5G sites, backhaul routes from wireless towers, and plan routes to residential neighborhoods or business locations.

Access to the Internet, with sufficient bandwidth, is essential in an information society. Major investments in broadband infrastructure that support access to the internet continues to grow in urban, suburban and rural communities. As a result, telecommunication agencies must design effective networks that balance capital costs with customer service. Simple design tools that provide an efficient route to a proposed site reduce cost and increase revenue opportunities. Network Path Planner is typically implemented by telecommunications organizations that want to quickly develop cost effective, high-level network designs from their existing network to proposed sites.

The Network Path Planner solution delivers a set of capabilities that help you create an optimized fiber route and estimate the cost of the route.

Requirements

Network Path Planner requires the following:

- ArcGIS Pro 2.7 or later (Basic, Standard, or Advanced)
- ArcGIS Network Analyst extension

Information products

Network Path Planner includes the following information products:

Item	Description	Minimum user type
Network Path Planner	An ArcGIS Pro project used by network planners to create a network route.	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"><li>• First release of Network Path Planner

Use Network Path Planner

The Network Path Planner project can be used to plan fronthaul routes to wireless equipment such as 5G sites, backhaul routes from wireless towers, and plan routes to residential neighborhoods or business locations.

Identify Optimal Network Paths

You will start by assuming the role of a network planner or wireless provider responsible for generating a proposed route for a series of 5G sites. You are asked to use the Network Path Planner project to identify the optimal network path for your organization.

1. From the Network Path Planner solution, click the Network Path Planner item under Solution Contents to open the item details of the desktop application template.
2. Click **Download** and place the contents on your computer.
3. Using **File Explorer**, browse to the **NetworkPathPlanner.zip** folder and extract it.
4. Open the Network Path Planner ArcGIS Pro project.
5. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
6. In the **Catalog** pane, expand **Maps** and review the maps provided.

Note:

The map provided in this project is provided with sample dataset to exercise the tools.

7. In the **Catalog** pane, expand the **Tasks** folder, and double-click the Network Path Planner task.
8. In the **Tasks** pane, click the **How to Use Network Path Planner** task group to expand the collection of tasks.
9. Follow the steps in each task.

Operations Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Operations Management

Operations Management can be used to respond to an event and manage resulting missions.

The solution allows military organizations to capture real-time data related to the event and mission development. Command leadership can collect and review reports submitted by operations personnel from any connected device. The solution enables immediate interaction between the technology and military personnel, allowing for rapid information dissemination and intelligent decision-making. Operations Management is typically implemented by organizations, such as the Army National Guard, that want to take a data-driven approach to plan, manage, and understand current missions associated with events.

The Operations Management solution delivers a set of capabilities that help you to capture and update event and mission details, allocate resources, and gain situational awareness of resources and tasks against designated missions.

Requirements

Operations Management requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123

Information products

Operations Management includes the following information products:

Item	Description	Minimum user type
Operations Dashboard	An ArcGIS Dashboards app with embedded ArcGIS Survey123 forms that provides a dynamic method for input of events, missions, status reports, and field reports.	Viewer
Operations Management Dashboard	An ArcGIS Dashboards app used by command personnel to monitor events, missions, status reports, and field reports.	Viewer

[Back to top](#)

Operations Manager	An ArcGIS Dashboards app used by operations personnel to manage events and missions.	Editor
Event Entry	An ArcGIS Survey123 form that can be used by a liaison or LNO to enter events.	Not required
Mission Entry	An ArcGIS Survey123 form used by a liaison or LNO to enter missions.	Not required
Field Report	An ArcGIS Survey123 form used by an LNO or military unit member to report on events in the field.	Not required
Status Report	An ArcGIS Survey123 form used by a liaison or LNO to provide updates regarding the status of a mission.	Not required
Operations Events	An ArcGIS Survey123 form that can be referenced as a master schema for all included surveys in Operations Dashboard.	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	First release of Operations Management

Configure Operations Management

In this topic, you will learn how to configure the Operations Management solution to meet specific needs in your organization. The apps included with the Operations Management solution come with Survey123 reports. Follow the steps below to configure the solution.

Configure solution

Once Operations Management has been deployed, you can make optional configurations to the solution. Follow the steps below to configure the Operations Dashboard and the Operations Manager applications.

Configure the Search widget

To use the Search widget within Operations Manager, complete the following steps:

1. Open the Operations Manager web app in editing mode.
2. Click to open the **Widget** tab and select the Search widget.
3. In the **Layer Source** section, select **Set** and browse to the current Events and Missions layer in the **Portal for ArcGIS** option.
 - Alternatively, copy the updated Events and Missions map service URL and paste it in the **Service URL** option.
4. Browse to **Add Search Source**.
5. Click **Feature Layer** and select **Events and Missions**.
6. Configure the rest of the widget and save your application.

Add data sources

The Operations Management solution allows operations management personnel to enter details about events and missions supporting events. It can be helpful to add additional data to provide context for feature entry and management.

The layers listed below can be added to the map to provide further context when entering new events, missions, status reports, and field reports.

Learn more about how to [add layers to a map](#).

- State and county layers
 - [States map service](#)
 - [Counties map service](#)
 - [COVID-19 cases data feed](#)
- ArcGIS Living Atlas layers
 - [National Weather Service Severe Events](#)
 - [National Weather Service Extreme Events](#)
- NOAA Web Services
 - [NOAA Base Reflectivity Radar](#)


[Back to top](#)

Extend the Operations Management Dashboard

The Operations Management Dashboard is preconfigured to display all units under the **Assigned To** section within the Survey123 form. It also displays default mission statuses. You may need to configure the dashboard to align with your organization.



Add a battalion

To add additional battalions or companies to the dashboard, complete the following steps:

1. Browse to the Operations Management Dashboard and click **Edit Dashboard**.
2. In the **Mission Assignment/Status** element, click the **Configure** button .
3. Go to the **Data** tab, select the **Filter** window, and under the **Assigned To** window, select **Include**. At this point, you will add only the units of interest and nothing else will be included.
4. Save your application.



Modify mission status

The dashboards are preconfigured to display various statuses. The statuses can be modified or removed. If your organization uses a status that is not included, ensure a new category is added to the Survey123 form before adding it to the Operations Management Dashboard. To modify the mission statuses, complete the following steps:

1. Select any Mission Status element and go to **Editing Features**.
2. Click the **Duplicate** button  to copy the setting of the existing indicator elements to add a new category. Make sure that the new category has been added to the Survey123 form first.
3. Remove the status element by clicking the delete button .
4. Save your application.

Modify lists

The dashboards included in this solution come with preselected and basic fields within their appropriate lists. Additional fields can be turned on when configuring your solution to better address your organization's needs. To modify lists, complete the following steps:

1. Click the **Configure** button  for any of the list components within the dashboard.
2. Select the **List** tab and click **Insert**  to see the field options available.
3. Select one or multiple fields to be added to the display.
4. Add a label in front of your field item.
5. Click **Done**.
6. Save your application.

Extend Operations Manager

The Operations Manager web application includes a Summary widget that provides a clustering feature that can be enabled. This feature will perform groupings of the features on the map indicating potential hot spots. The Operations personnel can use this clustering information to begin deploying assets and resources to areas that show high concentrations.

Enable clustering

To enable clustering in the Summary widget, complete the following steps:

1. Access the Operations Manager web app while in editing mode.
2. Go to the **Widget** tab and select the **Configure this Widget** option for the Summary widget.
3. Check **Display as Summary Clusters**.
4. Click **OK** and save the application.

Use Operations Management

The Operations Management solution delivers a set of capabilities that help you to capture and update event and mission details, allocate resources, and gain situational awareness of resources and tasks against designated missions.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Manage missions

The Operations Dashboard provides the LNO or mission manager a single interface to submit events, missions, status updates for missions, and field reports. Operations Manager allows the operations personnel the freedom to filter data, modify or move events, and find specific information within a few seconds. Finally, command leadership can remain aware of current and historical missions in the Operations Management Dashboard. New events and missions can be added as frequently as needed.

Enter a new event

You will start by assuming the role of the event or mission manager. You have just received a request for assistance from Miami-Dade County in response to a hurricane. You will use the Event Entry survey to capture a new event.

To capture a new event using the Event Entry survey, complete the following steps:

1. In a browser, go to your Operations Dashboard.
2. Select the **Events** tab in the lower right and fill in the following details:

Parameter	Value
Event ID	Type EVENT001.
Begin Date	Select the date 09/08/2020 .
End Date	Select the date 09/15/2020 .
Location	Draw a polygon along the Miami-Dade County area.
Event Type	Select Weather .
Event Sub Category ID	Select Hurricane .
Event Description	Type Hurricane Olga is moving at 15 mph with high winds of 175 mph. Hurricane Olga is approaching

[Back to top](#)

	the Miami-Dade County geographical area and is located approximately 300 miles from the Florida coastline.
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3. Click **Submit**.

Enter a new mission

You have now been asked to start capturing the missions related to Hurricane Olga. You will use the Mission Entry survey to capture mission information.

To capture information about a new mission, complete the following steps:

1. In a browser, go to your Operations Dashboard or refresh your current browser if you have just entered the event.
2. Select the Hurricane Olga event from the events list widget.
3. Select the **Missions** tab in the lower right. Notice that the EVENT001 event ID is automatically showing as part of the new Mission Entry.
4. In the Mission Entry survey, fill in the following details:

Parameter	Value
Mission ID	Type MISSION001.
Location	Type LAT: 25.79496 LON: -80.12594.
Start Date	Select the date 09/08/2020 .
End Date	Select the date 09/12/2020 .
Mission Type	Select Personnel Support .
Mission Description	Type 150 personnel are needed to fill sandbags and place them in designated areas.
COVID related	Select No .
Mission Status	Select Pending Approval .
Mission Priority	Select Medium .

[Back to top](#)


Assigned to ID	Select 1st Battalion .
Personnel Information ID	Select Yes .
Personnel Details	Select Other .
Enter # of Other Personnel	Type 150. Total Personnel will automatically fill.
Vehicle Information	Select Yes .
Vehicle and Aircraft Details	Select Yes .
Land Vehicle Type	Select Utility Truck and type 5 for the Quantity .
Estimate Cost	Select Yes .
Estimate Mission Cost/Day	Type 5000.
Submitter POC Details	Enter your name and contact information.
Ground Commander POC Details	Enter commander point of contact details.

5. Click **Submit**.

Monitor missions

Now, you will assume the role of the Operations Manager. You are asked to monitor the missions of your unit. You will review the missions of your workforce.

To monitor a specific mission, complete the following steps:

1. In a browser, go to the Operations Manager application. You will see an overview of the events and missions that have been entered.
2. Click the **Item details** button . After reviewing the content, close the window.
3. Type % in the Search widget.
4. Select **MISSION001** from the results.

Parcel Drafter

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Parcel Drafter

Parcel Drafter can be used to enter metes-and-bounds descriptions and check for closure errors in order to verify survey information prior to submission.

It provides deed examiners up-to-date parcel information and a digital workflow for entering new metes-and-bounds land descriptions. This optimized approach helps organizations reduce the time required to process land description documents and share results between staff. Parcel Drafter is typically implemented by property appraisal departments, assessors, fiscal offices, and other local government agencies that want to improve their overall transaction time when a parcel related document is recorded.

The Parcel Drafter solution delivers a set of capabilities that help you capture parcel boundaries as documents are filed and can be integrated into a larger land records workflow that produces a complete inventory of tax parcels, subdivisions, lots, and related encumbrances.

Requirements

Parcel Drafter requires the following:

- ArcGIS Enterprise

Information products

Parcel Drafter includes the following information products:

Item	Description	Minimum user type
Parcel Drafter	An ArcGIS Web AppBuilder app used by mapping technicians to enter metes-and-bounds descriptions and check for closure errors	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Parcel Drafter

Configure Parcel Drafter

Learn how to configure the Parcel Drafter solution to meet specific needs in your organization.

Load data

Parcel Drafter can be used to enter metes-and-bounds descriptions and check for closure errors to verify survey information prior to submission. In some cases, you may already have this information in ArcGIS or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Parcel Drafter

The Parcel Drafter solution delivers a set of capabilities that help you capture parcel boundaries as documents are filed and can be integrated into a larger land records workflow that produces a complete inventory of tax parcels, subdivisions, lots, and related encumbrances.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Provide parcel descriptions

Parcel Drafter can be used to provide metes-and-bounds descriptions and check for closure errors to verify survey information prior to submission.

Add a parcel

You will start by assuming the role of a mapping technician in a tax assessment office who is responsible for checking a new parcel description. You are asked to use Parcel Drafter to provide a metes-and-bounds description and check for closure errors to verify survey information prior to submission.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Parcel Drafter solution.
2. View the Parcel Drafter app.
3. Use the **Search** widget to find a parent parcel or address.
4. Click the **Enter a property description** button to open the widget.
5. In the widget, click the **Start New Traverse** button, and then either click the map or specify X,Y coordinates to start drafting a parcel.
Before starting a new description, you will choose appropriate units.
6. In the widget, at the top right, click the **Settings** button, and then use the drop-down lists to choose the units that best represent the units of the incoming document.
7. At the top of the pane, click the **Back** arrow to return to the **New Traverse** template.
8. Under **New Traverse**, to the left of **Bearing**, click the red connection line to open a drop-down list.
9. Choose either **Boundary** or **Connection** as the line type of your parcel traverse leg.
10. For **Bearing**, **Length**, and **Radius**, type the dimensions of the parcel traverse, and then click the **Add** button on the right to add a new leg.

As you type the dimensions, the traverse lines are drawn on the map from the starting point. Optionally, you can use the **Digitize** tool below the **New Traverse** grid to manually draw the parcel boundaries.

Tip:

To provide a bearing in degrees/minutes/seconds using quadrant bearing, type the values in one of the following formats: 20-25-25-3 (3 is the shortcut for the southwest quadrant) or S20-25-25W.

When providing a bearing in decimal degrees, type the value in the following format: 20.2525.

11. Optionally, update the angle and scale during the traverse to rotate and scale new lines.

Tip:

After providing the first line of the traverse (and if rotation or scale values have not been specified), you can rotate the line to fit the underlying geometry (for example, section line, parcels, or other survey lines). All subsequent lines will be applied this rotation, but the records, bearings, and distances will be captured as provided.

12. Click **Save**.

Edit parcels

Next, you will assume the role of a mapping technician in a tax assessment office who is responsible for editing parcel descriptions. You are asked to use Parcel Drafter to edit a metes-and-bounds description and check for closure errors.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Parcel Drafter solution.
2. View the Parcel Drafter app.
3. In the **Enter a property description** widget, click **Edit Traverse**.
4. Click an existing parcel, and then edit the traverse or attribute information.
5. Click **Save**.

Parcel Value Analysis

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Parcel Value Analysis

Parcel Value Analysis can be used to find comparable sales and visualize the impact of sales, foreclosures, and assessment appeals on property value in a neighborhood or tax district.

It improves the quality of property valuations and provides property appraisers access to current property characteristics and neighborhood trends, ensuring that property is valued in a fair and equitable way. The result can be shared with property appraisers inside your organization and can be used to defend property valuations. Parcel Value Analysis is typically implemented by property appraisal departments, assessors, fiscal offices, and other local government agencies that want to take a visual, location-driven approach to property valuation.

The Parcel Value Analysis solution delivers a set of capabilities that help you improve the overall quality of property valuations by accessing key operational layers from assessment and tax business systems; narrows a search of property sales by defining a price range, year built, and living area; and provides a high-level view into changes in property assessments and tax revenue within a local government.

Requirements

Parcel Value Analysis requires the following:

- ArcGIS Enterprise

Information products

Parcel Value Analysis includes the following information products:

Item	Description	Minimum user type
Value Analysis Dashboard	An ArcGIS Dashboards app used by assessors to visualize the impact of sales, foreclosures, and assessment appeals on property value in a neighborhood or tax district	Viewer
Residential Comp Finder	An ArcGIS Web AppBuilder app used by the general public, real estate agents, and appraisers to find comparable sales and related property information	Viewer

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Parcel Value Analysis

Configure Parcel Value Analysis

Learn how to configure the Parcel Value Analysis solution to meet specific needs in your organization.

Load data

Parcel Value Analysis can be used to share parcel, property sales, floodplain, and tax distribution information. In some cases, you may already have this information in ArcGIS or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile

Load data for TaxParcels, SiteAddresses, SchoolDistricts, and TaxParcelSales from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Load tax distribution information

To configure the Tax Distribution table in the TaxParcels layer in ArcGIS, you can use the sample .csv file included with the solution (TaxDistribution.csv).

To load tax distribution from a spreadsheet, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the **TaxDistribution** item.
2. On the item details page, click **Download**.
3. Once downloaded, open the **TaxDistribution.csv** file and populate the **Parcel ID**, **Total Tax**, and **Tax District** distribution totals (in dollars).

Note:

After these tax values are populated, you can compute the percent of total tax dollars for each tax district and populate its corresponding Tax District % attribute, for example, $(TXDIST1/TOTTX)*100 = TXDIST1PER$ or $(\$1500/\$5000)*100 = 30\%$.

4. Alternatively, you can use ArcGIS Pro to populate these values based on their spatial relationship with tax districts.
5. In your ArcGIS organization, browse to the **TaxParcels** feature layer.
6. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
7. Under **Filename**, click **Choose File**.
8. Browse to your **.csv** file and click **Open**.
9. Click **Upload and Continue**.
10. From **Choose the layer that you wish to append data into**, select the **Tax Distribution** table to load data into.
11. Uncheck **Update existing features**.
12. Click **Show field matching** to map the fields.
13. Map the **Latitude** field to the y-column and the **Longitude** field to the x-column.
14. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Parcel Value Analysis

The Parcel Value Analysis solution delivers a set of capabilities that help you improve the overall quality of property valuations by accessing key operational layers from assessment and tax business systems; narrows a search of property sales by defining a price range, year built, and living area; and provides a high-level view into changes in property assessments and tax revenue within a local government.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Analyze property value

Value Analysis Dashboard can be used to visualize the impact of sales, foreclosures, and assessment appeals on property value in a neighborhood or tax district.

Explore assessment neighborhoods

You will start by assuming the role of a residential property appraiser in an assessment organization that is responsible for valuing property. You are asked to use the Value Analysis Dashboard to investigate specific assessment neighborhoods and identify assessed value outliers, analyze recent property sales, and review appeals and foreclosures.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Parcel Value Analysis solution.
2. View the Value Analysis Dashboard.
The Value Analysis Dashboard opens, showing information about sales, appeals, and foreclosures, as well as overall metrics regarding property value and total property tax outstanding.
3. On the left, click the **All Neighborhoods** drop-down arrow and choose an assessment neighborhood to refine the results.
4. Click the **All Sales** drop-down arrow and choose a date range to further refine the results.
5. Explore the neighborhood and notice the range of assessed values.
The parcels shaded in blue have higher values than parcels shaded in yellow.
6. On the map, click a sale to see a pop-up with the sale's details and a description of the likelihood that this sale could impact property tax levied against the property.
7. Review the high-level metrics about the neighborhood, including the current assessed value, current taxable value, and the overall taxes owed.

Locate comparable sales

Now, you will assume the role of a residential property appraiser in an assessment organization that is responsible for valuing property. You are asked to use the Residential Comp Finder to investigate property sales by defining a price range, year built, and living area. The resulting list of properties sold can then be used to help determine the fair market value of a subject or prospective property.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Parcel Value Analysis solution.
2. View the Residential Comp Finder app.
3. On the right, in the **Locate Sale** widget, search for a parcel number, address, or school district, or click a location directly on the map.
4. Optionally, adjust the buffer slider to see a larger list of potential businesses.
5. Review the property's details, such as its address, parcel number, year built, floor area, assessed value, sale price, sales date, and sales ratio.
6. Optionally, use filters to refine the results; for example, use the **Sale Amount is between** filter to find homes with sale prices between \$250,000 and \$350,000.

Participatory Budgeting

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Participatory Budgeting

Participatory Budgeting can be used to solicit community feedback to identify, discuss, and prioritize public spending projects.

It provides 24/7 access to an organization, and the location-enabled project ideas drive community engagement and help efficiently triage ideas to the person or department responsible for project scoping. Input gathered in the public application often makes up for gaps in official knowledge and brings the people and their government closer together as a community. It also allows historically disenfranchised groups to participate, leading to new ideas in government. Participatory Budgeting is typically implemented by planning departments, public works agencies, and other local government agencies that want to increase transparency and solicit feedback from the public and ultimately build a community in which everyone's voice can be heard.

The Participatory Budgeting solution delivers a set of capabilities that help you solicit project ideas from the public, triage and monitor these ideas, and incorporate popular ideas in future capital improvement plans.

Requirements

Participatory Budgeting requires the following:

- ArcGIS Enterprise

Information products

Participatory Budgeting includes the following information products:

Item	Description	Minimum user type
Participatory Budgeting	An ArcGIS Hub site used by the general public to learn how they can become involved in the participatory budgeting process	Not required
Participatory Budgeting	A Crowdsense Reporter app used by the general public to identify, discuss, and prioritize project ideas	Not required

[Back to top](#)

Participatory Budgeting Manager	A Crowdsourcing Manager app used by local government personnel to triage project ideas submitted by the general public	Editor
Participatory Budgeting Dashboard	An ArcGIS Dashboards app used by local government personnel to monitor project ideas reported by the general public	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Participatory Budgeting

Configure Participatory Budgeting


Learn how to configure the Participatory Budgeting solution to meet specific needs in your organization.

Configure the Participatory Budgeting site



The Participatory Budgeting solution includes the Participatory Budgeting ArcGIS Hub site, which your organization can configure with your own branding and use to share important budgeting and planning information with the public.

After deploying the Participatory Budgeting solution, the Participatory Budgeting site layout only requires a few updates to fit your local context. Follow the steps below to update the site with your organization's needs:

1. Sign in to your ArcGIS organization and browse to the Participatory Budgeting site.
2. Open the item page and click **Configure App**.

3. Click the edit button  to open the site editor.
4. Scroll to the **Statistics** section under the title of the website. The **Community Ideas** statistics card is already linked to the Participatory Budgeting solution's PublicProjectIdeas_public feature layer. This statistic automatically updates as you load data into your solution.

The **Available Budget** and **Ideas Funded** statistics are provided in a text card but styled to resemble the **Community Ideas** statistics card; this allows you the option to manually enter a statistic of your choice, independent of data. Update the **Available Budget** and **Ideas Funded** statistics cards using a metric of your choice, or replace the text card with a **Summary Statistics** card and use the PublicProjectIdeas_public feature layer view as its data source, similar to the other statistics cards.

5. Update the **Available Budget** and **Ideas Funded** cards by hovering over one of the cards and clicking the settings button , and then update the text. To add a **Summary Statistics** card to the existing row, see the [Display key metrics](#) section in the Insert charts, tables, and metrics topic. Once the card has been added to the row, hover over the replaced card and click the delete button .
 6. Scroll to the **Meet the Participatory Budgeting Committee** section, hover over the card, and click the settings button on the horizontal toolbar.
 7. To update the image, click **</> Edit in HTML** and replace the existing URL with the URL of your image, and edit the photo names in the card.
 8. Click **Apply**.
 9. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
 10. On the side panel, click **Footer**.

A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.

[Back to top](#)

11. Click the **HTML** text box.
The **HTML** window appears.
12. Make the necessary changes and click **Apply**.
13. Click **Save**.

Share items with the public

Several layer views, maps and apps included in the Participatory Budgeting solution must be shared with everyone so they can be accessed by the public on the Participatory Budgeting site. To share your participatory budgeting items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Participatory Budgeting folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	PublicProjectIdeas_public
Web Map	Participatory Budgeting
Web Mapping Application	Participatory Budgeting
Site Application	Participatory Budgeting

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Use Participatory Budgeting

The Participatory Budgeting solution delivers a set of capabilities that help you solicit project ideas from the public, triage and monitor these ideas, and incorporate popular ideas in future capital improvement plans.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Submit a project idea

You will first assume the role of an engaged resident in the community. You want to learn more about the project ideas submitted by the community that are being considered for funding. You also have your own project idea that you want to submit for consideration by the community.


1. In a browser, from the Participatory Budgeting solution, view the Participatory Budgeting site.
2. Scroll to the **Do You Have a Project Idea** section and click the **Submit an Idea** button to open the Participatory Budgeting app.
3. Click **Proceed as Guest** or sign in with your ArcGIS Online or ArcGIS Hub community account.
4. In the **Ideas** list, browse ideas created by others in the community.
5. Click an idea.
6. To like an idea, click the **I agree** button to vote for it, or click the **Leave a reply** button to comment.
7. At the upper left, click the arrow to return to the list of submissions.
8. Click **Submit Idea** to add your own idea.
9. In the form, provide details about your idea, your contact information, and the location for the idea.
10. Click the **Report It** button to submit your idea.

Manage project ideas

You will now assume the role of a member of the participatory budgeting committee. One of your responsibilities is to review ideas submitted by the public and determine if they are viable and what the estimated cost would be.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Participatory Budgeting solution.
2. View the Participatory Budgeting Manager app.
3. In the table or on the map, click an idea.
The idea details open at the lower left.

[Back to top](#)

4. In the idea details, click the **Edit Record** button  .
5. Confirm that the idea category is appropriate.
6. For **Vetted**, choose **Yes**.
7. For **Viable**, choose **Yes**, if appropriate.
8. For **Estimated Cost**, type an estimated cost for the project.
9. Click **Save**.

Monitor project ideas

As a member of the participatory budgeting committee, another of your responsibilities is to monitor ideas submitted by the public to ensure the program is running smoothly.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Participatory Budgeting solution.
2. View the Participatory Budgeting Dashboard app.
3. On the left, use filters to refine the results by project category, status, viability, or date.
When you filter the results, the bar chart and number of project ideas update.
4. Click an idea on the map to view its details.

Performance Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Performance Management

Performance Management can be used to monitor key performance metrics and communicate progress made on strategic outcomes to the general public and other interested stakeholders.

Historically, government agencies have focused on process and compliance, but this management style has not yielded the expected results. As a result, many agencies are focusing on performance or results that benefit the public and attempting to increase public confidence in the results. Performance Management is typically implemented by government agencies that want to use evidence and results to foster a culture of continuous improvement, spend scarce budget resources wisely, and ensure that the community's needs are being prioritized.

The Performance Management solution delivers a set of capabilities that help you tabulate performance metrics, monitor performance using a series of dashboards and key performance indicators (KPIs), visualize performance for defined geographies, and share performance with the public through a community website.

Requirements

Performance Management requires the following:

- ArcGIS Enterprise

Information products

Performance Management includes the following information products:

Item	Description	Minimum user type
Community Performance	An ArcGIS Hub site used by government agencies to share key performance indicators (KPIs) and communicate progress made on strategic outcomes with the general public and other interested stakeholders	Not required
Performance Management	An ArcGIS Dashboards app used by government agencies to monitor key performance indicators (KPIs)	Viewer (required if dashboard is used)

[Back to top](#)

	and communicate progress made on strategic outcomes with the general public and other interested stakeholders	for internal purposes only)
Performance Management Mobile	An ArcGIS Dashboards app, optimized for mobile devices, used by government agencies to monitor key performance indicators (KPIs) and communicate progress made on strategic outcomes with the general public and other interested stakeholders	Viewer (required if dashboard is used for internal purposes only)
Performance Management Survey	An ArcGIS Survey123 form used by the general public to provide feedback on the community's strategic outcomes and key performance indicators (KPIs)	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Performance Management

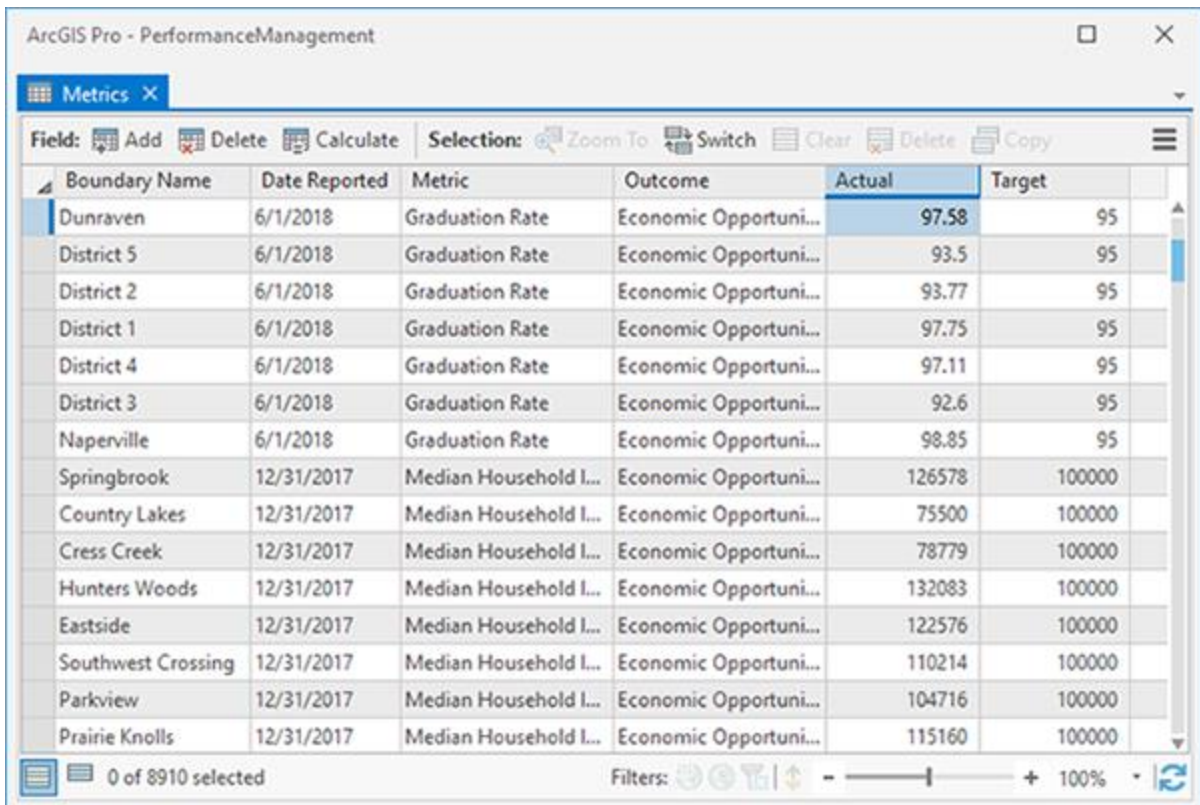
Configure Performance Management

Learn how to configure the Performance Management solution to meet specific needs in your organization.

Load data

The PerformanceManagement feature layer deployed with the solution is designed to be flexible to the different metrics that communities may want to measure as part of their Performance Management initiative. The PerformanceManagement feature layer contains two sublayers:

- A Boundaries layer, which stores the different levels of geography used to measure community performance—for example, the municipality or city, council districts, neighborhoods, and so on.
- A Metrics table, which stores the name of the metric, the strategic outcome it is associated with, the date it was reported, the geography it is measuring, the target or goal associated with the metric, and the actual value recorded. The image below shows an example of two metrics, Graduation Rate and Median Household Income, measured for different geographies and dates.



The screenshot shows the ArcGIS Pro PerformanceManagement interface with a table of metrics. The table has columns for Boundary Name, Date Reported, Metric, Outcome, Actual, and Target. The data is filtered to show metrics for Dunraven and various districts in Naperville, as well as Median Household Income for several other areas.

Boundary Name	Date Reported	Metric	Outcome	Actual	Target
Dunraven	6/1/2018	Graduation Rate	Economic Opportuni...	97.58	95
District 5	6/1/2018	Graduation Rate	Economic Opportuni...	93.5	95
District 2	6/1/2018	Graduation Rate	Economic Opportuni...	93.77	95
District 1	6/1/2018	Graduation Rate	Economic Opportuni...	97.75	95
District 4	6/1/2018	Graduation Rate	Economic Opportuni...	97.11	95
District 3	6/1/2018	Graduation Rate	Economic Opportuni...	92.6	95
Naperville	6/1/2018	Graduation Rate	Economic Opportuni...	98.85	95
Springbrook	12/31/2017	Median Household I...	Economic Opportuni...	126578	100000
Country Lakes	12/31/2017	Median Household I...	Economic Opportuni...	75500	100000
Cress Creek	12/31/2017	Median Household I...	Economic Opportuni...	78779	100000
Hunters Woods	12/31/2017	Median Household I...	Economic Opportuni...	132083	100000
Eastside	12/31/2017	Median Household I...	Economic Opportuni...	122576	100000
Southwest Crossing	12/31/2017	Median Household I...	Economic Opportuni...	110214	100000
Parkview	12/31/2017	Median Household I...	Economic Opportuni...	104716	100000
Prairie Knolls	12/31/2017	Median Household I...	Economic Opportuni...	115160	100000

- The image below shows a filtered view of the table for a single metric, Graduation Rate, for the City of Naperville recorded annually since 2014. In this example, you have also set a new target or goal for 2019 with no actual value recorded yet. This allows you to display future goals in the performance dashboard.

[Back to top](#)

Boundary Name	Date Reported	Metric	Outcome	Actual	Target
Naperville	6/1/2014	Graduation Rate	Economic Opportuni...	94.53	95
Naperville	6/1/2015	Graduation Rate	Economic Opportuni...	99.66	95
Naperville	6/1/2016	Graduation Rate	Economic Opportuni...	91.03	95
Naperville	6/1/2017	Graduation Rate	Economic Opportuni...	94.61	95
Naperville	6/1/2018	Graduation Rate	Economic Opportuni...	98.85	95
Naperville	6/1/2019	Graduation Rate	Economic Opportuni...	<Null>	97

Load performance boundaries

The Boundaries layer is used to define, which geographies the community want to measure performance and controls the options listed in the filter of the performance dashboard. This can be a single location (for example, the city), or multiple locations (for example, the city, its neighborhoods, and council districts).

To load features from a shapefile into the Boundaries layer, complete the steps below:

1. Sign in to your ArcGIS organization and browse to the PerformanceManagement feature layer item.

Note:

When you deploy the solution, two feature layers are created in your ArcGIS organization **My Content** tab, PerformanceManagement and PerformanceManagement_dashboard. PerformanceManagement_dashboard is a noneditable view of the PerformanceManagement feature layer that is used by the dashboards. PerformanceManagement is editable and is intended for users inside the organization to add, modify, and delete records.

2. Open the item page and click **Update Data > Append Data to Layer**.
3. Click **Choose File** and browse to a .zip containing the shapefile with your boundary features, and then click **Open**.
4. Click **Upload and Continue**.
5. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Boundaries**.
6. Uncheck **Update existing features**.
7. Click **Show field matching** to map the fields.

Note:

The key required field for the Boundaries layer is the name field, which represents the name of the geography. This field is used in the relationship between the Boundaries

[Back to top](#)

layer and Metrics table and is what drives the location filter in the dashboard. If you have a type field on the source layer, it can be mapped as well. If not, it can be edited after you append the data.

8. Click **Apply Updates**.

Load performance metrics

The Metrics table is configured to allow a community to manage all their key performance indicator (KPI) data across different geographies and over time in a single table. Each row in the table corresponds to a single KPI for a specified geography and date and time.

Often the performance data is coming from multiple business systems in the organization and exist in many different formats. Much of the effort in standing up the performance management dashboards is in bringing all these different datasets into a consistent format that can be consumed in ArcGIS. One approach for external tabular data is to use software such as Microsoft Excel to format the data to the model expected by the Metrics table. Once formatted in Microsoft Excel, the spreadsheet can be loaded into Metrics table.

Tip:

[Download](#) a sample Microsoft Excel spreadsheet with a schema matching the schema of the Metrics table to help with loading into the Performance Management solution.

To prototype the dashboard, it may help to focus on one metric for a specific geography in the community. To load records from the spreadsheet into the Metrics table, complete the steps below:

1. Verify that you are signed in to your ArcGIS organization and browse to the PerformanceManagement feature layer item.
2. Open the item page and click **Update Data > Append Data to Layer**.
3. Click **Choose File**, browse to your spreadsheet, and click **Open**.
4. Click **Upload and Continue**.
5. Click the **Choose the layer that you wish to append data into** drop-down arrow and choose **Metrics**.
6. Uncheck **Update existing features**.
7. Click **Show field matching** to map the fields.
8. Click **Apply Updates**.


Configure performance dashboard for an outcome

The Performance Management solution comes with two template dashboards (large display and mobile) that can be reused for different outcomes and configured for KPIs measured in your community.

To configure a dashboard for your strategic outcome and KPIs, complete the steps below:

1. Verify that you are signed in to your ArcGIS organization and browse to the Performance Management or Performance Management Mobile dashboard.

[Back to top](#)

2. Open the item page and click **Edit Dashboard**.
3. Click the arrow next to **Save**, click **Save As**, and specify a title, tags, and a summary.
4. Hover over the upper left corner of the header and click **Configure** .
5. Update the **Title** for your strategic outcome, and then click **Done**.
6. Click the **Save** to save the dashboard.

The large display dashboard has two rows of four panels each and the mobile dashboard has a single column with eight panels. Each panel is composed of three stacked elements:

- The [Current](#) tab is an [indicator](#) element that displays the most recent reported value for a given metric. When applicable, this element also displays if the metric is meeting or not meeting the designated target for that geography.
- The [History](#) tab is a [serial chart](#) element that displays the performance of that metric over time. The actual value is displayed as a bar chart, and when applicable, the target is displayed as a line.
- The [Detail](#) tab is a [rich text](#) element where you can provide additional context for the metric, for example, how it is measured, where the data is coming from, and why it is important.


Each panel is configured for a different key performance indicator associated with the strategic outcome. The steps below describe how you can configure each element in a panel for your metric. Repeat the steps below for each panel in the dashboard.

Note:

The mobile dashboard is intended to be embedded in a website, for example, the Community Performance site included in the solution. When editing or viewing the dashboard in the browser, the panels fill the space available and do not leave enough space for each panel vertically. The Community Performance site provides the mobile dashboard with enough space vertically so that each panel displays well, and the user can scroll the page to view each metric.

Current tab

To configure the **Current** tab, complete the steps below:

1. Click the **Current** tab.
2. Hover over the upper left corner of the element and click **Configure** .
3. Click the **Data** tab.
4. Change the **Filter** settings, by clicking the drop-down arrow and changing the **Value** to correspond to your metric.
5. Click the **Indicator** tab.
6. If your metric has a target, enable **Conditional Formatting**; otherwise, turn off this option.

Note:

When enabled, you can visualize the value differently when the actual value is equal to or above the target value and when the actual value is less than the target. Also, complete the following steps for both representations.

7. Optionally, modify the **Middle Text** for each indicator, to add or remove additional characters to display next to the actual value, for example, a percent sign, dollar sign, and so on.
8. In the **Icon** area, click **Change** and choose an appropriate icon, or click the **Custom** tab to add your own custom Scalable Vector Graphics (SVG) icon.
9. Optionally, in the **Formatting** area, change the value [pattern](#) to format the number.
10. Click the **General** tab.
11. Change the name of the element.
12. Modify the **Title** setting by clicking **Edit** and updating the title for the metric.
13. Modify the **Description** setting by clicking **Edit**.
14. Click **Source** and copy and paste the appropriate HTML snippet below into the editor:

Value is meeting the target:

```
<table style="background-color:#35ac46; color:#ffffff; font-size:16px;
padding:0px; width:100%">
  <tbody>
    <tr>
      <td width="40">
        <svg fill="#ffffff" height="32" id="ember25808"
style="vertical-align: middle; margin-left:auto; margin-right:auto;
display:block;" viewBox="0 0 16 16" width="32"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink">
          <path d="M7.5 0C3.366 0 0 3.364 0 7.5S3.365 15 7.5
15c4.136 0 7.5-3.364 7.5-7.5S11.636 0 7.5 0zm.001 14C3.916 14 1 11.084 1
7.5S3.916 1 7.501 1C11.085 1 14 3.916 14 7.5S11.085 14 7.501 14z"></path>
          <path d="M11.634 4.633L6.5 9.767 4.312 7.579L-
.707.707L6.5 11.181L5.841-5.84z"></path>
        </svg>
      </td>
      <td>
        <p><span>Target: </span>{element/reference}</p>
        <p>{reportdt}</p>
      </td>
    </tr>
  </tbody>
</table>
```

Value is not meeting the target:

```
<table style="background-color:#de2900; color:#ffffff; font-size:16px;
padding:0px; width:100%">
```

```

    <tbody>
      <tr>
        <td width="40">
          <svg fill="#ffffff" height="32" id="ember25808"
style="vertical-align: middle; margin-left:auto; margin-right:auto;
display:block;" viewBox="0 0 16 16" width="32"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink">
            <path d="M7 3h1v7H7zm0 8h1v1H7z" vector-effect="non-
scaling-stroke"></path>
            <path d="M7.5 0C3.366 0 0 3.364 0 7.5S3.365 15 7.5
15c4.136 0 7.5-3.364 7.5-7.5S11.636 0 7.5 0zm.001 14C3.916 14 1 11.084 1
7.5S3.916 1 7.501 1C11.085 1 14 3.916 14 7.5S11.085 14 7.501 14z" vector-
effect="non-scaling-stroke"></path>
          </svg>
        </td>
        <td>
          <p><span>Target: </span>{element/reference}</p>
          <p>{reporttd}</p>
        </td>
      </tr>
    </tbody>
  </table>

```

Metric has no target:

```


<table style="background-color:#0084a8; color:#ffffff; font-size:16px;
padding:0px; width:100%">
  <tbody>
    <tr>
      <td width="40">
        <svg fill="#ffffff" height="32" id="ember25808"
style="vertical-align: middle; margin-left:auto; margin-right:auto;
display:block;" viewBox="0 0 16 16" width="32"
xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink">
          <path d="M7.5 0C3.366 0 0 3.364 0 7.5S3.365 15 7.5
15c4.136 0 7.5-3.364 7.5-7.5S11.636 0 7.5 0zm.001 14C3.916 14 1 11.084 1
7.5S3.916 1 7.501 1C11.085 1 14 3.916 14 7.5S11.085 14 7.501 14z"></path>
          <path d="M8.164 3.414l-.707.708L10.336 7H3v1h7.336l-
.224.224-2.655 2.655.707.707L12.25 7.5z"></path>
        </svg>
      </td>
      <td>
        <p>Measured</p>
        <p>{reporttd}</p>
      </td>
    </tr>
  </tbody>
</table>

```

15. Click **Source**, and click **Done**.
16. Click **Save** to save the dashboard.


History tab

To configure the **History** tab, complete the steps below:

1. Click the **History** tab.
2. Hover over the upper left corner of the element and click **Configure** .
3. Click the **Data** tab.
4. Change the **Filter** settings, by clicking the drop-down arrow and changing the value to correspond to your metric.
5. Update the **Minimum Period** setting frequency at which the metric is updated.
6. If the metric has a target value, configure the chart with two series. Set the **Series 1 Field** setting to **Actual** and set the **Series 2 Field** setting to **Target**. Click the **+ Series** button to add a second series if it isn't already added. If the metric has no target, remove the second series.
7. If you did not add a second series, go to step 12.
8. Click the **Chart** tab.
9. Change the **Legend Placement** setting to **Bottom**.
10. Click the **Series** tab.
11. In the **Target** area, change the **Type** setting to **Line** and the **Color** setting to **#00734c**.
12. Click the **General** tab.
13. Change the name of the element.
14. Modify the **Title** setting by clicking **Edit** and updating the title for the metric.
15. Click **Done**, and click the **Save** button to save the dashboard.

Detail tab

To configure the **Detail** tab, complete the steps below:

1. Click the **Detail** tab.
2. Hover over the upper left corner of the element and click **Configure** .
3. In the rich text editor, update the title for the metric.
4. Add any addition text, hyperlinks, or images to the description that will help explain how the metric is measured, where the data comes from, and why it is important.
5. Click **Done**, and click the **Save** button to save the dashboard.



Add a strategic outcome page to Community Performance site

The Performance Management solution comes with a site that you can use to share key performance metrics and communicate progress made on strategic outcomes to the general

[Back to top](#)

public and other interested stakeholders. The site includes a template page that can be reused for each outcome defined for the community.

To add a new outcome page, complete the steps below:

1. Verify that you are signed in to your ArcGIS organization and browse to the Community Performance site.
2. Open the item page and click **View Application**.
3. At the top of the Community Performance site, click the **Outcome** tab.
4. Click the edit button  to open the site editor.
5. In the top right corner of the page, click **More Actions**  and choose **Clone Layout**.


Note:

This creates a copy of the Outcome page and creates a new item in the home folder of your content.

6. In the side panel, click **Page Info** and update **Page Info**, **Page Summary**, and the slug of the page for your outcome.
7. Scroll down the page and you will see the two performance management dashboards included with the solution embedded in the page.

Note:

While editing the page, both dashboards display. When viewing the page, the first dashboard is in a row that only displays when the browser width is greater than 992 pixels. The second dashboard is optimized for mobile display and is in a row that only displays when the browser width is less than 992 pixels.

8. Hover over the first dashboard and click the settings button .
9. In the side panel, hover over the **Modify** button and click **Edit**.
10. In the **Select Application** window, search for the Performance Dashboard associated with the outcome and click **Select**.
11. Repeat steps 8 through 10 for the mobile dashboard.
12. Scroll to the **Outcome** section of the page, hover over the image card and click the settings button.
13. In the side panel, provide an image for the outcome by either dragging an image or browsing for an image.
14. Hover over the **Outcome** card and click the settings button.
15. Edit the text for your outcome to describe what it is and why it is important to the community.
16. Click **Save**.

17. At the top of page, click the **Community Performance** drop-down arrow and choose **Initiative Site**.
18. In the side panel, click **Header**.
19. Expand the **Menu** options, click the **Add Link** drop-down arrow, and choose **to existing content**.
20. In the **Add Content** window, search for the Outcome page you created in the previous steps and click **Select**.
21. Drag the menu link in the side panel to reorder link positions at the top of the site.
22. Click **Save**.

Note:

In the **Discover What Makes Our Community Stand Out** section of the site is a gallery card. This gallery shows any pages shared with the site that have the Outcome tag. The new outcome page you added in the previous steps now display here and provide a link to the page. To update the image and text associated with the gallery card, browse to the page item in your content and update the thumbnail, summary, and description.

Share items with the public

Several layer views, maps and apps included in the Performance Management solution must be shared with everyone so they can be accessed by the public on the Community Performance site. To share your performance management items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Performance Management folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	PerformanceManagement_dashboard
Feature Layer (hosted, view)	PerformanceManagementSurvey_public
Dashboard	Performance Management
Dashboard	Performance Management Mobile
Form	Performance Management Survey
Site Application	Community Performance

3. Click **Share**.

[Back to top](#)

4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.

Modify performance survey

To modify the Performance Management Survey, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to Performance Management Survey.
2. Open the item page and click **Open in Survey123 > Manage in Survey123 website**.
3. Click the **Design** tab.
4. Edit the survey and save the changes.
5. Click **Publish**.

Use Performance Management

The Performance Management solution delivers a set of capabilities that help you tabulate performance metrics, monitor performance using a series of dashboards and key performance indicators (KPIs), visualize performance for defined geographies, and share performance with the public through a community website.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Monitor community performance

You will assume the role of a resident in the community. You are interested in learning how the community measures success and learn how well the community and your neighborhood is performing in these areas.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Performance Management solution.
2. View the Community Performance site.
3. Scroll down to the **Discover What Makes Our Community Stand Out** section of the page and click one of the strategic outcomes.
At the top of the page is the associated performance dashboard. Each KPI displays the most recent reported value, when it was last measured, and when applicable, if the metric is meeting or not meeting the designated target.
4. For a KPI, click the **History** tab.
This tab displays the performance of that KPI over time. The actual value is displayed as a bar chart and when applicable the target is displayed as a line.
5. For a KPI, click the **Details** tab.
This tab provides additional context for the KPI—for example, how it is measured, where the data is coming from, and why it is important.
6. Click a new geography from the drop-down menu in the upper right corner of the dashboard to visualize for performance at locations in the community—for example, a neighborhood or council district.
7. Click another outcome using the links at the top of the site to view the corresponding performance dashboard and related KPIs.

Provide feedback on performance initiative

After reviewing the community goals and the KPIs used to measure performance, you want to provide feedback on the aspects you liked and thought the community is performing well in and the aspects you feel the community can improve.

[Back to top](#)

1. In a browser, sign in to your ArcGIS organization, and then browse to the Performance Management solution.
2. View the Community Performance site.
3. Scroll down to the **Tell Us How We're Doing** section and click the **Share Feedback** button to open the Performance Management Survey app.
4. Fill out the Performance Management Survey survey to provide your feedback.
5. Click **Submit**.

Plans and Drawings

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Plans and Drawings

Plans and Drawings can be used to index the geographic extent of record plans and drawings and provide access to a catalog of source documents in the office or the field.

Design drawings, construction plans, as-builts, and other source documents contain vital information that is used daily by engineers and field staff to make infrastructure improvements. Many times, these drawings have been automated and are cataloged in a document management system, but some drawings may only exist in hardcopy format and be stored in an office file cabinet. And while each of these record drawings may represent a given geography, understanding the extent of the record drawing and whether it contains the information you are looking for can be quite time consuming. Plans and Drawings is typically implemented by public works agencies and utilities that want to simplify access to record drawings and ensure that engineers and field staff understand what drawings exist at a given location.

The Plans and Drawings solution delivers a set of capabilities that help you index record drawings, associate a geographic extent with each drawing, and provide access to a catalog of plans and drawings in the office or the field.

Requirements

Plans and Drawings requires the following:

- ArcGIS Enterprise

Information products

Plans and Drawings includes the following information products:

Item	Description	Minimum user type
Plan Catalog	An ArcGIS Web AppBuilder app used by public works staff to access a catalog of record drawings, as-builts, and other source documents	Viewer
Plan Index	An ArcGIS Web AppBuilder app used by public works staff to index the geographic extent of record plans and drawings	Editor

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Plans and Drawings

Use Plans and Drawings

The Plans and Drawings solution delivers a set of capabilities that help you index record drawings, associate a geographic extent with each drawing, and provide access to a catalog of plans and drawings in the office or the field.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Index plans and drawings

First, you will assume the role of a public works engineer. You need to index a record drawing submitted for a recent project.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Plans and Drawings solution.
2. View the Plan Index app.
The **Index Plan** widget allows you to create a geographic extent for your project.
3. To create a new plan, click the **Plans and Drawings** template.
4. Click the map to draw the geographic extent around the project location, and then double-click to finish drawing the polygon.

Note:

You can use the **Search** widget to quickly update the map extent to desired addresses, place-names, or locations of existing projects.

5. After you draw the geographic extent, you are prompted with a Plans Index form.
6. Complete the form with as much information as possible.

Tip:

In the **Document Path** text box, type a URL or other resolvable file path to your organization's existing document repository solution.

In the **Document Location Description** text box, describe the physical location if documents are not stored in a digital format with a resolvable document path, link, or URL. For example, type Public Works Building, 2nd Floor in the 2022 Projects cabinet.

7. Scroll to the **Attachments** option.

Note:

[Back to top](#)

The **Attachments** option is useful for uploading before-and-after photos related to the project and other relevant project media.

8. Optionally, add attachments.
9. Click **Save** to complete the indexing workflow.

View plans and drawings

After they are indexed, record drawings can be accessed from the office or the field. Now, you will assume the role of an engineer at a local utility who needs to access pertinent plans and drawings while in the field on a site visit to a new infrastructure project.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Plans and Drawings solution.
2. View the Plan Catalog app.
The app opens with the **Filter Plans** widget open on the right. Filters are active by default; filtering by project type or date automatically updates the results in the map.
3. In the **Filter Plans** widget, adjust the filters to refine the results.
4. On the map, click a project extent.
A pop-up with more information about the project appears. In addition to providing project information, the pop-up includes a **Document ID** link, if available.
5. If available, click the **Document ID** link to open the referenced plan or drawing associated with this project.
The link opens in a new browser tab.

Share a record drawing link

A colleague has requested information about the record drawing for a bridge project that you recently indexed. You will use the Plan Catalog to create a direct link to the project details and share with your colleague.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Plans and Drawings solution.
2. View the Plan Catalog app.
3. At the upper right, click the **Share** button to open the widget.
In the **Share** widget, under **Share a link to this app**, there is a pregenerated link. By default, this short link uses your app's current map extent. In the following steps, you will construct a query within the share link so that it opens a specific project detail when opened.
4. Click **Link Options**.
5. Click **Query a feature and zoom to it**.
The drop-down lists that appear must be completed to generate a project-specific app link.
6. Click the first drop-down arrow and choose **Plans and Drawings**.
7. Click the second drop-down arrow and choose **projname**.

8. Click the third drop-down arrow and search for or choose the project that you want to share.
9. At the top of the widget, click the **Back** arrow.
The sharing short link is now updated using your project query information.
10. Below the short link, click the **Email** button to launch a pregenerated email with your custom app link.
A draft email opens in your device's default email handler. Alternatively, you can copy the short link from the **Share a link to this app** text box. If you have accessed the Plan Catalog app from a mobile device, you can use this link to share a record by text message or other messaging app.

Police Transparency

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Police Transparency

Police Transparency can be used to share authoritative information and communicate engagement efforts that build trust with the public and community stakeholders.

In some communities, inequitable policing practices have eroded the public's trust and challenged the legitimacy of local law enforcement agencies. As a result, many agencies are seeking new ways to improve their relationship with the communities they serve. The larger reform efforts are helping law enforcement agencies improve transparency and demonstrate accountable police policies. At the same time, agencies are also engaging the community more deeply and using their feedback to drive policing priorities and enforcement policies. Police Transparency is typically implemented by law enforcement agencies that want to increase transparency, grow public trust, and improve relationships with the communities they serve.

The Police Transparency solution delivers a set of capabilities that help you share information openly with the public, promote your agency's work, demonstrate accountability when force is used, illustrate how workforce recruiting reflects the diversity of the community, and engage the public to improve policing services and solve problems.

Requirements

Police Transparency requires the following:

- ArcGIS Enterprise

Information products

Police Transparency includes the following information products:

Item	Description	Minimum user type
Police Transparency	An Enterprise Sites site used by the public to understand community crime conditions, explore patterns of police use of force, learn about the diversity of their police force, access open data, and discover opportunities for police-community engagement.	Not required

[Back to top](#)

Crime Summary Dashboard	An ArcGIS Dashboards app used by the public to understand historical statistical trends across major crime categories and individual crime types.	Not required
Crime Trends Dashboard	An ArcGIS Dashboards app used by the public to explore statistical trends and hot spots across individual crime types.	Not required
Public Crime Map	An ArcGIS Web AppBuilder app used by the public to explore recent crime conditions in their community and create reports for an area of interest.	Not required
Use of Force by Race and Ethnicity	An ArcGIS Dashboards app used by the public to explore patterns in the race and ethnicity of officers and subjects involved in use of force incidents in relation to the composition of the community.	Not required
Use of Force by Race and Ethnicity Mobile Dashboard	An ArcGIS Dashboards app used by the public on mobile devices to explore patterns in the race and ethnicity of officers and subjects involved in use of force incidents in relation to the composition of the community.	Not required
Use of Force by Neighborhood	An ArcGIS Dashboards app used by the public to explore characteristics of use of force incidents by community policing area.	Not required
Use of Force by Subject	An ArcGIS Dashboards app used by the public to explore characteristics of the subjects of use of force incidents.	Not required
Use of Force by Officer	An ArcGIS Dashboards app used by the public to explore characteristics of the officers involved in use of force incidents.	Not required
Police Interaction Survey	An ArcGIS Survey123 form used by the public to provide feedback about their interactions with police personnel.	Not required
My Community Officer	A Zone Lookup app used by the public to learn about the community policing officer responsible for an area of interest and how to contact them.	Not required
Community Safety and Policing Satisfaction Survey	An ArcGIS Survey123 form used by the public to report their perceptions of community safety and holistic performance of their police agency.	Not required
Community Crime Problem Reporter	A Crowdsome Reporter app used by the public to submit information about crime problems in their community.	Not required (Optional Community Identity)
Community Crime Problem Manager	An ArcGIS Dashboards app used by community policing officers to capture data on a community crime problem-solving project as it proceeds through the SARA problem-solving model.	Editor

[Back to top](#)

Community Crime Problem Dashboard	An ArcGIS Dashboards app used by the public to monitor the status and outcomes of community crime problem-solving projects.	Not required
Law Enforcement Diversity Dashboard	An ArcGIS Dashboards app used by the public to understand the racial, ethnic, and gender diversity of their police force in relation to the composition of the community.	Not required
Law Enforcement Diversity Mobile Dashboard	An ArcGIS Dashboards app used by the public on mobile devices to understand the racial, ethnic, and gender diversity of their police force in relation to the composition of the community.	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Police Transparency

Configure Police Transparency

In this topic, you will learn how to configure the Police Transparency solution to meet specific needs in your organization.

Load your data

Police Transparency can be used by law enforcement agencies to share crime, use of force, police personnel, and community policing boundary information. In some cases, you may already have this information in ArcGIS Enterprise or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one, or more, of the data-loading workflows below.

Load police personnel roster

Police Transparency can be used by law enforcement agencies to share data about the diversity of their agency personnel. The Police Transparency solution includes the Law Enforcement Diversity Dashboard that can be used to display this information by race, ethnicity, and gender in relation to community proportions.

To load your agency personnel roster into the Law Enforcement Diversity Dashboard from a spreadsheet, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Police Personnel Microsoft Excel item.
2. On the item details page, click **Download**.
3. Once downloaded, open the Police_Personnel.csv file and enter your personnel roster information.

Tip:

Many fields have existing domain values that are used for filters and charts in the Law Enforcement Diversity Dashboard. If the values in your data are not identical to the values in each domain, you can either change the values in your data to match the values already in each field's domain list to update the domain list of each field in the Police_Personnel table to reflect the values in your data. Then follow the steps in the Modify apps section to update the Law Enforcement Diversity Dashboard to reflect your values.

4. Ensure the name of the spreadsheet is **Police_Personnel** and do not change any field names.
5. Click **Save** to save your changes.
6. In your ArcGIS organization, browse to the Police_Personnel hosted feature table.

[Back to top](#)

7. On the item details page, click **Update Data**, then click **Append Data to Layer**.
8. Under **Filename**, choose your **.csv** file.
9. Click **Upload** and **Continue**.
10. Uncheck **Update existing features**.
11. Click **Show field matching**.
12. Confirm that all fields listed in the **Fields** column have a corresponding field listed in the **Match Field** column.
13. If no field is listed in the **Match Field** column, click the drop-down box for that field, and select the field name from the spreadsheet that reflects the value shown in the **Fields** column.
14. Click **Apply Updates**.

Load community policing areas

To load your data into the CommunityPolicingAreas layer, complete the following steps:

1. In your ArcGIS organization, browse to the feature layer you want to populate.
2. Create a **.zip** file of a shapefile of your Community Policing Areas.
3. On the item details page, click **Update Data**, then click **Append Data to Layer**.
4. Under **Filename**, choose your **.zip** file.
5. Click **Upload and Continue**.
6. From **Choose the layer that you wish to append data into**, select the CommunityPolicingAreas layer.
7. Uncheck **Update existing features**.
8. Click **Show field matching** to map the fields.
9. Click **Apply Updates**.

Load use of force data

Police Transparency can be used by law enforcement agencies to share use of force information. The solution includes several charts and dashboards that can be used to display characteristics of use of force incidents by race and ethnicity, neighborhood, subject of the force, and the officer involved.

To load your agency use of force data from a spreadsheet into the UseOfForce feature layer, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the UseOfForce Microsoft Excel item.
2. On the item details page, click **Download**.
3. Once downloaded, open the **UseOfForce** Excel workbook.

Note:

The workbook contains three spreadsheet tabs—one for **Incidents**, one for **Subjects**, and one for **Officers**. Enter your personnel roster information.

4. Ensure the name of the spreadsheet is **UseOfForce** and do not change any field names.

Note:

Review the fields in the UseOfForce feature layer. This layer is comprised of an Incidents layer, an Officers related table, and a Subjects related table—you will need to be familiar with the fields and domain values of all three.

Tip:

Many fields have existing domain values that are used in filters and charts on the ArcGIS Enterprise Sites page and in the use of force dashboard. If the values in your data are not identical to the values in each domain, you can either change the values in your data to match the values already in each field's domain list, or follow the steps in the **Modify data** section to update the domain list of each field in the UseOfForce feature layer to reflect the values in your data. Then follow the steps in the **Modify apps** section to update the ArcGIS Enterprise Sites charts, Use of Force by Race and Ethnicity, Use of Force by Neighborhood, Use of Force by Officer, and Use of Force by Subject dashboards to reflect your values.

5. Click **Save** to save your changes.
6. In your ArcGIS organization, browse to the UseOfForce feature layer.
7. On the item details page, click **Update Data**, then click **Append Data to Layer**.

Note:

Ensure that the data in your Excel workbook already has valid latitude and longitude coordinates. If your data has only addresses and no coordinates, you can geocode it using a local address locator and ArcGIS Pro, or the [Publish an Excel file](#) workflow in your ArcGIS organizational portal. Export the resulting layer as a CSV file or Excel spreadsheet and add the **Latitude** and **Longitude** values to the UseOfForce worksheet in the **Incidents** layer.

8. Under **Filename**, choose your Excel workbook file.
9. Click **Upload** and **Continue**.
10. Select **Incidents** from the drop-down list and choose the layer into which you want to append data.
11. Select **Incidents** from the drop-down list and choose the layer from UseOfForce.xlsx that contains the updated data.
12. Uncheck **Update existing features**.
13. Click **Show field matching**.
14. Confirm that all fields listed in the **Fields** column have a corresponding field listed in the **Match Field** column.

If no field is listed in the **Match Field** column, click the drop-down box for that field, and select the field name from the spreadsheet that reflects the value shown in the **Fields** column.

15. Click **Apply Updates**.
16. Repeat steps 7 through 15 twice, appending the data from the **Officers** and **Subjects** tabs of your spreadsheet into the **Officers** and **Subjects** feature tables.

Note:

If you want to automate the process of appending new Use of Force data from a local Excel workbook into the UseOfForce feature layer, see the Automate data updates section.

Load crime data

Police Transparency can be used by law enforcement agencies to share crime data. The solution includes web mapping apps and dashboards that can be used to display current and historical crime conditions in a community.

To load your agency crime data from a spreadsheet into the Crime feature layer, complete the steps below.

Tip:

Ensure that the data in your Excel workbook already has valid latitude and longitude coordinates. If your data has only addresses and no coordinates, you can geocode it using a local address locator and ArcGIS Pro, or the [Publish an Excel file](#) workflow in your ArcGIS organizational portal. Export the resulting layer as a CSV file or Excel spreadsheet and add the **Latitude** and **Longitude** values to the Crimes worksheet along with the rest of your features.

1. Sign in to your ArcGIS organization and browse to the Crimes feature layer.
2. On the item details page, click **Update Data**, then click **Append Data to Layer**.
3. Under **Filename**, choose your Excel workbook file.
4. Click **Upload** and click **Continue**.

Tip:

You will need to be familiar with the fields and domain values. Many fields have existing domain values that are used for filters and charts in the Crime Summary Dashboard, Crime Trends Dashboard, and Public Crime Map. If the values in your data are not identical to the values in each domain, you can either change the values in your data to match the values already in each field's domain list, or follow the steps in the Modify data section to update the domain list of each field in the Crime feature layer to reflect the values in your data. When complete, you will update the Crime Summary Dashboard, Crime Trends Dashboard, and Public Crime Map to reflect your data values.

5. Uncheck **Update existing features**.
6. Click **Show field matching**.
The **Field** column contains all of the fields in the Crimes feature layer. The **Match Field** column displays the names of all fields in your source Excel workbook.

[Back to top](#)

If no field is listed in the **Match Field** column, click the drop-down box for that field, and select the field name from your spreadsheet that reflects the value shown in the **Fields** column.

7. Click **Apply Updates**.

Note:

If you want to automate the process of appending new Use of Force data from a local Excel workbook into the Crimes feature layer, see the **Automate record import** section.

Load data for use of force context chart

1. Sign in to your ArcGIS organization and browse to the **ContextOfUseOfForce** CSV item.
2. On the item details page, click **Download**.
3. Click **Edit** on the CSV file and enter a single year's worth of summary totals for the following datasets: Calls For Service, Arrests, Total Use of Force, Serious Injury Force, and Deadly Force. Click **Save** to save the CSV file when complete.
4. In your ArcGIS organization, browse to the **ContextOfUseOfForce** feature table.
5. On the item details page, Click **Update Data**, then click **Append Data to layer**.
6. Under **Filename**, choose your CSV file.
7. Click **Upload and Continue**.
8. Uncheck **Update existing features**.
9. Click **Show field matching**. Confirm that all fields listed in the **Fields** column have a corresponding field listed in the **Match Field** column. If no field is listed in the **Match Field** column, click the drop-down box for that field, and select the field name from the CSV file that reflects the value shown in the **Fields** column.
10. Click **Apply Updates**.

Tip:

To modify the data in this table after the initial load, browse to the data section of the **ContextOfUseOfForce** item, and double-click a value in the table to change it.

Remove outdated personnel records (optional)

At some point, you may want to delete all data in a feature layer to load new information. For example, your organization may update the personnel roster information used in the Law Enforcement Diversity Dashboard semi-annually. To avoid duplicate or incorrect records, the existing records must first be deleted before a current roster can be appended into the solution's **Police Personnel** table.

Delete features

To delete features from a hosted feature layer or table, complete the following steps:

[Back to top](#)

1. Sign in to your ArcGIS organization.
2. Go to the **Overview** tab of the **Police_Personnel** hosted feature table.
3. In the lower right corner, in the URL category, click **View**.
The **ArcGIS REST Services Directory** for this page appears.
4. Click the link of the layer or table from which you want to delete records.
5. In the URL bar of the browser, edit the URL with the following changes.
 - a. Add the word `admin` between `rest/` and `services`. (For example: `ArcGIS/rest/admin/services/Police_Personnel`)
 - b. Add the word `truncate` between `0/` and `?token`. (For example: `FeatureServer/0/truncate?token=`)
6. In the next window, click **Truncate**.

Update a layer with a join view

The Police Transparency solution includes a series of feature layer join views that are used to display information in the Use Of Force page and in a series of use of force dashboards. Join views are created using the Join Features analysis tool by joining two sources together based on a matching field. The benefit of the join view is that it remains up to date as the source data changes. However, when new fields are added to the source layers or when field domain values are changed, the join views must be recreated with the same name and URL for the charts and dashboards to continue working properly.

To add a field to a layer and update the join views, complete the following steps:

1. Browse to the join view in your contents.
2. On the item's Overview page, scroll to the URL section. Click the **Copy** button.
3. Paste the copied URL into Microsoft Notepad or another text editor for reference.

Note:

The feature layer's service name will be used below when re-creating the join. The name can be found after services in the URL structure and may also contain a unique GUID, for example, `UseOfForce_Incidents_Subjects_joina45f71a48587425c9b90ee5527cd26d1`.

4. Delete the existing join view.
5. Add the source hosted feature layer to a new web map (for example, `UseOfForce`).
6. Click **Analysis, Summarize Data, Join Features**.
7. Configure the join using the table below.

Name of join	Target layer	Layer to join to the target layer	Fields to match	Join operation

[Back to top](#)

UseOfForce_Incidents_Subjects_join	Incidents (UseOfForce)	Subjects (UseOfForce)	agency_case_number=agency_case_number	Join one to many
UseOfForce_Incidents_Officers_join	Incidents (UseOfForce)	Officers (UseOfForce)	agency_case_number=agency_case_number	Join one to many

Tip:

Ensure each new join view uses the names defined in the table above. If you use the same names, the layers in the map and the existing dashboard widgets will not have to be reconfigured. If your join view contained a unique GUID, the new join view must be named with the unique GUID.

8. If necessary, uncheck **Use current map extent**. Check **Create results as hosted feature layer view**.
9. Update the web map and app configurations of Use of Force by Race and Ethnicity, Use of Force by Neighborhood, Use of Force by Subject, and Use of Force by Officer Dashboard to account for the new fields or domain values you added.

Automate record import

Some organizations may want to automate the importing of data from their record systems into the layers in the Police Transparency solution. In particular, users may want to perform daily or weekly updates of their Crimes or Use of Force data to ensure that residents have timely access to information.

The layers in the Police Transparency solution can be updated using the [Record Import Tools](#) toolbox. These tools can be executed from ArcGIS Pro manually or automated on a schedule using Windows Task Scheduler. The Toolbox supports the use of database tables from your Computer Aided Dispatch (CAD) or Records Management System (RMS) as well as Microsoft Excel spreadsheets (.xls) or comma-separated values (.csv) files.

Modify ArcGIS Enterprise Sites pages

The Police Transparency solution includes an ArcGIS Enterprise Sites site and pages that your organization can configure with your own branding and share your organization’s story with the public.

Update with organizational information

After deploying the Police Transparency solution, the site and pages require a few updates to fit your local context. Consider what information you already have and what you can most easily find.

To update the Police Transparency site, complete the following steps:

1. From the Customize window of the Site Home, select **Header** and **Branding**.
2. Update the header to include your organizational icon.
3. Change the name and short name of the site (Police Transparency) to a name that better reflects your specific organization.
4. Browse to the Social Icons group and enter in the URLs for your agency's Facebook, Twitter, and Instagram accounts, or disable if you don't want them displayed.
5. Click **Apply**, then click **Save** to save the page, and click **Publish Draft**.
6. From the Customize window of the Site Home, select **Footer**.
7. Click the expand button in the right corner of the HTML section.
8. Replace the default icon URL, department name, email address, and street address with the correct values for your organization.
9. Enter the URLs for your agency's Facebook, Twitter, LinkedIn, Instagram, and YouTube accounts.
10. Delete any icons from the HTML that are not required, then click **Apply**.
11. Click **Save** to save the page.
12. Click **Publish Draft**.
13. Update the main header image on each page to an image from your organization. For best results, this image should be 96 dpi and 1920 x 400.
14. Update the other stock images in the site with images from your organization. For best results, these images should be 600 x 400 and 96 dpi.
15. On the main page, click **Configure** on the Facebook and Twitter Social Media Cards to update the Timeline Link URL to your organization's Facebook and Twitter pages.
16. Review all text on each page for consistency with your organizational messaging.

Tip:

Consider working with your Public Information Officer to refine this content to reflect your organizational needs.

17. Browse to the **Frequently Asked Questions** section of the main page and click **Configure** to update the questions and answers.
18. Browse to the **Recruitment, Employment, and Diversity Resources** section of the Personnel Diversity page and click **Configure** to update the images, text, and buttons to reflect your organizational initiatives.

[Back to top](#)

Remove ArcGIS Hub Premium content

The Police Transparency solution comes with features that require ArcGIS Hub Premium; if you are using ArcGIS Enterprise Sites, you will want to remove the features that require ArcGIS Hub Premium. Organizations using this solution with ArcGIS Enterprise Sites should perform the following steps to remove the ArcGIS Hub Premium content from their site.

To remove ArcGIS Hub premium content, complete the following steps:

1. Browse to your app launcher and click **Hub** and click Police Transparency to begin editing the site.
2. Scroll to the section titled **Get Involved** on the main site page.
3. Click the delete button for the row card containing the section title, not just the section title.
4. Click **Save**, then click **Publish Draft**.
5. Repeat steps 1 through 3 for the **Community Engagement**, **Workforce Diversity**, **Crime Stats**, and **Use of Forces** pages in the site.
6. Go to the **Community Engagement** page and scroll to the **Scheduled Events** section.
7. Click the delete button for the row card containing the event calendar, not just the event calendar itself.
8. Click **Save**, then click **Publish Draft**.

Modify custom use of force charts

Several charts on the Use of Force page of the Police Transparency solution make use of custom queries from solution layers that use preexisting values from domain lists. For your data to display properly in these charts, the values in your data must exactly match the values in the field domain list of the field in the feature layer. If your data contains different values, you must modify the custom JSON of the Hub charts to reflect your field values.

To modify the JSON of the custom use of force charts, complete the following steps:

1. Sign in to your ArcGIS organization.
2. Click your app launcher and select **Sites**.
3. Click the Police Transparency site.
4. On the **Customize** accordion, click the number of associated pages button.
5. Click the **Use of Force** page.
6. Find the chart labeled **Serious Injury Use of Force Incidents** and click the configure button (shaped like a gear).
7. In the JSON Chart Definition section, find the section of the JSON that looks like the following:

```
"where": "forcelevel='Level 3- Serious Injury'"
```
8. Replace the value Level 3- Serious Injury with the value in your data that represents incidents involving serious injury.
9. Click **Apply**.
10. Click **Save** and click the drop-down list and select **Publish Draft**.

11. Repeat steps 6 through 10 with the **Fatal Use Of Force Incidents** chart, replacing the value Deadly Force-Fatality with the value in your data that represents fatal use of force incidents.

Modify apps

The Police Transparency solution includes many apps that are used by law enforcement agencies to help residents and stakeholders explore crime conditions, use of force patterns, and departmental diversity. Apps in the Police Transparency solution can be modified to meet the needs of individual organizations. This section covers several app modification workflows organizations commonly require.

Modify dashboards

The Use of Force by Race and Ethnicity and Law Enforcement Diversity Dashboard require an organization to manually enter your jurisdiction's population percentage values for each race/ethnicity group represented on the dashboards. This information helps to contextualize proportions of force and personnel data relative to the composition of the community.

To update the dashboards with population percentages by race and ethnicity for your jurisdiction, complete the following steps:

1. Obtain information about population percentages by race and ethnicity for your jurisdiction.

Tip:

This data is most typically obtained from the U.S. Census Bureau's Quick Facts [web page](#), where you can type the name of your jurisdiction to get population percentages by race and ethnicity. Consult your planning department for more information.

2. Sign in to your ArcGIS organization.
3. Browse to and click to open the item page of the dashboard you want to edit.
4. Click **Edit Dashboard**.
5. Find the first indicator element where the language Community Makeup: XX% appears and click the configure (gear) button.
6. Click the **General** options category, then click **Edit** in the Description section.
7. Switch the default value with the appropriate value for your jurisdiction.
8. Repeat for all indicator elements with the Community Makeup: XX% text.
9. Click **Save**.

Update dashboard charts to reflect new field values

Dashboards in the Police Transparency solution have been preconfigured to use layer fields that are powered by default domain values. If your data does not match the preexisting values, your data may not display or may display as a gray other value in dashboard charts.

To update dashboards to reflect new field values, complete the following workflow:

1. Sign in to your ArcGIS organization.
2. Browse to and click to open the item page of the dashboard you want to edit.
3. Click **Edit Dashboard**.
4. Review your dashboard and identify all chart elements that require updating.
5. For each chart element that needs an update, click the configure button.
6. If the chart is a pie chart, click the **Slices** options category, delete the existing values, then click **Load Categories**. Style the categories with colors appropriate for the dashboard.
7. If the chart is a serial chart, click the **Series** options category, delete the existing values, then click **Load Categories**. Style the categories with colors appropriate for the dashboard.
8. Click **Save**.

Update dashboard filters to reflect new field values

The Use of Force by Race and Ethnicity and Law Enforcement Diversity Dashboard both use field values (that are preset by a domain) to filter by specific demographic groups. If the values in your data differ from the domains present in the default fields of the Police_Personnel, UseOfForce-Subjects, and UseOfForce-Officers tables, these dashboards may not properly display. For example, if your data contains coded values for race/ethnicity (A, B, W, I, H, and so on) instead of complete values such as the domain for these fields, you will need to modify the element filters of these dashboards to reflect your values.

To update dashboard elements in Law Enforcement Diversity Dashboard or Use of Force by Race and Ethnicity to use your field values, complete the following steps:

1. Sign in to your ArcGIS organization.
2. Browse to and click to open the item page of the dashboard you want to edit.
3. Click **Edit Dashboard**.
4. Review your dashboard and identify all chart elements that require updating.
5. For each indicator element that needs an update, click the configure button.
6. In the **Value** drop-down list of the **Filter** section, replace the default value with the appropriate value from your data that represents the information conveyed by the element.
7. Click **Done**.
8. Repeat for all other indicator elements in the dashboard that require updating.
9. Click the **Save** button.

Change the crime summary dashboard from NIBRS to UCR

Some organizations may want to provide public crime data according to the Federal Bureau of Investigation's old Uniform Crime Reporting Summary Reporting System (SRS) standards rather than the new National Incident-Based Reporting System (NIBRS). The Crime Summary Dashboard is configured using the NIBRS standard, but can be updated to reflect the older UCR SRS standard if required by an organization.

[Back to top](#)

To update the Crime Summary Dashboard from NIBRS reporting standards to UCR SRS standards, complete the following workflow.

Note:

Before you begin this workflow, ensure that you have valid values populated in the **UCR Offense Description** and **UCR Offense Category** fields of the **Crimes** layer.

1. Sign in to your ArcGIS organization.
2. Browse to your content and click the **Crime Summary Dashboard**.
3. Click **Edit Dashboard**.
4. Click the configure button in the upper left corner of the Rich Text element containing the text **Crimes Against Persons**.
5. In the text box, change the text to **Violent Crime**, then click **Done**.
6. In the indicator element immediately below, click the configure button.
7. In the **Value** section and **Filter** subsection, change the drop-down selection from **NIBRS Crime Against Category** to **UCR Category**, then change the value from **Crimes Against Persons** to **Violent Crime** (or the equivalent value in your data).
8. Scroll down to the **Reference** section and **Filter** subsection, change the drop-down selection from **NIBRS Crime Against Category** to **UCR Category**, then change the value from **Crimes Against Persons** to **Violent Crime** (or the equivalent value in your data).
9. Click **Done**.
10. Click the configure button on the **Crimes Against Persons By Year** chart element to the right of the last two elements you modified.
11. In the Filter section, change the drop-down selection from **NIBRS Crime Against Category** to **UCR Category**, then change the value from **Crimes Against Persons** to **Violent Crime** (or the equivalent value in your data).
12. Click **Done**.
13. Click the configure button on the **Crimes Against Persons By Month** chart element to the right of the last element you modified.
14. In the Filter section, change the drop-down selection from **NIBRS Crime Against Category** to **UCR Category**, then change the value from **Crimes Against Persons** to **Violent Crime** (or the equivalent value in your data).
15. Click **Done**.
16. Repeat steps 4 through 15 for the remaining two rows of elements, replacing **Crimes Against Property** with **Property Crime** (or the equivalent value in your data), then replacing **Crimes Against Society** with **Part II crimes** (or the equivalent value in your data).
17. Click the **Save** button.

Change the crime trends dashboard from NIBRS to UCR

Some organizations may want to provide public crime data according to the Federal Bureau of Investigation's old Uniform Crime Reporting Summary Reporting System (SRS) standards

[Back to top](#)

rather than the new National Incident-Based Reporting System (NIBRS). The Crime Trends Dashboard is configured using the NIBRS standard, but can be updated to reflect the older UCR SRS standard if required by an organization.

To update the Crime Trends Dashboard from NIBRS reporting standards to UCR SRS standards, complete the following workflow.

Note:

Before you begin this workflow, ensure that you have valid values populated in the **UCR Offense Description** and **UCR Offense Category** fields of the **Crimes** layer.

1. Sign in to your ArcGIS organization.
2. Browse to your content and click the **Crime Summary Dashboard**.
3. Click **Edit Dashboard**.
4. Click the configure button along the right side of the **Crime Type** filter.
5. In the **Category Field**, change the drop-down selection from **NIBRS Description** to **UCR Description**.
6. Click the **Actions** options tab.
7. In the **Target Field** drop-down list for the **Crime Hotspots** layer, select **UCR Description**.
8. Click **Done**.
9. Click the **Save** button.

Change the public crime map from NIBRS to UCR SRS

Some organizations may want to provide public crime data according to the Federal Bureau of Investigation's old Uniform Crime Reporting Summary Reporting System (SRS) standards rather than the new National Incident-Based Reporting System (NIBRS). The Public Crime Map app is configured using the NIBRS standard, but can be updated to reflect the older UCR SRS standard if required by an organization.

To update the Public Crime Map app from NIBRS reporting standards to UCR SRS standards, complete the following workflow.

Note:

Before you begin this workflow, ensure that you have valid values populated in the **UCR Offense Description** and **UCR Offense Category** fields of the **Crimes** layer.

1. Sign in to your ArcGIS organization.
2. Browse to your content and click the **Public Crime Map** Web Mapping app.
3. Click **Edit Application**.
4. Click the **Widget** button at the top of the configuration section of Web AppBuilder.
5. Click the **Header Control- Set the widgets in this controller** button.
6. Click the **Configure this widget** edit button on the **Summary** widget.
7. Click the edit button under **Display Options** for the Crimes layer.

[Back to top](#)

8. Click the **Panel** tab.
9. In the **Layer Options** section, change the drop-down selection from **NIBRS Description** to **UCR Description**.
10. In the **Group Options** section, change the drop-down selection from **NIBRS Offense Category** to **UCR Category**.
11. Click **OK** twice to save the reconfigured Summary widget.
12. Click the **Configure this widget** edit button on the **Filter** widget.
13. Click the **NIBRS Offense Category** filter.
14. On the **Info** tab, change the label of the filter from **NIBRS Offense Category** to **UCR Category**.
15. On the **Expressions** tab, change the drop-down selection from **NIBRS Offense Category** to **UCR Category**.
16. Change operator to **is any of**.
17. Check the **Ask for values** check box.
18. Click the **NIBRS Offense Description** filter.
19. On the **Info** tab, change the label of the filter from **NIBRS Offense Description** to **UCR Description**.
20. On the **Expressions** tab, change the drop-down selection from **NIBRS Offense Description** to **UCR Description**.
21. Change operator to **is any of**.
22. Check the **Ask for values** check box.
23. Click **OK** to save the reconfigured Filter widget.
24. Click the **Configure this widget** edit button on the **Report** widget.
25. Click the edit button under **Actions** for the Crimes layer.
26. Change the drop-down selection from **NIBRS Description** to **UCR Description**.
27. Click **OK** twice to save the reconfigured **Report** widget.
28. Click **Save** at the bottom of the configuration window of Web AppBuilder.

Modify Police Transparency surveys

To modify any survey in the Police Transparency solution, including the Police Interaction Survey or the Community Safety and Policing Satisfaction Survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click to download the survey you want to edit.
4. Click again to open the survey.
5. In the left pane, click **Open XLSForm Spreadsheet**.
6. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
7. Revise the survey to reflect your organizational needs.
8. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.

9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Use Police Transparency

The Police Transparency solution delivers a set of capabilities that help you share information openly with the public, promote your agency's work, demonstrate accountability when force is used, illustrate how workforce recruiting reflects the diversity of the community, and engage the public to improve policing services and solve problems.

In this topic, you will learn how to use the Police Transparency solution by assuming various roles and using the solution to answer questions about policing topics of general interest, including understanding crime conditions in your community, learning about law enforcement use of force, discovering police-community engagement opportunities, and exploring the workforce diversity of the law enforcement agency.

Note:

Use your organization's data or configured apps to follow these workflows.

Understand crime statistics

You will assume the role of a resident in the community. You are interested in learning more about overall trends of crime in your community, and specifically about trends in burglary. You are concerned that burglaries are increasing around your home, so you'd like to be able to learn about recent burglaries in your area and print a report to take to the upcoming neighborhood meeting to ask your community policing officer what is going on and how to address the problem.

Examine statistical crime trends

Complete the following steps to learn more about overall crime trends, specifically burglary, in your community:

1. In a browser, open the Police Transparency site, and click the **Crime Stats** page.
2. Scroll down the page to view the Crime Summary Dashboard. The dashboard displays the three main categories of crimes according to the National Incident-Based Reporting System (NIBRS). These categories are shown as 365-day percent change statistics, counts by year, and counts by month.

Note:

In January 2021, the Federal Bureau of Investigation (FBI) changed to NIBRS from the previous Uniform Crime Reporting (UCR) Summary Reporting System. Links to additional details about NIBRS can be found in the resources section of the **Crime Stats** page.

3. To understand burglary trends specifically, scroll to the **Crime Mapping Apps** section and click the **Crime Trends Dashboard**.

4. Click the **Crime Type** filter and select **Burglary/Breaking & Entering**, then click the **Filter Results** tab.
You can now view 28-day, year-to-date, and last 365-day percent change statistics, burglary counts by year, by month, and a map of burglary hot spots.
5. To filter for only the current year of burglaries, select **This Year** from the **Report Date** filter.
The **Crime By Year** and **Crime By Month** charts will be updated. Additionally, the burglary hot spots will change to reflect the current year only.
6. Zoom in on the map. As you zoom in, individual burglaries appear. Click the burglary to learn more about the incident.

Explore recent crime activity

The Public Crime Map app can be used to explore recent burglary activity and create a printed report to take to your neighborhood meeting.

Complete the following steps to learn about recent burglaries in your area and print a report to take to the upcoming neighborhood meeting:

1. On the **Crime Stats** page, scroll to the **Crime Mapping Apps** section, and click **Public Crime Map**.
This mapping app displays the last 28 days of crime by default and shows a list of all crimes in the community, grouped by type of crime.
2. To view all burglaries this year, click the **Filter** widget. In the NIBRS Offense Description filter, select **Burglary/Breaking & Entering**, then click the option to activate the filter.
3. In the **Date of Crime** filter, in the first drop-down box, select January 1 of this year.
4. In the second drop-down box, select **today**, then click the option to activate the filter.
You can now view year-to-date burglaries citywide.
5. To view the burglaries near your home, go to the address search bar and enter your address. Click each burglary to learn more about the incident.
You would like to discuss these burglaries with your neighbors and community policing officer at an upcoming community meeting.
6. Click the **Report** widget, then select the **Point** draw mode.
7. Click your home address. In the buffer distance (optional) parameter, enter a buffer distance of .25 miles, then click **Report**.
8. Click the add button to see a list of all burglaries within the 0.25-mile radius around your house.
9. To download these records as a CSV file, click the **Download** button or click the **Print** button to create a printable report.
A report will be generated containing a map of your app's current map extent and a list of the records within the search area. You can change the report title or any header text to meet your needs. You can also choose to enter additional comments in the comments box.

[Back to top](#)

10. To filter for only the current year of burglaries, select **This Year** from the **Date of Crime Report** filter.

The **Crime By Year** and **Crime By Month** charts will be updated. Additionally, the burglary hot spots will change to reflect the current year only.

11. Zoom in on the map to see individual burglaries.
12. Click a burglary to learn more about the incident.

Share your perceptions of community safety and police performance

Complete the following steps to provide feedback on your interactions with law enforcement in your community:

1. In a browser, open the Police Transparency site and click the **Crime Stats** menu tab.
2. Scroll down to the **Tell Us How We're Doing** section and click the **Take the Survey** button.
3. Fill in the Community Safety and Policing Satisfaction Survey to provide your feedback.
4. Click **Submit**.

Learn about use of force

Now you will assume the role of a community leader. You have recently been appointed to a police oversight board responsible for reviewing use of force incidents in the community. To perform this role, you need to first gain a basic understanding of how and why force is used by law enforcement, racial equity implications of its use, and then dig deeper to understand patterns in the use of force by the subjects of force, officers involved, and by neighborhood.

Gain a basic understanding of use of force

Complete the following steps to learn more about use of force in your community:

1. In a browser, open the Police Transparency site, and click the **Use Of Force** page.
2. Scroll down to view the **Key Use of Force Metrics**.
These three charts show total use of force incidents, use of force incidents involving a serious injury requiring medical care or hospitalization, and fatal use of force incidents.
3. Scroll to the **How Often Do We Use Force?** section.
This section displays charts illustrating the infrequency of use of force relative to the total scope of police interactions with citizens, and how few are determined to be inconsistent with policy.
4. Scroll down to the **Why Do Officers Use Force?** section.
This section helps you understand what types of incidents are most likely to result in force, the type of resistance officers are encountering that require use of force, and the type of force applied.
5. Scroll down to the **Racial Equity** section.

[Back to top](#)

This section displays a dashboard that examines the distribution of subject of force and officers involved by race and ethnicity, compared to the racial and ethnic composition of the community overall.

6. Click the **Force Level** or **Date** drop-down filters to further refine these metrics.
7. Click the **Officers Involved** tab to visualize the distribution of officers involved in use of force incidents by race and ethnicity relative to community composition.

Explore characteristics of subjects of force

The Use of Force by Subject dashboard helps the public explore the characteristics of use of force in your neighborhood and compare through the perspectives of demographics, context of the incident, condition of the subjects, and location. Use the filters to set criteria, then click any bar in the charts to refine the results. For example, you may want to know more about the characteristics of subjects of electric force through conducted electrical devices such as Tasers or stun guns.

Complete the following steps to dig deeper into the topic of use of force by exploring the characteristics of the persons subjected to force:

1. In a browser, open the Police Transparency site, and click the **Use Of Force** page.
2. Scroll down to view the **Gain a Deeper Understanding** section.
3. Click **Use of Force by Subject**.
4. In the **Force Type** drop-down filter, select a type of force.
5. Click the **Incident Context** tab to see the proportion of incidents that were found to be inconsistent with policy.
6. Click the **Out of Policy** slice of the **Result of Internal Review** pie chart.
7. Click the **Map** tab to view the selected incidents symbolized by color according to the race and ethnicity of the subject of force.

The colors correspond to another layer in the map, the Predominant Race and Ethnicity by Census Tract, an ArcGIS Living Atlas of the World layer based on data from the U.S. Census Bureau's American Community Survey.

8. Click the **Legend** tool in the map to understand how color corresponds to race and ethnic group.

The presence of both layers on the map allows us to understand the relationship between the race and ethnicity of the residents of an area and who is subjected to force there, and to recognize patterns in which force is being applied to a particular group disproportionately to its community composition.

9. Click a polygon in the **Predominant Race by Tract** layer.

The pop-up displays which race or ethnic group is predominant in that tract as well as the resident counts of all other race and ethnic groups within the tract.

Explore characteristics of officers applying force

The **Use of Force by Officer** dashboard helps the public explore the characteristics of officers applying force through the perspectives of demographics, context of the incident, and location. Use the filters to set criteria, then click any bar in the charts to refine the results. For example,

[Back to top](#)

you may want to know more about the characteristics of officers who apply force resulting in serious injury or death.

Complete the following steps to dig deeper into the topic of use of force by exploring the characteristics of the persons subjected to force:

1. In a browser, open the Police Transparency site, and click the **Use Of Force** page.
2. Scroll down to view the **Gain a Deeper Understanding** section.
3. Click **Use of Force by Officer**.
4. In the **Force Level** drop-down filter, select a force level.
5. Click the **Incident Context** tab to view the incident contexts most frequently associated with the level of force you selected.
6. Click a category on the **Call Type** bar chart. This further filters the dashboard, allowing you to explore the characteristics of officers involved specifically in the force level and call type you have selected.
7. Click back on the **Demographics** tab.
8. Follow steps 6 through 8 of the **Explore characteristics of subjects of force** section in this topic to learn about the spatial distribution of race and ethnicity and community composition.

Explore use of force incidents by neighborhood

The Use of Force by Neighborhood dashboard helps the public explore the characteristics of use of force in their neighborhood and to compare it to other neighborhoods and the community overall. Use the filters to set criteria, then click any bar in the charts to refine the results. For example, you may want to know more about the characteristics of use of force incidents in your neighborhood and how they compare to nearby neighborhoods.

Complete the following steps to explore the characteristics of use of force incidents in your neighborhood and compare them to other neighborhoods and the community overall.

1. In a browser, open the Police Transparency site, and click the **Use Of Force** page.
2. Scroll down to view the **Gain a Deeper Understanding** section. Click **Use of Force by Neighborhood**.
3. In the **Neighborhood** drop-down filter, select a neighborhood.
The map zooms to your neighborhood boundaries and filters the content. The charts automatically adjust to your filter selection. You can see from the filtered charts use of force incidents the trend in use of force incidents overall, and the frequency of serious injury or fatal incidents.
4. In the **Neighborhood** drop-down filter, select a different neighborhood.
You can now compare the overall, serious injury, and fatal trends in use of force incidents between the two neighborhoods.
5. Click the **Details** tab to review and contrast demographic characteristics of subjects of use of force, the type of force applied, and the type of calls in which force most frequently occurs.

6. Follow steps 6 through 8 of the Explore characteristics of subjects of force section in this topic to learn about the spatial distribution of race and ethnicity and community composition.

Discover community engagement opportunities

Now you will assume the role of a concerned business owner. Your business has recently been victimized. You believe the crime to be part of a larger problem, and you want to become more active in working with your department to solve this problem and prevent future crimes. To perform this role, you'll need to learn how to get connected to police by finding your community officer, report your crime problem, provide feedback on your experience as a victim, and get information on upcoming police community events in which you can participate.

Find your community officer

Complete the following steps to learn more about the men and women that work with your neighborhood to solve safety concerns:

1. In a browser, open the Police Transparency site, and click the **Community Engagement** page.
2. Scroll down to the **Find Your Community Officer** section.
3. In the **My Community Officer** app, you have the following options: **enter your address** or **click a map location**.

The app will show a name and picture of your community officer, contact information, duty hours, the community policing area the location belongs to, and information about when meetings are held for this area.

Report community crime problems

Complete the following steps to view existing crime problems reported by the public and to submit a new **non-emergency** problem you have observed in the community.

1. In a browser, open the Police Transparency site, and click the **Community Engagement** page.
2. Scroll down to the **Engaging the Community** section and under **Report a Crime Problem**, click **Submit a Problem**.
3. Click **Proceed as Guest**.
4. Click **Submit a Problem**.
5. Complete the form, providing a name for the problem, describing the nature of the problem and where it is occurring, and, optionally, your contact information.
6. Click the map to start drawing a polygon that defines the extent of the problem area. Keep clicking to define the edges of the polygon, then double-click to complete.
7. Click **Report It**.

8. Now you can view your crime problem and others recently submitted by residents. Click another crime problem.
9. Click the like button to like the report.
10. To add your comments, click the **comment** button. When complete, click **Submit Comment**.

Manage community crime problems

Once a crime problem report has been submitted, Community Policing Officers (CPOs) work with community members to validate, prioritize, and solve these concerns. The Community Crime Problem Manager enables CPOs to manage the crime problems through a collaborative, community-oriented problem-solving process based on the [Problem-Oriented Policing SARA model](#) (Scan, Analyze, Respond, Assess). In this section, you will take the role of a CPO. Complete the following steps to learn how to manage citizen-reported crime problems through a problem-solving process:

1. From your content, open the Community Crime Problem Manager.
The overview tab displays a list of all crime problems with charts displaying their project approval status and problem-solving phase.
2. Click a bar in the chart to filter the crime problem list. You may also use the neighborhood filter to select crime problems occurring in a specific neighborhood.
3. Click a problem from the list to zoom to the location of the problem.
4. Click the problem on the map to activate a pop-up to learn more about the problem. Each tab in the Community Crime Problem Manager displays a step in the problem-solving process, with instructions on the actions to be taken and data to be edited for that step.
5. Click **Create Report**.
This opens the **Data** tab of ArcGIS Survey123, where you can click the **Print** button to create a printable PDF file of the crime problem record.
6. Review the list of crime problems and click the one you want to edit. The map will zoom to the problem, and the left-side ArcGIS Survey123 form will display the record you have selected.
7. Follow the instructions to update the form with the data required for the step. Click the **Submit** button at the bottom of the ArcGIS Survey123 form to submit your edits.
8. As your crime problem proceeds through the problem-solving steps in the real world, follow the instructions on each tab to advance the problem through the process in the app.

Explore community crime problems

As CPOs and community members work together to solve crime problems, the public can exercise oversight on the status of active and completed projects using the Community Crime Problem Dashboard. In this section, you will resume your role of a concerned business owner. Complete the following steps to explore previous crime problem-solving successes and other active problem-solving projects that are underway:

[Back to top](#)

1. In a browser, open the Police Transparency site, and click the **Community Engagement** page.
2. Scroll down to the **Engaging the Community** section and under **Monitor Problem-Solving Projects**, click **Monitor Projects** to open the Community Crime Problem Dashboard.
3. Use the filters to set criteria, then click any chart or list to refine the results.
4. Click a project in the list to review a specific project.
The map will zoom to the location of the problem.
5. Click the **Details** tab to view complete details for that project.

Submit feedback on a police interaction

Complete the following steps to provide feedback to the department on your recent experience as a crime victim:

1. In a browser, open the Police Transparency site and click the **Community Engagement** menu tab.
2. Scroll down to the **Engaging the Community** section and under **How Did We Do?**, click **Complete Survey**.
3. Fill in the Police Interaction Survey to provide your feedback.
4. Click **Submit**.

Explore law enforcement workforce diversity

You will assume the role of a local media reporter. You are writing a story about representation of women and communities of color in policing. You want to learn more about the composition of the workforce of the local law enforcement agency and how that compares to the community overall.

1. In a browser, open the Police Transparency site and click the **Workforce Diversity** menu tab.
2. Scroll down to the Law Enforcement Diversity Dashboard.
The summary tab of the dashboard displays the percentage of employees in each demographic group listed.

Note:

Under each demographic group, a text box indicates the percentage that group represents in the community overall. This information allows you to quickly identify which demographic groups are overrepresented in the police workforce relative to the composition of the community.

3. To view civilian employees only, go to the **Rank** drop-down filter and select **Civilian**.
The demographic percentages will adjust to your selection. This will allow you to compare representation of sworn employees versus civilian employees.

[Back to top](#)

4. To view all sworn employees, deselect **Civilian** in the drop-down filter and select all other ranks.
5. Click the **Details** tab.
The **Details** tab allows you to visualize and interact with various diversity metrics of the workforce.
6. Click the **Black Female** section of the **Race and Gender** bar chart to learn more about representation of Black females in the department.
The charts and metrics automatically adjust based on your selection.
7. Click the **Black Female** section of the **Race and Gender** bar chart to turn off the selection.

Protection Operations

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Protection Operations

Protection Operations can be used to track poaching or illegal activity and monitor the status of protection operations in and around protected areas.

It provides 24/7 access to protection operations information and helps organizations respond to threats in real-time. This accelerated approach improves wildlife safety and reduces risks associated with illegal activities in a protected area. Protection Operations is typically implemented by conservation organizations that want to take a data-driven approach to monitoring illegal activity.

The Protection Operations solution delivers a set of capabilities that help you track poaching and illegal activity, monitor protection operations, and visualize patterns of illegal activity.

Requirements

Protection Operations requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123
- Survey123 Connect

Information products

Protection Operations includes the following information products:

Item	Description	Minimum user type
Protected Area Dashboard	An ArcGIS Dashboards app used by conservation staff to monitor the status of protected area operations	Viewer
Protection Incident Dashboard	An ArcGIS Dashboards app used by conservation staff to monitor the status of protection operations within and around protected areas	Viewer
Protected Area Reports	An ArcGIS Web AppBuilder app used by conservation staff to perform analysis and generate reports	Creator

[Back to top](#)

Protection Incident Manager	A Crowdsourcing Manager app used by conservation staff to manage and update protection incident reports	Editor
Protection Incident Reporter	An ArcGIS Survey123 form used by conservation staff to collect protection incident reports	Field Worker

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Protection Operations

Configure Protection Operations

Learn how to configure the Protection Operations solution to meet specific needs in your organization.

Load data

Protection Operations can be used to track poaching or illegal activity and monitor the status of protection operations in and around protected areas. In some cases, you may already have this information in ArcGIS or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Load data for ProtectionIncidents from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Protection Operations

The Protection Operations solution delivers a set of capabilities that help you track poaching and illegal activity, monitor protection operations, and visualize patterns of illegal activity.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.


Collect protection incidents

You will start by assuming the role of a mobile worker in a protected area collecting protection incidents. You are asked to use the Protection Incident Reporter survey to collect protection incidents.

1. On a mobile device, in ArcGIS Survey123, open the Protection Incident Reporter form.
2. Tap the **Collect** button.
3. Complete the survey with as much information as possible.
4. Tap the check mark to submit the form, and then tap **Send now**.

Manage protection incidents

Next, you will assume the role of a conservation staff member. You will review protection incidents.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Protection Operations solution.
2. View the Protection Incident Manager app.
3. In the table, use the **Illegal Incident Type** column header filter to filter for a specific incident type.
4. Select a protection incident from the table.
The report details open at the lower left.
5. In the report details, click the **Edit record** button .
6. Make any necessary updates to the report, and then click **Save**.

Monitor protection incidents

Now, you will assume the role of a protected area manager. You will monitor the status of protection incidents in and around a protected area.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Protection Operations solution.
2. View the Protection Incident Dashboard app.
3. On the left, adjust the filters to refine the results.
4. On the right, select a protection incident from the incidents list.
The map zooms to the incident, and a pop-up with incident information appears.
5. In the pop-up, click **View Incident Details** to open a new browser tab and review the protection incident details.

Monitor protected area operations

For this workflow, you will continue to assume the role of a protected area manager. You will monitor the status of poaching and illegal activity, wildlife observations, and wildlife conflicts in and around protected areas.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Protection Operations solution.
2. View the Protected Area Dashboard app.
3. In the left, adjust the filters to refine the results.

Tip:

If you do not see the filter panel, click the arrow on the left to expand the panel.

4. At the bottom of the page, click the **Protection Incidents**, **Wildlife Observations**, and **Wildlife Conflicts** tabs to view information about each area.
5. On the **Protection Incidents** tab, on the right, select a protection incident from the incidents list.
The map zooms to the incident, and a pop-up with incident information appears.
6. In the pop-up, click **View Incident Details** to open a new browser tab and review the protection incident details.

Generate protected area reports

Finally, you will assume the role of a conservation staff member. You will perform analysis and generate reports on protected area data.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Protection Operations solution.
2. View the Protected Area Reports app.
3. Click the **Filter Protected Area Data** button to open the widget.
4. In the widget, turn on the **Poaching Incident Status** filter, expand the section, and select a status type.
5. Click the **Update Layer Visibility** button to open the widget.
6. In the widget, select the layers that you want to include in your report.

[Back to top](#)

7. Click the **Perform Analysis** button to open the widget.
8. Select an analysis tool, set the analysis parameters, and click **Run Analysis**.
After the tool completes, the analysis output displays on the map.
9. To create a hard copy of the map showing analysis outputs, click the **Print a Map** button.
10. To generate a report, click the **Create Reports** button to open the widget.
11. To create a report, complete the following steps:
 - a. Choose the report type.
 - b. Define the area of interest.
 - c. Optionally, set a buffer distance.
 - d. Click **Report**.An overview of the report information is displayed.
12. Click the **Download** button to download the report data.
13. Click the **Print** button to print a copy of the report.

Public Notification

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Public Notification

Public Notification can be used to identify a collection of properties and create structured mailing lists of owners and occupants.

It streamlines the public notification process and reduces staff resources required to generate public notices required to meet procedural or statutory requirements. Public Notification is typically implemented by planning departments, assessor offices, and other local government agencies that want to increase the reliability of their public notification process.

The Public Notification solution delivers a set of capabilities that help you identify properties, generate a list of owners or occupants, and document which properties were included in the public notice.

Requirements

Public Notification requires the following:

- ArcGIS Enterprise

Information products

Public Notification includes the following information products:

Item	Description	Minimum user type
Public Notification	An ArcGIS Web AppBuilder app used by local government staff to identify a collection of properties and create mailing labels, or a structured text file, of owners and occupants	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Public Notification

Configure Public Notification

Learn how to configure the Public Notification solution to meet specific needs in your organization.

Load data

Public Notification can be used to identify a collection of properties and create structured mailing lists of owners and occupants. In some cases, you may already have this information in ArcGIS or another business system.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the following data loading workflow:

Load data from a shapefile

Load data for TaxParcels or SiteAddresses from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

[Back to top](#)

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Use Public Notification

The Public Notification solution delivers a set of capabilities that help you identify properties, generate a list of owners or occupants, and document which properties were included in the public notice.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Create mailing list

An update to the land-use plan requires a zoning change for a residential area. As a result, city planners must notify property owners and occupants in and around the proposed change of an upcoming public meeting. In this workflow, you'll learn how to create a structured mailing list using a selected parcel and adding the appropriate buffer to notify property owners and occupants.

You will start by assuming the role of a city and regional planner. You are asked to use Public Notification to notify property owners and occupants of a proposed zoning change.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Public Notification solution.
2. View the Public Notification app.
3. On the right, use the search field to search for a parcel or address, or use the **Select** tool to select a feature directly on the map.

Note:

The search options that you see vary depending on how you configured the app.

Tip:

You can also use the **Select** tool to add features to an existing selection by pressing Shift and drawing the addition on the map. You can use the **Select** tool to remove features by pressing Ctrl and drawing around the area that you want to remove.

4. Optionally, apply a search distance to add a buffer.

Note:

The buffer distance set during the configuration will be used as the default for each layer.

5. For **Addressee Layer**, choose the layer to use for the notification.

[Back to top](#)

6. If applicable, click **Review** to further refine and finalize your selection; use the **Select** tool to add or remove parcels.
7. For **Format**, choose the PDF label format or CSV output for the notification.
8. Click **Download**.

Public Parking

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Public Parking

Public Parking can be used to inventory parking assets and promote public parking (lots, garages, on-street spaces, and pay stations) alternatives in a downtown or neighborhood.

As downtowns and neighborhoods expand and become more vibrant, accessible and reliable parking information allows drivers to choose a convenient parking option. Any challenge locating a parking option or the perception of a parking shortage will frustrate drivers and impact businesses and restaurants in the area. Managing and communicating parking information helps drivers locate desirable spaces and reduces congestion in a downtown or neighborhood. Public Parking is typically implemented by public works and planning departments that want to educate the public and promote parking assets in their community.

The Public Parking solution delivers a set of capabilities that help you inventory parking assets and share nearby surface lots, garages, and on-street spaces with drivers.

Requirements

Public Parking requires the following:

- ArcGIS Enterprise
- ArcGIS Field Maps

Information products

Public Parking includes the following information products:

Name	Description	Minimum user type
Parking Field Map	An ArcGIS Field Maps map used by public works or planning department personnel to inventory public parking and pay stations in the field	Field Worker
Parking Inventory	An ArcGIS Web AppBuilder app used by public works or planning department personnel to inventory public parking and pay stations	Editor

[Back to top](#)

Parking Locator	A Nearby app used by the general public to locate public parking alternatives	Not required
Public Parking	An ArcGIS Hub site used by public works and planning departments to communicate public parking alternatives.	Not required
Parking Satisfaction Survey	An ArcGIS Survey123 form used by the general public to share their experience with parking resources in a community.	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Public Parking

Configure Public Parking

Public Parking can be used to inventory parking assets and promote public parking (lots, garages, on-street spaces, and pay stations) alternatives in a downtown or neighborhood.

In this topic, you'll learn how to configure the Public Parking solution to meet specific needs in your organization.

Load data

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile

Load data into the Parking layer from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. Sign in to your ArcGIS organization and browse to the feature layer you want to populate.
3. Open the item page and click **Update Data > Append Data to Layer**.
4. Click **Choose File** and browse to your .zip file, and click **Open**.
5. Click **Upload and Continue**.
6. Click **Choose the layer that you wish to append data into** drop-down arrow and choose the layer that contains the updated data.
7. Uncheck **Update existing features**.
8. Click **Show field matching** and map the fields between the two layers.
9. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Populate operational hours

This solution leverages the [Opening Hours Specification](#) to display operating hours for a place or service. When you populate the data fully, Arcade expressions interpret the data and display the operating hours in a human-readable format in the map pop-up. Understanding the data specification and options in the Arcade expressions will help you populate your data and display it in the maps and apps provided with the ArcGIS Solution.

Operating Hours Specification

The Operating Hours Specification allows you to store a combination of operating hours in a single field but relies on a series of data standards to render the information correctly. To ensure operating hours are displayed correctly, follow the standards below:

- Enter all times using a 24-hour clock without a leading 0—for example, Tu (7:00-19:00).
- Use a two-letter abbreviation for each day, with the first letter capitalized—for example, Mo, Tu, We, Th, Fr, Sa, Su.
- When a location is open 24 hours a day, use 24 Hours—for example, Mo (24 Hours).
- When a location is closed on a specific day, use Closed—for example, Sa-Sun (Closed).
- Enclose all times and closed statuses in parentheses—for example, Tu (7:00-19:00); We-Mo (Closed).
- Separate days and ranges with a semicolon to denote the two (or more) groups—for example, Th-Fr (7:00-19:00); Sa (24 Hours).

Using the standards above, a diverse set of operating hours can be populated for your places and services. Some common examples include the following:

- To specify the place is open from 9:00 a.m. to 5:00 p.m. seven days a week, populate the operating hours field with the following: Mo-Su (9:00-17:00).
- To specify the place is open from 9:00 a.m. to 5:00 p.m. during the week and closed on weekends, populate the operating hours field with the following: Mo-Fr (9:00-17:00); Sa-Su (Closed).
- To specify the place is open one day (Tuesday) a week, populate the operating hours field with the following: Tu (7:00-19:00); We-Mo (Closed).
- To specify the place has operating hours that vary by day, populate the operating hours field with the following: Mo-Tu (9:00-17:00); We (Closed); Th-Fr (7:00-19:00); Sa (24 Hours); Su (Closed).

Operating hours data can be populated all at once for many places and services using [Calculate field values](#) or uniquely entered for each place or service using an application provided with the solution.

Arcade expressions

The Arcade expressions include several settings that allow you to configure the look and feel of the operating hours when they are displayed in the web map pop-up. The expressions work with the operating hours data and web map pop-up configurations to display current operating hours in your map and app.

This solution uses three Arcade expressions: Hours, Days, and Open/Closed. To modify one of these expressions, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Parking Locator map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **More Options** and click **Configure Pop-up** on the On Street Parking layer.
4. Under **Attribute Expressions**, double-click the Arcade expression you want to modify.

Each Arcade expression has a set of variables that can be configured according to your organization's needs. Review the expression notes and modify the variables as needed. Do not change anything else in the expressions.

5. Click **OK**.
6. Repeat the above steps for the Lots and Garages layer.

Configure parking locator

The Parking Locator app can be used by the general public to locate public parking alternatives. Directions to the nearest parking space can be enabled so users can quickly find the space they are looking for.

Configure directions

Follow the steps below to enable directions.

1. Verify that you are signed in to your ArcGIS organization and browse to the Parking Locator app.
2. Open the item page and click **Configure App**.
Close the **Welcome to the App Setup Page** splash page.
3. In the left side panel, click **Interactivity**.
4. If you are in Full Setup mode, click **Results** and click the **Show directions** toggle button.
5. If you are in Express Setup mode, click the **Show directions** toggle button.
6. Click **Publish**.
7. Click **Confirm**.
The **Authorize premium content** window will appear indicating the number of credits consumed.
8. Click **Launch**.

Modify satisfaction survey

The Public Parking solution includes a Parking Satisfaction Survey that can be used to gather public sentiment and feedback on parking facilities. Review the preconfigured questions and align the survey with your organizational policies and desired outcomes.

To modify the Parking Satisfaction Survey, complete the following steps:



1. Verify that you are signed in to your ArcGIS organization and browse to the Parking Satisfaction Survey.
2. Open the item page and click **Open in Survey 123 > Manage in Survey123 website**.
3. Click the **Design** tab.
4. Make your edits to the survey and save the changes.
5. Click **Publish** twice.

Configure parking site

The Public Parking solution includes the Public Parking ArcGIS Hub site that your organization can configure with your branding and use to share parking information with the public.

Update with organizational information

After deploying the Public Parking solution, the Public Parking site layout only requires a few updates to fit your local context. Consider what information you already have and what you can most easily find. To update your site, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Public Parking site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. Scroll to the **Statistics** section listed under the title of the website.
The **Total Number of Spaces**, **EV Charging Stations**, and **Average Hourly Rate (\$)** statistics cards are linked to the Public Parking solution's Parking_public feature layer. These stats automatically update parking assets are added using the Parking Inventory app.
5. Scroll to the **Pay Your Parking Ticket** section, hover over the card and click settings button .
6. Click the **Pay Now** button and click **Edit**.
7. Enter the URL to your online payment system, if available, in the **Link Destination** text box and click **Add Link**.
8. Scroll to the **Apply Now** section, hover over the card and click settings button.
9. Click the **Apply for Permit** button and click **Edit**.
10. Enter the URL to your residential permit program, if available, in the **Link Destination** text box and click **Add Link**.
11. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
12. On the side panel, click **Footer**.
A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
13. Click the **HTML** text box.
The **HTML** window appears.
14. Make the necessary changes and click **Apply**.
15. Click **Save**.

Share items with public

Several layer views, maps and apps included in the Public Parking solution must be shared with everyone so they can be accessed by the public on the Public Parking site. To share your public parking items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Public Parking folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	Parking_public
Web Map	Parking Locator
Web Mapping Application	Parking Locator
Form	Parking Satisfaction Survey
Feature Layer (hosted)	ParkingSatisfactionSurvey_public
Site Application	Public Parking

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
Warning: Sharing editable layers publicly appears notifying that you are sharing editable layers publicly.
5. Click **Update**.

Use Public Parking

The Public Parking solution delivers a set of capabilities that help you inventory parking assets and share nearby surface lots, garages, and on-street spaces with drivers.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Collect parking assets in the field

In many cases, a field assessment of existing parking assets may be the most efficient way to develop a parking inventory. The information collected in the field can then be augmented with other descriptive information that helps drivers or the public find parking alternatives.

You will assume the role of a mobile worker in a public works or planning department. In this workflow, you are asked to use the ArcGIS Field Maps mobile app to access your Parking Field Map and inventory parking assets in your community.

1. Download ArcGIS Field Maps onto your mobile device.
2. Tap **Parking Field Map** to open the map.
3. Search for an address, and then in the results list, tap the address to zoom to that location on the map.
4. Tap the plus sign or **Collect Here** to open the survey form.

Note:

Your interface may vary depending on the type of mobile device you use.

5. Tap the type of parking asset that you want to add.
6. Swipe up to view the form, and then complete the survey with as much information as possible, tapping to expand sections as necessary.
7. Swipe down and tap **Add Point**.
8. At the upper right, tap the check mark or **Submit** to submit the survey.
9. Repeat these steps for each parking asset.

Develop parking inventory

The Parking Inventory app can be used by public works or planning department personnel to inventory public parking and pay stations. Existing parking assets collected in the field can be reviewed and information added to help drivers or the public find parking alternatives. New parking assets can also be added to a parking inventory using imagery and record documents.

You will assume the role of a parking supervisor in a public works or planning department. In this workflow, you are asked to review parking assets collected by field staff and add new parking assets available in record drawings. The steps below provide guidance; however, you can enter information as you see fit and examine the different dependencies in the form.

Review assets collected in the field

To review assets that were collected in the field, complete the following steps:

1. In a browser, sign in to your ArcGIS organization, and then browse to the Public Parking solution.
2. View the Parking Inventory app.
3. At the upper right, click the **Filter** button to open the widget.
4. In the widget, in the **Public Parking** section, click the **Visible to Public** drop-down arrow and choose **No**, and then turn the **Public Parking** filter on.
5. On the map, click a parking asset to open its pop-up.

Tip:

If you do not see any assets, return to and complete the **Collect parking assets in the field** workflow.

6. In the pop-up, at the lower right, click the more options button **☰** and choose **Smart Editor**.
The **Add Parking Assets** widget opens on the right, showing the form that was collected in the field for this parking asset.
7. Update or complete the information in the form.

Tip:

This solution uses the Operating Hours Specification and relies on a series of data standards (for example, Mo-Fr (7:00-19:00)) to render the operating hours correctly. For more information, see [Populate operational hours](#).

8. For **Visible to the public**, choose **Yes**.
9. Scroll to the bottom of the form and click **Save**.
10. Click **Close**.
11. Repeat these steps for each parking asset.

Add a new parking asset

1. In the Parking Inventory app, click the **Add Parking Assets** button to open the widget, if necessary, and then select the type of parking asset that you want to add.
2. On the map, click the location of the asset.
3. Complete the form with as much information as possible.
4. Scroll to the bottom of the form and click **Save**.

[Back to top](#)

5. Click **Close**.
6. Repeat these steps for each parking asset.

Locate parking alternatives

Communicating parking information helps drivers locate desirable spaces and reduces congestion in a downtown or neighborhood. The Public Parking site and Parking Locator app can be used to communicate public parking alternatives and find a parking space.

Find a parking space

You will assume the role of a resident or member of the public. In this workflow, you are interested in locating a parking space near a given location in a downtown or neighborhood.

1. In a browser, from the Public Parking solution, view the Public Parking site.
2. Scroll to the **Find Parking Space** section, and then click the **Locate Parking** button.

The Parking Locator opens, showing parking alternatives in the area.

3. On the left, in the Parking Locator panel, search for an address. You see suggestions as you type.
4. Press Enter or choose an address from the list. In the Parking Locator panel, nearby parking alternatives are listed.

Tip:

If your search returned no results, adjust the slider to increase the search distance.

5. In the Parking Locator panel or on the map, click a parking alternative and review the additional details.

Share parking experience

Understanding public perception with parking alternatives helps shape parking studies and plans to deliver affordable and well-located parking. The Parking Satisfaction Survey form is used by the public to share their experience with parking resources in a community.

1. In a browser, from the Public Parking solution, view the Public Parking site.
2. Scroll to the **Parking Satisfaction** section.
3. Click **Share Your Experience**.
4. Complete the survey, and then click **Submit**.

Readiness Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Readiness Management

Readiness Management can be used to understand and communicate comprehensive unit and force readiness.

It provides leaders and decision makers an understanding of available personnel resources and allows them to share authoritative data of assigned and attached forces. Units may be requested to assist in setting up traffic control points, helping with debris removal, preparing alternate care facilities, supporting food distribution, and so on. Having personnel perform a routine check-in or having someone from the armory or unit provide the readiness status of a group of personnel gives units clarity about force readiness. Readiness Management is typically implemented by the National Guard, Air National Guard, and other service branches that want to take a data-driven approach to understanding force availability.

The Readiness Management solution delivers a set of capabilities that help you understand the operational capacity of a force, monitor the status of units, and communicate capabilities and disruptions to commanders and administrative staff.

Requirements

Readiness Management requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123

Information products

Readiness Management includes the following information products:

Item	Description	Minimum user type
Admin Dashboard	An ArcGIS Dashboards app used by administrative NCOs to monitor personnel availability	Viewer
Readiness Dashboard	An ArcGIS Dashboards app used by any unit member to track and monitor personnel readiness and availability.	Viewer

[Back to top](#)

Personnel Readiness Report	An ArcGIS Survey123 form used by a military unit member to report availability.	Not required
Personnel Readiness Batch Report	An ArcGIS Survey123 form used by an NCO or armory clerk to report the availability of their personnel.	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	First release of Readiness Management

Configure Readiness Management

In this topic, you will learn how to configure the Readiness Management solution to meet specific needs in your organization.

Extend readiness surveys

Included with Readiness Management are a series of surveys that can be used to understand the capacity of your workforce.

Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies and any applicable laws. Additionally, ensure that you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Readiness Management solution includes a series of views created from the Personnel Readiness feature layer. The feature layer is used in the surveys, and the subsequent views are used in the dashboards. Organizations can modify the Personnel Readiness Report surveys and ultimately add new fields to the feature layers. When doing so, the new fields must be exposed in the appropriate views.

To add one or more fields to a layer and re-create the views, complete the following steps:

1. Browse to the view in your contents.
2. Click the **Visualization** tab.
3. Click the **Options** button **...** on the appropriate layer or table and click **Set View Definition**.
4. Click **Define Fields**.
5. Scroll to the newly created field and check the box. Click **Apply**.
The new field is added to the view's definition.
6. Repeat steps 1 through 5 for the Readiness Dashboard.
7. Update the Readiness Dashboard to account for the new fields you added to the layers.

Modify readiness surveys

To modify a Readiness Management survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Personnel Readiness Report** to download the survey.
4. Click the Personnel Readiness Report again to open the survey.
5. In the left pane, click **Open XLSForm Spreadsheet**.

6. In the Microsoft Excel spreadsheet, click the **Choices** tab. This tab contains the selectable options for survey questions.
7. Revise the survey to reflect your personnel readiness needs.
8. Save the Microsoft Excel spreadsheet and preview your changes using the ArcGIS Survey123 Connect form preview.
9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

To modify the **Battalion** or **Company** names in the Personnel Readiness Report or Personnel Readiness Batch Report, you will need to also account for the modification of the calculation in the `choice_filter` column of the Survey123 Connect XLSForm. The `choice_filter` column controls the cascading select functionality associated with each of the battalions and companies that fall within it.

For example, in the Personnel Readiness Report, if you select 1st Battalion, the next question asking for Company will be limited to only those companies in the 1st Battalion (A–D). Likewise, if you select 2nd Battalion, you see companies in the 2nd Battalion (E–H).

Learn more about how to work with [cascading selects](#).

Configure echelons

The dashboards are preconfigured to display four battalions and four companies under each battalion. Follow the steps below to add or remove battalions or companies from your dashboard.

Add a battalion

To add additional battalions or companies to the dashboard, complete the following steps:


1. Sign in to your Portal for ArcGIS.
2. Browse to the Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Select the last battalion tab while in edit mode.
5. Go to the editing tool in this element and select **Duplicate**.
6. Drag the newly created copy below the last battalion tab.
7. Reference duplicated battalion settings, text, and configuration.
8. Add a new name, for example, 5th BN, to the new component.
9. Save your application.

Remove a battalion tab

To remove battalions or companies from the dashboard, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.

[Back to top](#)

4. Select the battalion tab you want to delete while in edit mode.
5. Click the **Delete** button  to delete the selected battalion.
6. Save your application.

Configure alternate reporting periods

The dashboards are preconfigured to display individuals reporting within the last 24 hours. The dashboard owner can configure the dashboard to display alternate reporting periods. The **Personnel List** parameter is the most commonly configured element related to its contents and time frame.


To modify the reporting period, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Go to the editing tool in the **Personnel List** element and select **Configure**.
5. Below **Battalion**, select the **And** option and add **Date Reported** from the drop-down list.
You can now select from any of the available options and time frames.
6. Select **Done** and save your application to display the new reporting period.

Add readiness tabs for new battalions and companies

The dashboards are preconfigured to display four battalions and four companies and their applicable total force or unit size. This tab also contains their availability of personnel based on survey submissions and percentage of readiness.

To add additional percentages of readiness to the dashboard, complete the following steps:

1. Sign in to your Portal for ArcGIS.
2. Browse to the Readiness Dashboard and open the item details page.
3. Click **Edit Dashboard**.
4. Select the **3rd Battalion** tab while in edit mode.
5. Go to the editing tool in the **Personnel List** element and select **Duplicate**.
6. Drag the newly created copy below the **3rd Battalion** tab. Reference the 3rd Battalion settings, text, and configuration.
7. Add a new name, such as 5th BN, to the new component and save your application.
8. Go to the **Reference** section in the configuration tool and add the unit size below **Fixed Value**.
This number provides the available value and percentage of readiness.
9. Follow the previous step and enter the current **Total Force** value for each unit level.
10. If you need to remove a battalion tab, click the **Delete** button .
11. Save your application.

[Back to top](#)

Use Readiness Management

The Readiness Management solution delivers a set of capabilities that help you understand the operational capacity of a force, monitor the status of units, and communicate capabilities and disruptions to commanders and administrative staff.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Monitor force readiness

Some organizations may find it more efficient to have an individual, such as someone from the armory, check in their unit member using the Personnel Readiness Batch Report survey. If a unit decides to use the batch survey, follow the same general steps below with the Personnel Readiness Batch Report survey and the Readiness Dashboard.

Complete an individual readiness report

You will start by assuming the role of a military unit member. You are asked to use the Personnel Readiness Report survey to share your availability status each morning.

1. In a browser, go to your Personnel Readiness Report survey.
2. In the Personnel Readiness Report survey, fill in the following details:

Parameter	Value
Battalion	Select 1st Battalion .
Company	Select A Company .
Select which Guard you are a member of	Select ARNG .
ARNG Rank	Select E-4/CPL .
MOS	Type 12W .
Select Duty Type	State Active Duty
First Name	Type your first name.
Last Name	Type your last name.

[Back to top](#)

Commander	Type your commander's name.
Provide Location	Select your location on the map or provide your address.
Can you report for duty	Select Yes .
Check Completed By	Select Self .

3. Click **Submit**.

Complete a readiness batch report

Alternatively, you will start by assuming the role of a readiness NCO. You are asked to use the Personnel Readiness Batch Report survey to submit availability of troops.

1. In a browser, go to your Personnel Readiness Batch Report survey.
2. In the Personnel Readiness Batch Report survey, fill in the following details:

Parameter	Value
Enter Location	Select your location on the map or provide your address.
Battalion	Select 1st Battalion .
Company	Select A Company .
Select which Guard you are a member of	Select ARNG .
ARNG Rank	Select E-7/SFC .
MOS	Type 25W.
Select Duty Type	Select State Active Duty .
First Name	Type your first name.
Last Name	Type your last name.
Commander	Type your commander's name.

[Back to top](#)

Select which Guard(s) you would like to submit entries for	Select ARNG (Army National Guard) .
ARNG Available Troops	Enter the number of troops available to report for duty.
ARNG Unavailable Troops	Enter the number of troops not available to report for duty.
Would you like to input details for each ARNG duty type?	Yes
ARNG Duty Type Details	Enter the number of troops under each duty type, the number of troops entered must equal the number of troops available to report for duty.
Total Available Troops	Updated automatically.
Total Unavailable Troops	Updated automatically.

3. Click **Submit**.

Monitor personnel readiness

Now you will assume the role of the Readiness NCO in the same unit. You are asked to monitor the readiness of your unit and are looking to see if your unit is available to be assigned to a mission. You will view the overall readiness of your workforce.

Note:

The steps below are the same if you are an administrative NCO and will be using the Admin Dashboard to monitor the readiness of your team. The Admin Dashboard will contain personal information about the individual unit members.

1. In a browser, go to the Readiness Dashboard application.
The Readiness Dashboard opens with an overview of the overall readiness of the brigade and each battalion within the brigade.
2. In the filter at the top of the dashboard, the **Last 24 Hrs** tab is automatically selected to view a list of submissions within the last 24 hours. The **Last 48 Hrs** and **Last 72 Hrs** options can also be selected.
3. Activate the **Date Range** filter by first selecting **All** in the **Time frame** filter and then providing a **Start** and **End** date. Review the list of personnel and their locations in the map.

[Back to top](#)

4. Click each of the battalion tabs to see the availability for each company in that battalion.

Recreation Outreach

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Recreation Outreach

Recreation Outreach can be used to increase participation in outdoor activities and understand recreation license trends.

For decades there has been a decline in the number of people that are interested in outdoor recreation, prompting the need to understand recreation license trends more deeply and maximize the use of recreation resources. Understanding who has purchased recreation licenses or permits helps organizations target marketing activities and increase retention rates. Providing 24/7 access to recreation opportunities allows you to reach new outdoor license and permit buyers and increase the use of outdoor resources in your community. Recreation Outreach is typically implemented by fish and wildlife agencies, parks departments, and other recreation agencies that want to take a data-driven approach to increasing public participation in outdoor recreation.

The Recreation Outreach solution delivers a set of capabilities that help you understand recreation license trends, engage the public about their recreation experiences, and promote recreation opportunities to the public.

Requirements

Recreation Outreach requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.6 or later (Basic, Standard, Advanced)
- ArcGIS Survey123

Information products

Recreation Outreach includes the following information products:

Item	Description	Minimum user type
Outdoor Recreation	An ArcGIS Hub site used by the general public to discover outdoor recreation opportunities	Not required
Angler Catch Survey	An ArcGIS Survey123 form used by anglers to provide feedback related to their fishing experience	Not required

[Back to top](#)

Boating Experience Survey	An ArcGIS Survey123 form used by boaters to provide feedback related to their boating experience	Not required
Hunting Harvest Survey	An ArcGIS Survey123 form used by hunters to provide feedback related to their hunting experience	Not required
Trail Experience Survey	An ArcGIS Survey123 form used by trail users to provide feedback related to their trail experience	Not required
Recreation License Dashboard	An ArcGIS Dashboards app used by Fish and Wildlife Coordinators to determine which communities to target for Reactivation, Retention, and Recruitment (R3) campaigns	Viewer
Recreation License Management	An ArcGIS Pro project package used to manage and analyze license data	GIS Professional Basic
Park Locator	An ArcGIS Web AppBuilder app used by the general public to locate a park or recreation facility and obtain information about recreation activities in the area	Not required
Recreation License Locator	An ArcGIS Web AppBuilder app used by anglers, boaters, and hunters to locate license or permit retailers and obtain information about rules and regulations	Not required
Water Resource Locator	An ArcGIS Web AppBuilder app used by anglers and boaters to locate water access sites and obtain information about amenities at the access site	Not required
Wildlife Resource Locator	An ArcGIS Web AppBuilder app used by the general public to locate wildlife conservation or recreation areas and obtain information about area amenities	Not required
Trail Locator	An ArcGIS Web AppBuilder app used by the general public to locate a trail and obtain information about trail activities in the region	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.2	<ul style="list-style-type: none"> A new version of the Recreation License Management ArcGIS Pro project that resolves an issue with the Standardize Licenses tool to work with domains.

[Back to top](#)

1.1	<ul style="list-style-type: none"> Updated the Recreation License Management ArcGIS Pro project to reference correct layers.
1.0	<ul style="list-style-type: none"> First release of Recreation Outreach

Configure Recreation Outreach

Learn how to configure the Recreation Outreach solution to meet specific needs in your organization.

Load data

Recreation Outreach can be used to increase participation in outdoor activities and understand recreation license trends. In some cases, you may already have this information in ArcGIS or another business system.

The Recreation Outreach solution includes five locator apps to share outdoor resources with the public: the Water Resource Locator, the Wildlife Resource Locator, the Trail Locator, the Park Locator, and the Recreation License Locator. Each of these locator apps has a corresponding feature layer that needs to be populated with data for the apps to function.

Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one or more of the data loading workflows below.

Load data from a shapefile

Load data for LicenseLocations, ParkRecreationFacilities, Trails, WildlifeResources, and WaterResources from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you want to populate.
3. On the feature layer item details page, click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Browse to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you want to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.

[Back to top](#)

11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Modify satisfaction surveys

The Recreation Outreach solution includes focused surveys to gauge public opinion and gather feedback on outdoor recreation use. These surveys require slight modification to localize them for your use.

To update the list of locations in each survey, complete the following steps:


1. Download and install Survey123 Connect.
2. Start Survey123 Connect and sign in to your ArcGIS organization.
3. Click any of the surveys to download the individual survey forms.
4. Click the survey again to open it.
5. In the left panel, click the **XLSForm** button.
A Microsoft Excel spreadsheet opens.
6. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
7. In the choice list, find the placeholder choices (Choice 1, Choice 2, and so on) and replace them with your own values.
8. Click **Save** to save the Microsoft Excel spreadsheet and preview your changes on the **Form Preview** tab of Survey123 Connect.
9. In Survey123 Connect, click **Publish** in the left panel to publish your changes.

Configure Outdoor Recreation site


The Recreation Outreach solution requires small modifications to localize it for your use. The following sections describe how to configure Recreation Outreach for your organization.

Update organizational information


The Recreation Outreach solution includes an Outdoor Recreation site to share information about outdoor recreation with the public. This app requires slight modification to be localized for your use.

1. Sign in to your ArcGIS Online organization and browse to the Outdoor Recreation site.
2. Open the item page and click **Configure App**.
3. Click the edit button  to open the site editor.
4. On the main Outdoor Recreation page, update the following:

[Back to top](#)

- a. Under the Buy License Online section, hover over the card and click the edit pencil  to update the Learn more link to your online licensing portal.
- b. Under the Buy License Online section, hover over the card and click the edit pencil to update the Learn more link to your online licensing portal.
- c. Under the Make a Reservation section, hover over the card and click the edit pencil to update the Learn more link to your online reservation portal.
- d. To modify the footer on the Outdoor Recreation site, on the side panel, click

Customize Toggle

5. Click **Footer**. A custom footer is already provided, and in most cases needs to be updated with just your organization's branding, contact information, and social media references. Click the **HTML** text box, make the necessary changes, and click **Apply**.
6. Click **Settings** and expand **Interactions**. Make sure the **Embedded Apps** setting is toggled off.
7. Click **Save**.
8. On the Fishing page, update the following:
 - a. Under the Fishing Rules and Regulations section, hover over the card and click the edit pencil  to update the Learn more link to your regulation website.
 - b. Under the Buy License Online section, hover over the card and click the edit pencil to update the Learn more link to your online licensing portal.
 - c. Under the Frequently Asked Questions section, hover over the card and click the edit pencil, and update the questions and answers.
9. Click **Save**.
10. On the Hunting page, update the following:
 - a. Under the Learn to Hunt and Hunting Rules and Regulations sections, hover over the card and click the edit pencil to update the Learn more link to your learning and regulations websites.
 - b. Under the Buy License Online section, hover over the card and click the edit pencil to update the Learn more link to your online licensing portal.
 - c. Under the Frequently Asked Questions section, hover over the card and click the edit pencil, and update the questions and answers.
11. Click **Save**.
12. On the Boating page, update the following:
 - a. Under the Boating Education and Boating Rules and Regulations sections, hover over the card and click the edit pencil to update the Learn more link to your learning and regulations websites.
 - b. Under the Frequently Asked Questions section, hover over the card and click the edit pencil, and update the questions and answers.
13. Click **Save**.

Share items with public

Several layer views, maps and apps included in the Recreation Outreach solution must be shared with everyone so they can be accessed by the public on the Outdoor Recreation site. To share your Outdoor Recreation items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Recreation Outreach folder.
2. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	AnglerCatchSurvey_public
Feature Layer (hosted, view)	BoatingExperienceSurvey_public
Feature Layer (hosted, view)	HuntingHarvestSurvey_public
Feature Layer (hosted, view)	LicenseLocations_public
Feature Layer (hosted, view)	ParkRecreationFacilities_public
Feature Layer (hosted, view)	Trails_public
Feature Layer (hosted, view)	WaterResources_public
Feature Layer (hosted, view)	WildlifeResourceAreas_public
Feature Layer (hosted, view)	WildlifeResourceLocations_public
Web Map	Park Locator
Web Map	Recreation License Locator
Web Map	Trail Locator
Web Map	Water Resource Locator
Web Map	Wildlife Resource Locator

Web Mapping Application	Park Locator
Web Mapping Application	Recreation License Locator
Web Mapping Application	Trail Locator
Web Mapping Application	Water Resource Locator
Web Mapping Application	Wildlife Resource Locator
Form	Angler Catch Survey
Form	Boating Experience Survey
Form	Hunting Harvest Survey
Site Application	Outdoor Recreation
Hub Page	Boating
Hub Page	Fishing
Hub Page	Hunting

3. Click **Share**.
4. In the **Share** window, click **Everyone (public)** and click **Save**.
The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.
5. Click **Update**.
6. Click **OK** and click **Save**.

Use Recreation Outreach

The Recreation Outreach solution delivers a set of capabilities that help you understand recreation license trends, engage the public about their recreation experiences, and promote recreation opportunities to the public.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Explore outdoor destinations

Recreation Outreach contains multiple locator apps for the general public to find recreation opportunities and license information. Members of the public can search for an address or click the corresponding map to find information about parks, trails, water resources, wildlife resources, or recreation license locations.

You are a member of the public and want to learn what recreation opportunities are in your area. You will use the locator apps in the Recreation Outreach solution to find outdoor destinations.

Find park opportunities

1. Sign in to your ArcGIS organization and browse to the Outdoor Recreation site.
2. Find the Park Locator card and click the **Explore** button to launch the Park Locator.
3. Enter your address in the search box or pan and zoom to an area of the map you are interested in.
4. Click the **Filter** button and select characteristics to limit results based on your selected criteria.
5. Select the location of interest from the list and review information provided.
6. Click on the **Directions** tab to view driving directions to the recreation opportunity from your defined location.

Find trail opportunities

1. Sign in to your ArcGIS organization and browse to the Outdoor Recreation site.
2. Find the Trail Locator card and click the **Explore** button to launch the Trail Locator.
3. Enter your address in the search box or pan and zoom to an area of the map you are interested in.
4. Click the **Filter** button and select characteristics to limit results based on your selected criteria.
5. Select the location of interest from the list and review information provided.
6. Click on the **Directions** tab to view driving directions to the recreation opportunity from your defined location.

Find fishing and boating opportunities

1. Sign in to your ArcGIS organization and browse to the Outdoor Recreation site.
2. Find the Water Resource Locator card and click the **Explore** button to launch the Water Resource Locator .
3. Enter your address in the search box or pan and zoom to an area of the map you are interested in.
4. Click the **Filter** button and select characteristics to limit results based on your selected criteria.
5. Select the location of interest from the list and review information provided.
6. Click on the **Directions** tab to view driving directions to the recreation opportunity from your defined location.

Find hunting opportunities

1. Sign in to your ArcGIS organization and browse to the Outdoor Recreation site.
2. Find the Wildlife Resource Locator card and click the **Explore** button to launch the Wildlife Resource Locator .
3. Enter your address in the search box or pan and zoom to an area of the map you are interested in.
4. Click the **Filter** button and select characteristics to limit results based on your selected criteria.
5. Select the location of interest from the list and review information provided.
6. Click on the **Directions** tab to view driving directions to the recreation opportunity from your defined location.

Review and prepare recreation license data

Staff can use the Recreation License Management ArcGIS Pro project and Recreation License Management Dashboard to organize, load, and review recreation license data. This allows staff to review this information spatially, which can provide an enhanced view and understanding of license trends.

You are a data analyst at a conservation agency responsible for analyzing trends in recreation license data. You are asked to use the Recreation License Management ArcGIS Pro project to prepare your data to share in the Recreation License Dashboard.

1. Start ArcGIS Pro and open the Recreation License Management project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand **Tasks**, and double-click the Recreation License Management task.
4. In the **Tasks** pane, click the **Getting Started** task group to expand the collection of tasks.
5. Click the **Understanding Recreation License Management** task to review the project.

6. Follow the tasks provided in the **Prepare License Data** task group to format recreation license data.
7. Follow the tasks provided in the **Calculate License Information** task group to summarize and load recreation license data.

Resource Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Resource Management

Resource Management can be used to monitor resource inventories at each unit or command.

Military organizations need to be able to aggregate equipment inventories from smaller military installations. Having a broad view of all assets and installations held by a unit and its subordinate units allows the commander to make informed resource allocation decisions. Resource Management is typically implemented by the National Guard or other military organizations that want to maximize their efficiency and take a data-driven approach to asset management.

The Resource Management solution delivers a set of capabilities that help you to capture and update equipment location, available quantities, and operational status, and gain situational awareness of resources under a particular command or region.

Requirements

Resource Management requires the following:

- ArcGIS Enterprise

Information products

Resource Management includes the following information products:

Item	Description	Minimum user type
Resource Management Dashboard	An ArcGIS Dashboards app used by logistics personnel to monitor resource inventories.	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Resource Management

Configure Resource Management

Configure the Resource Management solution to meet specific needs in your organization. The app included with this solution contains a set of layers to be loaded with data. These layers automatically go through a joining process and create a joined layer that will be used by the included dashboard.

Load resource data

After Resource Management is deployed in your environment, the two accompanying files need to be populated with your own installation and inventory data.

Note:

To ensure the solution works correctly, follow the data structure in the file headers included in the attached empty layer.

Load installations

To consolidate all resources from attached military units and installations, complete the following steps:

1. In a browser, go to your Resource Management solution and click **Military Installations - Layer**.
2. Click **Update Data** and click **Append Data to Layer**.
3. Click **Choose File** and browse to your shapefile or .csv file.
4. Match the **ObjectID** field to a field in your file.
5. Click the **Show Field Matching** link.
6. Complete additional field mapping.
7. Click **Apply Updates**.

Load resource inventory

To consolidate all resource inventories, complete the following steps:

1. In a browser, go to your Resource Management solution and click **Resource Inventory - Spreadsheet**.
2. Click **Update Data** and click **Append Data to Layer**.

[Back to top](#)

3. Click **Choose File** and browse to your .csv file.
4. Match the **ObjectID** field to a field in your file.
5. Click the **Show Field Matching** link.
6. Complete additional field mapping.
7. Click **Apply Updates**.

Add installations or resources to your configuration

It may occasionally be necessary to add data to a currently deployed solution. This capability is a necessity when subordinate units begin to submit their resource inventory to the headquarters and a more comprehensive report is needed.

To add data in an instance of Resource Management already deployed in your organization, complete the following steps:

1. Prepare your file to be uploaded by ensuring the data structure is correct and the **ObjectID** value follows in ascending order from the highest **ObjectID** value already in your deployed dashboard.

Note:

If you are unfamiliar with the existing data, you can use your Resource Management Dashboard to check the highest **ObjectID** value. The lowest value in your new data to be uploaded should be one greater than your existing data. If your existing data ends with **ObjectID** 27, the new data should start with **ObjectID** 28.

2. Follow the steps in the previous sections to either upload your installations or upload your resource inventory.

Modify datasets for your organization

The layers delivered with the solution include a comprehensive list of command structure options and resource categories. If you want to make your data even more robust, you can modify the included fields and domains. Additional domains are included in the hosted layers that come with the solution.

Select installation domains from embedded lists

Domains are available in the Echelon 1-3 columns to represent command structure. Users can change these domains after a data upload has taken place. To select other domain options, complete the following steps:

1. Click **Military Installations - Layer**.
2. Click the **Data** tab.
A table view of the data appears.
3. Double-click the first row under **Echelon_1** to display and select additional brigade options. You can do the same with the other echelon columns.

[Back to top](#)

Select resource inventory domains from embedded lists

Domains are available in the **Resource_Category** and **Resource_Type** columns. Users can change these domains after a data upload has taken place. To select other domain options, complete the following steps:

1. Click **Resource Inventory - Spreadsheet**.
2. Click the **Data** tab.
A table view of the data appears.
3. Double-click the first row under **Resource_Category** to display and select additional category options. You can do the same with **Resource_Type**.
4. Follow the steps in the Select installation domains from embedded lists section above to select domains from the existing table.

Modify fields and domains

To add fields or domains to the data included in the solution, complete the steps in the following help topics:

- Learn about [adding or deleting fields](#) from your data.
- Learn about [modifying domains](#) in your data.

Use Resource Management

The Resource Management solution delivers a set of capabilities that help you to capture and update equipment location, available quantities, and operational status, and gain situational awareness of resources under a particular command or region.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Monitor inventory and operational status

Resource Management is typically implemented by organizations that want to maximize their efficiency and take a data-driven approach to asset management. Resource Management Dashboard is used to gain a clear understanding of equipment's location and to consistently track asset operational status. Resource Management Dashboard contains information about military installations and resource inventory essential to resource monitoring tasks.

You will now assume a National Guard logistics personnel role that has been ordered to mobilize your troops and equipment and respond to an approaching natural disaster. To monitor a specific unit, complete the following steps:

1. In a browser, open the Resource Management Dashboard.
2. Select your **Unit Name** or **UIC**.
The dashboard will begin to filter data based on your selection.
3. Clear your selections by selecting **All** under the **Unit Name** or **UIC** drop-down menu.
4. Filter your data based on a specific date, time frame, command, or resource/category type.

Inventory is displayed by total count and total entries. Four resource statuses are tracked: **Total On-Hand**, **Available**, **Non-Mission Capable**, and **Event Tasked**. The embedded map will show the exact unit location and associated equipment that was submitted.

Road Closures

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Road Closures

Road Closures can be used to maintain an inventory of road closures and communicate closures and detours to travelers.

Public works and public safety departments close roads for construction activities, special events, and public safety incidents, often creating detours for drivers. Proactively managing and communicating closure and detour information helps residents and drivers navigate an altered road landscape and avoid unnecessary congestion. Road Closures is typically implemented by public works and public safety agencies that want to have a single catalog of roads impacted by construction activities, events, and incidents and share this information with the public.

The Road Closures solution delivers a set of capabilities that help you inventory road closures and related detours, communicate closures and detours with the public, and share authoritative closure information with consumer applications, such as Waze.

Requirements

Road Closures requires the following:

- ArcGIS Enterprise

Information products

Road Closures includes the following information products:

Item	Description	Minimum user type
Road Closures	An ArcGIS Web AppBuilder app used by public works and public safety staff to maintain an inventory of road closures and communicate closures, blocks, and detours to travelers	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Road Closures

Configure Road Closures

Learn how to configure the Road Closures solution to meet specific needs in your organization.

Create a public road closure map

Focused road closure maps and information can be embedded in your website so they can be accessed by the general public. Maps can be focused on public safety incidents or specific events occurring in a community, or they can be more general road closure maps used during road construction season.

To create a public road closure map, complete the following steps:

1. Sign in to your ArcGIS organization.
2. [Create a map](#) that can be used by the general public to view road closures by doing the following:
 - a. Choose a basemap.
 - b. Add the RoadClosures_public layer to the map and [remove](#) RoadClosures_public from the layer names.
 - c. Save the map as Public Road Closures.
3. Share the map with your organization and everyone.
4. [Embed](#) the Public Road Closures map in your public works website.

Share with Waze

Sharing your road closure information allows consumer navigation and traffic companies, such as Waze, to leverage the information in apps used daily by the general public. Sharing up-to-date information with these apps helps minimize the impact of road closures, ease congestion, and enhance driver safety in your community. The road closures layer complies with the [Common Internet File Structure \(CIFS\)](#) for road closures but must be configured, as shown below, to capture required information.

Share road closure information

To share your road closure information with Waze, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.

[Back to top](#)

2. When [assigning a Creative Commons License](#) to your RoadClosures layer, choose the following options:
 - For **Allow adaptations of your work to be shared**, choose **Yes**.
 - For **Allow commercial uses of your work**, choose **Yes**.
3. In the **Have a web page** area, copy the HTML that is generated by the Creative Commons site.
4. In your ArcGIS organization, browse to your RoadClosures_public layer.
5. Open the item details page.
6. Click **Edit** to edit the item details.
7. Scroll to the **Terms of Use** section and click **Edit**.
8. Click **View HTML Source**.
9. Paste the HTML copied from the Creative Commons site into the **Terms of Use** text box.
10. Click **Save**.

Note:

You must use a license that allows international commercial use and allows shared adaptations or a license placing your data in the public domain.

11. Enroll in the [Waze for Cities program](#).
When you share your road closure information with Waze for Cities, new road closures added by your community in ArcGIS will be added to Waze every minute.

Add your organization reference

To share your road closures with Waze, you must store your organization reference with every road closure. This field is used by Waze to identify which organization the road closure data is coming from. The reference name must be a maximum of either 10 capital letters or 12 lowercase letters. The reference is your Waze for Cities program ID.

To add your organization reference, complete the steps below:


1. Verify that you are signed in to your ArcGIS organization and browse to the Road Closures map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Edit**.
4. Click **Manage**.
5. Click the **Layer** drop-down arrow and choose the **Road Closures** layer.
6. Click the drop-down arrow next to the **Both Directions** feature template and choose **Properties**.
7. In the **Properties** window, scroll to **Organization** and enter your organization reference.
8. Click **Done**.
9. Repeat steps 6 through 7 for the One Direction feature template layer properties.
10. Click **Save Changes**.

[Back to top](#)

Set required fields

To share your road closures with Waze, some information is required. You must change the fields indicated below as required so all road closures that are created capture the information needed by Waze.

To set fields transmitted to consumer apps as required, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Road Closures app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab and click **Set the widget in this controller** to open the page for an in-panel widget.
4. Hover over the **Create New Closure** widget and click the **Configure this widget** button  to open the widget configuration window.
5. Click the **Smart Actions** tab.
6. Click **Add New**.
7. In the **Group Name** text box, type Required Fields.
8. Click the **Layer for Expression** drop-down arrow and choose **Road Closures**.
9. Click the **Edit Expression** button.
10. Click **Add expression** and set the expression to OBJECTID is not blank.
11. Click **OK**.
12. Expand the Road Closure layer and check the check box for following fields as required:
 - **Street Name**
 - **Reason**
 - **Description**
 - **Direction**
 - **Start Time**
 - **End Time**
13. Click **OK** twice.
14. Save the app.

Configure the Road Closures layer to share with Waze

One of the partners that your community can share data with is Waze through the Waze for Cities program. To share your data with Waze, follow the steps found in the Waze partners [Overview](#) page. To share your feed, you must create a JSON request from the Public Road Closures feature layer.

To create the request URL required by Waze, follow the steps below:

1. Verify that you are signed in to your ArcGIS organization and browse to the RoadClosures_public item.
2. Open the item page and click the **Road Closures** layer under **Layers**.

[Back to top](#)

3. From the layer URL, click **Copy**.
4. Paste the URL into a text editor.
5. Copy the code below and paste it into the text editor at the end of the URL you pasted in the previous step.

```
/query?where=1%3D1&outFields=OBJECTID,street,subtype,description,direction,starttime,endtime,type,reference&outSR=4326&returnZ=false&f=geojson
```

Tip:

For more information on querying a feature layer, see [Query a feature layer](#).

6. Provide the URL to [Waze](#).

Use Road Closures

The Road Closures solution delivers a set of capabilities that help you inventory road closures and related detours, communicate closures and detours with the public, and share authoritative closure information with consumer applications, such as Waze.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Create road closures

You will assume the role of an employee in the public works department. You have received plans for streets that will need to be closed. You will draw the closures on the map, place the road blocks, and identify the detour routes.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Road Closures solution.
2. View the Road Closures app.
The Road Closures app opens with the **Create New Closure** widget open on the right.
3. In the **Create New Closure** widget, check the **Use Preset Values (new features only)** check box.
4. Type the contact information for the closure in the appropriate text boxes.
5. In the **Identifier** text box, type a unique ID.

Note:

This information will be added to each closure, road block, and detour you create to associate it with the same event.

6. On the map, use the search field or pan and zoom to the closure location.
7. In the widget, click the **Both Directions** template.
8. Click the map and begin to draw a line at an intersection; click to add a vertex and double-click to finish the closure line.
After you finish drawing the closure on the map, a Road Closures form appears on the right.
9. Complete the form with as much information as possible.
10. Click **Save**.
11. Click the **Road Blocks** template.
12. On the map, click the intersection on one side of the closure.

Note:

[Back to top](#)

The road block is automatically populated with the information from the closure it intersects, so you don't have to reenter it.

13. Click **Save**.
14. Click the **Road Detours** template.
15. On the map, sketch the alternate route around the closure and double-click to finish drawing the line.

Note:

If the detour intersects the closure at the start and end, it automatically pulls the details from the closure.

16. Click **Save**.

Update closure details

You will continue as an employee in the public works department. Dates for a road closure have been extended. You will update the end date of the closure and its associated road blocks and detour.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Road Closures solution.
2. View the Road Closures app.
3. In the upper right of the app, click the **Update Existing Closures** button to open the widget.
4. In the **Update Existing Closures** widget, click the **Extent** tool.
5. On the map, drag a box around the road closure, including the associated road blocks and detour.
6. In the **Update Existing Closures** pop-up, click the **End Time** drop-down arrow and choose a new date.
7. Click **Save**.

Closures that are no longer active, with an end date that is before today, will continue to show on the map but will have a transparency applied. This feature is helpful when you have reoccurring events; for example, past closures can be selected and updated with new dates.

Road Network Data Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Road Network Data Management

Road Network Data Management can be used to maintain an authoritative inventory of roads, intersections, and physical road characteristics and track legal agreements executed with a public works agency.

It provides a series of workflows and standard road layers that streamline the maintenance of a public road repository, their physical characteristics, and legal agreements defining maintenance services provided by the organization. Road Network Data Management is typically implemented by public works and transportation departments that want to develop and maintain a public road repository that supports a variety of maintenance functions.

The Road Network Data Management solution delivers a set of capabilities that help you maintain a standard set of public road layers, streamline road data management workflows, track maintenance agreements, and continuously improve the quality of public road information.

Requirements

Road Network Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Standard or Advanced)

Information products

Road Network Data Management includes the following information products:

Item	Description	Minimum user type
Road Network Data Management	An ArcGIS Pro project used by mapping technicians to maintain an authoritative inventory of public roads, road intersections, and physical road characteristics	GIS Professional Standard
Road Maintenance Agreements	An ArcGIS Web AppBuilder app used by engineers and operations staff to track legal agreements executed with a public works agency	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Road Network Data Management

Use Road Network Data Management

The Road Network Data Management solution delivers a set of capabilities that help you maintain a standard set of public road layers, streamline road data management workflows, track maintenance agreements, and continuously improve the quality of public road information.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Manage road network data

You will start by assuming the role of a mapping technician responsible for maintaining an inventory of public roads, road intersections, and physical road characteristics. The Road Network Data Management ArcGIS Pro project includes a series of tasks to help guide you through these workflows.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Road Network Data Management solution.
2. Download the Road Network Data Management desktop application template, and then unzip the folder.
3. From the unzipped folder, open the Road Network Data Management ArcGIS Pro project in ArcGIS Pro.
4. In the **Catalog** pane, expand the **Tasks** folder, and then double-click the Road Network Data Management task item.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand the **How to use Road Network Data Management** task group to see the collection of tasks.

Add roads

Roads are line segments representing centerlines of all public roadways or carriageways that support asset management and mapping. Typically, this information is compiled from authoritative road centerlines maintained for addressing purposes.

1. To add new public roads, follow the steps in the **Add roads** task.

Add intersections

When creating new roads, existing roads are split at intersections along the new road. An inventory of road intersections with the names of relevant crossroads is often required by 911 systems and to manage right-of-way assets.

1. To add new road intersections, follow the steps in the **Add intersections** task.

Add road characteristics

A series of map layers is used to track the characteristics (for example, ownership, functional classification, speed limit, physical characteristics, and special routes) of each public road. The feature classification and type schema for the roads is based on a functional classification of roads provided by the Federal Highway Administration (FHWA). Specific attributes and default values vary for each feature type.

1. To add new road characteristics, follow the steps in the **Add road characteristics** task.

Track maintenance agreements

You will now assume the role of an engineer or operations staff at a public works agency. You are responsible for managing the legal agreements defining maintenance services provided by the agency for assets within the public right-of-way.

1. In a browser, from the Road Network Data Management solution, view the Road Maintenance Agreements app.
The app opens with the **Create Maintenance Agreement** open on the right.
2. In the **Create Maintenance Agreement** widget, choose a template.
3. Click the map to start a sketch.
4. Click the map to add additional vertices and double-click to finish the sketch.
After you finish the sketch, the **Road Maintenance Agreements** legal agreement form opens in the **Create Maintenance Agreement** widget.
5. Complete the details of the legal agreement.
6. Click **Save**.
7. At the top right, click the **Filter Maintenance Agreement** button to open the widget.
8. Filter for the asset type that you just added.
9. On the map, select an agreement to view its details.

ROW Permitting

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to ROW Permitting

ROW Permitting can be used to manage permit applications required to construct, operate, use, or maintain a facility within the public right-of-way.

It provides a single destination for right-of-way permit applications and supports comprehensive right-of-way permit review workflows in a community. Capturing the location of proposed work along with other permit information streamlines the permit review process and helps communicate where work is occurring in the public right-of-way. ROW Permitting is typically implemented by public works agencies and other local government organizations that want to reduce the time to apply for and receive approval for a right-of-way permit.

The ROW Permitting solution delivers a set of capabilities that help you collect and organize permit applications, coordinate the permit review process, gather feedback during permit review, and share approved permits with internal and external stakeholders.

Requirements

ROW Permitting requires the following:

- ArcGIS Enterprise

Information products

ROW Permitting includes the following information products:

Item	Description	Minimum user type
ROW Permit	An ArcGIS Survey123 form used by contractors and property owners to apply for a permit to construct, operate, use, or maintain a facility within the right-of-way	Editor (required if form is used for internal purposes only)
ROW Permit Manager	A Crowdscore Manager app used by public works agencies to facilitate the right-of-way permit process and manage the status of a permit application	Editor
ROW Permit Review	A Crowdscore Polling app used by government agencies to review right-of-way permit applications and offer comments during the review process	Editor

[Back to top](#)

ROW Permit Public Comment	A Crowdsourcing app used by the general public and interested parties to review permit applications and comment on proposed construction activity	Not required
ROW Permit Locator	An ArcGIS Web AppBuilder app used by the general public and other interested parties to locate pending and approved right-of-way permits in their community	Not required
ROW Permit Dashboard	An ArcGIS Dashboards app used by public works executives to monitor the status of right-of-way permits in their community	Viewer

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of ROW Permitting

Use ROW Permitting

The ROW Permitting solution delivers a set of capabilities that help you collect and organize permit applications, coordinate the permit review process, gather feedback during permit review, and share approved permits with internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Submit a permit application

First, you will assume the role of a resident in the community. You want to host a block party in your neighborhood and close the street for the weekend.


1. In a browser, from the ROW Permitting solution, view the ROW Permit form.
2. In the **Applicant Information** section, provide your contact information.
3. Leave the **Contractor Information** section blank, as this work does not require a contractor.
4. In the **Job Information** section, search for the street that you want to close, and then place the point along that street.
5. For **Type**, choose **Temporary Use**.
6. For **Subtypes**, check the **Neighborhood Festival** check box.
7. For **Description**, provide a brief description.
8. For **Site Plan \ Construction Drawings**, if applicable, upload a drawing of where the road blocks should begin and end.
9. For **Proposed Start Date** and **Proposed Completion Date**, choose dates for the closure.
10. For **Lane Closure Required**, choose **No**.
11. Sign the form, and then click **Submit**.

Manage permit status

You will now assume the role of a supervisor in the public works department. It is your job to review and triage permit requests and ensure the permit application is reviewed by the correct people.

1. In a browser, sign in to your ArcGIS organization, and then browse to the ROW Permitting solution.
2. View the ROW Permit Manager app.
All permit applications are listed in the table at the top. The table can be sorted and filtered in various ways.

[Back to top](#)

3. Click a permit with a status of **Submitted**.
The permit application details open at the lower left.
4. On the **Details** tab, review the permit application information, and then click the **Edit Record** button  .
5. For **Status**, choose **StaffReview**.
6. Click **Save**.
The permit is now displayed in the ROW Permit Review app and can be shared with other departments or agencies to provide their feedback and approval. After all departments have approved the permit, you'll change the status in the ROW Permit Manager app to **BoardReview**.
7. Click the **Edit Record** button again.
8. For **Status**, choose **BoardReview**.
9. Click **Save**.
The permit is now displayed in the ROW Permit Public Comment app and can be shared with the general public for feedback. If public feedback is positive and you are ready to approve the permit, you'll change the status to **Approved**.
10. Click the **Edit Record** button again.
11. For **Status**, choose **Approved**.
12. Click **Approved/Denied Date** and choose the current date.
13. For **Approved State Date** and **Approved Completion Date**, specify values that signify the dates that the permit is valid.
14. Click **Save**.

Conduct internal review

You will now assume the role of a supervisor in the public safety department. A permit application requesting a street closure has been submitted. You will review the permit details to confirm that all the necessary information is provided and that you don't have any concerns.

1. In a browser, sign in to your ArcGIS organization, and then browse to the ROW Permitting solution.
2. View the ROW Permit Review app.
3. On the right, click a permit application in the list.

Tip:

If no permit applications are listed, return to the previous workflows and ensure that at least one permit application has a status of **StaffReview**.

4. Review the details, and then click the **Add a comment** button.
5. For **Organization**, choose **Public Works**.
6. Provide your name and comments.
7. For **Action Taken**, choose **Approved**.

8. Click **Submit**.

Find approved and pending permits

As an engaged resident, you are interested in learning more about the active and planned work in the community.

1. In a browser, from the ROW Permitting solution, view the ROW Permit Locator app. The app opens with the **Locate ROW Permit** widget open on the right.
2. In the **Locate ROW Permit** widget, search for an address; alternatively, click the location on the map.
Any permits that are pending or approved appear at the bottom of the widget.
3. If necessary, use the slider to increase the search distance and view additional permit applications.
4. Click **Pending** or **Approved**, and then explore the permits that are within the specified search distance of the address.
5. At the top of the list, click the **Back** button to return to the permit list and continue exploring nearby permits.

Note:

Pending permits have a **Comment** hyperlink that opens the ROW Permit Public Comment app. This app can be used by the general public to provide their feedback or concerns on the proposed work.

Provide public comments

Many communities have statutory public notice requirements that community members must be given the opportunity to express concerns about proposed developments and work within the public right-of-way. As a concerned resident, you will review the pending permits in the community and provide feedback instead of attending a council or commission meeting.

1. In a browser, from the ROW Permitting solution, view the ROW Permit Public Comment app.
2. Click a permit application in the list.

Tip:

If no permit applications are listed, return to the previous workflows and ensure that at least one permit application has a status of **BoardReview**.

3. Review the details, and then click the **Add a comment** button.
4. Provide your name, address, and comments.
5. Click **Submit**.

Monitor permit applications

Finally, you will assume the role of a supervisor in the public works department. It is your job to ensure that permits are moving through the application process and being approved or denied in a timely manner.

1. In a browser, sign in to your ArcGIS organization, and then browse to the ROW Permitting solution.
2. View the ROW Permit Dashboard app.
3. On the left, adjust the filters to refine the results.
4. On the right, in the **Permits** panel, click a permit application to view a pop-up with application details; alternatively, click a permit on the map.

School Locator

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to School Locator

School Locator can be used to share district and attendance zone boundaries with the general public.

It provides 24/7 access to an organization, and the location-enabled search helps residents quickly find which school district their household is assigned to and understand which schools their children will attend. This transparent approach improves communication with the public and saves many parents time because they do not need to call the district for school assignments. The solution also helps residents and home buyers make important decisions when considering where, and when, to make a real estate move. School Locator is typically implemented by government agencies and school districts that want to educate the public and promote public education resources available in their community.

The School Locator solution delivers a set of capabilities that help you share school district and attendance zone boundaries; highlight school performance; and promote available elementary, middle, and high school educational resources.

Requirements

School Locator requires the following:

- ArcGIS Enterprise

Information products

School Locator includes the following information products:

Item	Description	Minimum user type
School Locator	An ArcGIS Web AppBuilder app used by the general public to locate elementary and secondary schools and view school districts and attendance zone boundaries	Not required

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

[Back to top](#)

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"><li>• First release of School Locator

Configure School Locator

In this topic, you'll learn how to configure the School Locator solution to meet specific needs in your organization.

Load data

In some cases, you may already have this information in ArcGIS or another mapping system. Review the layers provided with the solution and determine what source data you want to load. Then, load your existing data into the layers provided with the solution before sharing the maps or apps.

Once you have determined what source data must be loaded, complete one or more of the following data-loading workflows.

Load data from a shapefile

Load data into the SchoolDistricts layer from a shapefile by completing the following steps:

1. Create a .zip file of your shapefile.
2. Sign in to your ArcGIS organization and browse to the feature layer you want to populate.
3. Open the item page and click **Update Data > Append Data to Layer**.
4. Click **Choose File** and browse to your .zip file, and click **Open**.
5. Click **Upload and Continue**.
6. Click **Choose the layer that you wish to append data into** drop-down arrow and choose the layer that contains the updated data.
7. Uncheck **Update existing features**.
8. Click **Show field matching** and map the fields between the two layers.
9. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Configure directions

Follow the steps below to connect to a routing service and configure the widget to enable directions in the app.

Configure widget

To configure an app to use routes and provide directions, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the ArcGIS Web AppBuilder app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab and click **Set the widget in this controller** to open the page for an in-panel widget.
4. Hover over the **Near Me** widget and click the **Configure this widget** button to open the widget configuration window.
5. Check the **Enable Directions** check box if it is not checked.
6. Click the **Direction Settings** tab, click **Set**, and choose a routing service.
7. Click **Next** and choose one or more route layers, click **OK**, and click **OK** again.
8. Save the app and share it with everyone.
9. Open the app.

Esri premium content

The app draws routes and provides directions using the ArcGIS Online World Route Service. This service requires subscriber access because it consumes credits. See [Configure Living Atlas content](#) to enable access to premium content.

[Learn more about credit usage when creating simple routes](#)

Use School Locator

The School Locator solution delivers a set of capabilities that help you share school district and attendance zone boundaries; highlight school performance; and promote available elementary, middle, and high school educational resources.

Note:

Use your organization's data or configured apps to follow these workflows.

Find schools and attendance zones

You will assume the role of a resident in the community and want to learn more about schools and attendance zone boundaries in your area.

1. In a browser, sign in to your ArcGIS organization, and then browse to the School Locator solution.
2. View the School Locator app.
3. In the **Locate School** widget, under **Search for an address or locate on map**, type an address in the community and press Enter. You can also click the map to set a location.

The list updates to display school attendance zones that serve the location entered.

4. Review the list of school attendance zones.
Using the list, you can see information related to which school your child will attend, enrollment numbers, the school district, and directions.
5. In the school attendance zones results list, click **Elementary School Attendance Zone**.
The map zooms to corresponding school attendance zone boundaries and highlights the associated school your child will attend based on your searched address.
The **Information** tab displays details regarding which school your child will attend, current enrollment numbers, and the name and size of the school district.
6. Click the **Directions** tab.
The tab displays turn-by-turn directions from the searched address to the school location.
7. Click the **Back** button to return to the school attendance zones results list.
8. Repeat step 4 for both **Middle School Attendance Zone** and **High School Attendance Zone**.

Sewer Data Management for ArcGIS Enterprise

Introduction to Sewer Data Management for ArcGIS Enterprise

Sewer Data Management for ArcGIS Enterprise can be used to map and manage asset information with the ArcGIS Utility Network.

The solution configures ArcGIS Enterprise and the ArcGIS Utility Network to be an authoritative repository of information for a sewer network and provides workflows that facilitate capturing information correctly and keeping it up to date.

Sewer Data Management for ArcGIS Enterprise delivers a data model that makes a utility network behave like a sewer network, editing apps configured for ArcGIS Pro, and preconfigured maps for data sharing. It also provides a sample utility network dataset so users can experience a utility network in a single-user environment. You can use the solution's deployment framework to experience a sewer utility network with sample data or in a single-user environment.

Requirements

Sewer Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 (Standard or Advanced)

Information products

Sewer Data Management includes the following information products:

Item	Description	Minimum user type
Sewer Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with the ArcGIS Utility Network user type extension

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
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[Back to top](#)

1.0	<ul style="list-style-type: none">• The first release of Sewer Data Management for ArcGIS Enterprise• The data model in the solution has been updated to version 4. For a full list of updates, refer to the change log.
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Use Sewer Data Management for ArcGIS Enterprise

The Sewer Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Sewer Data Management project guide you through creating your own utility network using the provided schema and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your sewer utility network.

Use the instructions in the Sewer Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Sewer Data Management for ArcGIS Enterprise V1** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Sewer Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the Tasks pane. Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the Data Management Solution

The data management solution is designed for organizations that want to experience a fully functional sewer utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create, and model your own utility network to behave like a sewer system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks:

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

[Back to top](#)

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes an upstream trace to identify all features that are upstream of the starting point sewer network.

This task group includes the following task:

- Upstream Trace

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following tasks:

- Add Sewer Manholes and Pipes
- Add Customer Service Lateral

Installing Implementation Prerequisites

After exploring the sample utility network, move on to building out a utility network for your own organization. Before getting started set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been developed specifically to support sewer utilities to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your sewer network.

This task group includes the following tasks:

- Project and Remove Sample Data

- Create Modification Tables (Optional)
- Loading Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Sewer Data Management project, review the [Sewer Data Management Attribute Rules](#) document.

A few notable attribute rules have been highlighted in the table below. These attribute rules have been designed to improve adding and editing manholes. These are disabled by default but can be enabled to take advantage of the described functionality.

Name	Description
Line - Snap to Manhole batch	When a main is snapped to a manhole channel, the main will be pulled back 2 ft. A Connection point is added to the end of the main, contained in the Manhole, and associated by connectivity to the Manhole Channel.
StructureJunction - Create Manhole Channel batch	When a Sewer Storm Vault - Manhole is created, generate and contain a Manhole Channel.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps' Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Deploy Solution to an Enterprise Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization.

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services

[Back to top](#)

- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map
- Reset Trace Location Feature Classes
- Adjust Maps
- Share with Organization

Special Event Operations

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Special Event Operations

Special Event Operations can be used to develop safety plans and monitor public safety operations during a special event.

It provides a way to collaborate in a geographic context to simplify the safety planning and operations workflows. Event information from the incident action plan can be mapped and monitored along with live event information such as weather, traffic, field reports, and health and safety incidents. Special Event Operations is typically implemented by public safety operations that want to improve event health and safety planning to protect participants and the public.

Special Event Operations delivers a set of capabilities that help you organize special events, create event site maps, develop health and safety plans, manage event incidents and assignments, monitor public health and safety operations, and create after-action reports.

Note:

If you represent a local government that requires permitting capabilities, you may be interested in the [Special Event Permitting and Operations](#) solution. It includes permitting capabilities and special events operations capabilities.

Requirements

Special Event Operations requires the following:

- ArcGIS Enterprise
- ArcGIS Data Store - Spatiotemporal big data store
- ArcGIS Notebook Server
- ArcGIS Survey123
- ArcGIS Survey123 Connect
- ArcGIS AppStudio Player
- ArcGIS Collector
- ArcGIS Tracker
- ArcGIS Workforce

Note:

[Back to top](#)

To use this solution ensure the following content and services are enabled and configured in ArcGIS Enterprise: [Living Atlas content](#) and Living Atlas subscriber content.

Information products

Special Event Operations includes the following information products:

Item	Description	Minimum user type
Special Event Form	An ArcGIS Survey123 form used by public safety event planners to catalog community or special events	Editor
Special Event Manager	A Crowdsourcing Manager app used by public safety event planners to manage the status of special events during the review process	Editor
Special Event Site Map	An ArcGIS Web AppBuilder app used by event coordinators to create site maps (temporary structures, routes, and so on) that accompany permit apps	Editor
Special Event Operations Map	An ArcGIS Web AppBuilder app used by public safety event planners to create operations maps of public safety resources and conduct a high-level threat analysis	Editor
Special Event Operations Notebook	An ArcGIS Notebooks app used by public safety event planners to create unique public safety operations maps and apps for each event	Editor
Copy Previous Site and Operations Maps	An ArcGIS Notebooks app used by event coordinators and public safety event planners to create a copy of site and operations maps	Editor
Special Event Field Reporter	An ArcGIS Survey123 form used by public safety staff to report lost children, suspicious activity, field observations, and health- and safety-related issues	Field Worker
Special Event Field Manager	An ArcGIS Workforce Classic project used by public safety event dispatchers to manage field reports and event assignments. Field users access the project using the ArcGIS Workforce app	Editor
Special Event Operations Dashboard	An ArcGIS Dashboards app used by public safety command staff to monitor operations, weather, traffic, and health and safety issues during a special event	Viewer
Crowd Counter App	An ArcGIS AppStudio app used by staff to count people entering and exiting an area	Field Worker
Special Event After Action	An ArcGIS Web AppBuilder app used by public safety command staff to visualize historical event operations and support event after-action reports	Viewer
Special Event Operations Apps	An app used to organize the Special Event Operations apps after running ArcGIS Notebooks	Editor

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">A new version of the Crowd Counter App that resolves an issue where the app would not load in the AppStudio Player
1.0	<ul style="list-style-type: none">First release of Special Event Operations

Configure Special Event Operations

The ArcGIS Solutions app can be used to deploy the Special Event Operations solution in your ArcGIS organization. After deploying the solution to your ArcGIS organization, configure the solution to meet specific needs in your organization and load your data if needed.

Preset event identifier

All of the special events and associated assets are stored in common hosted feature layers. Many of the applications in the solution use an event identifier to filter the maps for a specific event. To ensure that the features are being tagged with the appropriate event identifier, update the editing applications to use preset values in the Event ID field.

1. Sign in to your ArcGIS organization and search for the Special Event Site Map app.
2. Click **Edit Application**.
3. Click **Widget** in the upper left corner of the app.
4. Click **Set the widgets in this controller**.
5. Hover over the **Create Site Map** widget and click **Configure this Widget**.
6. On the **Configure Create Site Map** dialog box, click **Attribute Actions**.
7. Scroll down to **Preset**, hover over **Event ID**, and click the **Edit** button under **Actions**.
8. Uncheck **Hide in preset value display**.
9. Click **OK**.
10. Click **OK** to close the **Configure Create Operations Map** dialog box.
11. Click **Save**.
12. Repeat the steps above for the Special Event Operations Map app.

Extend event survey

The Special Event Operations solution includes a Special Event Form, which is a survey that can be used by public safety event planners to catalog community or special events. Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies. In addition, ensure that you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Special Event Operations solution includes a series of views created from feature layers provided with the solution. Organizations may want to modify the Special Event Form by first adding new fields to the feature layers and then configuring the surveys to use the newly created fields. When doing so, the new fields must be exposed in the appropriate views. Additionally, some views are created by joining two sources, and these views must be re-created with the same name and URL after a new field is added.

When adding new questions, begin with the steps below. For changes such as removing questions or formatting the survey, proceed to the Modify the event form survey section.

To add one or more fields to a layer and re-create the views, complete the following steps:

[Back to top](#)

1. Sign in to your ArcGIS organization and search for the **Special Events** hosted feature layer.
2. Add a new field to a layer in the Special Events hosted feature layer.
3. Navigate to the Special Event Permit stakeholder layer view in your contents.

Note:

In some cases, you may have existing permits you want to load into the special event layer. The stakeholder view is designed to provide a read-only view of the event form when accessed from Special Event Manager.

4. Click the **Open in Map View** arrow and click **Add to new map**.
5. Click the **More Options** button on the appropriate layer or table and click **Set View Definition**. Click **Define Fields**.
6. Scroll to the newly created field, check the box, and click **Apply**.

Modify the event form survey

To modify the Special Event Form survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Special Event Form** to download the survey.
4. Click **Special Event Form** again to open the survey.
5. In the left pane, click **Open XLSForm Spreadsheet**.
6. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
7. Revise the survey to reflect your Special Event Form needs.
8. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Note:

To view your changes in ArcGIS Survey123, on the Download Surveys page, click Download to get the updated survey.

Add event assets

The Special Event Operations solution includes several layers that can be used to locate event assets and develop health and public safety plans. These layers include several domains to help you get started with the event planning process. Each of these domains can be configured to include any additional features you would like to capture.

To add a new event asset and update the symbology, complete the following steps:

1. Sign in to your ArcGIS organization.
2. Click **Content** and browse to the folder you deployed the Special Event Operations solution in.

3. Search for **SpecialEventAssets** and open the item details page.
4. Click **Fields** and click **Event Asset Type**.
5. Next to **List of Values**, click **Edit**.
6. Add your additional asset types and click **Save**.
7. Click the **Visualization** tab.
8. Click **Change Style** and update the style for each new asset you added to the list.
9. Repeat steps 7 and 8 and update the style for SpecialEventAssets_operations.

Note:

The same steps can be used to modify the SafetyPlanning and HealthSafetyPlanning layers and associated views.

Configure Crowd Counter App

The Special Event Operations solution includes the ability to track the number of people entering and exiting a defined area to ensure the number of people admitted does not exceed the maximum capacity allowed for the size of the area.

Download and set up Crowd Counter App

You will need to set up Crowd Counter App on your mobile device to manage and track crowd capacity. To download and install Crowd Counter App on your mobile device, follow these steps:

1. Download ArcGIS AppStudio Player onto your mobile device.
2. Open the app on your mobile device and sign in to your ArcGIS organization.
3. Click the **Shared** button and click the Crowd Counter App button to download the app.
4. Click the Crowd Counter App button and sign in to your ArcGIS organization again.
5. Click the **add** button and choose **Browse Projects**, and then click **Crowd Counter** to download the project.
6. When the download is complete, click **Crowd Counter**, sign in to your ArcGIS organization, and check **Keep me signed in**.

Note:

The first time you set up your mobile device with Crowd Counter App, you are prompted to sign in two separate times. This is expected. After the initial setup, you are no longer prompted to sign in.

Create After Action app

Incident commanders are responsible for the health and safety of participants during an event. The Special Event After Action app provides useful visualization tools to see both how incidents occurred and how field personnel responded. This information can be used to further examine specific incidents and help plan for future events.

Follow the workflow below to create a unique Special Event After Action app for your event.

[Back to top](#)

Follow the steps below create a unique track view of your event.

1. Open a new map project in ArcGIS Pro.
2. Sign in to your ArcGIS organization account within ArcGIS Pro .
3. Search for the **<Event Name Date>_trackview** and add the track view to the map.
If you have many field personnel over an extended period of time then, you may have a large number of tracks and want to [change the maximum number of records returned](#).
4. Select the track view you added to the map and [export the data](#) from the track view into a new layer.
5. [Publish the new layer](#) as a service in your ArcGIS organization and name it **<Event Name Date> - Tracks**.

Follow the steps below create a Special Event After Action web map to use in the After Action app.

1. Sign in to ArcGIS organization and navigate to the Special Event After Action web map item.
2. **Open in Map Viewer** the Special Event After Action web map.
3. [Add the layer](#) you published in the previous workflow to the map.
4. Change the style of the layer and symbolize by the Full Name field.
5. Add the layer assignments layer named the **<Event Name Date> - Assignments** to the map.
6. Change the style of the layer and symbolize by the report type field using the public safety category.
7. Remove the **Report Type** layer from the map.
8. Save the Special Event After Action map with a new name for example, **Special Event After Action - Event Name**.

Follow the steps below create a Special Event After Action app for your event.

1. In your ArcGIS organization, navigate to the Special Event After Action app item and **Edit Application**.
2. Choose the triangle button, next to **Save**, and choose **Save As**.
3. Choose a name for the app for example, **Special Event After Action - <Event Name>**.
4. Choose **Map**, **Choose web map**, then choose the map you created in the previous workflow.
5. Choose **Widget**, **Set the widgets in this controller**, [Group Filter](#) widget, and then choose **OK**.
6. Add each layer of the map to the widget and choose the **Event Identifier** field as the filter.
7. Choose [After Action Report](#) widget and update the layer to the **<Event Name Date> - Assignments**.
8. Choose [Find Personnel](#) widget and update the layer to the **<Event Name Date> - Tracks**.
9. **Save** and then **Launch** the application.

The application is a historical archive of the special event and can be used to animate assignments and track locations. Repeat this workflow for each event.

Use Special Event Operations

Special Event Operations can be used to organize special events, create event site maps, develop health and safety plans, manage event incidents and assignments, monitor public health and safety operations, and create after-action reports.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Manage special events

Special Event Operations offers a comprehensive system to manage all events in one central location. It allows you to manage the entire process through the event approval process, event site planning, operations and after-action review. All information can be kept in preparation for each event to be used next year.

In this workflow, you'll learn how to create and manage events.

Create a special event

You will start by assuming the role of a public safety event planner who needs create a special event and manage it through the planning approval process. You are asked to use the Special Event Form survey to create an event.

1. In a browser, from the Special Event Operations solution, view the Special Event Form survey.
2. In the **Special Event Form** survey, fill in the following details on the first page:

Parameter	Value
Enter the name of the special event	Type 5K for the Local Animal Shelter.
Select an event type	Type Competition or Race.
Description of Event	Type A great event to be had by everyone benefiting animals in need.
Open to the public	Select Yes.
Estimated Attendance	Type 1000.

[Back to top](#)

Will alcohol be served at the event	Select No.
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3. At the bottom of the first page, click **Next**.
4. Complete the remaining event form pages, selecting an event start date one week from today in the morning and ending in the evening of the same day.
5. On page 4 of the event survey, provide the following information:
 - For **Event location**, type the name of a local park.
 - For **Locate the event on a map**, type the park's address and zoom to the location.
6. At the bottom of the page, click **Submit**.

Manage and review special events

In this workflow, you will assume the role of a public safety event planner who is asked to manage the review process and notify other government departments or agencies when a Special Event Form has been submitted. You will review the event information and update the status.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Manager app.
3. In the **Special Events** table, click the **Status** column filter and select **Under Review**.
4. From the table, select the event that you created previously.
The event details open in the **Info** panel.
5. In the **Info** panel, scroll down and click **Review Event Info**.
6. Review the form, and then close the Special Event Form survey.

Prepare site plans

Since many of the assets are temporarily set up before the event, planners need an interactive way to quickly assign the location of each asset. The Special Event Site Map allows coordinators or safety planners to quickly add these assets to the map for an event.

In this workflow, you'll learn how to create and copy site maps as well as notify others when maps are ready to be reviewed.

Create a special event site map

You will start by assuming the role of a public safety event organizer who needs to create an event site map for the special event. You are asked to use the Special Event Manager app to locate a special event and the Special Event Site Map to create a site map.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Manager app.
3. In the **Special Events** table, click the **Status** column filter and select **Under Review**.
4. In the table, select the event that you created previously.

5. In the **Info** panel, click **Edit Site Map**.
The Special Event Site Map app opens and zooms to the event. It also filters all related information, so you only see temporary features for your event.
6. In the **Create Site Map** pane, click **Food Concessions** and type King Smoothie.
7. Click a location on the map within the park.

Note:

The Event Identifier field is passed automatically from your filter selection in the Select Event widget and cannot be edited.

8. Click **Save**.
9. Repeat these steps for each event asset, route, and area you would like to add to your site map.
10. After completing your site map, click **Save**, and then close the Special Event Site Map.

Copy event maps from the previous year (optional)

In many cases, events are reoccurring and have similar site maps year after year. The Copy Previous Site and Operations Maps allows you to copy a previous site map to a new event. Modifications can then be made and added to the site map for the new event.

In this workflow, you will learn how to copy event maps from a previous year and update the maps when necessary.

Note:

To execute the Copy Previous Site and Operations Maps script, the event organizer must have access to the ArcGIS Notebooks item. In addition, you need at least two events (see the Create a special event section). The first event's status must be set to **Archived** and should have an associated site map. The new event should have the status set to **Under Review**. Do not use the event that you have already approved previously because it will be used in the subsequent steps.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. In a browser, view the Special Event Manager app.
3. Click the **Status** column filter and select **Under Review**.
4. Select the event you created in the Special Event Form survey.
5. In the **Info** panel, scroll down and click **Copy Previous Site and Operations Maps**.
An ArcGIS Notebooks app appears on a separate tab and will prompt you to sign in.
6. Click **Cell** and choose **Run All**.
7. In the **Archived** drop-down menu, choose a previous event that already has a site map.
8. In the **New Event** drop-down menu, choose the new event that does not have an associated site map.
9. Click Copy **Previous Site and Operations Maps**.
10. When the script completes, return to the Special Event Manager app and select the event in the list of events.

[Back to top](#)

11. Click **Edit Site Map** and verify the new site map is complete.

Note:

You may also want to verify the operations map is complete.

12. Make any required modifications to the site map and click **Save**.

Prepare operations plans

The Special Event Operations Map allows safety planners to add all relevant health and safety resources and perform high-level risk assessments. It can be used to locate isolation areas or set up plexiglass barriers at ticket counters or food vending booths. In addition, it can be used to calculate the number of people allowed in each space using Centers for Disease Control and Prevention (CDC) guidelines. Event staff can use the real-time counter at entrances and exits for each venue to maintain a safe environment for everyone.

Public safety staff can add resource assignments, road closures, traffic restrictions, and estimates of crowd sizes to guide field personnel assignments. Optionally, planners can create a reference grid for field staff supporting the event, conduct a visibility assessment for high-risk locations, or identify areas that may be impacted by a potential bomb explosion or chemical spill.

In this workflow, you'll learn how to create operations maps and copy events from previous years.

Coordinate with public safety event planners

You will start by assuming the role of a public safety event planner who needs to coordinate with public safety event planners. You are asked to use the Special Event Manager app to locate a permit app and notify public safety that a health and safety plan is needed for this event.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Manager app.
3. Click the **Status** column filter and select **Under Review**.
4. Select the event you created in the Special Event Form survey or select another event.
5. On the **Info** tab, click **Edit Operations Map**.

Note:

When you open the Special Event Operations Map from the Special Event Manager, the Event Identifier and Plan Identifier fields are passed automatically to the Select Event widget and should not be edited.

You can use the Develop a health and safety plan workflow in the next section to help you edit the operations map.

6. After the Special Event Operations Map is complete, return to the Special Event Manager app, and then in the event's **Info** panel, click the **Edit** button.

[Back to top](#)

7. Locate the **Operations Map Complete** field and click **Yes**.
8. Locate the **Status** field, click **Approved**.
9. Click **Save**.

Develop a health and safety plan

Next, you will assume the role of a public safety event planner who needs to develop a health and safety plan for an event. You are asked to use the Special Event Operations Map to create an operations map of public safety resources and conduct a high-level threat analysis.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Operations Map app.
3. Click the **Basemap** widget and select **Imagery**.
4. Click the **Create Operations Map** widget and search for PPE Station.
5. Place a PPE station on the map and add details for the health and safety asset.
6. Click **Save**.
7. Search for Handwashing Station, place it on the map, and add details for the event asset.
8. Click **Save**.
9. Repeat these steps for each health and safety asset, route, and area that you would like to add to your operations map.
10. Search for Road Blocks, place two on the map, and add details for each of the road blocks.
11. Click **Save**.
12. At the top of the **Create Operations Map** widget, select **Social Distancing Crowd Areas** from the drop-down list.
13. Click the template, draw an area on the map, and double-click to complete the sketch.
14. For **Area name**, type Vendor Area.

Note:

The **Area name** field must be unique.

15. For **Max Capacity**, type 100, and then click **Save**.

Note:

The area on the map is labeled with the number of people that can safely enter an area of this size based on CDC social distancing guidelines. Adjust the maximum capacity or area size if necessary.

16. At the top of the **Create Operations Map** widget, select **Crowd Estimates** from the drop-down list.

Note:

[Back to top](#)

Crowd estimation is determined by Jacobs' method; the high, medium, and low values of crowd estimation appear on the map.

17. Click the template, draw an area on the map, and double-click to complete the sketch.
18. For **Description**, type Crowd Area for Event.
19. Click **Save**.
20. Search for Medical Tent, place it on the map, and add details for the event asset.
21. Click **Save**.
22. Finally, search for On Foot, place three public safety resources on the map, and type the following details for each resource:
 - For **Point of Contact**, type an officer name.
 - For **Point of Contact Phone**, type a unique phone number for each officer.
 - For **Comments**, type Public Safety support for Humane Shelter Event.
23. After completing your health and safety operations map, click **Save**.

Conduct high-level threat analysis (optional)

The Special Event Operations Map includes a series of tools that can be used to define the impact of an incident (chemical or other threat) on event assets and resources. As you complete the health and safety plan, you may be asked to conduct a high-level threat analysis and identify the impact on your event operations plan.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Operations Map app.
3. Click the **Gridded Reference Graphic** widget to create a reference grid that can be used in large outdoor events.
4. Define the location of the grid from a point or area, and then click **Create GRG**.
5. To identify the impact of a chemical incident and create a potential evacuation area, click the **Emergency Response Guide** widget.
6. Select the location, material, and size of the accident along with the wind direction and time, and then click **Create Zones**.
7. Click the **Threat Analysis** widget to identify the impact of other threats.
8. Select the location, type of threat, and size of the accident, and then click **Create Zones**.
9. Finally, to identify the impact of an incident on event assets and resources, click the **Situational Awareness** widget.
10. Select the location and the distance impacted, and then click the map.
After using the Gridded Reference Graphic, Emergency Response Guide, or Threat Analysis widgets and publishing the derived layers, you can associate the layers with the event so they can be used in other event operations apps.
11. Select a health and safety resource you added earlier and copy the event identifier.
12. Click the **Assign Event Identifier** widget and select the features generated by the previously identified widgets.
13. Type the event identifier, and then click **Save**.

Copy event maps from the previous year

Many times, reoccurring events will use similar site and operations maps from one year to the next. For instance, an annual 5k run will have similar route, food concessions, and public safety support locations. Re-creating the site map every year can be very time consuming. In this workflow, you will learn how to copy event maps from a previous year and update the maps when necessary.

You will continue assuming the role of an event organizer. You are asked to use the Special Event Manager app and the Copy Previous Site and Operations Maps script to create a copy of the previous year site map and operations maps.

Note:

To execute the Copy Previous Site and Operations Maps script, the event organizer must have access to the ArcGIS Notebooks item. In addition, you need two events including the previous year and the current year. The status of the previous year's event must be set to **Archived**.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Manager app.
3. Click the **Status** column filter and select **Under Review**.
4. Select the event that you created previously.
5. In the **Info** panel, scroll down and click **Copy Previous Site and Operations Maps**. An ArcGIS Notebooks app appears on a separate tab and will prompt you to sign in.
6. Click **Cell** and choose **Run All**.
7. In the **Archived** drop-down list, choose a previous event that already has a site map.
8. In the **New Event** drop-down list, choose the new event that does not have an associated site map.
9. Click **Copy Previous Site/Operations Maps**.
10. After the script completes, return to the Special Event Manager app and select the event in the table.
11. Click **Edit Site Map** and verify the new site map is complete.

Note:

You may also want to verify the Special Event Operations Map is complete.

12. Make any required modifications to the site map, and then click **Save**.

Conduct health and safety operations

The Special Event Operations solution provides a complete set of capabilities that improve the efficiency and effectiveness of public safety personnel working on special events by enabling public safety personnel with tools to capture information from the field to share with commanders in a synthesized operational picture in real time.

In this workflow, you'll learn how to use a collection of maps and apps to support incident commanders and site staff to visualize, monitor, and communicate real-time status during an event, as well as visualize incident response after an event has occurred.

Deploy event operations apps

Public safety event planners and incident commanders need a unique set of maps and apps for each event. The unique maps and apps allow them to manage personnel assignments, activities, and incidents during an event and conduct after-action reviews that help them improve planning for future events. Each event requires the following:

- Unique apps for incident commanders, firefighters and emergency medical technicians, law enforcement officers, event dispatchers, health and safety officers, cleaning staff, and site staff
- The ability to monitor the location field personnel assigned to an event
- An incident tracking and assignment system that can be used onsite at the event
- Maps that show relevant event assets and public safety resources assigned to an event

You will assume the role of a public safety event planner. You are asked to use the Special Event Operations Notebook to create a copy of the event operations apps for a unique event.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Special Event Operations solution.
2. View the Special Event Manager app.
3. Click the **Status** column filter and select **Approved**.
4. Select the event you created in the Special Event Form survey, or another event.
5. On the **Info** tab, click **Create Operations apps**.
The Special Event Operations Notebook opens.
6. Review the instructions provided with ArcGIS Notebooks.
7. Click the **Special Event Field Personnel** link to view a list of all field personnel working the event, as well as dispatchers that will communicate with them.
8. Click **Download** and open the spreadsheet in Microsoft Excel.
9. Ensure that the spreadsheet includes the field personnel that have already been added to your ArcGIS organization and have been assigned ArcGIS Tracker licenses.
10. Save the file as **FieldPersonnel.xlsx** and close the spreadsheet.

Note:

To test the operations apps, you may want to add your user name to the spreadsheet and ensure that you have an ArcGIS Tracker license for testing.

Note:

Typically, the operations apps are created in advance of the event. However, if additional field personnel are assigned to the event after you run the notebook, you will need to add them manually as follows:

Add field personnel as workers to the [ArcGIS Workforce project](#).

Add field personnel as users to the [ArcGIS Tracker View](#).

Add field personnel [to the group](#) created for the event.

11. Return to the **Special Event Field Personnel** item page, click **Update**, and browse to your **FieldPersonnel.xlsx** file.
12. Close the **Special Event Field Personnel** tab in your browser.
13. Click the **Cell** menu and click **Run All**.
14. Under **Select a Special Event to deploy Operations apps**, click the drop-down arrow next to **Select an Event**, and choose your event.
15. Click **Deploy Special Event Operations apps**.

Note:

The creation of the event operations apps takes a few minutes.

16. When the progress bar is completed, click **View Deployed Event Operations applications**.

Track locations of field personnel

The ability to quickly identify the location of field personnel is critical during events. Dispatchers and incident commanders need to see a map with the location of their staff to determine who should respond to specific incidents.

You will assume the role of a firefighter, emergency medical technician, or law enforcement officer who will capture their location while working the event. You will use the Tracker field app to track your location so the incident command staff can determine your location.

1. On your mobile device, open the [ArcGIS Tracker](#) app.
2. Click **Sign in with ArcGIS Enterprise** and enter your credentials.
3. Turn on **Track My Location**.

Report activity from the field

During an event, public safety staff and site staff collect field observations that are used to protect the health and safety of event attendees.

You will assume the role of a firefighter, emergency medical technician, or law enforcement officer who needs to report suspicious activity, or a safety concern observed at the event. You are asked to use the Special Event Field Reporter survey to report the suspicious activity or safety concern.

1. In a browser, go to the Special Event Operations gallery and click the Special Event Field Reporter survey for your event name and date.
2. In the Special Event Field Reporter survey, fill in the following details:

Parameter	Value
Type	Select Suspicious Activity .

[Back to top](#)

Suspicious Activity Type	Select Object .
Description	Type Backpack left at location with no owner to be seen for 20 minutes.

- Optionally, add an image or picture.
- Locate the field report on the map.
- Click **Submit**.

Manage field assignments

It's common for minor incidents such as traffic accidents, medical calls, or disorderly spectators to occur during a special event. Often these incidents are reported by radio or 911 calls to a dispatcher in the event command center.

Now, you will assume the role of an event dispatcher who needs to assign field reports or other incidents to field staff. You are asked to use the Special Event Field Manager to assign the suspicious activity or safety concern to a firefighter, emergency medical technician, or law enforcement officer.

- In a browser, go to the **Special Event Operations Gallery** and click the Special Event Field Manager **Special Event Field Manager** for your event name and date.
- When the new tab opens, click **Open in ArcGIS Workforce**.
- Click the **Suspicious Activity** assignment in the list.
- Click **Assign** and choose a field worker from the drop-down menu.
- Click the **Search** bar and type King Smoothie.
- Click the **Special Event Assets: 1 Result feature** and click **Create assignment**.
- In the new assignment, fill in the following details:

Parameter	Value
Assignment Type	Select Medical Response .
Assign	Choose a field worker from the drop-down list.
Description	Type Citizen reporting heat exhaustion and has collapsed.
Priority	Choose High from the drop-down list.
Due Date and Time	Select a time on the same day of the event.

- Click **Create Assignment**.
Field personnel can open the ArcGIS Workforce app on their mobile device and see their assignments.

[Back to top](#)

Track crowd capacity

You will assume the role of site staff. You are asked to use the Crowd Counter App to count people entering and exiting the area to ensure that the number of people admitted does not exceed the maximum capacity allowed for a unique area.

Tip:

See [Configure Crowd Counter App](#) to learn how to install and set up Crowd Counter App on your mobile device.

1. Open and sign in to Crowd Counter App using the ArcGIS AppStudio Player app on your mobile device, if it isn't already open from the previous workflow.
2. Tap the **Edit** button to edit the **Area Name** value and enter the exact area name of the location you are tracking crowd capacity for. Type Vendor Area if you completed the prepare operation plans workflow.
3. Tap **Done**.
4. Tap **Enter** for each person entering the area and tap **Exit** for each person exiting the area.
5. Review the gauge on the **Occupancy** tab to learn the current capacity (middle number) relative to the maximum capacity (last number).

Note:

The gauge displays different colors as capacity changes. The color green indicates under maximum capacity, orange indicates near maximum capacity, and red indicates maximum capacity.

6. Continue to allow people to enter and exit the area based on the current capacity.

Note:

If the gauge does not display the correct results, use the refresh button in the upper right corner of the app to edit the **Area Name** value.

Tip:

When the Crowd Counter App is used to count high numbers of people, consider deleting or archiving entry and exit records from the Crowd Count layer to ensure high performance of the app.

Track cleaning and stocking status

You will assume the role of cleaning staff. You are asked to use the ArcGIS Collector mobile app to access your cleaning and restocking map to provide the status of cleaning and restocking of personal protective equipment (PPE) every 60 minutes.

1. Download ArcGIS Collector onto your mobile device.

[Back to top](#)

2. Open the app on your mobile device, and sign in to your ArcGIS organization.
3. Choose the **Cleaning and Restocking Map** for your event and date.
4. Choose a **PPE Station**, choose **Cleaning and Restocking Status** in the pop-up, and click the **Add** button.
5. Choose **status**, choose **Restocked**, and add the number of boxes stocked of each PPE type.
6. Click **Submit**.

Monitor event operations

Incident commanders need real-time information on the location of incidents, location of staff, and incoming weather and traffic information to make informed decisions during an event. The Special Event Operations Dashboard can be used in the command center on the day of the event.

1. In a browser, from the Special Event Operations solution, view the Special Event Operations Dashboard app.
2. Click **Open incidents within the last hour** and choose an incident.
3. Click the **Post Locations** tab on the bottom of the dashboard to see post location versus the actual location of staff.
4. Click the **Weather** tab on the bottom of the dashboard to see real-time weather radar information.
5. Click the **Traffic** tab on the bottom of the dashboard to see real-time traffic and road closure information.
6. Click the **Crowds** tab on the bottom of the dashboard, to see real-time crowd counts for an area based on information from staff tracking crowd capacity using the Crowd Counter App.
7. Click the **Sanitation** tab on the bottom of the dashboard to see real-time cleaning and restocking status for PPE stations, high-touch locations, and other health assets.
8. Close the app.

Conduct after-action briefings

Incident commanders are responsible for the health and safety of participants during an event. The Special Event After Action app provides useful visualization tools to see both how incidents occurred and how field personnel responded. This information can be used to further examine specific incidents and help plan for future events.

You will assume the role of an incident commander. You are asked to use the Special Event After Action app, including the site map, operation plans, assignments, incidents, and historical staff locations from the event, that you created after the event is complete.

Tip:

See [Create After Action app](#) to learn how to set up Special Event After Action app for a specific special event.

1. In a browser, go to the Special Event After Action app for your event, use your mouse to hover over the time slider at the bottom the map and click the pause button.

[Back to top](#)

2. Adjust the time slider to see when and where incidents occurred and when and where staff responded.

Note:

If the map does not animate based on time, the incidents may be outside of the time extent of the event.

3. Click the **After Action Report** button, click the rectangle, draw the reporting area, and click the **Report** button.
4. Click the **Print** button, choose the print layout, and click the **Print** button again to create a report containing the visible map and incidents during the event.
5. Click the **Download** button, choose **CSV**, and click the **Download** button again to create a CSV file containing the incidents during the event.

Special Event Permitting and Operations

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Special Event Permitting and Operations

Special Event Permitting and Operations can be used to manage special event permits, protect event attendees, and promote special events occurring in the community.

It provides a way to collaborate in a geographic context to simplify the permitting and operations workflows. These integrated apps ensure that permits are routed to the correct person for approval, operation and field staff are coordinated, and necessary event information remains current. Special Event Permitting and Operations is typically implemented by planning, public works, public safety, and other organizations that want to improve event permitting workflows and health and safety planning and to protect participants and the public.

Special Event Permitting and Operations delivers a set of capabilities that help you collect and organize permit apps, develop event site maps and health and safety plans, coordinate the permit review process, share event information with the public, monitor public health and safety operations, and create after-action reports.

Requirements

Special Event Permitting and Operations requires the following:

- ArcGIS Enterprise
- ArcGIS Data Store - Spatiotemporal big data store
- ArcGIS Notebook Server
- ArcGIS Survey123
- ArcGIS Survey123 Connect
- AppStudio Player
- ArcGIS Collector
- ArcGIS Tracker
- ArcGIS Workforce
- ArcGIS Hub

Note:

[Back to top](#)

To use this solution ensure the following content and services are enabled and configured in ArcGIS Enterprise: [Living Atlas content](#) and Living Atlas subscriber content.

Information products

Special Event Permitting and Operations includes the following information products:

Item	Description	Required user type
Special Event Permit	An ArcGIS Survey123 form used by event organizers and sponsors to apply for a community or special event permit	Not required
Special Event Permit Manager	A Crowdsourcing Manager app used by event coordinators to facilitate the special event permit process and manage the status of a permit app	Editor
Special Event Site Map	An ArcGIS Web AppBuilder app used by event coordinators to create site maps (temporary structures, routes, and so on) that accompany permit apps	Editor
Special Event Site Map Viewer	An ArcGIS Web AppBuilder app used by the general public and other interested parties to view event site maps	Not required
Special Event Permit Review	An ArcGIS Web AppBuilder app used by departments or agencies to review permit apps and offer comments during the permit review process	Editor
Special Event Permit Dashboard	An ArcGIS Dashboards app used by government executives to monitor the status of special event permits	Viewer
Special Event Calendar	An ArcGIS Dashboards app used by the public to discover festivals, shows, concerts, and other events occurring in a community	Not required
Promoting Special Events	An ArcGIS Hub site used by the general public to access special event information and destinations in their community	Not required
Special Event Operations Notebook	An ArcGIS Notebooks app used by public safety event planners to create unique public safety operations maps and apps for each event	Editor
Copy Previous Site and Operations Maps	An ArcGIS Notebooks app used by event coordinators and public safety event planners to create a copy of site and operations maps	Editor
Special Event Operations Map	An ArcGIS Web AppBuilder app used by public safety event planners to create operations maps of public safety resources and conduct a high-level threat analysis	Editor
Special Event Field Reporter	An ArcGIS Survey123 form used by public safety staff to report lost children, suspicious activity, field observations, and health- and safety-related issues	Field Worker

[Back to top](#)

Special Event Field Manager	An ArcGIS Workforce project used by public safety event dispatchers to manage field reports and event assignments	Editor
Special Event Operations Dashboard	An ArcGIS Dashboards app used by public safety command staff to monitor operations, weather, traffic, and health and safety issues during a special event	Viewer
Crowd Counter App	An AppStudio app used by staff to count people entering and exiting an area	Field Worker
Special Event After Action	An ArcGIS Web AppBuilder app used by public safety command staff to visualize historical event operations and support event after-action reports	Viewer
Special Event Operations Apps	A gallery app used to organize the operations apps after running the Special Event Operations Notebook	Editor

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none"> A new version of the Crowd Counter App that resolves an issue where the app would not load in the AppStudio Player
1.0	<ul style="list-style-type: none"> First release of Special Event Permitting and Operations

Configure Special Event Permitting and Operations

The ArcGIS Solutions app can be used to deploy the Special Event Operations solution in your ArcGIS organization. After deploying the solution, configure it to meet specific needs in your organization, and load your data if needed.

Preset an event identifier

All of the special events and associated assets are stored in common hosted feature layers. Many of the applications in the solution use an event identifier to filter the maps for a specific event. To ensure that the features are tagged with the appropriate event identifier, update the editing applications to use preset values in the Event ID field.

1. Sign in to your ArcGIS organization and search for the Special Event Site Map app.
2. Click **Edit Application**.
3. Click **Widget** in the upper left corner of the app.
4. Click **Set the widgets in this controller**.
5. Hover over the **Create Site Map** widget and click the edit button next to **Configure this Widget**.
6. On the **Configure Create Site Map** dialog box, click **Attribute Actions**.
7. Scroll down under **Preset**, hover over **Event ID**, and click the **Edit** button under **Actions**.
8. Uncheck **Hide in preset value display**.
9. Click **OK**.
10. Click **OK** to close the **Configure Create Operations Map** dialog box.
11. Click **Save**.
12. Repeat steps 1 through 11 for the Special Event Operations Map app.

Extend an event permit survey

The Special Event Permitting and Operations solution includes a survey that can be used by event organizers to apply for a special event permit. Review the preconfigured questions and adjust as necessary to remain in compliance with your organizational policies. In addition, ensure that you secure the survey and underlying layers and only share the content with appropriate members of your organization.

Update feature layer views

The Special Event Permitting and Operations solution includes a series of views created from feature layers provided with the solution. You can modify the Special Event Permit survey by first adding new fields to the feature layers and then configuring the surveys to use the newly created fields. The new fields must be exposed in the appropriate views. Additionally, some views are created by joining two sources together, and these views must be re-created with the same name and URL address after a new field is added.

Note:

Complete the workflow below to add new questions to the survey by adding new fields. Refer to the Modify event permit survey section to learn how to remove questions or format a new survey.

To add one or more fields to a layer and re-create the views, complete the following steps:

1. Sign in to your ArcGIS organization and search for the SpecialEvents hosted feature layer.
2. Add a new field to a layer in the SpecialEvents hosted feature layer.
3. Go to the SpecialEvents_approved view in your contents.
4. Click the **Open in Map View** drop-down arrow and click **Add to new map**.
5. Click the more options button on the appropriate layer or table and click **Set View Definition**. Click **Define Fields**.
6. Scroll to the newly created field and check the box. Click **Apply**. The new field is added to the view's definition.

To update a join view, complete the following steps:

1. Go to the join view in your contents (for example, SpecialEventAreas_approved).
2. On the item details page, scroll to the **URL** section. Click the **Copy** button.
3. Paste the copied URL into Microsoft Notepad or another text editor for reference.

Note:

The feature layer name is used below when re-creating the join. The name can be found after services in the URL structure and may also contain a unique GUID, for example, SpecialEventAreas_approved_a45f71a48587425c9b90ee5527cd26d1.

4. Delete the existing join view (for example, SpecialEventAreas_approved).
5. Add the SpecialEvents hosted feature layer to a new web map.
6. Click **Analysis > Summarize Data > Join Features**.
7. Configure the join using the information in the following table:

Name of join	Target layer	Layer to join to the target layer	Fields to match	Join operation	Define which record is kept
SpecialEventAssets_approved	SpecialEventAssets	SpecialEvents	eventid = eventid	Join one to one	Order by Date Reported /Newest
SpecialEventRoutes_approved	SpecialEventRoutes	SpecialEvents	eventid entifier	Join one	Order by Date

[Back to top](#)

			= eventid	to one	Reported /Newest
SpecialEventAreas_approved	SpecialEventAreas	Special Events	eventid entifier = eventid	Join one to one	Order by Date Reported /Newest

Note:

Ensure that each new join view uses the names defined in this table. If you use the same names, the layers in the map and the existing dashboard widgets do not have to be reconfigured. If your join view contained a unique GUID, the new join view must be named with the unique GUID.

8. If necessary, uncheck **Use current map extent**. Check **Create results as hosted feature layer view**.
9. Update the Special Event Site Map Viewer and other special event maps and apps to account for the new fields you added to the layers.

Modify event permit survey

To modify the Special Event Permit survey, complete the following steps:

1. Install ArcGIS Survey123 Connect.
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click Special Event Permit to download the survey.
4. Click Special Event Permit again to open the survey.
5. In the left pane, click **Open XLSForm Spreadsheet**.
6. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
7. Revise the survey to reflect your special event permit needs.
8. Save the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
9. In ArcGIS Survey123 Connect, click **Publish** in the left pane to publish your changes.

Note:

On the **Download Surveys** page, click **Download** to view your changes in ArcGIS Survey123 Connect.

Notify reviewers

The Special Event Permit Review app allows departmental reviewers to provide input on each event. The Special Event Permit Manager has a button that opens an email to send to these reviewers. Often these reviewers are the same for every event, so rather than typing the same

[Back to top](#)

emails for each departmental reviewer every time an event is ready for review, you can populate the email so it always includes their email addresses.

1. Sign in to your ArcGIS organization.
2. Click **Content** and browse to the folder where you deployed the Special Event Permitting and Operations solution.
3. Search for the Special Event Permit Manager web map and open it.
4. In the layer list, highlight **Special Event Permits**, click the more options button, and click **Configure Pop-up**.
5. Under **Attribute Expressions**, scroll down to **Notify Reviewers Email Link**.
6. Find the following line of code: `var emailRecipient = ""`
7. Enter the email addresses of the reviewers separated by semicolons between the empty quotation marks.
8. Click **OK** to close the **Arcade** window.
9. Click **OK** to close the **Configure Pop-up** window.
10. Click **Save** to save the Special Event Permit Manager.
11. Click **Content** and browse to the folder where you deployed the Special Event Permitting and Operations solution.
12. Search for the Special Event Permit Manager app and open it.
13. Find an event that has the **Status** parameter set to **Approved** and **Site Map Complete** set to **Yes**.
14. Click the **Notify Reviewers** button. Verify that the emails are now populated as part of the email.

Add event assets

The Special Event Permitting and Operations solution includes several layers that can be used to locate event assets and develop health and public safety plans. These layers include several domains to help you get started with the event permitting and planning process. Each of these domains can be configured to include any additional features you want to capture.

To add a new event asset and update the symbology, complete the following steps:

1. Sign in to your ArcGIS organization.
2. Click **Content** and browse to the folder where you deployed the Special Event Permitting and Operations solution.
3. Search for SpecialEventAssets and open the item details page.
4. Click **Fields** and click **Event Asset Type**.
5. Next to **List of Values**, click **Edit**.
6. Add your additional asset types and click **Save**.
7. Click the **Visualization** tab.
8. Click **Change Style** and update the style for each new asset you added to the list.
9. Repeat steps 7 and 8 and update the style for SpecialEventAssets_approved and SpecialEventAssets_operations.

Tip:

You can use the same steps to modify the SafetyPlanning and HealthSafetyPlanning layers and associated views.

Share event destination

Promoting Special Events is an ArcGIS Hub site that can be used to promote special events in a community. It can also serve as a destination for event organizers that must apply for a special event permit. The ArcGIS Hub site integrates several maps and apps included in the Special Event Permitting and Operations solution. Each of these maps and apps must be shared with the public so they can be accessed at the Promoting Special Events destination.

To share the event maps and apps, complete the following steps:

1. Sign in to your ArcGIS organization.
2. Search for Promoting Special Events and open the item details page.
3. Share the ArcGIS Hub site with everyone (public).
4. Repeat this process for each of the following items:

Item	Name	Sharing
Web mapping app	Special Event Site Map Viewer	Everyone (public)
Dashboard	Special Event Calendar	Everyone (public)
Form	Special Event Permit	Everyone (public)
Web map	Special Event Site Map Viewer	Everyone (public)
Web map	Special Event Calendar	Everyone (public)
Feature layer (hosted)	SpecialEvents	Everyone (public)
Feature layer (hosted, view)	SpecialEvents_approved	Everyone (public)
Feature layer (hosted, view)	SpecialEventsAssets_approved	Everyone (public)
Feature layer (hosted, view)	SpecialEventsRoutes_approved	Everyone (public)
Feature layer (hosted, view)	SpecialEventsAreas_approved	Everyone (public)
Feature layer (hosted, view)	RoadClosures_public	Everyone (public)

Configure Crowd Counter App

The Special Event Operations solution includes the ability to track the number of people entering and exiting a defined area to ensure the number of people admitted does not exceed the maximum capacity allowed for the size of the area.

Download and set up Crowd Counter App

You will need to set up the Crowd Counter App on your mobile device to manage and track crowd capacity. To download and install the Crowd Counter App on your mobile device, follow these steps:

[Back to top](#)

1. Download ArcGIS AppStudio Player onto your mobile device.
2. Open the app on your mobile device and sign in to your ArcGIS organization.
3. Tap the **Shared** button and choose the Crowd Counter App button to download the app.
4. Choose the Crowd Counter App button, and sign in to your ArcGIS organization again.
5. Choose the **add** button and choose **Browse Projects**, and then choose **Crowd Counter** to download the project.
6. When the download is complete, choose **Crowd Counter**, sign in to your ArcGIS organization, and choose the **Keep me signed in**.

Note:

The first time you set up your mobile device with the Crowd Counter App, you are prompted to sign in two times. This is expected. After the initial setup, you are no longer be prompted to sign in.

Create After Action app

Incident commanders are responsible for the health and safety of participants during an event. The Special Event After Action app provides useful visualization tools to see both how incidents occurred and how field personnel responded. This information can be used to further examine specific incidents and help plan for future events.

Follow the workflow below to create a unique Special Event After Action app for your event.

Follow the steps below create a unique track view of your event.

1. Open a new map project in ArcGIS Pro.
2. Sign in to your ArcGIS organization account within ArcGIS Pro .
3. Search for the **<Event Name Date>_trackview** and add the track view to the map.
If you have many field personnel over an extended period of time then, you may have a large number of tracks and want to [change the maximum number of records returned](#).
4. Select the track view you added to the map and [export the data](#) from the track view into a new layer.
5. [Publish the new layer](#) as a service in your ArcGIS organization and name it **<Event Name Date> - Tracks**.

Follow the steps below create a Special Event After Action web map to use in the After Action app.

1. Sign in to ArcGIS organization and navigate to the Special Event After Action web map item.
2. **Open in Map Viewer** the Special Event After Action web map.
3. [Add the layer](#) you published in the previous workflow to the map.
4. Change the style of the layer and symbolize by the Full Name field.
5. Add the layer assignments layer named the **<Event Name Date> - Assignments** to the map.
6. Change the style of the layer and symbolize by the report type field using the public safety category.
7. Remove the **Report Type** layer from the map.

[Back to top](#)

8. Save the Special Event After Action map with a new name for example, **Special Event After Action - Event Name**.

Follow the steps below create a Special Event After Action app for your event.

1. In your ArcGIS organization, navigate to the Special Event After Action app item and **Edit Application**.
2. Choose the triangle button, next to **Save**, and choose **Save As**.
3. Choose a name for the app for example, **Special Event After Action - <Event Name>**.
4. Choose **Map**, **Choose web map**, then choose the map you created in the previous workflow.
5. Choose **Widget**, **Set the widgets in this controller**, [Group Filter](#) widget, and then choose **OK**.
6. Add each layer of the map to the widget and choose the **Event Identifier** field as the filter.
7. Choose [After Action Report](#) widget and update the layer to the **<Event Name Date> - Assignments**.
8. Choose [Find Personnel](#) widget and update the layer to the **<Event Name Date> - Tracks**.
9. **Save** and then **Launch** the application.

The application is a historical archive of the special event and can be used to animate assignments and track locations. Repeat this workflow for each event.

Use Special Event Permitting and Operations

Special Event Permitting and Operations can be used by local governments to collect and organize permit apps, develop event site maps and health and safety plans, coordinate the permit review process, share event information with the public, monitor public health and safety operations, and create after-action reports.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Manage event permits

Special events start with private or nonprofit organizations that request an event permit from the local authorities. Typically, this permit request is submitted in hard copy or a fillable form that is received by a special event coordinator. The coordinator is then often responsible for delegating the review process to stakeholders from many departments. Often this process is further encumbered by paper or email delays.

In this workflow, you'll learn how to create and manage special event permits.

Apply for a special event permit

You will start by assuming the role of an event organizer who needs to submit a permit app to a local government for approval. You are asked to use the Special Event Permit survey to apply for an event permit and submit a site map along with your app.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit survey.
2. In the Special Event Permit survey, fill in the following details on the first page:

Parameter	Value
Enter the name of the special event	Type 5K for the Local Animal Shelter.
Select an event type	Type Competition or Race.
Description of Event	Type A great event to be had by everyone benefiting animals in need.
Open to the public	Select Yes .

Estimated Attendance	Type 1000.
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3. At the bottom of the first page, click **Next**.
4. Complete the remaining event permit pages, selecting an event start date one week from today in the morning and ending in the evening of the same day.
5. On page 8 of the event survey, provide the following information:
 - For **Event location**, type the name of a local park.
 - For **Locate the event on a map**, type the park's address and zoom to the location.
 - For **Event Site Map**, browse to a local file and attach a diagram an event organizer would use to describe the setup of an event.
6. At the bottom of the page, click **Next**.
7. On page 9, sign the permit app.
8. Click **Submit**.

Submit an internal event

In some cases, an event may be hosted by your own organization, so there is no need to fill out the full permit. In that case, you can use a shortened version of the permit that represents the internal submission.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit survey.
2. In the browser's address bar, at the end of the URL, add `&field:submittype=Internal`. Your final URL parameter should be similar to the following address:
`https://survey123.arcgis.com/share{YourItemID}?portalUrl={YourPortalURL}&field:submittype=Internal`
 The internal event permit will not contain as much detail as a sponsored event.
3. Fill out the survey with a new event and submit it.

Coordinate a permit review

Now, you will assume the role of an event organizer in the same local government. You are asked to coordinate the review process and notify other government departments when a special event permit has been submitted. You will review the permit app and update the status of the permit.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. In the **Special Event Permits** table, click the **Permit Status** column filter and select **Submitted**.
3. In the table, select the event that you created previously.
4. In the **Info** panel, scroll down and click **Review Permit Application**.
 The permit app that was submitted by the organizer opens, which allows further review of the app, permit updates, and email communication with the organizer.
5. Close the **Special Event Permit** survey and return to the Special Event Permit Manager app.

[Back to top](#)

6. On the **Info** tab, click the edit button and click **Edit** to edit the event status.

Note:

As a special event coordinator, you can track the permit status throughout the review life cycle and identify when site and operations maps have been created.

7. For **Permit Status**, choose **Under Review**, and then click **Save**.

Prepare site plans

The event site map is the foundation of the event. It provides a common reference for planning, operating, and promoting each event. It can also include the event location, event assets, designated areas, and routes required to conduct the event. The Special Event Site Map allows coordinators or safety planners to quickly add these assets to the map for an event.

In many cases, events are reoccurring and have similar setups year after year. The Copy Previous Site and Operations Maps notebook allows you to create a new event using a previous site map as a starting point. Modifications can then be made and added to the site map for the new event.

In this workflow, you'll learn how to create and copy site maps as well as notify others when maps are ready to be reviewed.

Create a site map

You will start by assuming the role of an event organizer who needs to create an event site map for a permit app. You are asked to use the Special Event Permit Manager to locate a permit app and the Special Event Site Map to create a site map.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. In the **Special Event Permits** table, click the **Permit Status** column filter and select **Under Review**.
3. In the table, select the event that you created previously.
4. In the **Info** panel, scroll down and click **Edit Site Map**.
The Special Event Site Map app opens and zooms to the event permit app. It also filters all related information, so you see temporary features for your event.
5. On the **Create Site Map** dialog box, click **Food Concessions**, and then type King Smoothie.
6. Click a location on the map within the park.

Note:

The Event Identifier field is passed automatically from your filter selection in the **Select Event** widget and cannot be edited.

7. Click **Save**.
8. Repeat these steps for each event asset, route, and area that you want to add to your site map.

[Back to top](#)

9. After completing your site map, click **Save**, and close the Special Event Site Map.

Copy event maps from the previous year (optional)

Many times, reoccurring events will use similar site and operations maps from one year to the next. For instance, an annual 5k run will have a similar route, food concessions, and public safety support locations. Re-creating the site map every year can be time-consuming. In this workflow, you will learn how to copy event maps from a previous year and update the maps when necessary.

You will continue assuming the role of an event organizer. You are asked to use the Special Event Permit Manager and the Copy Previous Site and Operations Maps script to create a copy of the previous year's site map and operations maps.

Note:

To execute the Copy Previous Site and Operations Maps script, the event organizer must have access to the ArcGIS Notebooks item. In addition, you need at least two events (see the Create a special event section). The first event's status must be set to **Archived** and should have an associated site map. The new event should have the status set to **Under Review**. Do not use the event you have already approved above as it will be used in the subsequent steps..

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. In the **Special Event Permits** table, click the **Permit Status** column filter and select **Under Review**.
3. In the table, select the event that you created previously.
4. In the **Info** panel, scroll down and click **Copy Previous Site/Operations Maps**. An ArcGIS Notebooks app appears in a new tab and may prompt you to sign in.
5. Click **Cell** and choose **Run All**.
6. In the **Archived** drop-down list, choose a previous event that already has a site map.
7. In the **New Event** drop-down list, choose the new event that does not have an associated site map.
8. Click **Copy Previous Site/Operations Maps**.
9. When the script completes, return to the Special Event Permit Manager and select the event in the Special Event Permits table.
10. Click **Edit Site Map** and verify the new site map is complete.

Note:

You may also want to verify the Special Event Operations Map is complete.

11. Make any required modifications to the site map and click **Save**.

Notify permit reviewers

You will continue assuming the role of an event organizer. You are asked to use the Special Event Permit Manager to update the permit app and notify internal stakeholders that the proposed event is ready for review.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. In the **Special Event Permits** table, click the **Permit Status** column filter and select **Under Review**.
3. In the table, select the event that you created previously.
4. In the **Info** panel, scroll down and click **Edit**.
5. Locate the **Site Map Complete** field, choose **Yes**, and click **Save**.
6. On the **Info** tab, click **Notify Reviewers**.
7. Copy the hyperlink from the email and paste it in a new tab in your browser.

Note:

You will send this email to the permit review staff members who participate in your permit review process.

8. Close your email client.

Note:

If your email client does not open when you click the **Notify Reviewer** button, ensure that your default email client is configured.

Inform stakeholders

As the number and size of local special events increase, so does the impact on public infrastructure and resources. Executives from a local government need to see a comprehensive impact to the community. Key indicators, such as events serving alcohol or fireworks or requiring road closures, can show the impact on public safety or public works resources. The Special Event Permitting and Operations solution provides a Special Event Permit Dashboard to allow executives to see a historical context of all events and where they are in the approval process, and filter by event type.

Public attendance to an event can be dependent on how well it is promoted. The Promoting Special Events ArcGIS Hub site allows your community to have a branded destination to promote events as well as other places to visit, such as museums or popular restaurants. A member of the general public can view the Special Event Calendar to find a specific event of interest to them, with an associated detailed site map of the event.

In this workflow, you'll learn how to update and monitor special event permits as well as view the special events in your community.

Gather feedback from internal stakeholders

Event permits are typically reviewed by several different government departments or agencies. Incorporating feedback from the internal stakeholders before the permit is approved is critical. In this workflow, you will learn how to review a permit app and offer comments. You will also learn how to review a summary of all comments provided during the review process.

You will start by assuming the role of a permit review staff member (for example, public works director, planning director, or incident commander). You are asked to use the Special Event Permit Review app to review an event permit app and the site map and offer any comments.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Review app.
2. In the list of special events, select the event that you created previously or select another special event.
3. Click **View Permit Application** to review details found in the permit app, and then close the Special Event Permit survey.
4. Click the **Add a comment** button and fill in the following details:

Parameter	Value
Organization	Select Public Works .
Comments	Type Concerned that additional cross street need to be blocked.
Any Instructions	Type Approved contingent on additional road blocks.
Action	Select Approved .

5. Click **Submit**, and then close the Special Event Permit Review app.

Now you will assume the role of an event coordinator. You are asked to use the Special Event Permit Manager app to review comments provided by the permit review staff to approve or deny the permit app.

1. In a browser, return to the Special Event Permit Manager app.
2. In the table, click the **Permit Status** column filter and select **Under Review**.
3. Select the event that you created previously or select another event.
4. In the **Info** panel, click the **Comments** tab.

Comments may be provided by the permit review staff. In some cases, the comments may require you to update the site and operations maps or contact the event organizer to alter their plans for the event.

5. Click the **Info** tab, and then click the **Edit** button. .
6. For **Permit Status**, select **Approved**, and then click **Save**.
7. On the **Info** tab, click **Notify Organizer**.

The email is directed to the person who originally applied for the permit and the event organizer. The email includes a link to the original permit app and the site map that can be viewed for reference.

[Back to top](#)

8. Close your email client.

Monitor event permit applications

Many organizations are seeing a growing number of events in their community. As a result, event executives need to monitor the status of the event permit process and understand which events are occurring throughout the community.

In this workflow, you will assume the role of an event executive. You are asked to use the Special Event Permit Dashboard to monitor the special event permit program, review key indicators, and get an understanding of the type of events scheduled in the community.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Dashboard app.
2. In the left panel, click the **Status** filter and select **Under Review**.
3. Review the list of permits and indicators.
4. Select an event from the list and review additional event information.
5. Click the graph to filter events by month.

Share events with the public

Special events have become an important factor in local economies by attracting participants and spectators from outside the community to events such as 5k fun runs, marathons, outdoor concerts, and arts and crafts festivals. In some cases, local governments hosting similar special events are competing with each other for event participants that help support the local economy. Therefore, promoting and marketing local events is important.

Finally, you will assume the role of a resident or member of the public. You are interested in events happening in your community and will use an ArcGIS Hub destination on your community's website along with the Special Event Calendar app to discover upcoming events.

1. In a browser, from the Special Event Permitting and Operations solution, view the Promoting Special Events ArcGIS Hub site.
2. Scroll to the **Things to Do** section, and then click **Learn more** to open the Special Event Calendar app.
3. On the left, search for an event by name, date, or type.
4. Review the list of events occurring in the community.
5. Select an event from the list and review additional event information.
6. Click the **View Event Map** link and review assets (for example, entrances, road blocks, and vendors) placed for the event.

Note:

For larger events, it may be useful to search for an event asset.

7. After reviewing the Special Event Site Map Viewer, close it and return to the Special Event Calendar.
8. Select another event from the list and review additional event information.

[Back to top](#)

Prepare operations plans

The Special Event Operations Map allows safety planners to add all relevant health and safety resources and perform high-level risk assessments. It can be used to locate isolation areas or set up plexiglass barriers at ticket counters or food vending booths. In addition, it can be used to calculate the number of people allowed in each space using Centers for Disease Control and Prevention (CDC) guidelines. Event staff can use a real-time counter at entrances and exits for each venue to maintain a safe environment for everyone.

In addition, public safety staff can add resource assignments, road closures, traffic restrictions, and estimates of crowd sizes to guide field personnel assignments. Optionally, planners can create a reference grid for field staff supporting the event, conduct a visibility assessment for high-risk locations, or identify areas impacted by a potential bomb explosion or chemical spill.

In this workflow, you'll learn how to create operations maps and copy events from previous years.

Coordinate with public safety event planners

You will start by assuming the role of an event organizer who needs to coordinate with public safety event planners. You are asked to use the Special Event Permit Manager to locate a permit application and notify the public safety event planners that a health and safety plan is needed for this event.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. In the table, click the **Permit Status** column filter and select **Under Review**.
3. Select the event.
4. On the **Info** tab, click **Edit Operations Map**.
A new email message opens with the link to the event operations map.

Note:

For larger events, it may be useful to search for an event asset. You will send this email to public safety event planners who participate in your permit review process.

5. Copy the link from the email, and then close your email client.
6. In a new browser tab, paste the link and press Enter.
7. Close your email client.
8. Review the Special Event Operations Map, and then return to the Special Event Permit Manager app.
9. In the **Info** panel, click the **Edit** button.
10. Locate the Special Event Operations Map **Complete** field and choose **Yes**.

Develop a health and safety plan

Next, you will assume the role of a public safety event planner who needs to develop a health and safety plan for an event. You are asked to use the Special Event Operations Map to create an operations map of public safety resources and conduct a high-level threat analysis.

[Back to top](#)

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Operations Map app.

Note:

When the public safety event planner opens the email sent by the event organizer, the event identifier and the plan identifier fields are passed automatically to the **Select Event** widget and should not be edited.

2. Click the **Basemap** widget and select **Imagery**.
3. Click the **Create Operations Map** widget and search for PPE Station.
4. Place a personal protective equipment (PPE) station on the map and enter details for the health and safety asset.
5. Click **Save**.
6. Search for Hand washing Station, place it on the map, and enter details for the event asset.
7. Click **Save**.
8. Repeat these steps for each health and safety asset, route, and area that you want to add to your operations map.
9. Search for Road Blocks, place two on the map, and enter details for each of the road blocks.
10. Click **Save**.
11. At the top of the **Create Operations Map** widget, select **Social Distancing Crowd Areas** from the drop-down list.
12. Click the template, draw an area on the map, and double-click to complete the sketch.
13. For **Area name**, type Vendor Area.
14. For **Max Capacity**, type 100, and then click **Save**.

Note:

The area on the map will be labeled with the number of people who can safely enter an area of this size based on CDC social distancing guidelines. Adjust the maximum capacity or area size, if necessary.

15. At the top of the **Create Operations Map** widget, select **Crowd Estimates** from the drop-down list.

Note:

Crowd estimation is determined by Jacobs' method; the high, medium, and low values of crowd estimation appear on the map.

16. Click the template, draw an area on the map, and double-click to complete the sketch.
17. For **Description**, type Crowd Area for Event.
18. Click **Save**.
19. Search for Medical Tent, place it on the map, and enter details for the event asset.
20. Click **Save**.

21. Finally, search for On Foot, place three public safety resources on the map, and type the following details for each resource:
 - For **Point of Contact**, type an officer name.
 - For **Point of Contact Phone**, type a unique phone number for each officer.
 - For **Comments**, type Public Safety support for event.
22. After completing your health and safety operations map, click **Save**.

Conduct high-level threat analysis (optional)

The Special Event Operations Map includes a series of tools that can be used to define the impact of an incident (chemical or other threat) on event assets and resources. As you complete the health and safety plan, you may be asked to conduct a high-level threat analysis and identify the impact on your event operations plan.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Operations Map app.
2. Click the **Gridded Reference Graphic** widget to create a reference grid that can be used in large outdoor events.
3. Define the location of the grid from a point or area, and then click **Create GRG**.
4. To identify the impact of a chemical incident and create a potential evacuation area, click the **Emergency Response Guide** widget.
5. Select the location, material, and size of the accident along with the wind direction and time, and then click **Create Zones**.
6. Click the **Threat Analysis** widget to identify the impact of other threats.
7. Select the location, type of threat, and size of the accident, and then click **Create Zones**.
8. Finally, to identify the impact of an incident on event assets and resources, click the **Situational Awareness** widget.
9. Select the location and the distance impacted, and then click the map.
After using the **Gridded Reference Graphic**, **Emergency Response Guide**, or **Threat Analysis** widgets and publishing the derived layers, you can associate the layers with the event so they can be used in other event operations apps.
10. Select a health and safety resource you added earlier and copy the event identifier.
11. Click the **Assign Event Identifier** widget and select the features generated by the previously identified widgets.
12. Type the event identifier, and then click **Save**.

Copy event maps from the previous year (optional)

Many times, reoccurring events will use similar site and operations maps from one year to the next. For instance, an annual 5k run will have a similar route, food concessions, and public safety support locations. Recreating the site map every year can be very time consuming. In this workflow, you will learn how to copy event maps from a previous year and update the maps when necessary.

You will continue assuming the role of an event organizer. You are asked to use the Special Event Permit Manager and the Copy Previous Site and Operations Maps script to create a copy of the previous year's site map and operations maps.

Note:

To execute the Copy Previous Site and Operations Maps script, the event organizer must have access to the ArcGIS Notebooks item. In addition, you need two events, and the status of the previous year's event must be set to **Archived**.

1. In a browser, from the Special Event Permitting and Operations solution, view the Special Event Permit Manager app.
2. Click the **Permit Status** column filter and select **Under Review**.
3. Select the event that you created previously.
4. In the **Info** panel, scroll down and click **Copy Previous Site/Operations Maps**.
An ArcGIS Notebooks app appears in a separate tab and may prompt you to sign in.
5. Click **Cell** and choose **Run All**.
6. In the **Archived** drop-down menu, choose a previous event that already has a site map.
7. In the **New Event** drop-down menu, choose the new event that does not have an associated site map.
8. Click **Copy Previous Site/Operations Maps**.
9. When the script completes, return to the Special Event Permit Manager and select the event in the table.
10. Click **Edit Site Map** and verify the new site map is complete.

Note:

You may also want to verify the Special Event Operations Map is complete.

11. Make any required modifications to the site map and click **Save**.

Conduct health and safety operations

The Special Event Permitting and Operations solution provides a complete set of capabilities that improve the efficiency and effectiveness of public safety personnel working at special events by enabling public safety personnel with tools to capture information from the field to share with commanders in a synthesized operational picture in real time.

In this workflow, you'll learn how to use a collection of maps and apps to support incident commanders and site staff to visualize, monitor, and communicate real-time status during an event as well as visualize incident response after an event has occurred.

Deploy event operations apps

Public safety event planners and incident commanders need a unique set of maps and apps for each event. The unique maps and apps allow them to manage personnel assignments, activities, and incidents during an event and conduct after-action reviews that help them improve planning for future events. Each event requires the following:

- Unique apps for incident commanders, firefighters and emergency medical technicians, law enforcement officers, event dispatchers, health and safety officers, cleaning staff, and site staff

[Back to top](#)

- The ability to monitor the location field personnel assigned to an event
 - An incident tracking and assignment system that can be used onsite at the event
 - Maps that show relevant event assets and public safety resources assigned to an event
- You will assume the role of a public safety event planner. You are asked to use the Special Event Operations Notebook to create a copy of the event operations apps for a unique event.

Note:

This workflow requires you to sign in to your ArcGIS organization, and the Special Event Permitting and Operations solution must be deployed.

1. In a browser, go to the Special Event Operations Notebook and review the instructions provided with ArcGIS Notebooks.
2. Click the **Special Event Field Personnel** link to view a list of all field personnel working the event, as well as dispatchers that will communicate with them.
3. Click **Download** and open the spreadsheet in Microsoft Excel.
4. Ensure that the spreadsheet includes the field personnel that have already been added to your ArcGIS organization and have been assigned Tracker licenses.

Note:

Typically, the operations apps are created in advance of the event. However, if additional field personnel are assigned to the event after you run the notebook, you will need to add them manually as follows:

Add field personnel as workers to the [ArcGIS Workforceproject](#).

Add field personnel as users to the [ArcGIS Tracker view](#).

Add field personnel [to the group](#) created for the event.

5. Save the file as FieldPersonnel.xlsx and close the spreadsheet.
6. Return to the Special Event Operations Notebook, click **Update**, and browse to your **FieldPersonnel.xlsx** file.
7. Close the **Special Event Field Personnel** tab in your browser.
8. Click the **Cell** menu and click **Run All**.
9. Under **Select a Special Event to deploy Operations applications**, click the **Select an Event** drop-down arrow, and choose your event.
10. Click **Deploy Special Event Operations**.
11. When the progress bar is complete, click **View Deployed Event Operations**.
A collection of new event operations apps opens.

Track locations of field personnel

The ability to quickly identify the location of field personnel is critical during the event. Dispatchers and incident commanders need to see a map with the location of their staff to determine who should respond to specific incidents.

You will assume the role of a firefighter, emergency medical technician, or law enforcement officer who will capture their location while working at the event. You will use the Tracker field app to track your location for incident command to see.

1. On your mobile device, open the ArcGIS Tracker app.
2. Click **Sign in with ArcGIS Enterprise** and enter your credentials.
3. Turn on **Track My Location**.

You can now minimize Tracker to conduct the rest of your work. Your tracks will continue to be captured for operations staff while you have Track My Location on.

Report activity from the field

During an event, public safety staff and site staff collect field observations that are used to protect the health and safety of event attendees.

You will assume the role of a firefighter, emergency medical technician, or law enforcement officer who needs to report suspicious activity or a safety concern observed at the event. You are asked to use the Special Event Field Reporter survey to report the suspicious activity or safety concern.

1. In a browser, go to the Special Event Operations gallery and click the Special Event Field Reporter survey for your event name and date.
2. In the Special Event Field Reporter survey, fill in the following details:

Parameter	Value
Type	Select Suspicious Activity .
Suspicious Activity Type	Select Object .
Details	Type Backpack left at location with no owner to be seen for 20 minutes.

3. Optionally, add an image or picture.
4. Locate the field report on the map.
5. Click **Submit**.

Manage field assignments

It's common for minor incidents such as traffic accidents, medical calls, or disorderly spectators to occur during a special event. Often these incidents are reported by radio or 911 calls to a dispatcher in the event command center.

Now, you will assume the role of an event dispatcher who needs to assign field reports or other incidents to field staff. You are asked to use the Special Event Field Manager to assign the suspicious activity or safety concern to a firefighter, emergency medical technician, or law enforcement officer.

Note:

This workflow requires you to be signed in to your ArcGIS organization and have the Special Event Permitting and Operations solution deployed.

1. In a browser, go to the **Special Event Operations Gallery** and click the Special Event Field Manager for your event name and date.
2. When the new tab opens, click **Open in ArcGIS Workforce**.
3. Click the **Suspicious Activity** assignment in the list.
4. Select **Assign** and choose a fieldworker from the drop-down menu.
5. Click the **Search** bar and type King Smoothie.
6. Click **Special Event Assets: 1 Result feature** and click **Create assignment**.
7. In the new assignment, fill in the following details:

Parameter	Value
Assignment Type	Select Medical Response .
Assign	Choose a fieldworker from the drop-down list.
Description	Type Citizen reporting heat exhaustion and has collapsed.
Priority	Choose High from the drop-down list.
Due Date and Time	Select a time on the same day of the event.

8. Click **Create Assignment**.
Field personnel can open the ArcGIS Workforce app on their mobile device and see their assignments.

Track crowd capacity

You will assume the role of site staff. You are asked to use the Crowd Counter App to count people entering and exiting the area to ensure that the number of people admitted does not exceed the maximum capacity allowed for a unique area.

Tip:

See [Crowd Counter App](#) to learn how to install and set up the Crowd Counter App on your mobile device.

1. Open and sign in to the Crowd Counter App using the ArcGIS AppStudio Player app on your mobile device, if it isn't already open from the previous workflow.

[Back to top](#)

2. Tap the edit button to edit the **Area Name** value, and enter the exact area name of the location you are tracking crowd capacity for. Use **Vendor Area**, if you completed the Prepare operation plans workflow.
3. Choose **Done**.
4. Choose **Enter** for each person entering the area, and choose **Exit** for each person exiting the area.
5. Monitor the gauge on the **Occupancy** tab to understand the current capacity (middle number) relative to the maximum capacity (last number).

Note:

The gauge displays different colors as capacity changes. Green indicates under capacity, orange indicates near maximum capacity, and red indicates maximum capacity.

6. Continue to allow people to enter and exit the area based on the current capacity.

Note:

If the gauge does not display the correct results, tap the refresh button in the upper right corner of the app.

Tip:

When the Crowd Counter App is used to count high numbers of people, consider deleting or archiving entry and exit records from the Crowd Count layer to ensure best performance.

Track cleaning and stocking status

You will assume the role of cleaning staff. You are asked to use the ArcGIS Collector mobile app to access your cleaning and restocking map to provide the status of cleaning and restocking of PPE every 60 minutes.

1. Download ArcGIS Collector onto your mobile device.
2. Open the app on your mobile device and sign in to your ArcGIS organization.
3. Tap the **Cleaning and Restocking Map** for your event name and date.
4. Choose a PPE station, choose **Cleaning and Restocking Status** in the pop-up, and choose the **Add** button.
5. Choose **Status**, choose **Re-stocked**, and add the number of boxes stocked of each PPE type.
6. Choose **Submit**.

Monitor event operations

Incident commanders need real-time information on the location of incidents and staff as well as incoming weather and traffic information to make informed decisions during an event. The

Special Event Operations Dashboard can be used in the command center on the day of the event.

1. In a browser, go to the Special Event Operations gallery app.
2. Click the name and date of your event Special Event Operations Dashboard.
3. On the **Incident** tab, **Tracked Units**, **Units on assignment**, and **Last Known Locations** provide up-to-date location information of staff and assignments.
4. Click **Open incidents within the last hour** and choose an incident.
5. Click the **Post Locations** tab on the bottom of the dashboard to see post location versus the actual location of staff.
6. Click the **Weather** tab on the bottom of the dashboard to see real-time weather radar information.
7. Click the **Traffic** tab on the bottom of the dashboard to see real-time traffic and road closure information.
8. Click the **Crowds** tab on the bottom of the dashboard to see real-time crowd counts for an area based on information from staff tracking crowd capacity using the Crowd Counter App.
9. Click the **Sanitation** tab on the bottom of the dashboard to see real-time cleaning and restocking status for PPE stations, high-touch locations, and other health assets.
10. Close the app.

Conduct after-action briefings

Incident commanders are responsible for the health and safety of participants during an event. The Special Event After Action app provides useful visualization tools to see both how incidents occurred and how field personnel responded. This information can be used to further examine specific incidents and help plan for future events.

You will assume the role of an incident commander. You are asked to use the use the Special Event After Action app, including the site map, operation plans, assignments, incidents, and historical staff locations from the event, that you created after the event is complete.

Tip:

See [Create After Action app](#) to learn how to set up Special Event After Action app for a specific special event.

1. In a browser, go to the Special Event After Action app for your event, use your mouse to hover over the time slider at the bottom the map and click the pause button.
2. Adjust the time slider to see when and where incidents occurred and when and where staff responded.

Note:

If the map does not animate based on time, the incidents may be outside of the time extent of the event.

3. Click the **After Action Report** button, click the rectangle, draw the reporting area, and click the **Report** button.

[Back to top](#)

4. Click the **Print** button, choose the print layout, and click the **Print** button again to create a report containing the visible map and incidents during the event.
5. Click the **Download** button, choose **CSV**, and click the **Download** button again to create a CSV file containing the incidents during the event.

Stormwater Data Management for ArcGIS Enterprise

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Stormwater Data Management for ArcGIS Enterprise

Stormwater Data Management for ArcGIS Enterprise can be used to map and manage asset information with the ArcGIS Utility Network.

The solution configures ArcGIS Enterprise and the ArcGIS Utility Network to be an authoritative repository of information for a stormwater network and provides workflows that facilitate capturing information correctly and keeping it up to date.

Stormwater Data Management for ArcGIS Enterprise provides a data model that makes a utility network behave like a stormwater network, editing apps configured for ArcGIS Pro, and preconfigured maps for data sharing. It also provides a sample utility network dataset so users can experience a utility network in a single-user environment. You can use the solution's deployment framework to experience a stormwater utility network with sample data or in a single-user environment.

Requirements

Stormwater Data Management requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 (Standard or Advanced)

Information products

Stormwater Data Management includes the following information products:

Item	Description	Minimum user type
Stormwater Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with ArcGIS Utility Network user type extension

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• The first release of Stormwater Data Management for ArcGIS Enterprise.• The data model in the solution has been updated to version 4. For a full list of updates, refer to the change log.

Use Stormwater Data Management for ArcGIS Enterprise

The Stormwater Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Stormwater Data Management project guide you through creating your own utility network using the provided schema and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your stormwater utility network.

Use the instructions in the Stormwater Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Stormwater Data Management for ArcGIS Enterprise V1** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Stormwater Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the **Tasks** pane.

Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the Data Management Solution

The data management solution is designed for organizations that want to experience a fully functional stormwater utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create, and model your own utility network to behave like a stormwater system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks:

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

[Back to top](#)

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes an downstream trace to identify all features that are downstream of the starting point stormwater network.

This task group includes the following task:

- Downstream Trace

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following tasks:

- Add Stormwater Manholes, Pipes, and Catch Basins
- Add Best Management Practice (BMP) Area

Installing Implementation Prerequisites

After exploring the sample utility network, move on to building out a utility network for your own organization. Before getting started set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been developed specifically to support stormwater utilities to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your stormwater network.

This task group includes the following tasks:

- Project and Remove Sample Data
- Create Modification Tables (Optional)
- Loading Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Stormwater Data Management project, review the [Stormwater Data Management Attribute Rules](#) document.

A few notable attribute rules have been highlighted in the table below. These attribute rules have been designed to improve adding and editing manholes. These are disabled by default but can be enabled to take advantage of the described functionality.

Name	Description
Line - Snap to Manhole batch	When a pipe is snapped to a Manhole Channel, the pipe will be pulled back 2 ft. A Connection Point is added to the end of the pipe, contained in the Manhole, and associated by connectivity to the Manhole Channel.
StructureJunction - Create Manhole Channel batch	When a Sewer Storm Vault - Manhole is created, generate and contain a Manhole Channel.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps' Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Deploy Solution to an Enterprise Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization.

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services

- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map
- Reset Trace Location Feature Classes
- Adjust Maps
- Share with Organization

Target Hazard Analysis

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
-------------------------------------	---------------------------

Introduction to Target Hazard Analysis

Target Hazard Analysis can be used to identify properties and buildings that could result in a loss of life, or have a negative impact on the community, if a fire were to occur.

Many fire departments are taking proactive steps to assess risk and mitigate the impact of a fire in their community. The first step in this risk assessment is the identification of buildings or properties that may harm the community if a fire were to occur. Occupancy, size, life safety and economic impact are some of the criteria used to assess the risk of a building or property. Understanding risk can be a time consuming process and reducing the time it takes to conduct an assessment saves fire departments money. It also allows them to evaluate their community on a regular basis and measure the effectiveness of mitigation strategies. Target Hazard Analysis is typically implemented by fire departments that want to understand risk in their community and use the assessment to prioritize preplanning activities, fire inspections and other community risk activities.

The Target Hazard Analysis solution delivers a set of capabilities that help you calculate a hazard score for each building or property and understand where a fire may negatively impact a community.

Requirements

Target Hazard Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard or Advanced)

Information products

Target Hazard Analysis includes the following information products.

Item	Description	Minimum user type
Target Hazard Analysis	An ArcGIS Pro project package used by fire service personnel to identify properties and buildings that could result in a loss of life, or have a negative impact on the community, if a fire were to occur.	GIS Professional Basic

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	First release of Target Hazard Analysis

Use Target Hazard Analysis

The Target Hazard Analysis solution delivers a set of capabilities to calculate a hazard score with user-defined criteria such as occupancy type, life safety, building size, economic impact, and fire flow requirements.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Understand hazard criteria

Before using Target Hazard Analysis it is important to understand the criteria used, tools and tasks provided, and the data requirements. Gaining this understanding before you begin will help you use it effectively and produce target hazard results. To conduct a target hazard analysis, it is necessary to determine the evaluation criteria. The criteria are used to assess the potential impact of a fire on each building. The greater the potential impact, the greater the target hazard score. Certain attributes are required to perform a target hazard analysis of buildings or parcels. Information is provided to describe the minimum attributes you will need for each property.

To learn more about the criteria contained in Target Hazard Analysis, follow these steps:

1. Sign in to your ArcGIS organization and browse to the Target Hazard Analysis Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Target Hazard Analysis ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Target Hazard Analysis** task item.
6. In the **Task Pane**, click the **Getting started** task group to expand the collection of tasks.

Perform building analysis

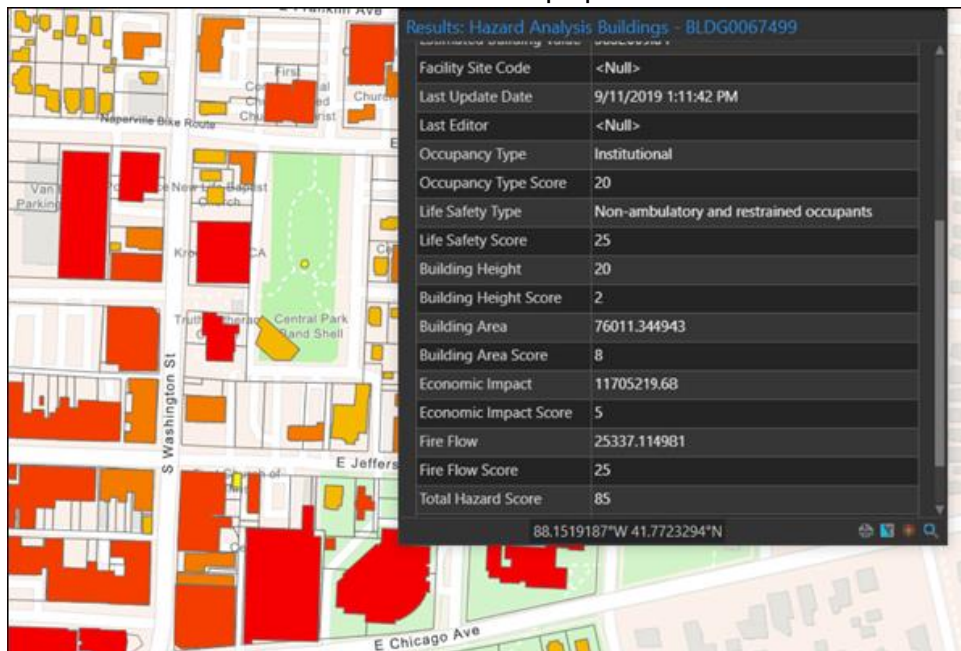
This workflow uses occupancy, life safety, floor area, height, fire flow, and economic impact to calculate a hazard score on all buildings. Choose this workflow when the minimum attribute information is available in your buildings layer. If some of the required attributes are in your parcels layer, you can transfer the required attributes from a parcel layer to a buildings layer as part of this workflow.

You will assume the role of a fire fighter responsible for conducting a target hazard analysis on all buildings in your community. The Target Hazard Analysis ArcGIS Pro project includes a series of tasks to help guide you through this workflow.

1. Open the Target Hazard Analysis ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Target Hazard Analysis** task item.
4. In the **Task Pane**, click the **Perform target hazard analysis with buildings** task group to expand the collection of tasks.

[Back to top](#)

5. Click on each task and follow the steps provided.



Perform parcel analysis

This workflow uses occupancy, life safety, floor area, height, fire flow, and economic impact to calculate a hazard score on all parcels. Choose this workflow if you do not have building information and all of the necessary information is available in your parcel layer.

You will assume the role of a fire fighter responsible for conducting a target hazard analysis on all parcels in your community. The Target Hazard Analysis ArcGIS Pro project includes a series of tasks to help guide you through this workflow.

1. Open the Target Hazard Analysis ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog**, and click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Target Hazard Analysis** task item.
4. In the **Task Pane**, click the **Perform target hazard analysis with parcels** task group to expand the collection of tasks.
5. Click on each task and follow the steps provided.



[Back to top](#)

Tax Reverted Property

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
-------------------------------------	---------------------------

Introduction to Tax Reverted Property

Tax Reverted Property can be used to collect delinquent tax property information and market properties available for sale to land development companies, real estate professionals, and the general public.

It provides treasurer staff with a digital process that streamlines property posting and replaces newspaper-based tax sale processes that help in the recovery of back taxes, interest, and penalties. This approach helps government agencies more efficiently document delinquent property and return them to tax-producing ones. Tax Reverted Property is typically implemented by treasurer and tax collection agencies that want to improve the overall process for recovering property tax revenue.

The Tax Reverted Property solution delivers a set of capabilities that help you improve the collection of delinquent property information, document tax-delinquent properties, and market properties during a property tax sale.

Requirements

Tax Reverted Property requires the following:

- ArcGIS Enterprise

Information products

Tax Reverted Property includes the following information products:

Item	Description	Minimum user type
Tax Reverted Property	A map used by treasurer's office staff to collect delinquent tax property information	Editor
Tax Reverted Property Dashboard	An ArcGIS Dashboards app used by treasurer's office staff to monitor tax-reverted property field work	Viewer
Tax Sale	An ArcGIS Web AppBuilder app used by the general public, land development companies, and real estate professionals to locate tax reverted properties sold at auction	Not Required

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Tax Reverted Property

Use Tax Reverted Property

The Tax Reverted Property solution delivers a set of capabilities that help you improve the collection of delinquent property information, document tax-delinquent properties, and market properties during a property tax sale.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Collect and monitor tax-reverted properties

Code Enforcement Operations can be used to collect delinquent property information, document tax-delinquent properties, and market properties during a property tax sale.

Collect tax-reverted property information

You will start by assuming the role of a treasurer staff member responsible for verifying a tax-reverted property. You are asked to use Tax Reverted Property to visit a tax-delinquent property in the field and verify the details.

1. Download ArcGIS Field Maps onto your mobile device.
2. Tap Tax Reverted Property to open the map.
3. Search for an address, and then in the results list, tap the address to zoom to that location on the map.
4. Tap the plus sign or tap **Collect Here** to open the survey form.

Note:

Your interface may vary depending on the type of mobile device that you use.

5. Tap **Not Posted** or **Posted** as needed.
6. Complete the survey with as much information as possible.
7. Optionally, attach a property photograph.
8. At the upper right, tap the check mark or tap **Submit** to submit the survey.

Monitor a tax-reverted property posting

Next, you will assume the role of a tax collection administrator responsible for reviewing the status of the tax-reverted property fieldwork. You are asked to use the Tax Reverted Property Dashboard app to monitor the collection and posting progress.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Tax Reverted Property solution.
2. View the Tax Reverted Property Dashboard app.

[Back to top](#)

On the right, in the **Delinquent Properties** panel, all tax-delinquent properties are listed.

3. Review the number of properties that have been posted.
4. On the left, use filters to refine the results by status or date.
5. Click a specific tax-delinquent property to review the parcel information, property information, and tax information.

Find a property for sale

Finally, you will assume the role of a real estate agent who wants to attend a property tax auction for the purposes of buying land. You use the Tax Sale app to find a property that fits the needs of your client.

1. In a browser, from the Tax Reverted Property solution, view the Tax Sale app.
2. Search for a parcel number or address.
3. Click a specific property to review the property, structure, and tax information.

Traffic Crash Analysis

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
-------------------------------------	---------------------------

Introduction to Traffic Crash Analysis

Traffic Crash Analysis can be used to analyze crash data and identify streets and intersections where concentrations of serious and fatal crashes occur.

Safety is one of the most important factors to consider when evaluating a road network. Analyzing crashes that occur at intersections and along roadways to determine where a high percentage of serious injury and fatalities occur is a key aspect of the safety evaluation. The result of this analysis is generally referred to as a High Injury Network (HIN). It helps inform engineering, education, and enforcement decisions and also serves as the foundation for Complete Streets or Vision Zero initiatives adopted to reduce fatalities or serious injury on roadways in the community. Traffic Crash Analysis is typically implemented by transportation, public works, and public safety agencies that want to use data-driven strategies to improve safety along the transportation network.

The Traffic Crash Analysis solution delivers a set of capabilities that help you to analyze crash data using methodologies defined by the [United States Road Assessment Program \(usRAP\)](#) and the [Federal Highway Administration \(FHWA\)](#), identify locations where concentrations of serious injury and fatal crashes occur, and share the results with decision makers and the public.

Requirements

Traffic Crash Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Advanced)

Information products

Traffic Crash Analysis includes the following information products:

Item	Description	Minimum user type
Crash Analysis	An ArcGIS Pro project used by transportation, public works, and public safety staff to analyze crash data and identify streets and intersections where concentrations of serious and fatal crashes occur.	GIS Professional Basic

[Back to top](#)

Fatal and Serious Injury Dashboard	An ArcGIS Experience Builder app used by the public and other interested stakeholders to locate traffic crashes that resulted in serious injury or fatality to motorists, cyclists, or pedestrians.	Viewer (required if dashboard is used for internal purposes only)
High Injury Network Locator	A Nearby app used by the public and other interested stakeholders to locate streets and intersections where concentrations of serious and fatal traffic crashes occur.	Viewer (required if app is used for internal purposes only)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Traffic Crash Analysis

Configure Traffic Crash Analysis

In this topic, you will learn how to configure the Traffic Crash Analysis solution to meet specific needs in your organization.

Load traffic crashes

The Fatal and Serious Injury Dashboard can be used to share locations of traffic crashes that resulted in serious injury or fatality to motorists, cyclists, or pedestrians. The dashboard also provides insights into the times of day, days of week, and months of year when these crashes occur more frequently.

To load your traffic crashes from a spreadsheet, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the `TrafficCrashesSource.csv` item.
2. Open the item page and click **Download**.
3. Edit the `.csv` file and provide your traffic crash information.

Note:

The `crash_date` field should be formatted with times expressed using a 24-hour clock:
12/31/2020 22:30:00.

4. In your ArcGIS organization, browse to the TrafficCrashes feature layer.
5. Open the item page and click **Update Data > Append Data to layer**.
6. Click **Choose File** and browse to your `.csv` file, and click **OK**.
7. Click **Upload and Continue**.
8. Uncheck **Update existing features**.
9. Click **Show field matching** to map the fields.
10. Click **Apply Updates**.

Update crash date, month, day, and hour attributes

When dates are loaded into hosted feature layers, it is assumed the dates are in Coordinated Universal Time (UTC). Those times are then displayed in the local time of the browser, which can cause them to be offset from the original time of the crash. This can be resolved in the attributes by calculating the offset. In addition, the Day, Month, and Hour fields used in the Fatal and Serious Injury Dashboard charts can be calculated from the crash date.

To update the Crash Date, Day, Month, and Hour fields, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the TrafficCrashes feature layer.
2. Open the item page and click the **Data** tab.
3. If you need to offset the crash time to account for UTC, complete the steps below; otherwise, skip to step 9.
4. Click the **Date of Crash** column.
5. Click **Calculate**.
6. On the **Calculate Field** dialog box, choose **Arcade**.
7. Enter the following expression: `ToUTC($feature.crash_date)`.

[Back to top](#)

8. Click **OK**.
9. Click the **Day** column.
10. Click **Calculate**.
11. On the **Calculate Field** dialog box, choose **Arcade**.
12. Enter the following expression: `Weekday($feature.crash_date)`.
13. Click **OK**.
14. Click the **Month** column.
15. Click **Calculate**.
16. On the **Calculate Field** dialog box, choose **Arcade**.
17. Enter the following expression: `Month($feature.crash_date) + 1`.

Note:

In Arcade, January is returned as 0 and December is 11. You are adding it to express the months as 1-12.

18. Click **OK**.
19. Click the **Hour** column.
20. Click **Calculate**.
21. On the **Calculate Field** dialog box, choose **Arcade**.
22. Enter the following expression: `Hour($feature.crash_date)`.
23. Click **OK**.

Load high injury network

A high percentage of serious injury and fatal crashes involving motorists, cyclists, and pedestrians often occur on a small percentage of streets and intersections. These streets and intersections are often referred to as the High Injury Network (HIN). The Crash Analysis ArcGIS Pro project can be used to analyze crash data along the transportation network to the streets and intersections that have the highest frequency of crashes. The results of this analysis can be loaded into the High Injury Network Locator and be shared with the public and other stakeholders.

To load your High Injury Network, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Crash Analysis Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Crash Analysis ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **CatalogPane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Crash Analysis** task.
6. In the **Tasks** pane, click the **How to Use Crash Analysis** task group to expand the collection of tasks.
7. Double-click the **Analyze crashes with FHWA network screening** task and follow the steps provided.

usRAP data prerequisites

The [United States Road Assessment Program \(usRAP\)](#) protocol defines how roads should be segmented to analyze risk. Road networks are divided into segments with breakpoints at locations where the following things occur:

- A route begins or ends.
- The county name changes.
- There is discontinuity in the route, such as a gap in mileposts.
- The roadway type changes.
- The annual average daily traffic (AADT) changes by 20 percent or more.
- The speed limit category changes.

The usRAP tools use a series of input feature classes and fields on those feature classes to create basic road segments. Verify your data meets the tools parameter requirements below before using the usRAP tools.

Feature class	Description	Required fields
CrashLocations	Locations of crashes.	<p>crashyear: The 4-digit year the crash occurred, for example, 2020.</p> <p>routename: The name of the route on which the crash occurred.</p>
Routes	Baseline routes.	<p>routename: Name of the route.</p> <p>routetype: Type of the route.</p>
CountyBoundary	County features.	countyname: Name of the county.
AccessControl	Road segments with access control information.	<p>accesscontrol: Type of access control to segment. This field should have a domain applied with the following options:</p> <p>Full Access Control</p> <p>Partial Access Control</p> <p>No Access Control</p>
Medians	Road segments with median information.	<p>mediantype: Type of median of the segment. This field should have a domain applied with the following options:</p> <p>Undivided Roadway</p> <p>Divided Roadway</p>

[Back to top](#)

TravelLanes	Road segments with number of travel lanes.	totallanes: Number of lanes for the segment.
AreaType	Road segments with the type of area.	areatype: Type of area for the segment. This field should have a domain applied with the following options: Urban Rural
SpeedLimit	Road segments with the speed limit.	speedlimit: The speed limit of the segment.
AADT	Road segments with the annual average daily traffic (AADT) values. Each year should be stored as a separate feature class (for example, AADT_2020) and you can include up to five years in the analysis.	aadt: The annual average daily traffic of the segment.

Use Traffic Crash Analysis

The Traffic Crash Analysis solution delivers a set of capabilities that help you to analyze crash data using methodologies defined by the [United States Road Assessment Program \(usRAP\)](#) and the [Federal Highway Administration \(FHWA\)](#), identify locations where concentrations of serious injury and fatal crashes occur, and share the results with decision makers and the public.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Analyze traffic crashes

The Crash Analysis ArcGIS Pro project helps public works, public safety, and transportation staff analyze crash data along roadways and at intersections. The project provides tasks and tools that allow you to perform this analysis using two methodologies. You will assume the role of transportation analyst responsible for analyzing crash data to identify roadways that have a higher risk of traffic crashes.

United States Road Assessment Program (usRAP) protocol

usRAP uses a risk-mapping protocol to create maps that show variations in the level of crash risk across a road network. These maps can guide the prioritization of highway infrastructure improvements and targeted enforcement strategies. The tasks and tools will guide you through performing the analysis according to the usRAP protocol.

- Create roadway segments.
- Assign crashes.
- Create risk maps.

The advantage of this methodology is that it uses roadway and traffic control feature data to assess risk and can better account for rural areas with lower traffic volumes or limited or unreliable crash data. The usRAP tools use a series of input feature classes and fields on those feature classes to create basic road segments. Confirm that your data meets [the tools parameter requirements](#) below before using the usRAP tools.

To analyze crash data using the usRAP protocol, complete the following steps:

1. In a browser, sign in to your ArcGIS organization, and then browse to the Traffic Crash Analysis solution.
2. Download the Crash Analysis desktop application template and unzip the folder.
3. From the unzipped folder, open **Crash Analysis.aprx** in ArcGIS Pro.
4. In ArcGIS Pro, in the **Catalog** pane, expand **Tasks**, and then double-click the Crash Analysis task.

[Back to top](#)

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand the **How to Use Crash Analysis** task group to see the collection of tasks.
6. Double-click the **Analyze crashes with usRAP protocol** task and follow the steps provided.

Federal Highway Administration (FHWA) network screening

Network screening is the process of studying safety conditions on an entire road network or a subset of the network. While there are a variety of methods available to conduct network screening, three are included in the Crash Analysis project:

- Crash Frequency
- Crash Rate
- Equivalent Property Damage Only

The advantage of this tool is that it only requires the location of crashes and streets or intersections to calculate a crash frequency. Optionally, traffic volume expressed as an average daily traffic volume or the severity of the crash can be used to calculate the crash rate and equivalent property damage only, respectively.

To analyze crash data using the FHWA network screening, complete the following steps:

1. In a browser, sign in to your ArcGIS organization, and then browse to the Traffic Crash Analysis solution.
2. Download the Crash Analysis desktop application template and unzip the folder.
3. From the unzipped folder, open **Crash Analysis.aprx** in ArcGIS Pro.
4. In ArcGIS Pro, in the **Catalog** pane, expand **Tasks**, and then double-click the Crash Analysis task.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand the **How to Use Crash Analysis** task group to see the collection of tasks.
6. Double-click the **Analyze crashes with FHWA network screening** task and follow the steps provided.

Visualize fatal and serious injury crashes

Now you will assume the role of a resident who commutes daily to work by bike. You want to see where fatal and severe injury crashes involving cyclists have occurred in the community and the times of day they most often occur.

1. In a browser, from the Traffic Crash Analysis solution, view the Fatal and Serious Injury Dashboard app.
The dashboard displays traffic crashes by mode, severity, and date. An accident may involve multiple parties and modes of transportation; in those cases, the most vulnerable mode of transportation is used for the mode. For example, if a motorist and bicyclist are involved in an accident, click the **Mode** drop-down arrow and choose **Bicyclist**. Similarly, the highest severity is associated with the accident. For example, if a car accident results in one fatality and three non-incapacitating injuries, click the **Severity** drop-down arrow and choose **Fatality**.
2. In the left panel, use the filters to refine results by **Mode**, **Severity**, and **Date Range**.
The charts below and to the right of the map are linked, so as you click a bar in one chart, related details are filtered and updated in other charts and in the map. This feature can be helpful in looking for trends in crashes, both spatially and by time of day, week, and year.
3. Use the graphs to filter traffic crashes by **Hour of Day**, **Day of Week**, and **Month of Year**.

Locate high-risk streets and intersections

You will continue your role of a resident in the community and want to learn what streets and intersections along your daily commute have a higher risk of traffic crashes.

1. In a browser, from the Traffic Crash Analysis solution, view the High Injury Network Locator app.
The app displays the streets and intersections where concentrations of serious and fatal traffic crashes have occurred.
2. To set a location to be buffered, type an address in the search bar and press Enter or click a location on the map.
3. Optionally, move the slider to increase or decrease the buffer distance.
4. Expand **Intersections** or **Streets** to see details about the number of crashes per mile and per million vehicle miles.

Transit Outreach

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Transit Outreach

Transit Outreach can be used to share information about planned service changes and solicit feedback from riders and the general public on their experience with public transit.

It provides 24/7 access to an organization, and the location-enabled reports help efficiently triage reports to the correct person or department responsible for their resolution. Through effective public engagement, transit agencies identify and understand the needs of the community as a whole and incorporate those needs into transportation plans and programs. Transit Outreach is typically implemented by transit agencies that want to become more transparent and responsive and ultimately provide better transit service.

The Transit Outreach solution delivers a set of capabilities that help you solicit feedback from riders, manage the transit agency's response, share information about upcoming service changes, and allow the public to provide feedback on proposed changes.

Requirements

Transit Outreach requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)

Information products

Transit Outreach includes the following information products:

Item	Description	Minimum user type
Transit Service Change	A Crowdsourcing Polling app used by the general public to obtain information about planned service changes and, optionally, comment on proposed changes	Not required
Transit Rider Reporter	An ArcGIS Survey123 form used by the general public to submit compliments, problems, questions, and suggestions related to their experience on public transit	Not required
Transit Rider Reporter Manager	A Crowdsourcing Manager app used by transit staff to triage rider feedback and update the status of each report	Editor

[Back to top](#)

Transit Rider Reporter Dashboard	An ArcGIS Dashboards app used by transit staff to monitor feedback submitted by the general public	Viewer
Transit Data Management	An ArcGIS Pro project used by transit staff to convert a GTFS public transit dataset to route and stop features and manage service change communication	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Transit Outreach

Configure Transit Outreach

In this topic, you will learn how to configure the Transit Outreach solution to meet specific needs in your organization.

Load transit system

The Transit Outreach solution includes an ArcGIS Pro project used to convert your GTFS public transit dataset to route and stop features that are used as base layers in the maps and apps included in the solution.

To load your transit routes and stops in the solution, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Transit Data Management Project Package.
2. Open the item page and click **Download**.
3. Start the ArcGIS Pro application and open the Transit Data Management project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Transit Data Management** task.
6. In the **Tasks** pane, click the **How to Use Transit Data Management** task group to expand the collection of tasks.
7. Double-click the **Load transit routes and stops** task and follow the steps provided.

Manage service change commenting

Some transit agencies offer riders the ability to provide their feedback on proposed service changes before they are implemented. This information is used by the transit agency to help decide if they should move forward with the change.

The Transit Service Change app allows riders to view upcoming service changes and by default allows riders to add a comment on the change. Transit agencies can also control when the commenting period is open or closed or disable commenting completely.

Close commenting period

To close the commenting period, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Transit Service Change app.
2. Open the item page and click **Configure App**.
3. Click the **Options** tab.
4. Under **Feedback period**, click **Feedback period closed** and provide an appropriate window title and message in the **Feedback period closed window title** text box.
5. Click **Save** to save the app configuration.
6. Click **Close**.

Disable comments

To disable comments, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Transit Service Change app.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Details** and click the **Contents** button.
4. On the Comments layer, click **More Options** and click **Remove**.
5. Click **Yes, remove table**.
6. Click **Save**.

Add route name pick list

The Transit Rider Reporter survey can be used by the public to submit compliments, problems, questions, and suggestions related to their experience on public transit. Adding accurate names to the routes pick list ensures data consistency and ensures that Transit Rider Reporter functions properly with other apps included in the Transit Outreach solution.

To add your list of route names to the pick list, complete the following steps:

1. Install [ArcGIS Survey123 Connect](#).
2. Start ArcGIS Survey123 Connect and sign in to your ArcGIS organization.
3. Click **Transit Rider Reporter** to download the survey.
4. In the **Download** window, click **Download** and click **OK**.
5. Click **Transit Rider Reporter** again to open the survey.
6. In the **XLSForm Modified** window, click **Yes**.
7. On the side toolbar, click the **Open XLSForm Spreadsheet** button.
8. In the Microsoft Excel spreadsheet, click the **choices** tab. This tab comprises all the selectable options for survey questions.
9. Update the name and label for routes with your route names. Add additional route names and rows as needed, and if necessary, delete all placeholder information.
The **choices** tab includes Rail, Streetcar, and Bus route types. This allows the Transit Rider Reporter to present the appropriate pick list based on the rider's category selection.
10. Save and close the Microsoft Excel spreadsheet and preview your changes in ArcGIS Survey123 Connect.
11. In ArcGIS Survey123 Connect, click **Publish** on the side toolbar.
12. Click **Publish survey** to publish your changes and click **OK**.

Use Transit Outreach

The Transit Outreach solution delivers a set of capabilities that help you solicit feedback from riders, manage the transit agency's response, share information about upcoming service changes, and allow the public to provide feedback on proposed changes.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

View service changes

First, you'll assume the role of a transit rider. You use the same transit routes on your daily commute. You will use the Transit Service Change app to learn about upcoming changes to service and how it may impact your commute.

1. In a browser, from the Transit Outreach solution, view the Transit Service Change app. All routes are listed in the panel on the right. They are also marked on the map.
2. Click a route in the list or on the map.
3. Review the details about when the service change is effective, how it will impact riders, and why the change is being made.
The Transit Service Change app can also be used by riders to comment on proposed changes.
4. On the right, at the bottom of the route details, click the **Add a comment** button.
5. Provide your name, address, and comments.
6. Click **Submit**.

Manage service changes

Next, you'll assume the role of a transit mapping technician who manages service change communication. You will use the Transit Data Management project to manage the routes and service change details visible to the public in the Transit Service Change app.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Outreach solution.
2. Download the Transit Data Management project package.
3. Open the Transit Data Management project in ArcGIS Pro.
4. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Transit Data Management** task.

Note:

If you do not see the **Catalog** pane, from the **View** tab, in the **Windows** group, click **Catalog Pane**.

5. In the **Tasks** pane, expand the **How to Use Transit Data Management** task group to see the collection of tasks.
6. Double-click **Manage transit service changes** task and follow the steps provided.

Submit rider feedback

Now, you'll assume the role of a transit rider. While riding a bus, you noticed a problem and want to report it to the transit agency. You will use Transit Rider Reporter to submit feedback.

1. In a browser, from the Transit Outreach solution, view the Transit Rider Reporter app.
2. For **I would like to**, choose the reason that you are submitting the survey.
3. For **Related to**, choose the response that best describes what your report is about. Depending on the category selected, additional questions appear. For example, clicking **Bus** adds questions about the route and vehicle number.
4. Answer any additional questions, if necessary.
5. For **Details**, type additional information about the issue.
6. For **When did it occur**, choose the date and time that you made your observation.
7. For **Where did it occur**, search for the address and press Enter.
8. In the **Contact Information** section, choose the type of response that you want.


Tip:

To submit feedback anonymously, choose **No, for your information only**.

9. Click **Submit**.

Manage rider reports

You will now assume the role of a transit agency employee who monitors customer feedback. You will use Transit Rider Reporter Manager to view and manage rider feedback.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Outreach solution.
2. View the Transit Rider Reporter Manager app. All reports are listed in the table at the top. The table can be sorted and filtered in various ways.
3. In the table, use the column header filters and arrows to filter results.
4. From the table, select a report with a status of **Submitted**. The report details open at the lower left, and the map zooms to the report's location.
5. After reviewing the details, you decide to assign the report for follow-up.
6. In the report details, click the **Edit Record** button .
7. Click the **Assigned To** drop-down arrow and choose a group.

[Back to top](#)

8. Change the status to **In Progress**.
9. Optionally, to add comments to the rider report, click the **Comments** tab, and then click **Add Record**.
10. Click **Save**.
In the table, the record's status updates to **In Progress**. On the map, the symbol also changes.

You have received a message from the group that you assigned the report to. The message states that the rider report has been communicated to the appropriate team and the report can be closed.
11. If necessary, in the table, click the report.
12. In the report details, click the **Edit Record** button.
13. Change the status to **Completed**.
14. Click **Resolved On** and choose a date.
15. Optionally, for **Resolution**, type details about how the report was resolved.
16. Click **Save**.
In the table, the record's status updates to **Completed**. On the map, the symbol also changes.

Monitor rider reports

As rider reports are submitted, resolved, and closed, you are interested in noting trends and the overall feedback received. You will continue your role as a transit agency employee, this time looking to gain insight into the feedback received through the Transit Rider Reporter app. You will use Transit Rider Reporter Dashboard to view feedback and key metrics.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Outreach solution.
2. View the Transit Rider Reporter Dashboard app.
The Transit Rider Reporter Dashboard app opens with the **Overview** tab active.

The **Overview** tab displays infographics of categories of reports. This information gives management a quick overview of the number of reports submitted by the public.
3. Click the **Rider Reports** tab.
The **Rider Reports** tab allows a transit manager to monitor their department's progress with responding to reports. The tab displays the top problem types and categories and summarizes reports by month with details.

Charts are linked, so when you click a category in one chart, related charts and lists are filtered and updated to allow a manager to identify issues and areas that need attention.
4. On the left side of the app, click the arrow to display the side panel.

Tip:

To pin the side panel to the dashboard, click the pin in the upper right.

The side panel allows you to apply several survey and feedback filters. You can filter by **Report Type**, **Submission Date**, **Occurrence Date**, and **Route**.

Transit Safety

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Transit Safety

Transit Safety can be used to document safety issues and manage corrective actions or mitigation activities.

Each transit ride must be carefully executed to ensure the safety, security, and timeliness of service. Safety is the highest priority for transit agencies. Even with the best foresight, unexpected events can occur. The Federal Transit Administration (FTA) recently adopted the practice of safety management systems (SMS) to improve transit safety. Implementing an SMS helps transit agencies continuously improve system safety. Rapid data collection and high-quality reporting can lead to process improvements across organizations. Visualizing this data over time allows transit agencies to identify trends and implement changes that address safety issues. Transit Safety is typically implemented by transit agencies that want to adopt an SMS to improve transit services and save lives.

The Transit Safety solution delivers a set of capabilities that help you document events (accidents, incidents, and occurrences), report hazards, create work assignments, dispatch field staff for mitigation activities, and monitor the status of safety events and hazards across the transit system.

Requirements

Transit Safety requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.5 or later (Basic, Standard, or Advanced)
- ArcGIS Field Maps
- ArcGIS Workforce

Information products

Transit Safety includes the following information products:

Item	Description	Minimum user type
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[Back to top](#)

Transit Event Reporter	An ArcGIS Survey123 form used by transit safety staff to document the initial event report of an accident, incident, or occurrence.	Editor
Transit Hazard Reporter	An ArcGIS Survey123 form used by the general public or transit staff to report a safety hazard issue.	Editor (required for transit staff only)
Transit Safety Manager	A Crowdsense Manager app used by transit safety staff to manage safety event investigations and hazard risk assessments and mitigation.	Editor
Transit Safety Dashboard	An ArcGIS Dashboards app used by transit safety staff to monitor events and hazards across the transit system.	Viewer
Transit Mitigation Assignments	An ArcGIS Workforce Classic project used by transit staff to manage mitigation activities in the field and track the resolution of each. Field users access the Transit Mitigation Assignments project using the ArcGIS Workforce mobile app.	Field Worker
Transit Field Mitigations	An ArcGIS Field Maps map used by transit staff to update the status of a mitigation activity while in the field.	Field Worker
Transit Data Management	An ArcGIS Pro project used by transit staff to convert a GTFS public transit dataset to route and stop features and manage service change communication.	GIS Professional Basic

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Transit Safety

Configure Transit Safety

In this topic, you will learn how to configure the Transit Safety solution to meet specific needs in your organization.

Load transit routes and stops

The Transit Safety solution includes an ArcGIS Pro project that is used to convert your GTFS public transit dataset to route and stop features that are used as base layers in the maps and apps included in the solution.

To load your transit routes and stops in the solution, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Transit Data Management Project Package.
2. Open the item page and click **Download**.
3. Start the ArcGIS Pro application and open the Transit Data Management project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Transit Data Management** task.
6. In the **Tasks** pane, click the **How to Use Transit Data Management** task group to expand the collection of tasks.
7. Double-click **Load transit routes and stops** task and follow the steps provided.

Use Transit Safety

The Transit Safety solution delivers a set of capabilities that help you document events (accidents, incidents, and occurrences), report hazards, create work assignments, dispatch field staff for mitigation activities, and monitor the status of safety events and hazards across the transit system.


In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.


Report safety events

You'll assume the role of safety manager. You just received information about an incident that occurred on one of your rail lines. You will use Transit Event Reporter to add the safety event and send a report to the state oversight committee.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Safety solution.
2. View the Transit Safety Manager app.
3. Click the **Help** button  in the upper right corner of the app.
4. Click the **Input New Event** button.
5. In the Transit Event Reporter survey, fill in the following details:
 - For **Location**, click the map.
 - For **Date of event**, choose a date and time.
 - For **Date of report**, choose a date and time.
 - Click the **Event Type** drop-down arrow and choose **Incident**.
 - Type INCI-587 in the **Event ID** text box.
 - Click the **Mode** drop-down arrow and choose **Tram, Light Rail, Streetcar**.
 - Type 0ID-43 in the **Operator** text box.
 - Type 3001 in the **Vehicle ID** text box.
 - Type 1 in the **Number injured** text box.
 - Type the following in the **Initial summary** text box: An 83-year-old female fell shortly after departure of the transit vehicle. The fall was initiated by the sudden movement of the vehicle after it left the station.
6. Click **Submit**.

Manage safety events

You'll assume the role of safety manager. You have just received a new event report and need to send the report to the state and follow the event throughout the investigation period.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Safety solution.
2. View the Transit Safety Manager app.
3. In the left panel, click the **Events** map.
4. Click the event you reported in the previous section.
The event details appear under the table. You have determined that this event requires sending information to the transit oversight committee.
5. On the **Details** tab, click the **Email Event Report** button.
An email opens with the specific event details. Fill in an email address and any other important details. You can send the email to the necessary recipients.
6. Return to the Transit Safety Manager app.
You will now update the status of the report. After a week, new details about the event become available. You will add these details to the report.
7. On the **Details** tab, click the **Edit** button .
8. Fill in the following details:
 - Click the **Status** drop-down arrow and choose **Continued Investigation**.
 - Type One light rail car in the **Involved Vehicles** text box.
 - Click the **Weather** drop-down arrow and choose **Sunny**.
 - Type 58 in the **Temperature** text box.
 - Type 0 in the **Damage Estimate** text box.
 - Click the **D&A Testing** drop-down arrow and choose **No**.
9. Click **Save**.
After some time, you are now ready to complete the investigation and decide on a probable cause.
10. Click the **Edit** button.
11. Fill in the following details:
 - Click the **Status** drop-down arrow and choose **Final Report**.
 - Click the **Probable Cause** drop-down arrow and choose **Slips and Falls**.
 - Type fall during initial acceleration of light rail in the **Detailed Probable Cause** text box.
 - Click the **Preventable** drop-down arrow and choose **No**.
12. Click **Save**.
13. On the **Details** tab, click the **Print Final Report** button to view the sample result.
14. Click the **Edit** button.
15. Fill in the following details:
 - Click the **Status** drop-down arrow and choose **Event Closed**.
 - For **Date Closed**, choose the current date.
16. Click **Save**.

Report safety hazards


You'll assume the role of a transit agency employee. You need to report a hazard that you found at a bus stop. You will use Transit Hazard Reporter to add the safety hazard.

[Back to top](#)

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Safety solution.
2. View the Transit Hazard Reporter survey.
3. Fill in the following details:
 - For **Location**, click the map.
 - For **Date of hazard**, select a date and time.
 - Click the **Hazard type** drop-down arrow and choose **Unsafe Conditions**.
 - Type *There is ice at the bus stop* in the **Descriptions** text box.
 - Click **Select image file** to upload a photo.
 - For **Would you like to report anonymously**, click **No**.
 - For **Identity**, click **Contractor**.
 - Type your name in the **Name** text box.
 - Type your email in the **Email** text box.
 - Type your phone number in the **Phone** text box.
4. Click **Submit**.

Manage safety hazards

You will now assume the role of a transit safety manager. You need to mitigate all hazards that relate to your transit system. You will access the risk of the hazard, assign mitigation activities, and submit a final risk assessment for the hazard.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Safety solution.
2. View the Transit Safety Manager app.
3. In the left panel, click the **Hazards** map.
4. Click the hazard you reported in the previous section.
The hazard details appear under the table.
5. On the **Details** tab, click the **Edit** button .
6. Fill in the following details:
 - Type HAZ-123 in the **Hazard ID** text box.
 - Click the **Risk Score Pre-Mitigation** drop-down arrow and choose **3E**.
 - Click the **Risk Value (pre)** drop-down arrow and choose **Medium**.
 - Type your name in the **Risk Assessor (pre)** text box.

Note:

The risk values and score are modeled on the Mil Standard 882E. Assign both a score and a value to complete the risk assessment.

7. Click **Save**.
The risk score premitigation is now populated with a visual representation of your risk score. You have determined that mitigation is necessary for this risk. You will now add related mitigation activities to the hazard.
8. Click the **Related Information** tab.

9. Click **Add Record**.
10. Fill in the following details:
 - Click the **Mitigation Type** drop-down arrow and choose **Maintenance**.
 - Type **Facilities - Bus Stops** in the **Manager Responsible** text box.
 - Type **Apply salt to bus stop to remove ice** in the **Details** text box.
11. Click **Save**.

Now that you have created mitigation assignments, you will update the status of your hazard.
12. Click the **Details** tab.
13. Click the **Edit** button.
14. Click the **Status** drop-down arrow and choose **Mitigation in progress**.
15. Click **Save**.
16. Assign field staff to complete mitigation activities.

Note:

Use the **Create Work Assignment** button to launch a workforce app where you can assign field activities. Field staff can then use the **Transit Mitigation Assignments** ArcGIS Workforce Classic project to manage their work assignments and the **Transit Field Mitigations** ArcGIS Collector map to update the action taken and close the mitigation activity.

Update the hazard status to reflect that the fieldwork for this mitigation is complete.

17. Click the **Related Information** tab.
18. Click the **Edit** button.
19. Fill in the following details:
 - Click the **Status** drop-down arrow and choose **Closed**.
 - Type **Salt applied and ice removed** in the **Action Taken** text box.
 - For **Date Complete**, choose the current date.
20. Click **Save**.

You will now close the hazard.
21. Click the **Details** tab.
22. Click the **Edit** button.
23. Fill in the following details:
 - Click the **Status** drop-down menu and choose **Closed**.
 - Click the **Risk Score Post-Mitigation** drop-down arrow and choose **4C**.
 - Click the **Risk Value (post)** drop-down arrow and choose **Low**.
 - Type your name in the **Risk Assessor (Post)** text box.
 - For **Date Closed**, choose the current date.
24. Click **Save**.

Monitor safety performance

You are the Transit Safety manager interested in understanding the performance of your Safety Management Program and searching for areas of improvement. You will view the status of the program and then look in detail at both hazards and events.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Transit Safety solution.

2. View the Transit Safety Dashboard app.

The Transit Safety Dashboard opens with the **Overview** tab active.

The **Overview** tab displays infographics of events and hazards. This information gives management a quick overview of the number of events and hazards in the last 90 days and their performance relative to the previous 90 days.

3. Click the **Events** tab.

The **Events** tab allows a safety manager to monitor how their department is doing when it comes to investigating events.

In the report, charts are linked. As you click and select a category in one chart, related details are filtered and updated in other charts on the report to allow a manager to identify issues and areas that need attention.

4. Click the **Hazards** tab.

The **Hazards** tab allows a safety manager to monitor how their department is doing when it comes to assessing and mitigating hazards.

In the report, charts are linked. As you click and select a category in one chart, related details are filtered and updated in other charts on the report to allow a manager to identify issues and areas that need attention.

5. Click the arrow on the left side of the app to display the side panel. You can pin the side panel to the dashboard by clicking the pin in the upper right corner.

The side panel allows you to apply several event and hazard filters. You can filter by **Occurrence Date**, **Event Type**, **Event Mode**, and **Hazard Type** by clicking the drop-down and choosing a filter.

Transportation 511

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Transportation 511

Transportation 511 can be used to share road conditions and closures that may impact travel throughout a community or state.

Established in July 2000 by the Federal Communications Commission, 511 is the nationally designated, three-digit telephone number for traveler information. 511 provides a simple number travelers can use to access road and traffic information from within the jurisdiction they are traveling. Many 511 systems now include a map-based application that includes real-time incident and weather information. The application provides 24/7 access to critical information, and the location-enabled search allows travelers to quickly find traffic incidents, travel restrictions, road conditions, closures, live traffic camera feeds, and other transportation information. Transportation 511 is typically implemented by public works or transportation agencies that want to provide the public with current road conditions and traffic information.

The Transportation 511 solution delivers a set of capabilities that help you import critical information from your incident management system and share roadway information with the public so they can make informed decisions before they travel.

Requirements

Transportation 511 requires the following:

- ArcGIS Enterprise

Information products

Transportation 511 includes the following information products:

Item	Description	Minimum user type
Transportation 511	An ArcGIS Web AppBuilder for the general public to understand roadway conditions and closures that may impact travel throughout a state.	Not required
Overwrite Features	A Python script and sample file geodatabase that you can schedule to update the Transportation 511 app with real-time traffic and roadway condition information.	Creator

[Back to top](#)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">• First release of Transportation 511

Configure Transportation 511

In this topic, you will learn how to configure the Transportation 511 solution to meet specific needs in your organization.

Add a real-time traffic layer


Add additional context to your Transportation 511 app by including World Traffic Service from ArcGIS Living Atlas. Part of a larger collection of Esri curated content, World Traffic Service presents historical and near real-time traffic information for different regions of the world. This dynamic traffic map service is updated every 5 minutes, includes traffic incidents and provides visualizations for different traffic speeds relative to the free flow of traffic.

Note:

[World Traffic Service](#) is licensed under the Esri Master License Agreement and is exclusive content for Esri subscribers. Use of this service requires an ArcGIS Online organization subscription or an ArcGIS developer account. ArcGIS Living Atlas subscriber content does not consume ArcGIS Online credits. See [Configure Living Atlas content](#) to enable access subscriber content.

Configure map

To leverage Esri's World Traffic Service in your Transportation 511 app, you first must add the service to your map.

1. Sign in to your ArcGIS organization and browse to the Transportation 511 map.
2. Open the item page and click **Open in Map Viewer**.
3. Click **Add > Browse Living Atlas Layers**.
4. Type `traffic` in the search text box.
5. Click the **Add** button  World Traffic Service to add it to the map.

Tip:

You may determine you do not want to display the Traffic Incidents layers from World Traffic Service as this is already a layer you will provide. Before proceeding to the next step, click the **Back** button and in the **Contents** pane, expand the World Traffic Service group layer. Uncheck the North America Traffic Incidents (or your region if outside North America) layer group to ensure these layers are not visible in the Transportation 511 app.


6. Click **Save**.

Configure the app

Once the World Traffic Service layer is added to your map, additional steps are needed to configure the service to properly display in your Transportation 511 app.

Configure World Traffic Service Incidents with the Road Conditions widget

Optionally, you can display traffic incidents from World Traffic Service in the Transportation 511 app the same way as Road Condition layers are displayed from your feature collection.

1. Verify that you are signed in to your ArcGIS organization and browse to the Transportation 511 app.
2. Open the item page and click **Edit Application**.
3. Click the **Widget** tab.
4. Click **Set the widgets in this controller**.
5. Hover over the **Road Conditions** widget and then click the **Configure this widget** button .
6. Click **Add Layer** three times.
Each time you click **Add Layer**, the following layers are added to the Road Conditions widget: Traffic Incidents Overview, Traffic Incidents Intermediate, and Traffic Incidents Detailed.

Note:

The World Traffic Service Traffic Incident layers are scale dependent. If you want your app to display Traffic Incident information and counts at all scales, you must add all three layers to the Road Conditions widget configuration.

7. Provide a label for each of the layers added, for example: World Traffic Service Incidents.
8. Click **OK**.
9. Click **Save**.

Troubleshoot Overwrite Hosted Features script errors

The table below describes common errors that can occur when running the Overwrite Hosted Features script and how to resolve each.

Script error	Resolution
Unable to find feature service with ID: {ID}	Verify the Item ID for your feature service and the baseURL entered for your ArcGIS organization.
Unable to find feature collection with ID: {ID}	Verify the Item ID for your feature collection and the baseURL entered for your ArcGIS organization.
File GDB: {path to zipped file geodatabase} could not be found	Verify the path and file name for your zipped file geodatabase.
Cannot add the item	Verify that the user name used in the configuration does not already own a file geodatabase item with the same name as input to the fgdb parameter.
IOError: [Errno 2] No such file or directory: {Log File Path}	Verify that the script can write to the file path location configured for the log.

[Back to top](#)

Error Processing table data – check file format, supported data types and data license	Verify that each layer in the feature service has an associated feature class in the geodatabase and that the published feature service and zipped file geodatabase contain the same number of layers.
URLOpen Error [Errno11001] getaddrinfo failed URLOpen Error [Errno11004] getaddrinfo failed	Verify that baseURL parameter contains a forward slash at the end of the address, for example, <code>http://myorganization.maps.arcgis.com/</code> .

Use Transportation 511

The Transportation 511 solution delivers a set of capabilities that help you import critical information from your incident management system and share roadway information with the public so they can make informed decisions before they travel.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

View road conditions

You will assume the role of a motorist planning travel to your next destination in search of information about road conditions prior to driving across state. You will use the Transportation 511 app to discover current roadway conditions, restrictions and closures, and other alerts to help plan a safer trip.

1. In a browser, from the Transportation 511 solution, view the Transportation 511 app. The **Road Conditions** widget is open by default. Road Conditions categories are presented in a list with corresponding total counts.

Note:

Information shown in the **Road Conditions** list automatically updates as you pan and zoom the map to different extents or when searching for a location by address.

2. Click a category to expand it.
After expanding a category, you may notice that it includes expandable lists that are specific to a particular road or highway.
3. If necessary, in the category, expand a list.
4. Click one of the listed reports.
On the map, a pop-up displays at the location of the incident. The pop-up includes details about the incident, and, for some types of incidents, it provides a link to additional information.
5. In the **Road Conditions** widget, to the left of a category, click the button to turn the layer on and off.

Configure data updates

The Overwrite Hosted Features script is meant to be scheduled as a task to run regularly to keep road condition information current in the app. The script takes a zipped file geodatabase and overwrites the published feature collection with the current road condition information. The script can run on a machine without ArcGIS installed. You will now assume the role of a

employee in the transportation agency responsible for keeping the Transportation 511 app up to date with the latest information on road conditions across the state.

Configure script parameters

To configure the Overwrite Hosted Features script, complete the following steps:

1. Sign in to your ArcGIS organization and browse to the Transportation 511 solution item.
2. Open the item page and click **Overwrite Features**.
3. On the item page, click **Download**.
4. Unzip the OverwriteFeatures folder.
5. Download and install [Python version 2.7 or version 3.4](#) if you do not have it installed on your machine.
6. Browse to and open the `overwrite_hosted_features.cfg` file in a text editor, and update the following inputs:

Parameter	Description
<code>featureServiceItemID</code>	The item ID for your Transportation 511 feature service.
<code>featureCollectionItemID</code>	The item ID for your Transportation 511 feature collection. Note: Item IDs are found at the end of the URLs when viewing item details, for example, <code>http://myorganization.maps.arcgis.com/home/item.html?id=d7c57317a0564cafae28cdc464d63ff9</code> .
<code>fgdb</code>	The path to the provided zipped file geodatabase, for example, <code>C:\Transportation511\RoadConditions.zip</code> . Tip: A sample schema geodatabase is provided in the Overwrite Features .zip file.
<code>baseURL</code>	Your organization's URL, for example, <code>https://myorganization.maps.arcgis.com</code> .
<code>username</code>	Your ArcGIS username.
<code>pw</code>	Your ArcGIS password.
<code>maxAllowableOffset</code>	To optimize performance of the data in the application, it is recommended that you generalize complex line and polygon

[Back to top](#)

	<p>features. Enter the maximum amount of simplification you want for the features in the feature collection.</p> <p>Note: This is defined in the units of the spatial reference of the service, by default, in meters.</p>
nameMapping	<p>To ensure that features in your feature collection are updated with data from the correct feature class in the file geodatabase, enter a layer mapping to match layers in the published feature layer with the file geodatabase feature class in this parameter following this pattern: Feature Service Layer 1, Database Feature Class 1; Feature Service Layer 2, Database Feature Class 2</p> <p>Note: The defaults provided in the configuration file work against the provided sample geodatabase and the deployed feature service.</p>
path (Optional)	The path and file name where you want the log to be written.
isVerbose (Optional)	True or false. To disable logging, leave this parameter blank.

7. Save your edits to the configuration file.
8. Run the Overwrite Hosted Features script, `overwrite_hosted_features.py`, to test your configuration. If necessary, refer to the troubleshooting guide below.

Schedule data updates

You can use the Overwrite Hosted Features script (`overwrite_hosted_features.py`) with Windows Task Scheduler to overwrite feature collections at a regular interval. Scheduled updates ensure that users have access to current information to support more timely decision-making when traveling.

To update the Transportation 511 feature collection on a schedule, complete the following steps:

1. Open Task Scheduler on the computer hosting the scripts.
2. Click **Action > Create Task** and name your task.
3. Click the **Action** tab and click **New**.
4. Set **Action** to **Start a Program**.
5. Click **Browse** and go to the location of your Python installation (for example, `<default directory>\Python27\python.exe`), and click **Open**.
6. In the **Add Arguments** text box, type the path and name of the script (`overwrite_hosted_features.py`) and path and name of the configuration file (`overwrite_hosted_features.cfg`), and click **OK**.

[Back to top](#)

7. Click the **Trigger** tab, click **New**, and set a schedule for your task.
8. Click the **Settings** tab, click the **If the task is already running, then the following rule applies** drop-down arrow, and choose **Do not start a new instance**.
9. Click **OK**.

Vaccine Coverage Analysis

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Vaccine Coverage Analysis

Vaccine Coverage Analysis can be used to identify underserved populations and optimize plans for disease vaccination sites.

Comprehensive vaccination coverage is one of the most effective ways to stop a pandemic and reopen communities. Communities of color and socioeconomically vulnerable areas are disproportionately burdened when vaccinations are available but underutilized. Identifying areas of low vaccination rates and vulnerable populations can help ensure equitable vaccine distribution. Vaccine Coverage Analysis is typically implemented by health and human services or public safety agencies that want to optimize the location of vaccination sites, maximize limited resources, and ensure communities affected the most have access to vaccines.

The Vaccine Coverage Analysis solution delivers a set of capabilities that help you identify priority and underserved populations, locate optimal vaccination sites, and share vaccine site information with internal and external stakeholders.

Requirements

Vaccine Coverage Analysis requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.7 - ArcGIS Pro 2.9 (Advanced)
 - ArcGIS Geostatistical Analyst extension

Information products

Vaccine Coverage Analysis includes the following information products:

Item	Description	Minimum user type
Vaccine Coverage Analysis	An ArcGIS Pro project used by health and human services analysts to identify priority and underserved populations, locate optimal vaccination sites, and share vaccine site information with internal and external stakeholders	GIS Professional Advanced

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included

[Back to top](#)

with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">Added support for single dose vaccines and revised vaccination rate calculation.Resolved an issue in the Configure Existing Sites model that prevented the Append tool from functioning properly in ArcGIS Pro 2.8.
1.0	<ul style="list-style-type: none">First release of Vaccine Coverage Analysis

Use Vaccine Coverage Analysis

The Vaccine Coverage Analysis solution delivers a set of capabilities that help you identify priority and underserved populations, locate optimal vaccination sites, and share vaccine site information with internal and external stakeholders.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Identify coverage gaps

Priority populations and vaccine rates can be used to identify underserved populations quickly using the Vaccine Coverage Analysis project. Current vaccination statistics collected from vaccination sites and priority populations will help you identify areas that have low vaccination rates and high-priority populations.

You will start by assuming the role of a health and human services analyst. You are asked to use the Vaccine Coverage Analysis project to identify underserved populations.

1. Sign in to your ArcGIS organization and browse to the Vaccine Coverage Analysis Desktop Application Template.
2. Open the item page and click **Download**.
3. Unzip and open the Vaccine Coverage Analysis ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Vaccine Coverage Analysis** task.
6. In the **Tasks** pane, click the **Identify underserved populations** task group to expand the collection of tasks.
7. In the **Tasks** pane, double-click the **Prepare vaccination and priority population** task and follow the steps provided.
8. Double-click the **Create coverage map** task and follow the steps provided.
9. Double-click the **Evaluate current vaccine distribution by drive time** task and follow the steps provided.

Locate vaccination sites

The best vaccination sites can be quickly located with the Vaccine Coverage Analysis project. Use the previously identified coverage gaps and a list of candidate sites to locate new sites in your community.

You will continue to assume the role of a health and human services analyst. You are asked to use the Vaccine Coverage Analysis project to select the best vaccination sites from a list of candidate sites that meet needs defined in the vaccine gap analysis.

1. Open the Vaccine Coverage Analysis ArcGIS Pro project.
2. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
3. In the **Catalog** pane, expand the **Tasks** folder, and double-click the **Vaccine Coverage Analysis** task.

4. In the **Tasks** pane, click the **Locate vaccination sites** task group to expand the collection of tasks.
5. In the **Tasks** pane, double-click the **Identify potential distribution sites** task and follow the steps provided.
6. Double-click the **Select new points of distribution** task and follow the steps provided.

Vision Zero

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Vision Zero

Vision Zero can be used to solicit transportation hazards and dangerous traffic behaviors on roadways from bikers, drivers, pedestrians, and others using public streets.

Traffic collisions result in thousands of deaths each year and many communities are beginning to tackle this public health problem by adopting Vision Zero programs. Vision Zero programs engage many internal and external stakeholders (for example, the general public, planners, engineers, public health officials, and policymakers) and use data-driven strategies to create safer roadways for travelers. A key aspect of any Vision Zero program is a web destination that helps agencies share key initiatives with the public and solicit feedback from stakeholders. Feedback is then used to understand perceived problems, visualize trends, and inform policies. Vision Zero is typically implemented by public works, transportation, and public safety agencies that want to engage stakeholders and use data to reduce traffic hazards in their community.

The Vision Zero solution delivers a set of capabilities that help you share your Vision Zero strategy with the public, solicit transportation hazards and dangerous traffic behaviors from key stakeholders, manage each reported hazard, and monitor the status of its resolution.

Requirements

Vision Zero requires the following:

- ArcGIS Enterprise

Information products

Vision Zero includes the following information products:

Item	Description	Minimum user type
Vision Zero	An ArcGIS Hub site used by public works, transportation, and public safety agencies to communicate strategies to eliminate traffic deaths of and life-altering injuries to travelers in the community.	Not required

[Back to top](#)

Vision Zero Pledge	An ArcGIS Survey123 form used by the general public to pledge to practice safe driving behaviors and obey all traffic laws.	Not required
Transportation Hazard Reporter	A Crowdsource Reporter app used by the general public to report transportation hazards and dangerous traffic behaviors that could lead to fatalities or serious injuries.	Not required
Transportation Hazard Manager	A Crowdsource Manager app used by public works, transportation, and public safety agencies to triage transportation hazards submitted by the general public.	Editor
Transportation Hazard Dashboard	An ArcGIS Experience Builder app used by public works, transportation, and public safety agencies to monitor transportation hazards and dangerous traffic submitted by the general public.	Viewer (required if the app is used for internal purposes only)

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none"> First release of Vision Zero

Configure Vision Zero

In this topic, you will learn how to configure the Vision Zero solution to meet specific needs in your organization.

Modify hazard types and responsible agencies

Vision Zero includes problem types and responsible agencies for hazard reports. In some cases, you may want to add a problem type. In addition, you may want to modify the responsible agencies provided to more accurately reflect the name of the agency, department, or team that is responsible for responding to hazard reports.

1. Sign in to your ArcGIS organization and browse to the TransportationHazardReports feature layer.
2. Open the item page and click the **Data** tab.
3. Click **Fields**.
4. Click the **Problem observed** display name.
Review the **List of Values (Domain)**. Identify domains that are missing or need to be removed from the list.
5. Click **Edit** next to **List of Values (Domain)**.
6. Optionally, click **Add**.
7. Type the problem type in the **Displayed Value** and **Stored Value** text boxes.
8. Repeat steps 6 and 7 to add the remaining problem types.
9. Optionally, click **Delete** to remove a problem type.
10. Optionally, click in the **Label** text box with an existing problem type and change the name. Repeat this step to change the **Code** value as well.
11. Optionally, drag the problem type to a new location in the list to reorder them.
12. Click **Save**.

Now, let's review the list of responsible agencies and modify it to meet the needs of your organization.

1. Click the **Assigned To** display name in the left panel.
Review existing agencies and identify missing ones in the **List of Values (Domain)** section.
2. Click **Edit** next to **List of Values (Domain)**.
3. Optionally, click **Add**.
4. Type the new agency name in the **Displayed Value** and **Stored Value** text boxes.
5. Repeat steps 3 and 4 to add the remaining missing agencies.
6. Optionally, click **Delete** to remove an agency.
7. Optionally, click in the **Label** text box with an existing agency labeled and change the agency name. Repeat this step to change the **Code** value as well.
8. Optionally, drag the category to a new location in the list to reorder them.
9. Click **Save**.

Update the pledge survey

The Vision Zero Pledge survey allows you to enlist the general public in practicing safe driving behaviors. Review the preconfigured questions and align the survey with your organizational policies and desired outcomes.

To modify the Vision Zero Pledge survey, complete the following steps:

1. Verify that you are signed in to your ArcGIS organization and browse to the Vision Zero Pledge form.
2. Open the item page and click **Open in Survey123 > Manage in Survey123 website**.
3. Click the **Design** tab.
4. Edit the survey and save the changes.
5. Click **Publish** twice.


Configure the Vision Zero site

The Vision Zero solution includes the Vision Zero ArcGIS Hub site that your organization can configure with your branding and use to share strategies to eliminate traffic deaths of and life-altering injuries to travelers in the community.


Update with organizational information

After deploying the Vision Zero solution, the Vision Zero site layout requires a few updates to fit your local context. Consider what information you already have and what you can most easily find. To update your site, complete the following steps:


1. Verify that you are signed in to your ArcGIS organization and browse to the Vision Zero site.
2. Open the item page and click **Configure App**.

3. Click the edit button  to open the site editor.
4. Scroll to the **By the Numbers** section listed under the title of the website.
The **Taken the Vision Zero Pledge** statistic card is linked to the Vision Zero solution's VisionZeroPledge_opendata feature layer. The stat is automatically updated as pledges are submitted.

The **Fatalities** and **Seriously Injured** cards are text cards but styled to resemble the summary statistics cards; this allows you the option to manually enter a statistic of your choice, independent of the solution data.

5. Hover over the **Fatalities** card and click the settings button .
6. Update the number of traffic fatalities.
7. Hover over the **Seriously Injured** card and click the settings button.
8. Update the number of traffic-related injuries.
9. Scroll to the **Transportation Hazards** section, hover over the **Other Reporting Methods** card and click the settings button.
10. Click the **Code View** option and update the phone number, and click **Code View**.

[Back to top](#)

11. Scroll to the **Frequently Asked Questions** section, hover over the card and click the settings button, and update the questions and answers.
12. Scroll to the **Additional Resources** section, hover over an image card, and click the settings button.
13. On the side panel, provide a URL to an image in the text box or click **Upload** to upload an image associated with the resource.
14. Hover over the text card, click the settings button, and update the text.
15. Click the **Learn More** button and click **Edit**.
16. Enter a URL in the **Link Destination** text box and click **Add Link**.
17. Scroll to the **Partner** section, hover over an image card, and click the settings button.
18. On the side panel, provide a URL to an image in the text box or click **Upload** to upload an image associated with a partner you want to promote on the site.
19. To modify your site's footer, click **Customize Toggle**  on the side panel.
20. Click **Footer**.

A custom footer is already provided, and in most cases, it needs to be updated with your organization's branding, contact information, and social media references.
21. Click the **HTML** text box.

The **HTML** window appears.
22. Make the necessary changes and click **Apply**.
23. Click **Save**.

Share Traffic Crash Analysis apps

You can enhance the Vision Zero site with additional public-facing applications included with the [Traffic Crash Analysis](#) solution. The High Injury Network Locator helps the general public locate streets and intersections where concentrations of serious and fatal traffic crashes occur. You can share the Fatal and Serious Injury Dashboard so the general public can locate crashes that resulted in serious injury or fatality. To share the apps on the Vision Zero site, complete the following steps:

1. Verify you are signed in to your ArcGIS organization and browse to the Fatal and Serious Injury Dashboard web experience.
2. Open the item page and click the **Share** button.
3. In the **Share** window, click **Edit group sharing**.
4. Enter Vision Zero Maps in the search text box.
5. Click the check box next to the **Vision Zero Maps** group.
6. Click **OK**.
7. Click **Save**.
8. Repeat steps 2-6 for the High Injury Network Locator app.
9. Click **Update** in the **Update sharing** window.

Share items with the public

Several layer views, maps, and apps included in the Vision Zero solution must be shared with everyone so they can be accessed by the public on the Vision Zero site. To share your items with everyone, use the guide below and complete the following steps:

1. Verify that you are signed in to your ArcGIS organization.
2. Click **Groups** at the top of the site.
3. Open the Transportation Hazard Reporter group page and click the **Settings** tab.
4. Under **Who can view this group**, click **Everyone (public)**, and click **Save**.
5. Click **Content** at the top of the site.
6. On the **My Content** tab, under **Folders**, type Vision Zero in the search box.
7. Click the **Vision Zero** folder.
8. Check the check box next to each of the items below:

Item	Name
Feature Layer (hosted, view)	TransportationHazardReports_public
Web Map	Transportation Hazard Reporter
Web Mapping Application	Transportation Hazard Reporter
Feature Layer (hosted, view)	TransportationHazardReports_dashboard
Web Map	Transportation Hazard Dashboard
Dashboard	Transportation Hazard Desktop Dashboard
Dashboard	Transportation Hazard Mobile Dashboard
Web Experience	Transportation Hazard Dashboard
Form	Vision Zero Pledge
Feature Layer (hosted)	VisionZeroPledge_public
Feature Layer (hosted)	VisionZeroPledge_opendata
Site Application	Vision Zero

9. Click **Share**.
10. In the **Share** window, click **Everyone (public)** and click **Save**.

[Back to top](#)

The **Warning: Sharing editable layers publicly** message appears notifying you that you are sharing editable layers publicly.

11. Click **Update**.

Extend Vision Zero

You can extend the Vision Zero solution with a set of Python tools that can be used to generate report IDs, moderate reports, send email notifications, and enrich reports. These tools can be executed automatically via Task Scheduler and as new problem reports are submitted, or updated, the corresponding action will occur.

Add the ServiceFunctions toolbox

The ServiceFunctions toolbox contains tools for generating report IDs, moderating reports, sending email notifications, and enriching reports. Download and add the ServiceFunctions toolbox to your ArcGIS Pro project before configuring the appropriate tools.

1. [Download](#) the ServiceFunctions toolbox.
2. Browse to the ServiceSupport.zip file and unzip the file to the location from which you want to the tools to execute.
3. Open ArcGIS Pro and create a new project.
4. Sign in to the ArcGIS organization to which you deployed the Vision Zero solution, if necessary.
5. On the **View** tab, in the **Windows** group, click the **Catalog** pane, if necessary.
6. In the **Catalog** pane, right-click **Toolboxes** and choose **Add Toolbox**. The **Add Toolbox** dialog box appears.
7. Browse to the ServiceSupport folder.
8. Click the **ServiceSupport.pyt** Python toolbox, and click **OK**.
9. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
If you've never used the ServiceSupport toolbox before, run the Define Connection Settings tool to establish a connection between the toolbox and the TransportationHazardReports feature layer.
10. In the **Catalog** pane, in the **ServiceSupport.pyt** Python toolbox, double-click the **Define Connection Settings** tool.
11. In the **ArcGIS Online organization or ArcGIS Enterprise portal URL** parameter, click the drop-down arrow and choose a URL.
12. In the **Username** parameter, type your user name for the organization you chose in step 11.
13. In the **Password** parameter, type your password for the user name provided in the **Username**.
14. Click **Run**.

Generate report IDs

Many workflows require you to generate a unique identifier when a feature or record is created so it can be referenced and tracked in other workflows. You can use the Generate IDs tool to configure custom unique identifiers that will be applied to features at a regularly scheduled

interval of your choosing. The tool only generates the configuration; you must run an additional script (provided) to update the features with incrementing identifier values.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**, if necessary.
 2. Double-click the **Generate IDs** tool.
 3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
 4. Under **Portal**, click **My Content**.
 5. Double-click the **Vision Zero** folder.
 6. Double-click the **TransportationHazardReports** feature layer.
 7. Click **Transportation Hazard Reports**, and then click **OK**.
Expand **General Identifier Settings**. If the tool has not been run previously, start by specifying at least one identifier sequence.
 8. In the **Sequence Name** parameter, type a name for the sequence.
This value appears in the drop-down menu for selecting the sequence to assign to each layer.
 9. In the **Pattern** parameter, type a pattern to use for the sequence.
This can be a combination of letters, numbers, and symbols. Mark the location for the incrementing value with a pair of curly braces {}. Python formatting is applied to the pattern text, so string formatting syntax such as {0:03d} pads the incrementing number section with zeros to a length of 3. For example, the expression seq-{0:05d} creates the following pattern of values: seq-00001, seq-00002, seq-00003, and so on.
 10. In the **Next Value** parameter, type a value.
When initially creating the sequence, this must be the first value in the identifiers. After this point, this value shows the value to be used for the next identifier generated.
 11. In the **Interval** parameter, type a value.
The interval by which the identifier values increase between features. For example, an initial Next Value of 1 and an Interval of 10 creates identifiers with the incrementing values of 1, 11, 21, and so on.

Deleting or changing these sequences impacts all the layers that are configured to use the edited sequences.
 12. Optionally, edit the identifier configuration and run the tool to overwrite the existing identifier configuration for the selected layer.
- Note:**
- If an identifier configuration already exists, a check box appears that, when checked, deletes the existing identifier configuration for the selected layer.
13. Choose the moderation list to use to process the features in the selected layer.
 14. Choose the sequence to use to generate the identifiers for each feature in the layer.
 15. Choose a text field to store the generated identifier.
 16. Click **Run** to write out the identifier configuration for the layer and any changes to the identifier sequences.
 17. To configure identifiers for another layer, rerun the tool with the settings for the next layer.

General Identifier Settings are not specific to any one layer—they apply to all layers configured using this tool.

Moderate reports

Public comment apps can occasionally generate feedback that should not be made publicly visible. Data entered into specific fields, such as personal information, can be hidden and protected using the pop-up configuration and layer security, but sometimes entire comments need to be hidden to avoid displaying sensitive or explicit content to other users.

You can hide features by updating the value of a field so that it no longer meets the requirements of a filter applied to that layer in the map. You can use the **Moderate Reports** tool to configure which layers and fields to scan for explicit or sensitive words and phrases and how to update the feature so that it can be filtered from the map. You can choose how often to scan features and records. The tool only generates the configuration; an additional script (provided) must be run to scan the features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Moderate Reports** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Vision Zero** folder.
6. Double-click the **TransportationHazardReports** feature layer.
7. Click **Transportation Hazard Reports**, and then click **OK**.
Expand **General Moderation Settings**. If the tool has not been run previously, start by specifying at least one moderation list.
8. In the **List Name** parameter, type a name.
This value appears in the drop-down menu for selecting the moderation list use when scanning each layer.
9. In the **Filter Type** parameter, click the drop-down arrow and choose to scan feature for words and phrases that exactly match the provided list of words and phrases.
For example, when the filter type is EXACT, if the list contains the word duck, the script updates the specified field when the feature contains the word duck, but not when it contains the word duckling. When the filter type is FUZZY, the script updates the feature when either duck or duckling are found.
10. In the **Words and Phrases** parameter, type a word or phrase. Provide a comma-separated list of words or phrases to scan for.
Keep in mind that deleting or changing these lists will impacts all the layers that are configured to use the edited sequences.
11. If a moderation configuration already exists for the selected layer, choose to edit an existing configuration by selecting the name of the moderation list used in the configuration, or choose the option to add a new moderation configuration.
If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing moderation configuration for the selected layer. Alternatively, edit the


moderation configuration and run the tool to overwrite the existing moderation configuration for the selected layer and moderation list.

To add a new moderation configuration, click the **Add New** button and continue with the following steps.

12. Choose the moderation list to use to process the features in the selected layer.
13. Choose the fields that will be scanned for content that matches the words and phrases in the selected moderation list.
14. Optionally, provide an SQL query to only apply moderation to some features. If no query is provided, all features are processed.
15. Use the **Field to Update** parameter when a match is found between the value of a field and the content of a moderation list. Use the **Found Value** parameter to specify the value that should be written to this field indicating a match.
16. Click **Run**.

Send email notifications

Many workflows require that an email be sent when a feature or record is created and updated. You can use the **Send Emails** tool to configure emails that can be sent based on attribute values and a schedule of your choosing. The tool only generates the configuration; you must run an additional script (provided) to actually generate and send the emails.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Send Emails** tool.
3. In the **Layer** parameter, click **Browse**.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Vision Zero** folder.
6. Double-click the **TransportationHazardReports** feature layer.
7. Click **Transportation Hazard Reports**, and then click **OK**.
All existing email settings for the layer load and can be edited by updating the parameter values for each configuration. To delete a single email configuration, click the **Remove** button  next to the configuration. To delete all the email configurations for the layer, check the **Delete all existing email configurations for this layer** check box. Run the tool to save your changes.
8. In the **Email Template** parameter, click **Browse** to access the ServiceSupport folder.
9. Click one of the HTML templates for the body of the email, and click **OK**.
To add attributes from the triggering feature to the email, use unique string keys in the places where the values should appear in the HTML and reference these strings in the **Find** parameter of the **Email Substitutions** section of the **General Email Settings** along with the name of the field that contains the value to be substituted for the string key in the **Replace** parameter.
10. Optionally, in the **SQL Query** parameter, provide an SQL query to only trigger an email from specific features.

If no query is provided, all features trigger emails every time the script is run, so you most likely want to use this query along with the **Field to Update** and **Sent Value** parameters to ensure that the same email isn't sent repeatedly for the same feature.

11. In the **Recipient Email Address** parameter, type an email address of the recipient or the name of a field in the layer that contains the address of the recipient.
12. In the **Email Subject** parameter, type the subject for the email.
Similar to the email body provided in the HTML document, this text can contain string keys that will be swapped out for attribute values based on the **Find** and **Replace** values defined in the Email Substitutions list in the General Email Settings section.
13. In the **Field to Update** parameter, type Email. When the email has been sent for each feature, use the **Sent Value** parameter to specify the value that should be written to this field indicating that the email has been sent.
This field and value can be used in the previously described SQL query to prevent duplicate emails from being sent.
14. Configure additional emails to be sent for the currently selected layer by clicking the **Add New** button.
Emails will be sent in the order they are configured. Expand **General Email Settings**. If the tool has not been run previously, start by specifying the connection information for your SMTP server in the tool.
15. In the **SMTP Server** parameter, type the URL of the SMTP server used for sending emails.
16. In the **SMTP Username** parameter, type the user name required to authenticate to the SMTP server. This is not required if authenticating through a port.
17. In the **SMTP Password** parameter, type the password required to authenticate to the SMTP server. This is not required if authenticating through a port.
18. In the **From Address** parameter, type the address from which the emails should be sent.
19. In the **Reply Address** parameter, type the address that should be used for any replies to the email message.
20. Check or uncheck the **Use TLS** check box to turn on or off TLS.
21. In the **Email Substitutions** section, type **Find** and **Replace** values. Swap out one piece of text for another in the outgoing email subject or body.
Anywhere a value in the **Find** parameter is found in the email subject or body, it will be replaced with the corresponding value from the **Replace** parameter. If the value in the **Replace** parameter is a field in the layer, the **Find** value will be replaced with the value in that field in the triggering feature. For example, to add the ID of a feature from the REQUESTID field to the email subject, include a piece of text such as {ID} in the configured Email Subject, and add {ID} to the **Find** parameter and REQUESTID to the **Replace** parameter. All specified substitutions are applied to all emails configured for all layers so, while the Find values can be any piece of text, it's suggested that you use something that is clearly variable-like and unlikely to appear elsewhere in the messages in a literal form.

Deleting or changing these settings impacts all the emails for all the layers configured with this tool.
22. Click **Run**.

Enrich reports

Reports made in public comment apps can be enriched with information about the report location. You can then use this information to efficiently direct the report to the correct person or agency responsible for its resolution.

You can then use the Enrich Reports tool to configure which attribute values to calculate from a coincident or intersecting set of features at a regularly scheduled interval of your choosing. Note that the tool only generates the configuration; you must run an additional script (provided) to update the features based on intersecting features.

1. In the **Catalog** pane, expand **Toolboxes** and **ServiceSupport.pyt**.
2. Double-click the **Enrich Reports** tool.
3. In the **Layer** parameter, click the browse button.
The **Layer** dialog box appears.
4. Under **Portal**, click **My Content**.
5. Double-click the **Vision Zero** folder.
6. Double-click the **TransportationHazardReports** feature layer.
7. Click **Transportation Hazard Reports**, and then click **OK**.
8. In the **Enrichment** parameter, if an enrichment configuration already exists for the selected layer, choose to either edit an existing configuration by selecting the configuration from the drop-down list, or choose the option to add a new enrichment configuration.
If you choose to edit an existing configuration, a check box appears that, when checked, deletes the existing enrichment configuration for the selected layer. Alternatively, edit the configuration and run the tool to save the changes. To add a new enrichment configuration, click the **Add New** button and continue with the following steps.
9. Choose the polygon feature layer that will provide the enriching attribute values by either choosing a layer from the active map or by browsing to your hosted content and choosing a polygon feature layer.
10. In the **Source Field** parameter, click the drop-down arrow and choose a field from the enrichment layer.
11. In the **Target Field** parameter, click the drop-down arrow and choose a field from the **TransportationHazardReports** feature layer.
The script does not process features that already have a value in the target field.
12. In the **Priority** parameter, type a value. Specify the priority that should be given to this enrichment configuration relative to the other configurations for the **TransportationHazardReports** feature layer.
Enrichment configurations for a layer that have a lower priority value will override enrichment configurations with a higher value. For example, a layer has two enrichment configurations that use the same target field, but one has a priority value of 1 and the other has a priority of 2. If the configuration with priority 1 does not produce a valid value for the field, the field is populated with the value produced from the configuration with priority 2.
13. Click **Run**.

Set up Task Scheduler

Use Windows Task Scheduler to schedule the script to generate report IDs when a feature or record is created, moderate reports when feedback contains inappropriate language, send email

[Back to top](#)

notifications when a feature or record is created or updated, or enrich reports. All the tools in this toolbox share a common configuration file and execution script, so only one scheduled task is required to automate running all the associated processes.

1. Open the Task Scheduler on the computer that is hosting the scripts.
2. Click **Action > Create Task** and name your task.
3. Click the **Action** tab and click **New**.
4. Set **Action** to **Start a Program**.
5. Browse to the location of your Python 3 installation (for example, <default directory>\C:\Program Files\ArcGIS\Pro\bin\Python\envs\arcgispro-py3\python.exe).
6. In the **Add arguments** text box, type the name of the script (`servicefunctions.py`).
7. In the **Start in** text box, type the path to the folder where your script is and click **OK**.
8. Click the **Trigger** tab, click **New**, and set a schedule for your task.
9. Click **OK**.

When the trigger occurs, the scripts begin scanning the configured layers and, for each one, processing (in order) configurations for generating identifiers, enriching reports, moderating reports, and sending emails.

Use Vision Zero

The Vision Zero solution delivers a set of capabilities that help you share your Vision Zero strategy with the public, solicit transportation hazards and dangerous traffic behaviors from key stakeholders, manage each reported hazard, and monitor the status of its resolution.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Submit a traffic hazard

You will first assume the role of a concerned resident in the community who wants to notify the city of a problem that you observed.


1. In a browser, from the Vision Zero solution, view the Vision Zero site.
2. Scroll to the **Transportation Hazards** section and click **Report Hazard**.
3. In the Transportation Hazard Reporter app, at the lower right, click **Submit a Hazard**.
4. Complete the form with as much information as possible.
5. Click **Report It**.
6. At the top of the **Transportation Hazards** form, click the arrow to return to the list.
7. At the top of the list, click the problem that you just submitted.
Information about the problem that you reported appears. As the report moves through its life cycle (**Submitted**, **Received**, **In Progress**, and **Completed**), the status bar updates.
8. Below the status bar, click **Leave a reply**.
You or others can add comments to update or highlight information related to the initial problem reported to authorities.
9. Optionally, add and submit a comment; otherwise, click **Cancel**.

Respond to hazard reports

You are now a city employee who is responsible for responding to submitted transportation hazard problem reports, assigning them to the appropriate department for resolution, and providing the resolution information when completed.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Vision Zero solution.
2. View the Transportation Hazard Manager app.
All problem reports are listed in the table at the top. The table can be sorted and filtered in various ways.
3. In the table, use the column header filters and arrows to filter results.
4. Select a problem with a status of **Submitted**.
The problem details open at the lower left.

[Back to top](#)

5. In the details, on the **Details** tab, click the **Edit Record** button .
6. For **Visible to the Public**, choose **Yes**.
7. For **Status**, choose **Received**.
8. Click **Save**.
The next step is to investigate the location for Vision Zero improvements. You'll change the status to **In Progress** and assign the problem to the most appropriate department.
9. Click the **Edit Record** button again.
10. For **Status**, choose **In Progress**.
11. For **Assigned To**, choose the appropriate department.
12. Click **Save**.
After the department assigned to the problem informs you that the problem has been investigated and improvements to the intersection have been submitted for review, you'll change the status to **Completed**.
13. Click the **Edit Record** button again.
14. For **Status**, choose **Completed**.
15. In the **Resolution** text box, type Improvements submitted to Vision Zero taskforce for review.
16. Click **Save**.
Because the issue has been completed, the status indicator has changed, and the details now provide information about when and how the issue was resolved.

Monitor reports and measure performance

As a program manager for the city, you want to know how well the Vision Zero program is functioning and monitor the reports coming in.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Vision Zero solution.
2. View the Transportation Hazard Dashboard app.
3. On the left, use filters to refine results by status, transportation mode, problem, or date.
4. Use the graphs to filter and explore active and resolved problem reports.
5. In the **Hazard Reports** list, click a report to zoom to it on the map and open a pop-up with more information.

Take the Vision Zero pledge

As an engaged resident of the community, you want to take the Vision Zero pledge to commit to streets that are safe, accessible, and shared by everyone in the community.

1. In a browser, from the Vision Zero solution, view the Vision Zero site.
2. Scroll to the **Vision Zero Pledge** section and click **Take the Pledge**.
3. Complete the Vision Zero Pledge survey, and then click **Submit**.

Water Distribution Data Management for ArcGIS Enterprise

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Water Distribution Data Management for ArcGIS Enterprise

Water Distribution Data Management for ArcGIS Enterprise can be used to map and manage asset information with the ArcGIS Utility Network.

It configures ArcGIS Enterprise and the ArcGIS Utility Network to be an authoritative repository of information for a water distribution network and provides workflows that facilitate capturing information correctly and keeping it up to date.

Water Distribution Data Management for ArcGIS Enterprise delivers a data model that makes a utility network behave like a water distribution network, editing apps configured for ArcGIS Pro, and preconfigured maps for data sharing. It also provides a sample utility network dataset so users can experience a utility network in a single user environment. You can use the solution's deployment framework to experience a water distribution utility network with sample data or in a single user environment.

Requirements

Water Distribution Data Management for ArcGIS Enterprise requires the following:

- ArcGIS Enterprise
- ArcGIS Pro 2.8 or later (Standard or Advanced)

Information products

Water Distribution Data Management includes the following information products:

Item	Description	Minimum user type
Water Distribution Data Management for ArcGIS Enterprise	A zipped file with an ArcGIS Pro project package with tasks, a configured utility network in a file geodatabase, editor and auditor maps, and an asset package geodatabase	Creator user type with ArcGIS Utility Network user type extension

When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items

[Back to top](#)

(applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release notes

The following are the release notes:

Version	Description
1.1	<ul style="list-style-type: none">• ManageIsDirty setting has been changed to false for all subnetworks to improve performance in editing and validation
1.0	<ul style="list-style-type: none">• The first release of Water Distribution Data Management for ArcGIS Enterprise.• The data model in the solution has been updated to version 4. For a full list of updates, refer to the change log.

Use Water Distribution Data Management for ArcGIS Enterprise

The Water Distribution Data Management for ArcGIS Enterprise solution provides a preconfigured utility network, maps, styles, step-by-step instructions, common data management workflows, and more. The tasks in the Water Distribution Data Management project guide you through creating your own utility network using the provided schema and data loading options and setting up an enterprise environment. The solution also includes a [data dictionary](#) with descriptions of the features in the data model.

In this topic, you will learn how to use the solution to create and manage your water distribution utility network.

Use the instructions in the Water Distribution Data Management task to get started with the solution.

1. Sign in to your ArcGIS organization and browse to the **Water Distribution Data Management for ArcGIS Enterprise V1.1** item.
2. Open the item page and click **Download**.
3. Unzip and open the downloaded Water Distribution Data Management ArcGIS Pro project.
4. On the **View** tab, in the **Windows** group, click **Catalog Pane**.
5. In the **Catalog** pane, expand **Tasks** and double-click the task item.
6. In the **Tasks** pane, click the **Explore the Data Management Solution** task group to expand the collection of tasks.

Tip:

Click each group task heading and task to view a description at the bottom of the **Tasks** pane.

Each task group includes instructional steps for using the solution. Begin by exploring the contents of the project, tracing and editing workflows with sample data, or configuring the solution for your organization.

Explore the Data Management Solution

The data management solution is designed for organizations that want to experience a fully functional water distribution utility network. Explore common workflows with the sample data in the provided single user file utility network. Task-based workflows are also provided to create and model your own utility network to behave like a water distribution system in an enterprise environment. The solution also provides preconfigured maps for sharing data and editing data.

This task group includes the following tasks:

- Overview
- What's Included
- Review the Data Model
- Explore the Symbology and Data

[Back to top](#)

These tasks introduce the solution and walk through exploring the capabilities of the utility network.

Tracing and Analysis

Tracing is a key capability of the utility network. There are several core trace configurations that allow you to analyze your network.

This solution includes workflows for critical traces for water distribution utilities such as isolating a leak. The Isolate Leak task walks through identifying a leak location and running an isolation trace to determine which devices need to be closed in order to isolate the leak.

This task group includes the following task:

- Isolate Leak

Editing Workflows

Users are guided through editing workflows with the provided sample data. These workflows are designed to showcase common tasks while highlighting the capabilities of the utility network.

Note:

In the **Contents** pane, click the **List by Snapping** tab. Expand all feature classes to ensure snapping is checked for each asset group.

This task group includes the following tasks:

- Add Customer Service
- Add Fire Hydrant Service
- Create Cathodic Protection Zone
- Extend Distribution Pipe

Installing Implementation Prerequisites

After exploring the sample utility network, move on to building out a utility network for your own organization. Before getting started set up the environment with the necessary tools.

This task group includes the following tasks:

- Create a Python project environment
- Install Utility Network Package Tools
- Install Data Loading Tools

Configure Data Model for Implementation

The data model has been developed and curated over several years to reflect the latest capabilities of the utility network. This solution delivers the latest model which has been

developed specifically to support water distribution utilities to best manage their assets in a digital environment.

After exploring the solution, complete the following steps to remove the sample data and prepare the data model to manage your water distribution network.

This task group includes the following tasks:

- Project and Remove Sample Data
- Create Modification Tables (Optional)
- Loading Data (Optional)

Prototype in a Single User Environment

Creating a utility network that fits your organization's needs requires a solid understanding of your data, as well as the provided data model. We recommend starting out with a prototype to explore with your own data and adjust where necessary. When ready, move on to setting up and implementing your solution in ArcGIS Enterprise.

To learn more about the Attribute Rules included in the Water Distribution Data Management project, review the [Water Distribution Data Management Attribute Rules](#) document.

This task group includes the following tasks:

- Create File Geodatabase with Schema
- Adjust Attribute Rules
- Update Maps' Data Sources
- Reset Trace Location Feature Classes
- Adjust Maps
- Export Asset Package

Deploy Solution to an Enterprise Environment

These tasks are a guide to set up a utility network from start to finish. This includes creating an enterprise database, utility network, and sharing the final maps and services with your organization.

This task group includes the following tasks:

- Setup Enterprise Database
- Create Utility Network
- Apply Schema
- Adjust Attribute Rules
- Post Process
- Publish Services
- Update Subnetworks
- Update Maps Data Source to Feature Service
- Publish Web Map
- Reset Trace Location Feature Classes
- Adjust Maps

- Share with Organization

Wildlife Management

This solution documentation has been archived and is no longer updated. Content and links may be outdated.

Mature phase Nov 2023 - Oct 2025	Retired phase Nov 2025
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Introduction to Wildlife Management

Wildlife Management can be used to capture wildlife observations and monitor the status of wildlife populations in and around protected areas.

It streamlines wildlife field observations and the location-enabled wildlife observations help protected area managers evaluate the effectiveness of current wildlife management strategies. Monitoring wildlife observation information and trends derived from this information informs monitoring and protection plans developed for a protected area. Wildlife Management is typically implemented by conservation agencies that want to take a data-driven approach to managing wildlife populations.

The Wildlife Management solution delivers a set of capabilities that help you capture wildlife observations, monitor wildlife populations, and analyze trends in protected areas.

Requirements

Wildlife Management requires the following:

- ArcGIS Enterprise
- ArcGIS Survey123
- ArcGIS QuickCapture
- Survey123 Connect

Information products

Wildlife Management includes the following information products:

Item	Description	Minimum user type
Wildlife Observation Dashboard	An ArcGIS Dashboards app used by conservation staff to monitor the status of wildlife observations within and around protected areas	Viewer
Wildlife Observation Reporter	An ArcGIS Survey123 form used by conservation staff to collect wildlife observations	Field Worker

[Back to top](#)

Rapid Wildlife Reporter	An ArcGIS QuickCapture project used by conservation staff to collect wildlife observations	Field Worker
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When you deploy this solution in your ArcGIS organization, you also get an ArcGIS Solution item that organizes the key information products and summarizes all the ArcGIS items (applications, forms, projects, maps, feature layers, feature layer views, and so on) included with the solution. The ArcGIS Solution item also illustrates any dependencies items have on each other.

Release Notes

The following are the release notes:

Version	Description
1.0	<ul style="list-style-type: none">First release of Wildlife Management

Configure Wildlife Management

In this topic, you will learn how to configure the Wildlife Management solution to meet specific needs in your organization.

Load data

Wildlife Management can be used to capture wildlife observations and monitor the status of wildlife populations in and around protected areas. In some cases, you may have this information in ArcGIS or another business system already.

Review the layers provided with the solution and determine what source data you would like to load. Then, load your existing data into the layers provided with the ArcGIS Solution before sharing the maps or applications.

Once you have determined what source data must be loaded, complete the data loading workflow below.

Load data from a shapefile

Data for WildlifeObservations be loaded from a shapefile by following the steps below:

1. Create a .zip file of your shapefile.
2. In your ArcGIS organization, browse to the feature layer you wish to populate.
3. On the feature layer item details page, Click **Update Data** and select **Append Data to Layer**.
4. Under **Filename**, click **Choose File**.
5. Navigate to your .zip file and click **Open**.
6. Under **Contents**, select **Shapefile**.
7. Click **Upload and Continue**.
8. Choose the layer that you wish to load data into and the layer that contains the updated data.
9. Uncheck **Update existing features**.
10. Click **Show field matching** and map the fields between the two layers.
11. Click **Apply Updates**.

Tip:

To make additional updates to a hosted feature layer, see [Append data to layers](#).

Updating the animal list

Species diversity varies between protected areas, so it is critical for protected area staff to be able to configure the animal list within the Wildlife Management solution. In the following sections, we will highlight how protected area staff can configure the Wildlife Management solution to match local animal species.

Update the animal choice list in the Wildlife Observation Reporter

To update the animal choice list, complete the following steps:

1. [Download](#) and install Survey123 Connect.
2. Start Survey123 Connect and sign in to your ArcGIS organization.
3. Click on **Wildlife Observation Reporter** to download the survey.
4. Click on **Wildlife Observation Reporter** again to open the survey.
5. On the left panel, click **Open XLSForm Spreadsheet**. A Microsoft Excel spreadsheet will open.
6. In the Microsoft Excel spreadsheet, click on the **Choices** tab. This tab comprises all the selectable options for survey questions.
7. In the animal choice list, add or remove animal names and labels as needed.
8. **Save** the Microsoft Excel spreadsheet and preview your changes in the Form Preview tab of Survey123 Connect.
9. In Survey123 Connect, click **Publish** in the left panel to publish your changes.

Note:

The default animal list configuration comes with SVG graphics for each animal. If additional animals are added, you will need to add a new graphic for each additional animal to the media folder of the Wildlife Observation Reporter survey and list the file name of the new image in the image column of the XLSForm.

Update the animal attribute list in the WildlifeObservations feature layer

To update the animal attribute list in the WildlifeObservations feature layer, complete the following steps:

1. On the WildlifeObservations feature layer item page, click the **Data** tab and then click the **Fields** button.
2. Click the **Animal** field to open the field settings and click **Edit** under List of Values (Domain).
3. Remove all animals from the list using the **Delete** button and enter the Label and Code for each new animal.
4. When updates are complete, click **Save**.


Note:

The animal list in the WildlifeObservations feature layer must be identical (syntax and order) to the animal choice list you updated in the Wildlife Observation Reporter.

Update the Rapid Wildlife Reporter ArcGIS QuickCapture project

To update the Rapid Wildlife Reporter ArcGIS QuickCapture project, complete the following steps:

[Back to top](#)

1. Click the **Apps** button  and **Open** ArcGIS QuickCapture.
2. Click the **Edit** button on the Rapid Wildlife Reporter project.
3. To add new animal buttons:
 - a. Select an existing animal button, then click the **Copy** button in the button pane.
 - b. In the **Appearance** tab, update the **Label** of the new animal button with the animal name. Then remove the existing animal image and add your new animal image. Select an existing animal button, then click the **Copy** button in the button pane.
 - c. In the **Data** tab, select the new animal name from the **Animal choice list** dropdown. This will reflect the changes made to the WildlifeObservations feature layer.
4. To delete animal buttons, select the **Animal** button then click the **Delete** button in the button page. To delete multiple animal buttons at once, hold down the shift key and select the animal buttons.
5. To reorder animal buttons, simply drag and drop the animal buttons in the desired order.
6. When you are finished making updates, click **Save**.

Note:

After the updates are saved, field users will see an option to update the Rapid Wildlife Reporter project in the ArcGIS QuickCapture application. Selecting update will download the new project updates to their device.

Use Wildlife Management

The Wildlife Management solution delivers a set of capabilities that help you capture wildlife observations, monitor wildlife populations, and analyze trends in protected areas.

In this topic, you'll learn how to use the solution by assuming the role of a user and performing the workflows below.

Note:

Use your organization's data or configured apps to follow these workflows.

Collect wildlife observations

The Rapid Wildlife Reporter app can be used to quickly capture wildlife observations in the field using a simple big button interface. The Wildlife Observation Reporter app can be used to capture detailed wildlife counts, information about the health of observed animals, and photos of the observation. Both can be used on a mobile device in a connected or disconnected environment.

Collect rapid wildlife observations

You will start by assuming the role of a mobile worker in a protected area collecting observations of wildlife. You are asked to use the Rapid Wildlife Reporter app to collect rapid observations.

1. Download ArcGIS QuickCapture onto your mobile device.
2. In ArcGIS QuickCapture, open the Rapid Wildlife Reporter app.
3. Tap the image of the animal that you have observed.
4. For **Total Animals**, type the number of animals, and then click **Done**.
5. Repeat these steps to add additional animal observations.
6. After recording your observations, close the project.

Note:

By default, wildlife observations automatically send when your device is in connected mode. Before sending, you can click the **Map** button and view the wildlife observation locations on a map, and then, if necessary, you can adjust the location.

Collect detailed wildlife observations

You will start by assuming the role of a mobile worker in a protected area collecting observations of wildlife. You are asked to use the Wildlife Observation Reporter to collect detailed observations.

1. On a mobile device, in ArcGIS Survey123, open the Wildlife Observation Reporter form.
2. Tap **Collect**.
3. Complete the survey with as much information as possible.

[Back to top](#)

Note:

Required information is marked with a red asterisk.

4. Tap the check mark to submit the form, and then tap **Send now**.

Monitor wildlife observations

Now you will assume the role of a protected area manager. You will view wildlife observations throughout the protected area.

1. In a browser, sign in to your ArcGIS organization, and then browse to the Wildlife Management solution.
2. View the Wildlife Observation Dashboard app.
The Wildlife Observation Dashboard app opens with an overview of the current program status.
3. On the left, adjust the filters to refine the results.
4. On the right, select an observation from the list.
The map zooms to the location of the observation, and a pop-up with more information appears.
5. Review the observation details.