# CITY OF **MADISON**
# Map Standards

# Element Styling

Standards should be used for both applications and data layers. Symbolization should be specified in Arc Map when possible.

## Points

If there is only one size of point on the map, all points should use the **Standard** size. If multiple point sizes are required, or if smaller point sizes are required due to volume of data, points may use any sizes within the **Range**.

### Specifications

**Standard size**: 7.5pt  /  10px.

**Range of sizes**: 2.25pt – 15pt  /  3px – 20px.

**Fill color**: Select color from City of Madison brand colors. (Example: Blue.) *See Colors, pages 5–7.*

**Outline width**: 1px

**Outline color**: Dark version of fill color. (Example: Dark Blue.)

### Notes

- Use a standard circle shape.
- Only use icons or images for point data if the icon identifies unique information about the data point(s).
- Please contact the IT Web Team for new or existing icons: webadmin@cityofmadison.com
- Outline should always have low contrast with (be close in color to) the fill color.

### Exceptions

Appropriate exceptions to Point Style Guidelines include: Dot Density Maps.

Outline may be omitted if needed due to small point size.

## Lines

If there is only one stroke width on the map, all strokes should use the **Standard** width. If multiple stroke widths are required, or if smaller stroke widths are required due to volume of data, strokes may use any width within the **Range**.

If a map represents a range of values, the stroke width should not be the only feature that distinguishes between values. Use different colors, as well as different stroke widths, to indicate a range of values.

### Specifications

**Standard width**: 2.25pt  /  3px.

**Range of widths**: .75pt – 6pt  /  1px – 8px.

**Color**: Select color from City of Madison brand colors. *See Colors, pages 5–7.*

*Strokes & Points*

# Polygons

General rule: Outline define boundaries & borders; fills define area type. Datasets in which the boundary is the primary information should include an outline. Datasets in which the area type is the primary information should include a fill.

Styles listed are intended for feature layers. Reference layers may require different styling (i.e. lower opacity, no outline width).

## Option 1: Distinguish between regions or boundaries

*Example*: Neighborhood Associations, Residential Parking Permits

Outline should be the same color as the fill (outline at 100% opacity). *See Colors, pages 5–7.*

**Outline width**: 2.25pt / 3px.

**Fill**: Transparency 50%. Transparency may be raised to 70% if more basemap detail is needed.

## Option 2: Identify key regions

*Example*: UW-Campus, City of Madison Planning Boundaries

**Outline width**: 2.25pt / 3px.

**Fill**: None.

## Option 3: Identify information about a region

*Example*: Future Land Use, Yard Waste Collection

**Outline width**: 0px.

**Fill**: Transparency 50%. Transparency may be raised to 70% if more basemap detail is needed.

## Option 4: Identify key locations (roughly equivalent to a point)

*Example*: Parking Garages

**Outline width**: 0px.

**Fill**: May be transparent or opaque. If transparent, transparency: 50%.



*Option 1*



*Option 2*



*Option 3*



*Option 4*
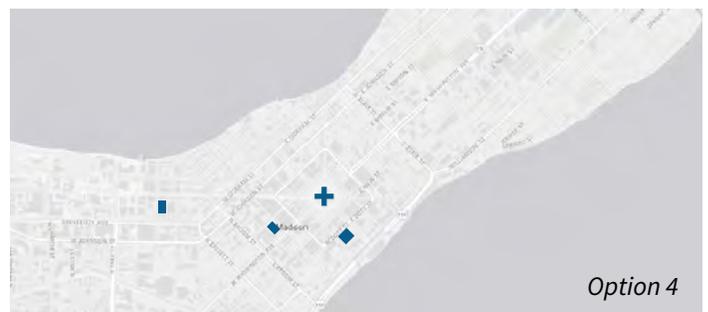
# Application Templates

## Theme

City of Madison Standard **Themes & Layouts**:

- Foldable Theme, Layout 1 (preferred)
- Foldable Theme, Layout 4
- Jewelry Box Theme, Layout 1

**Style**: #222222

## Basemap

Use the **Light Gray Canvas** basemap by default. Use other basemaps only when required by map content or purpose.

## Widgets

The following widgets should be available on every application, unless their inclusion would be redundant or would cause confusion due to the application's particular content or type. For example, a map that relies on an Aerial basemap to communicate information should not include the Basemap Gallery widget.

The focus should be on keeping maps as clean as possible.

### On-panel widgets

On-panel widgets should be placed in the **top right corner**, in the following order:

- About
- Legend
- *(Optional widgets)*
- Layer List
- Basemap Gallery

### Off-panel widgets

- Coordinate
- Home
- My Location
- Scalebar
- Search

### Optional widgets

Other widgets may be used if required by the application, but should be hidden by default if not required by the application. Optional widgets should be placed between "Legend" and "Layer List".

## Attribute

**Branding**: Add the City of Madison wordmark (remove the ArcGIS AGOL app icon). Add a title and subtitle as needed.

**Links**: A link to the Open Data portal should be included on every application with the link text "City of Madison Open Data". This should be the first link listed, if other links are included.



CITY OF **MADISON**  **Application Name**  City of Madison Open Data

| City of Madison wordmark | Application Name | link to Open Data | optional widgets | required widgets | required widgets |
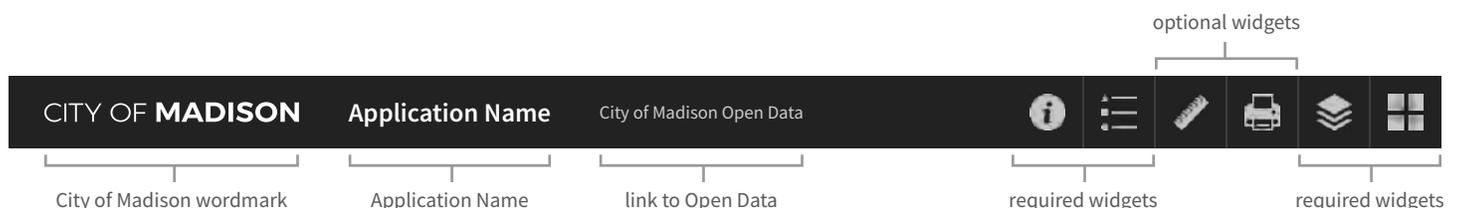
# Colors

## City of Madison Brand Colors

| | |
|---|---|
| 172, 29, 44 | |
| 141, 3, 30 | |

| | |
|---|---|
| 208, 83, 25 | |
| 162, 48, 12 | |

| | |
|---|---|
| 236, 161, 32 | |
| 217, 133, 34 | |

| | |
|---|---|
| 0, 102, 47 | |
| 0, 68, 29 | |

| | |
|---|---|
| 3, 98, 107 | |
| 0, 77, 84 | |

| | |
|---|---|
| 6, 93, 140 | |
| 4, 61, 91 | |

| | |
|---|---|
| 132, 3, 108 | |
| 88, 7, 73 | |

Use City of Madison brand colors as possible.

City of Madison brand colors should be used for story maps and similar applications.
Exceptions: If federal standards or other conventions are already in place, those conventions should be used. For example, use conventional colors for major land-use categories.

### Contextual Colors

When selecting colors for map elements, keep in mind the implications of using each color. For example, red typically indicates danger, warnings, or low quality. It would be appropriate to use red to indicate low quality pavement ratings, but not to indicate the location of parks.

### Land-use Categories

- Yellow: Residential, Single-family
- Orange (brown): Residential, Multi-family
- Red: Retail & Commercial
- Purple: Industrial
- Blue: Institutional & Public Facilities
- Green: Recreational
- Gray: Industrial Utilities

# Accessibility

All data that is communicated by color **must** also be provided on the map in another format. For example, in the Pavement Ratings application, pavement ratings are color coded, but a location's numerical pavement rating is also available as text in the pop-up window.

When possible, use color blind safe color schemes.

# Bright Color Scheme

Use these for maps using aerial or dark canvas basemaps. Purple/yellow/orange and blue/yellow/orange are colorblind safe.

| | |
|---|---|
| 255, 155, 223 | |
| 255, 0, 197 | |

| | |
|---|---|
| 223, 115, 255 | |
| 197, 0, 255 | |

| | |
|---|---|
| 115, 223, 255 | |
| 0, 197, 255 | |

| | |
|---|---|
| 115, 255, 163 | |
| 0, 255, 85 | |

| | |
|---|---|
| 223, 255, 115 | |
| 197, 255, 0 | |

| | |
|---|---|
| 255, 163, 115 | |
| 255, 85, 0 | |
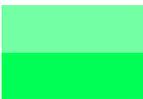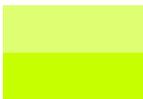
# Sample Color Schemes

Use these color schemes for simple data. It will not be possible to use these for highly complex maps that require a wide range of colors, like the Zoning map.

All color schemes listed are color blind safe, unless specified otherwise.

## Qualitative

Qualitative schemes represent categorical data, such as land use or voting district, where there is no relationship between values.

When possible, use one of the two Preferred color schemes.

The listed Acceptable color schemes may be possible, but difficult, to discern for some types of color blindness. Low contrast combinations include red/teal, red/purple, orange/yellow, orange/purple, and blue/purple.

### Preferred

172, 29, 44

236, 161, 32

6, 93, 140

236, 161, 32

0, 102, 47

132, 3, 108

### Acceptable

172, 29, 44
236, 161, 32
3, 98, 107

172, 29, 44
236, 161, 32
132, 3, 108

172, 29, 44
6, 93, 140
132, 3, 108

208, 83, 25
236, 161, 32
3, 98, 107

208, 83, 25
236, 161, 32
6, 93, 140

208, 83, 25
6, 93, 140
132, 3, 108

236, 161, 32
6, 93, 140
132, 3, 108

208, 83, 25
236, 161, 32
132, 3, 108

236, 161, 32
3, 98, 107
88, 7, 73
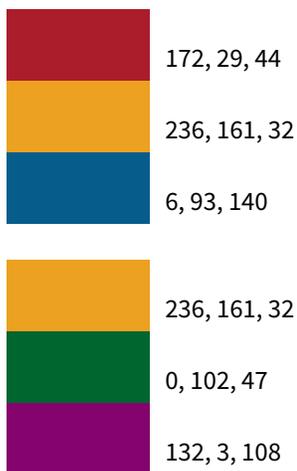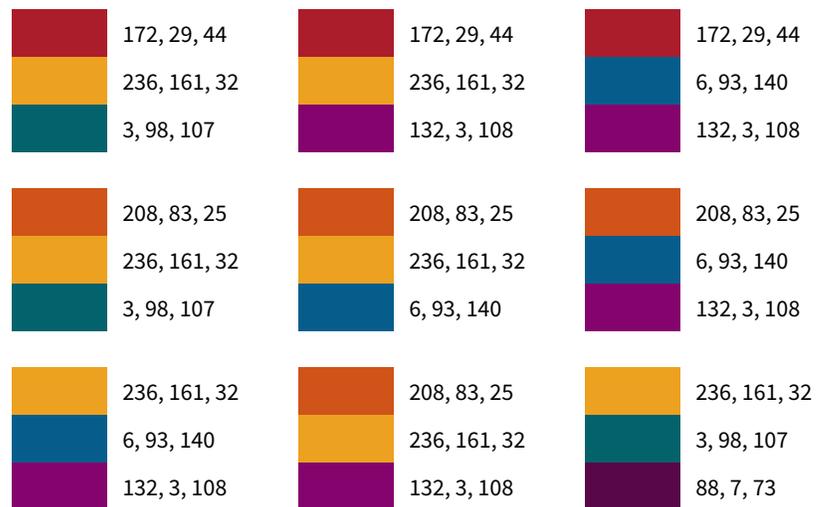
## Sequential

Sequential schemes order data from high to low. Sequential schemes are best if you are mapping quantitative data and do not want to focus on one particular range within your data.

172, 29, 44
195, 84, 81
215, 127, 121
232, 169, 164
245, 212, 208

208, 83, 25
225, 119, 71
238, 152, 115
248, 186, 160
254, 221, 207

236, 161, 32
245, 179, 85
252, 192, 128
255, 217, 170
255, 236, 214

0, 102, 47
68, 131, 85
115, 161, 124
161, 192, 167
207, 223, 210

3, 98, 107
72, 127, 135
118, 158, 164
163, 189, 193
208, 222, 224

6, 93, 140
76, 123, 163
121, 156, 186
163, 189, 209
205, 223, 233

132, 3, 108
159, 71, 136
184, 117, 164
209, 162, 194
233, 208, 224
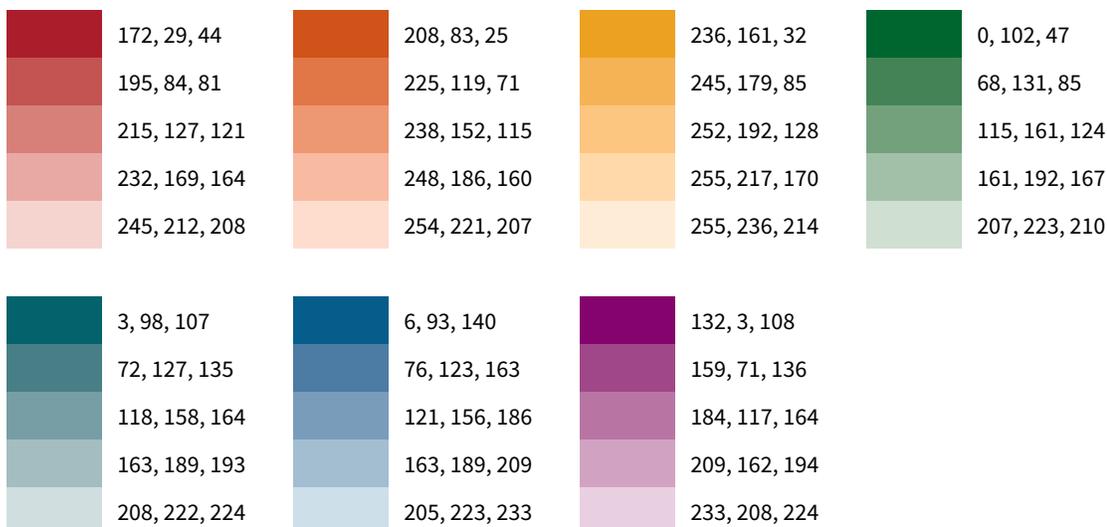
# Diverging

Diverging schemes emphasize the middle range of data. These schemes highlight both high and low extreme values, or values that differ significantly from the norm.

These diverging schemes are constructed using the first, third and fifth values for each sequential scheme. Any other values from the sequential schemes may be used if more values are required.

Lower contrast combinations include red/teal, red/purple, orange/yellow, orange/purple, and blue/purple.

| Red/Blue | Red/Yellow | Orange/Teal | Orange/Blue | Yellow/Green |
|---|---|---|---|---|
| 172, 29, 44 | 172, 29, 44 | 208, 83, 25 | 208, 83, 25 | 236, 161, 32 |
| 215, 127, 121 | 215, 127, 121 | 238, 152, 115 | 238, 152, 115 | 252, 192, 128 |
| 245, 212, 208 | 245, 212, 208 | 254, 221, 207 | 254, 221, 207 | 255, 236, 214 |
| 245, 245, 245 | 245, 245, 245 | 245, 245, 245 | 245, 245, 245 | 245, 245, 245 |
| 205, 223, 233 | 255, 236, 214 | 208, 222, 224 | 205, 223, 233 | 207, 223, 210 |
| 121, 156, 186 | 252, 192, 128 | 118, 158, 164 | 121, 156, 186 | 115, 161, 124 |
| 6, 93, 140 | 236, 161, 32 | 3, 98, 107 | 6, 93, 140 | 0, 102, 47 |

| Yellow/Teal | Yellow/Blue | Yellow/Purple | Green/Purple |
|---|---|---|---|
| 236, 161, 32 | 236, 161, 32 | 236, 161, 32 | 0, 102, 47 |
| 252, 192, 128 | 252, 192, 128 | 252, 192, 128 | 115, 161, 124 |
| 255, 236, 214 | 255, 236, 214 | 255, 236, 214 | 207, 223, 210 |
| 245, 245, 245 | 245, 245, 245 | 245, 245, 245 | 245, 245, 245 |
| 208, 222, 224 | 205, 223, 233 | 233, 208, 224 | 233, 208, 224 |
| 118, 158, 164 | 121, 156, 186 | 184, 117, 164 | 184, 117, 164 |
| 3, 98, 107 | 6, 93, 140 | 132, 3, 108 | 132, 3, 108 |

## Spectral

Three spectral color schemes are available, with varying support for color blind viewing. Please note that the third option is **not** color blind safe, and its use should be avoided if possible.

| | | |
|---|---|---|
| 172, 29, 44 | 172, 29, 44 | 172, 29, 44 |
| 217, 115, 15 | 208, 83, 25 | 208, 83, 25 |
| 245, 179, 85 | 236, 161, 32 | 236, 161, 32 |
| 72, 127, 135 | 72, 127, 135 | 0, 102, 47 |
| 4, 61, 91 | 4, 61, 91 | 4, 61, 91 |
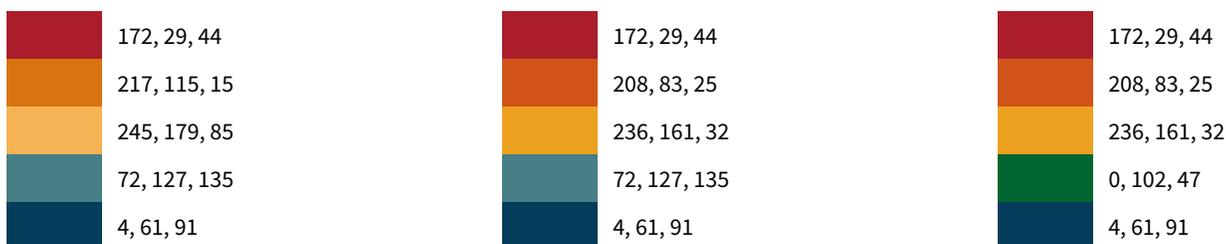
Provides five distinct values largely discernible by all types of color blindness.

Provides a recognizable gradation of values, but should not be used for qualitative data.

Not color blind safe; avoid using if possible.

# Resources

**Vision Simulator**: Test custom color schemes for color blind safety. http://asada.tukusi.ne.jp/webCVS/index.html

**Contrast Checker**: Evaluate text/background contrast for accessibility. http://webaim.org/resources/contrastchecker/

**Color Scale**: Generate a range of color values. http://gka.github.io/palettes/#colors=#f5f5f5,#03626b|steps=5|bez=1|coL=1

# Configuration & Metadata

## Content Location

**Map Image Layers** should be on the Open Data portal, if published and shared (optional).

**Web Maps** should be on the Open Data portal, if published and shared (optional).

**Web Mapping Applications** should be on the Map Applications (prev. Map Data) portal.

## Map Extent

- **Option 1**: Dane County. For County-wide data.
- **Option 2**: City of Madison. For City-wide data.
- **Option 3**: Isthmus; Randall @ Regent to Riverside & Yahara. For City-wide data that requires a close zoom.
  *Example*: Parking meters, Property Lookup.
- **Option 4**: Custom. For data centered around a single, non-isthmus location ONLY.
  *Example*: A map of a specific road project, or of a specific City facility.

## Naming Conventions

The title is the most prominent identifier of a dataset. This means that the title must clearly describe the content and distinguish it from other related datasets.

- Title must be unique among City datasets.
  *Example*: The title "Planning Boundaries" could apply to City Planning Boundaries, or to MPO Planning Boundaries. More specific titles, like "City Planning Boundaries" or "MPO Planning Boundaries," provide unique identifiers.
- Title must be user-readable.
- Do not include versioning information.
- Do not include year, unless the year is key to understanding the application or data.
- Avoid abbreviations when possible.

## Thumbnails (for Map Applications)

All applications must have a thumbnail, which should follow one of the two following guidelines:

**Photo**

- Thumbnail should not include any logo.
- Thumbnail may include text, so long as text is readable over the image.
- No background colors or any other shapes should be used.

**Map Screenshot**

- Thumbnail should not include any logo.
- Thumbnail should not include any text.
- No background colors or any other shapes should be used.

## Cross-Referencing

Always link between a data Feature Layer and the corresponding Map Application.

On the Application, link to the Open Data Portal as specified under *Application Templates, page 4.*

On the Feature Layer, link to the Application using the following text:

> This data layer is used by the _____ application.

# Metadata Fields

Select "FGDC CSDGM Metadata" for the Metadata Style.

| Field | Purpose |
|---|---|
| **Tags** | See "Categorization & Tagging," page 10 |
| **Summary (Purpose)** | A brief sentence overview of the dataset. |
| **Description (Abstract)** | A few sentences providing more detailed information about the dataset and its intended uses. If relevant, the description should also identify the type of dataset (Map Image Layer vs. Web Map). |
| **Topics & Keywords** | Select any relevant ArcGIS categories. |
| **Credits** | Include the name of the owning agency. |
| **Access Constraints** | Enter text: "See City of Madison Data Policy", linking to www.cityofmadison.com/policy/data |
| **Use Constraints** | Optional. If relevent, enter specific use constraints pertaining to the data layer. |
| **Points of Contact** | Enter a minimum of one contact, which will be used to determine who to contact with questions. You can add multiple Contacts and set a role for each. |
| **Attributes** | For each field, enter Field Name, Alias and Definition. Field Name and Alias are auto-populated, but may need to be edited to be user-readable. |
| **Progress/Status** | Open Data should always be marked as "Completed" prior to publishing. |
| **Update Frequency** | Select the update frequency. Avoid using "As Needed" if possible; specify an estimate. Use Custom Frequency if needed. |
| **Next Update** | Enter if known. |
| **Last Updated** | Enter the date the data was last updated. This is used to identify datasets that are regularly updated, and as a measure of data reliability. |

# Categorization & Tagging

## Global Tags

All datasets should be tagged with any applicable location information: "City of Madison", "Dane County", "Wisconsin".

The owning agency should be identified with a tag formatted as: "COM: Agency Name". For example, "COM: Parks".

## Categories

All datasets and maps should be tagged with one of the eight City data categories. Web Apps should also be added to the appropriate Category Group on the Map Applications Portal.

## Content Tags

In addition to the Global Tags and Category Tags, datasets should be tagged with any relevant City of Madison Standardized Tags.

Datasets may be tagged with any tags outside of the City of Madison standardized tags, as desired by the owning agency.

# City of Madison Standardized Tags

| Category Tags | Other Tags | | Examples |
|---|---|---|---|
| **Boundaries** | MPO Boundaries<br>City Boundaries<br>County Boundaries<br>Federal & State Boundaries | | *Neighborhood Associations, Aldermanic Districts, Voting Districts, Lakes & Rivers, MPO Boundary, COM Boundary, Historic Districts, RP3, Subdivisions* |
| **City Facilities & Infrastructure** | Parks<br>Stormwater & Sewer<br>Water | | *Police Stations, Fire Hydrants, Bike Paths, Metro Facilities, Metro Transfer Points, Medians, Garages & Lots, Libraries, Olbrich, Zoo, Parks, Solar Panels, Water Mains* |
| **Effective Government** | Elections<br>Permits<br>Assessments<br>Inspections | Licenses<br>Code Violations<br>Ratings | *Voting Districts, Voter Turnout, Polling Places, Pavement Ratings, Tree Assessments, Restaurant Inspections, Building Permits* |
| **Health & Public Safety** | | | *Fire Hydrants, Police Stations, Fire Stations* |
| **Neighborhoods & Property** | | | *Tax Parcels, Fire Stations, Libraries, Polling Places, Local Landmarks, Platted Lots* |
| **Projects & Plans** | Planning<br>Budget<br>Comprehensive Plan | Zoning<br>MPO | *Capital Improvement Plan, TIP Roadways, Generalized Future Land Use, Urban Design Districts* |
| **Sustainability** | | | *Solar Panels, EAB, Street Trees, Stormwater* |
| **Transportation** | Metro Transit<br>Walking<br>Roadways<br>Pavement<br>Construction<br>Transportation Improvement Program<br>Transportation Analysis Zone | Biking<br>Parking<br>Traffic<br>Sidewalk<br>Bus Rapid Transit | *Bike Paths, Metro Facilities, Metro Transfer Points, TIP Roadways, Park & Ride locations, Bus Routes, Bus Stops, Street Centerlines, Railroads, Medians, Garages & Lots, RP3, Pavement Ratings* |

# Roles

## Data Coordinator

The Data Coordinator will:

- Create and interpret policy regarding open data.
- Provide support to departmental staff contributions to the open data portal.
- Support ongoing efforts to develop a catalog of datasets to be made public.
- Monitor and respond to comments on public datasets.
- Monitor and track the rollout of public datasets.
- Ensure that appropriate processes are in place to exclud private, confidential or proprietary data.
- Coordinate outreach efforts to the public.

## IT GIS Team

The IT ArcGIS Team will:

- Review maps to adhere to map standards.
- Review maps to adhere to ESRI best practices.
- Review the organization of data.
- Publish new datasets.
- Train new users to use ArcGIS software.
- Manage permissions & accounts.

## AGOL Publishers

The GIS Technical Team will:

- Work within their departments to build datasets and applications.
- Provide feedback to Information Technology about system enhancements.
- Work with IT Web Team on map presentation/standards and IT GIS Team for best practices determination, especially if deviations from map standards are needed.

## IT Web Team

The IT Web Team will:

- Review maps to adhere to map standards.
- Support map application and story map development.
- Provide support to optimize user interface and user experience.


With questions about ArcGIS or City of Madison maps and data, please contact the IT ArcGIS Team at itgis@cityofmadison.com.

To explore mapping technologies, join the GIS Learning Lab. For more information, contact itgis@cityofmadison.com.

With questions regarding the contents of this manual, please contact the IT Web Team at webadmin@cityofmadison.com.

*This manual was compiled by the City of Madison IT GIS Team, IT Web Team, Data Coordinator, and AGOL Publishers.*

*Last updated Feb. 1, 2019.*