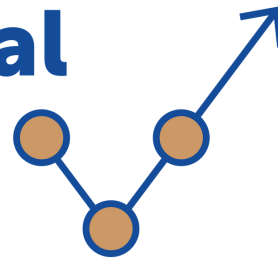




# Geospatial Maturity ASSESSMENT



## Contact Information (Section 1 of 12)

### Name

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### Agency/Organization Name

MassGIS/Executive Office of Technology and Security Services

### State

Massachusetts

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## Coordination (Section 2 of 12)

### A. GIS Program Support

1. Does your state have a GIO? (pick one)

Yes - official statewide GIS coordinator (not officially called GIO, but authorized to perform statewide coordination work on a full-time basis)

2. To whom does the GIO directly report? (pick one)

State CIO or other manager in the CIO's office

3. What abilities does the GIO have? (choose all that apply)

- Influence on state and federal policy issues affecting the GIS community
- Input to budget and financial matters affecting the state GIS office
- Input over technology used at the state enterprise level
- Control over state-wide GIS data standards
- Coordinate activities across levels of government and within state government

#### B. Support for Coordination

1. What authorization exists for the GIO/coordination position? (pick one)

Statute

2. How is the GIO office funded? (choose all that apply)

- Agency services

3. Is the GIO office able to accept "soft" money such as grants, fees for service, etc.? (pick one)

Yes

4. Does the GIO have a full-time professional staff that works on the ongoing programs of the office? (pick one)

Yes

#### C. Implementation

1. Does your state have a clearinghouse? (pick one)

Yes

2. Does your state have a strategic plan for GIS? (pick one)

Yes, but more than 10 years old

3. Does your state have an active GIS coordinating council that meets at least 4 times a year? (pick one)

No

#### D. URL and Website Information

1. Enter the complete URL for your State GIS Data Clearinghouse website. (Include http:// or https://)

<https://www.mass.gov/info-details/massgis-data-layers>

2. Enter the complete URL for your State's GIO office website. (Include http:// or https://)

<https://www.mass.gov/orgs/massgis-bureau-of-geographic-information>

Next Generation 9-1-1 (NG9-1-1) (Section 3 of 12)

1. Is there an effort in your state to coordinate the development, normalization, aggregation, and/or distribution of GIS data in support of NG9-1-1? (pick one)

Yes

2. Is there a state GIS coordinating body assigned with the responsibility for GIS data readiness for NG9-1-1? (pick one)

Yes

3. Is there a relationship between the state GIS office or coordinating body and state 9-1-1 coordinating body? (pick one)

Formal – GIS coordinating body is included in state 9-1-1 coordinating body

4. Is the development, normalization, aggregation, and/or distribution of GIS datasets required for NG9-1-1 funded? (pick one)

Yes

5. Are there processes in place to normalize and aggregate authoritative GIS datasets required for NG9-1-1 to statewide datasets? (pick one)

Yes

5a. Is the designated aggregator public or private? (pick one)

Public

5b. Do data sharing agreements exist with authoritative data providers to support statewide data aggregation? (pick one)

Data sharing agreements are unnecessary

Road Centerlines

NENA

Site/Structure Address Points

NENA

PSAP Boundaries

NENA

Service Boundaries (law/fire/EMS)

NENA

Provisioning Boundaries

NENA

7. Do you have a consistent update cycle for ensuring that the statewide GIS datasets required for NG9-1-1 are as current as possible? (choose all that apply)

- Road Centerlines
- Site/Structure Address Points
- PSAP Boundaries
- Service Boundaries (law/fire/EMS)
- Provisioning Boundaries

8. Please identify the data comparisons or assessments that you apply to your data: (choose all that apply)

- Comparison between GIS data and MSAG/ALI data
- Boundaries checked for unintended gaps and overlaps
- Minimum required attributes are present and compliant with NENA standard
- Address Points to Road Centerlines

Road Centerlines (enter %)

90-100%

Site/Structure Address Points (enter %)

90-100%

PSAP Boundaries (enter %)

90-100%

Service Boundaries - Law Enforcement (enter %)

90-100%

Service Boundaries - Fire (enter %)

90-100%

Service Boundaries - EMS (enter %)

90-100%

10. Which of the following statewide GIS datasets are publicly available? (choose all that apply)

- Road Centerlines
- Site/Structure Address Points
- PSAP Boundaries
- Service Boundaries (law/fire/EMS)
- Provisioning Boundaries

11. Are 9-1-1 calls in your state being spatially routed to the PSAP over an ESInet using Next Generation Core Services (NGCS) and the Emergency Call Routing Function (ECRF)? (pick one)

Yes, statewide

12. Is there any inter-state NG9-1-1 GIS coordination (ex: boundaries alignment)? (pick one)

Yes (Specify)

Please describe:

We coordinate with our counterparts in adjacent states on these issues.

1. Does your office have a formal relationship (statute, administrative rule, formal agreement for services, or a standing coordination meeting) with your State's Election Director? (pick one)

No

2. Does your state manage or have easy access to an accurate, current statewide voting precinct boundary layer? (pick one) (Please note, that accuracy in this question means two things. First, accuracy indicates that the layer contains all of the most recent precinct boundary polygons. Second, accuracy also means that all the layers of information needed to do any election data management are in the right projection and at the appropriate scale.)

Yes

If so, which statement best describes the precinct boundaries layer? (pick one)

The precinct boundaries are updated as changes are made

3. Does your state use and maintain a state or commercial geocoding web service to locate voter addresses and voters? (pick one)

No

4. Does your state have an audit process for precinct assignments within its election database? (pick one)

No

Address data creation and maintenance (pick one)

No

District data creation and maintenance (pick one)

Yes

Precinct data creation and maintenance (pick one)

Yes

Civic boundary data creation and maintenance (pick one)

Yes

6. Will the new precinct boundaries be added to your state's clearinghouse after the 2021 redistricting process?  
(pick one)

No

#### Address Points (Section 5 of 12)

1. Does your state have a program for developing or maintaining an authoritative statewide address database?  
(pick one)

Yes

2. What percent of local address-authorities contribute to your state's address point database? (pick one)

90-100%

3. How frequently is this data updated? (pick one)

Daily

4. What is the quality of the state-level data? (pick one)

Published to the NENA GIS Data Model (Site/Structure Address Points) or a state-level standard that can be rolled up to that standard and is verified via QA

5. How widely available is your address point database? (choose all that apply)

- Available for download
- Contributed to the National Address Dataset (NAD)
- Available publicly

6. Is your address point data used to support the following? (choose all that apply)

- Used to support 9-1-1 activities
- Used as reference data for a geocoder web service

7. Identify the characteristics of your address point database. (choose all that apply)

- Steward: There is a designated aggregator or steward for this data layer
- Funding: This program has regular state-level funding
- Local government: There is a formal connection or agreement with local government to roll up and make data available to the state
- Attributes: The state data contains attributes associated with address points; e.g. address including sub-units, land use (e.g. home, park), and nature of point (e.g. parcel centroid, front door of structure, driveway access point)

## Cadastre/Parcels (Section 6 of 12)

### A. Parcel Data

1. What percentage of your counties have georeferenced digital parcel maps? (pick one)

90-100%

2. Does your state have a program of collecting current digital parcel data from local jurisdictions? (pick one)

Yes

### B. Centralized state collection of digital parcel data

1. What percentage of your counties participate? (pick one)

90-100%

2. What standard is maintained for the central database? (pick one)

Published and adheres to a standard verified via QA/QC

3. How accessible is data from this central database? (choose all that apply)

- Open, free, viewable, downloadable, with API

4. What are the characteristics of your state parcel program? (choose all that apply)

- Steward: There is a designated state steward
- Funding: There is regular funding for the state program
- Business plan: The state has a business plan for parcel maps
- Attributes: The state data includes parcel ID, address, owner name, and other attributes normally associated with parcels and assessment values



## Transportation (Section 7 of 12)

1. How complete is your state's road centerline database? (pick one)

100%

2. How frequently is this data updated? (pick one)

Weekly, nightly, or near real-time

3. What is the quality of the state-level data? (pick one)

Edgematched and published to an approved state or national standard (verified/validated)

4. How accessible is your road centerline database? (pick one)

Open, free, viewable, downloadable, with API

5. Identify the characteristics of your road centerline database. (choose all that apply)

- Steward: There is a designated aggregator or steward for this data layer
- Funding: This program does have regular state-level funding
- Local government: A formal connection or agreement exists with local government to roll up and make data available to the state
- Attributes: The state data does contain attributes associated with road centerlines (e.g. lanes, speeds, address ranges)

## Hydrography (Section 8 of 12)

1. Is NHD meeting your state's requirements for hydrography? If yes, the grade cannot be lower than C. If no, the grade can rise or decline. (pick one)

No

2. Choose the answer that best describes the status of your state's program/initiative to improve your hydro dataset. (pick one)

Active

3. Are you actively working on an improved NHD hydro dataset? And if so, how much has your state completed? (pick one)

Less than 50%

4. If you are actively working on an improved hydro dataset, how frequently is it being maintained? (pick one)

Every 4-5 years

5. When you are actively working on an improved hydro dataset, do you coordinate with USGS so your updates will integrate with the NHD? (pick one)

Yes

6. How accessible is your state's hydrography database? (pick one)

Open, free, viewable, downloadable, with API

7. Does your state have a Data Steward for hydrography and are they actively engaged with USGS and with stakeholders in your state to make updates to the current NHD? (pick one)

Yes

8. Identify the best practices characteristics of your hydrography database. (choose all that apply)

- Attributes: The state data does contain attributes associated with hydrography (e.g. lake names, stream and river names, coding for all feature types)

## Orthoimagery (Section 9 of 12)

### A. Leaf-On

1. How much of your state is covered by leaf-on orthoimagery? (pick one)

90-100%

2. Please indicate its update frequency. (pick one)

Every 2-3 years

4. Please indicate its accessibility. (pick one)

Accessible but with restrictions

5. Identify the characteristics of your leaf-on orthoimagery database. (choose all that apply)

- Steward. There is a designated aggregator or steward for this data layer

## B. Leaf-Off

1. How much of your state is covered by leaf-off orthoimagery? (pick one)

90-100%

2. Please indicate its update frequency. (pick one)

Every 2-3 years

3. Please indicate if you opt for any additional options. (choose all that apply)

- 6-inch product or better

4. Please indicate its accessibility. (pick one)

Findable and downloadable

5. Does your program collect more than the three R-G-B bands of data? (pick one)

Yes (Specify)

Please specify:

Near Infra-red

6. Identify the characteristics of your orthoimagery database. (choose all that apply)

- Steward. There is a designated aggregator or steward for this data layer
- Local government. There are some formal connections with the local government on buy-ups
- Accessibility: The data are freely available to the public as a service

## Governmental Units (Section 10 of 12)

1. Does your state have >75% unincorporated areas (as measured by the number of county subdivisions, not by land mass)? (pick one)

No

2. Of your incorporated areas, what percentage have reliable boundaries? (pick one)

100%

3. Does your state have an authoritative source for boundary data? (pick one)

Yes, in statute

4. What is the update frequency of the data? (pick one)

Updated as changes occur

5. How are the data published? (pick one)

Data published in a different standard

6. Are the data publicly available? (pick one)

Downloadable, with API

7. Identify the characteristics of your governmental boundaries activities. (choose all that apply)

- Steward. There is a designated aggregator or steward for this data layer
- Funding. This program has regular state-level funding
- Local government: There is a formal connection to local government
- Attributes: State data contains attributes associated with this theme (e.g. change type, date of the change, authority, change documentation)
- Topology: The state has a program to check the topological soundness of the data

#### Geodetic Control (Section 11 of 12)

1. Does your state have any program activities focused on geodetic control? (pick one)

Yes

2. Is your state included in the Public Land Survey System (PLSS)? (pick one)

No

3. What specific program activities exist? (choose all that apply)

- Nominate new control points to NSRS
- Support a statewide CORS network (possibly through private partners)
- Support a statewide RTN network (possibly through private partners)
- Program for performing GPS on Benchmarks
- Works with counties to tie their survey corners to NSRS

4. What are the details of your state efforts? (choose all that apply)

- Steward: There is a designated state steward
- Funding: There is a regular funding for the state program
- Business Process: The state has a geodetic control data business process
- Relationship: There is an established working relationship between the state and tribal – local governments
- Relationship: There is an established working relationship between the state and the professional surveying community

5. How is your state preparing for NGS's 2022 vertical datum and terrestrial reference frames update? (NSRS Modernization)

- It's on our "To Do" list

Elevation (Section 12 of 12)

1. Indicate the level of completion of the elevation data layer as a percentage. (pick one)

90-100%

2. What is the frequency of the updates? (pick one)

Not defined

3. What standards are used for publishing state-collected data? (pick one)

Published to a standard (verified via QA)

4. What is the quality level of the elevation database? (pick one)

Quality Level 2 (QL2) or better as defined by USGS

5. Do you have any data within your state that is a better Quality Level than is stated in the previous question? (pick one)

Yes

6. How accessible is your elevation database? (pick one)

Open, free, viewable, downloadable, with API

7. What are the details of your state efforts? (choose all that apply)

- Steward: There is a designated state steward

8. How does your state use elevation data? (choose all that apply)

- Engineering (Transportation/Construction Planning)
- Renewable Energy Design (Solar/Wind)
- Environmental
- 3D Visualizations and project design
- Drainage and Stormwater modeling
- Flood impact studies
- Watershed and Wetland delineation
- Basemap enrichment – building footprints, etc.
- Elevation referencing – Orthophotography/3D data enrichment
- Habitat and vegetation studies

Please describe (in numbers and scope) how the GIS community and others in your state have leveraged lidar/elevation data in support of a variety of disciplines (e.g. transportation planning, flood risk mitigation, environmental management, etc.).

Elevation data are widely used for transportation planning, flood risk assessment, geologic mapping, and asset mapping