

## Minnesota Geospatial Advisory Council Archiving Workgroup Priority Datasets Subgroup Report

The Priority Datasets Subgroup (the “Subgroup”) was charged with creating a list of priority data layer themes to focus on for archiving purposes.

### Methods

The Subgroup first examined the results of the Minnesota Geospatial Advisory Council Archiving Workgroup’s [2018 Public Geospatial Data Archive Survey](#) (the “Survey”). These results were then weighed against known data availability to produce a report of recommendations by priority.

### Summary of Recommendations

#### Sources

The scope of the Archiving Workgroup is restricted to free and open data, which is generally produced by state agencies, counties, or municipalities. When known, specific agencies are cited in this report as sources for data layers.

#### Temporal

Although GIS data may be updated continuously or at frequent intervals, this Subgroup recommends a maximum of annual snapshots for most datasets. This applies retroactively to previous versions, as well as future published datasets.

#### Geographic Extent

GIS data is often aggregated from smaller units of government or various organizations into statewide layers. In most cases, the combined statewide extent is the preferred layer to archive. However, as the aggregation process can result in data loss, both the individual datasets and the statewide layer should be preserved. At this stage, the Subgroup only identified Parcels as datasets to be archived at both the county and state levels.

#### Historical legacy formats

For selected data layer themes, the historical record of the data in the form of paper maps should be scanned and archived as high quality images, with the potential to be digitized into vector files. Legacy data formats that have been or will soon be deprecated, such as coverage files, should be migrated into formats that will continue to have future technology support.

#### Inconclusive findings

Three data layer themes, Aerial Photography and Imagery, LiDAR, and Land Use & Landcover were identified as having Highest or High priority. However, they require further research to determine their geographic and temporal scopes. Some data layer themes received several votes on the Survey, but this Subgroup deemed them Low priority at this time due to their inconsistent or low levels of availability.

## Data Layer Themes

### Highest Priority - Requires Further Research

#### Aerial Photography and Imagery

The overwhelming consensus from the Survey was that aerial photography and imagery is the most important type of data to archive. The Subgroup identified and discussed several specific historical sets of imagery that would be good candidates to prioritize, because they were either scheduled for deprecation, or only available on old physical storage media, such as film or CDs.

Because of the variability in geography, dates, and formats, the Subgroup recommends that a dedicated group research the availability of aerial imagery across Minnesota to determine an overall scope for what should be archived.

### High Priority - Known Availability

#### Parcels

Parcel datasets ranked second in the Survey. Counties are responsible for producing tax parcel data for the Minnesota Department of Revenue, and county data in the Metropolitan Council area is aggregated into a regional layer. Since the aggregation process can result in data loss, the Subgroup recommends that both the individual county dataset and the aggregated layer should be archived. The recommended frequency is annual.

#### Address Points

Address points datasets are created by cities and counties for a variety of purposes. This data is also collected and aggregated by the Department of Public Safety for the Next Generation 9-1-1 project. The Subgroup recommends that a statewide layer of these should be archived annually.

#### Road Centerlines

Road centerline data is created by counties. Like address points, road centerlines are mandated by the Next Generation 9-1-1 project. The Minnesota Department of Transportation has been creating state-wide Road Centerline shapefile beginning 2009. The Subgroup recommends that a statewide layer should be archived annually.

In addition, maps published by the Department of Transportation dating back to 1936 should be scanned and archived as images.

## High Priority - Requires Further Research

### LiDAR

This Subgroup agrees that archiving raw LiDAR LAS files is more important than the derivative formats. However, these files require a large amount of storage and processing time for access. Derivative products, such as Hydro-DEMs & Digital Dam Breaklines, may be useful to include. The Archiving Workgroup should consult with the 3d Geomatics Committee for archiving strategies and scope.

### Land Use & Landcover

These related themes received the third and fourth highest votes in the Survey. However, this kind of data may have been produced intermittently for special projects and much of it is historical on paper maps. An inventory will need to be conducted to determine the full scope of resources suitable for archiving.

## Medium Priority

### Hydrography

The Public Waters Inventory Maps, hydrological centerlines, and basins of record published by the Minnesota Department of Natural Resources should be archived annually.

Historical scanned versions of the Public Waters Inventory maps should be archived as high quality images.

### Pollution Sources

Data layers on pollution sources and impacted areas as published by the Minnesota Pollution Control Agency should be archived annually.

### Parks and Trails

Minnesota Department of Natural Resources publishes Managed Areas data layers that should be archived annually. Their historic Public Recreation Inventory Maps (PRIM) should be scanned and archived as well.

### Natural Resources - Geology and Biota

The Subgroup identified geology data from the Minnesota Geological Survey and biota data from the Minnesota Biological Survey as priorities. This data may not be created or updated frequently, and should be archived only when major changes are published.

### Permits

Permits from several state agencies, including the Department of Natural Resources, the Pollution Control Agency, and the Department of Agriculture should be archived annually.

## **Administrative Boundaries**

There are numerous forms of boundary datasets, including counties, municipalities, school districts, and legislative districts.

The Department of Transportation maintains the City, Township, and Unorganized Territory (CTU) Boundaries shapefile. It is updated quarterly, but it should be archived annually. The Legislative Coordinating Commission issues datasets of legislative and congressional districts. These should be archived when changes are made or redistricting occurs. The Department of Education creates datasets of school districts and attendance areas, and these should be archived annually.

This theme was not included in the Survey. However, the Subgroup identified it as an important group of datasets to include in an archive.

## **Low Priority**

### **Utilities**

This data is often private and/or proprietary, limiting its availability. However, when a utility is managed by a public entity, such as a municipality, it may be suitable for archiving.

### **Zoning**

This data is created locally at the county or city level. However, it is not systematically produced across Minnesota. If the data is available, it should be archived.

### **Stormwater**

Stormwater data is created at the local level by a variety of organizations, including cities, counties and watershed districts. Currently the standardization and sharing of this data is in its infancy in Minnesota. A MetroGIS group is working toward a pilot standard. As this effort matures, we will eventually have regional stormwater data for the metro, and hopefully statewide data one day. This should be reevaluated as data become available.

### Chart of Dataset Priority Recommendations

| Theme  | Priority | Temporal | Geographic extent      | Include digitized historical resources |
|--|----------|----------|------------------------|--|
| <b>Aerial Photography and Imagery</b>          | Highest  | Variable | Variable               | X                                      |
| <b>Parcels</b>                                 | High     | Annual   | County, State          |  |
| <b>Address Points</b>                          | High     | Annual   | County, State          |  |
| <b>Road Centerlines</b>                        | High     | Annual   | County, State          | X                                      |
| <b>LiDAR</b>                                   | High     | Variable | Variable               |  |
| <b>Land Use and Landcover</b>                  | High     | Variable | State                  | X                                      |
| <b>Hydrography</b>                             | Medium   | Annual   | State                  | X                                      |
| <b>Pollution Sources</b>                       | Medium   | Annual   | State                  |  |
| <b>Parks and Trails</b>                        | Medium   | Annual   | State                  | X                                      |
| <b>Natural Resources - Geology &amp; Biota</b> | Medium   | Variable | County, State          | X                                      |
| <b>Administrative Boundaries</b>               | Medium   | Variable | State                  | X                                      |
| <b>Permits</b>                                 | Medium   | Annual   | State                  |  |
| <b>Utilities</b>                               | Low      | Annual   | Service extent         |  |
| <b>Zoning</b>                                  | Low      | Annual   | County or Municipality |  |
| <b>Stormwater</b>                              | Low      | Annual   | County or Municipality |  |

**Chart of 2018 Survey Sample ([see full report](#))**

| Question 1: Answer Choices              | Responses | Percentage |
|---|-----------|------------|
| Aerial Photos & Imagery                 | 71        | 80.68%     |
| Parcels                                 | 49        | 55.68%     |
| Land Use                                | 38        | 43.18%     |
| Landcover                               | 33        | 37.50%     |
| LiDAR                                   | 30        | 34.09%     |
| Centerlines (e.g., streets/roads proxy) | 29        | 32.95%     |
| Address Points                          | 28        | 31.81%     |
| Hydrography                             | 27        | 30.68%     |
| Natural Resources                       | 26        | 29.54%     |
| Pollution Sources                       | 22        | 25.00%     |
| Permits                                 | 16        | 18.18%     |
| Zoning                                  | 15        | 17.05%     |
| Parks & Trails                          | 14        | 15.90%     |
| Utilities                               | 13        | 14.77%     |
| Stormwater                              | 11        | 12.50%     |
| Other (please specify)                  | 5         | 5.68%      |
| None                                    | 1         | 1.14%      |

“Priority Datasets Subgroup Report 2019”

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On behalf of the Geospatial Advisory Council, Archiving Workgroup

For more information please contact the Archiving Workgroup Chair:

Ryan Mattke

Map & Geospatial Information Librarian

Head, John R. Borchert Map Library

Adjunct Faculty, MGIS Program

Project Lead, Big Ten Academic Alliance Geospatial Data Project

Co-Director, Mapping Prejudice Project

Phone: 612.624.5757

Web: <http://www.lib.umn.edu/borchert>

ORCID: <http://orcid.org/0000-0001-8816-9289>