 MnDOT’s AGOL Best Practices & Governance

What: MnMap is a storefront showing GIS applications from multiple Business units and/or Districts. This will help move data out of the silos and will respond to the reality of the customer needs within the business and districts. This will also promote projects internally and externally to transfer information to the next generation with the ability to view on mobile devices (ipad, iphone, android, etc.).

Where: <http://mndot.maps.arcgis.com/home/index.html>

Overview of MnDOT Internal best practices:

* Each Business unit Publisher would need to adhere to all current Mn.IT@DOT policies and governance.
* Any single datasets that have over 1000 features (ArcGIS online limit) needs to have their data in a GIS service. Please work with MN.IT@DOT services to get a service created.
* For operational or time dependent data needs, small vector data (under 1000 features) can be uploaded as a zipped shape file (.shp) until it can be available in a GIS service. Before any data can be uploaded to the cloud check all sources first to make sure this data is NOT available anywhere else, such as in the Spatial Data Warehouse or in a GIS service. Please consult with MN.IT@DOT services if you have questions.
* A basic set of metadata is required for all services published through AGOL. Refer to the ‘Guidelines for publishing maps to ArcGIS online’ below.
* If route event data/conversion is needed, pre-process the data with the [Route Location Converter Tool](http://rlc.dot.state.mn.us:8080/rlc/) before uploading. Locally go to: <http://rlc>
* A MnDOT Administrator would need to approve the map and data before being published outside their respective group and into the public domain. This group will verify it is public data and that it meets certain internal standards before publishing into a public domain application. Once approved the app will be moved from your account to the Official MnDOT account and get tagged as coming from an authoritative source.
* No usage of premium services will be allowed! (large geocoding datasets, large raster or tiled datasets, no hosted imagery, etc.)

Data publishing

Sharing AGOL Services “Publishing” to AGOL is a multistep process and an AGOL service is not completely published until it is shared. There are three levels of sharing within AGOL:

1. Everyone (public) – Everyone in the world can see the data/maps. This level is primarily how we share production-ready services in AGOL.

 2. Minnesota Department of Transportation – Only users who are members of the organization can see the data/maps.

3. Specific Groups – Only users who are members of the group can see the data/maps; even if they are members of the Organization.

Roles**:**

Administrator– Responsible for the administration of MnMap, account usage and the operation of the public facing maps and applications.

Public Interface - Responsible for publishing and maintaining the Web page and applications.

Data management – Responsible for reviewing all data that is published and shared.

Administration - Responsible for management of licenses, group security and credit usage. In charge of publishing web applications, map services, feature services and shapefiles for public use. Work with MN.IT Services to create and prioritize GIS services internally using ArcServer for those larger datasets.

Publisher – Will help identify shared services/data that the GIS Unit should publish and coordinate publishing of data shared by multiple business units or groups with the district/office partner. The publisher will communicate with data owners to publish web applications from their respective office/district.

Subscribed User – The user will have the ability to create maps and share the maps with their group.

Viewer – This would be anyone who doesn’t have an actual log-in to AGOL.

Publishing Tips

*Important:* If data/maps are not shared to the “Public,” a user must be registered with the Organization to view them. Remember, other publishers and users may use your feature services in their maps. So metadata can be very useful in communicating proper use of the published information. *Tip:* You may want to get into the habit of reviewing how others are using your feature services to ensure they are used correctly. *Metadata:* Make sure your metadata is ready before you begin the publishing process. You can add metadata after the service is published, but having it ready when publishing ensures everything happens together.

All data that is officially published for public sharing, will have the owner/creator transfer the map or application from the individual to the official MnDOT Reviewers group, where the Authoritative Source can publish the application. All maps officially published on MnMap will be published by one of the established key publishing groups for which publishing authority has been determined. The key publishing group members will insure that the Department’s standard published mapping and application rules and governance have been adhered.

ArcGIS Online services and applications can be created with data published locally by the organization, data hosted by a third-party or data published to ESRI and hosted remotely.

Data hosted by ESRI exists within a distributed multi-tenant environment.  MnDOT retains ownership of published data. Published data can be downloaded in either its original published form or with changes made while in service. Data can also be deleted leaving nothing in the hosting environment.

Since MnDOT has an ArcGIS Server infrastructure, we recommend data be hosted locally. Locally hosted data allows more direct control over the security of the data than the remotely hosted model. Again, please work with MN.IT services to get your data hosted in a service.

Guidelines for publishing maps to ArcGIS online:

* Metadata is required for all web maps and applications, period! (Details page)
* Titles should be short, easily distinguished, and accurately describes the map/application.
* The summary sentence should describe the map and data
* The map description should be a paragraph that explains the map or app purpose. It should also describe the presented data; the reason for the data and include a general description of the collected data accuracy.
* Fill out the summary, description and Access and Use Constraints for the map or application. The MnDOT Maps and related data disclaimer must be included in all published maps and apps (located in the Data Use Disclaimer below).
* Tags – Key words that help people search for your map/application. For example (construction, MnDOT, roads) are good tags to use for a road construction application.
* Credits – Please give credit to any services you are using or data from other organizations.
* Replace the default thumbnail for the gallery display with a photo or screenshot of the map. Images should be 200px by 133px, PNG, GIF, or JPEG.
* New versions of existing AGOL maps should be published with a “\_V#” suffix. Maps should be versioned when changes will break applications using the map. i.e. field name changes, removing feature classes, altering the current service functionality (ArcGIS for Server).
* Labels should be readable on a variety of base maps. Use a mask (halo) as necessary.
* Symbology should be clear on a variety of base maps. Use appropriate colors, shading and transparency.
* Set scale dependency for all layers, symbology and labeling.
* Popups should be configured to remove unnecessary field data and alternative names should be used to replace unclear field names.

*Maps and applications that do not meet these guidelines should not be shared with the public.*

* Data should use a projection of Web Mercator (WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere). This will prevent on-the-fly reprojection of data, slowing down the map.
* Data should be preprocessed for publishing with speedy performance in mind. This includes generalizing polygons and line work as appropriate and creating feature classes for targeted purposes (i.e. Small, medium and large lake files)
* If there are many unused fields in the feature class they should be removed.
* Feature classes should have user friendly names as they are exposed through REST.

Credit Management

The 6,000 credits are a part of a negotiated package so they don’t have a direct cost.

\* MnDOT will track the credit usage of each Group after the first year of usage. After the first year each District/Group will be charged what they consume/use. (Additional credits are 10 cents ea.)

\* Service Credits Estimator: <http://www.esri.com/software/arcgis/arcgisonline/credits/estimator>

Data Use Disclaimer

**Maps and related data**

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Training

ArcGIS Online getting started video:

<http://resources.arcgis.com/en/help/arcgisonline/index.html#/Videos/010q00000003000000/>