

Maryland NG9-1-1 GIS Update

Presented to the Maryland 9-1-1 Board
April 29, 2021

Intro

This strategic plan was created to recommended actions to successfully position Geographic Information Systems (GIS) in serving as a foundational component of the statewide Next Generation (NG) 9-1-1 system.

GIS data, analysis and visualization are necessary to ensure:

- every emergency call in the NG9-1-1 environment is delivered to the correct Public Safety Answering Point (PSAP),
- the caller is located accurately,
- the appropriate response is dispatched based on proximity and availability, and
- the responders are dispatched to the emergency location expeditiously.

The successful implementation of NG9-1-1 in Maryland is not only dependent on GIS data preparation, but also continuous, timely data refinement and constant maintenance.

Partners



NG9-1-1 GIS Strategic Plan Review

Guiding strategy: GIS is at the core of NG9-1-1. The migration to NG9-1-1 will require robust geospatial data for every community in Maryland.

- The Emergency Communications Committee (ECC) GIS Workgroup should develop a common geospatial data process across Maryland that will meet or exceed current National Emergency Number Association (NENA) standards, to normalize data collection, maintenance and distribution practices for public-safety-grade data.
- Local and State GIS leaders should actively participate in the ECC GIS Workgroup as a forum for coordinating GIS efforts across Maryland to achieve a greater return on investment.
- The State should continue to provide a toolset for validating road centerline and address point geospatial data against the legacy Automatic Location Identification (ALI) and Master Street Address Guide (MSAG) data tables and update the training program for the use of this toolset.
- The ECC GIS Workgroup should maintain a consistent coordination forum to benefit the regions and individual jurisdictions in establishing processes that facilitate more frequent sharing of geospatial data and incident response best practices.
- The ECC GIS Workgroup should establish program metrics and measurable milestones to demonstrate and measure progress in the establishment and sustainability of the NG9-1-1 geospatial data program.



NG9-1-1 GIS Strategic Plan Review

- Achieved
- In Progress
- Suspended
- Retired

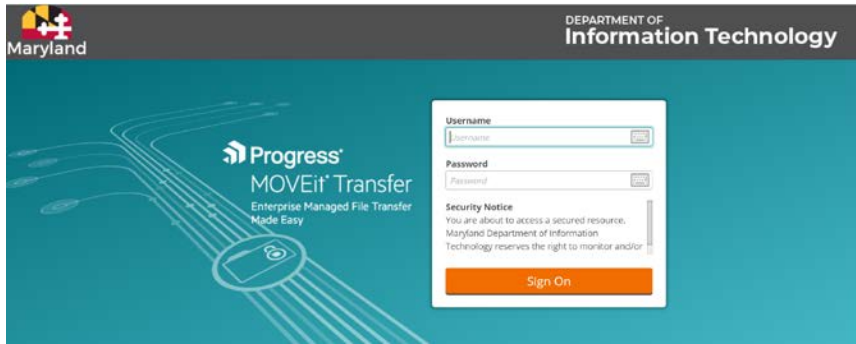
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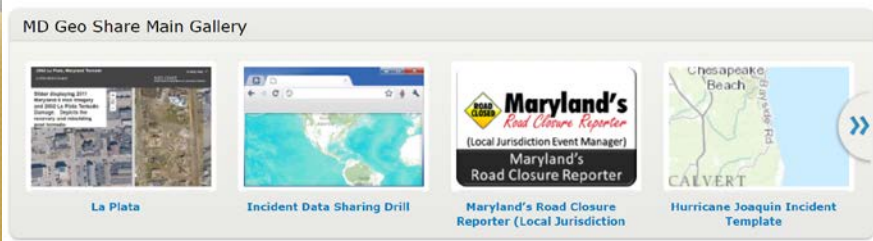


Successful Collaboration

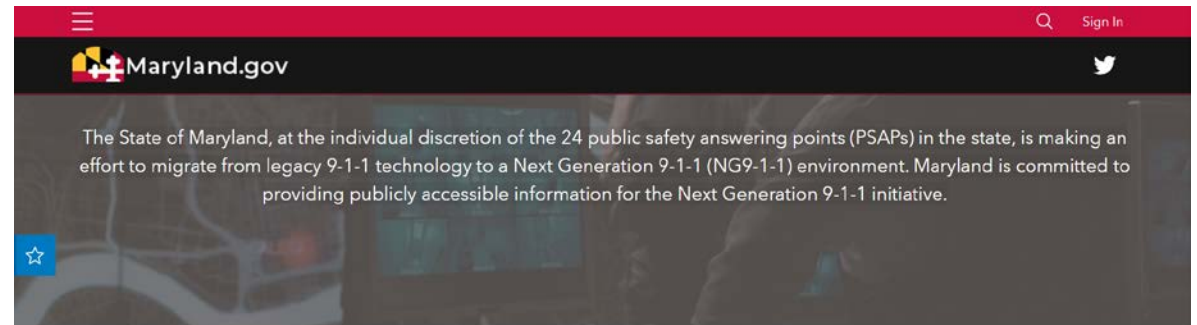
Local and State leaders participate actively in monthly ECC Work Group meetings and provide various forums for communication and collaboration between jurisdictions. The State sponsors Maryland NG911 Hub, MoveIT sftp and Maryland GeoShare as several portals for jurisdictions to access.



<https://sftp.md.gov>



<https://mdgeoshare.maps.arcgis.com>



Moving Forward with NG9-1-1

As technology advances and legacy 9-1-1 systems are pushed beyond their original intended capabilities, Emergency Services and supporting entities are focusing on the transition to a Next Generation 9-1-1 (NG9-1-1) system. Next Generation 9-1-1 systems will utilize a Emergency Services IP Network (ESInet) as the means to deliver calls to Public Safety Answering Point (PSAP) which are i3 compliant. The State is



911.Maryland.gov



NG9-1-1 GIS Strategic Plan Review



Core principle: GIS programs in Maryland must work in a collaborative environment, both across jurisdictional boundaries and vertically through all levels of government to ensure the integrity of NG9-1-1 GIS data across the state.

- Maryland Geographic Information Office (GIO) must assess the State infrastructure supporting GIS data collection, aggregation, and validation to confirm alignment with the needs of the local jurisdictions and this strategic plan.
- Work with the ECC GIS Workgroup to identify standards-based processes and procedures for data, including extraction and dissemination to PSAP systems.
 - Define and implement National Emergency Number Association (NENA)-based data standards
 - Design data workflows, from data steward to PSAP, including interdependencies and required schedules and deadlines
 - Develop best practice documentation for geospatial data creation and maintenance
- Build, maintain, and ensure periodic updates to all databases using, or integrated into, the GIS cross-jurisdictional validation platform.



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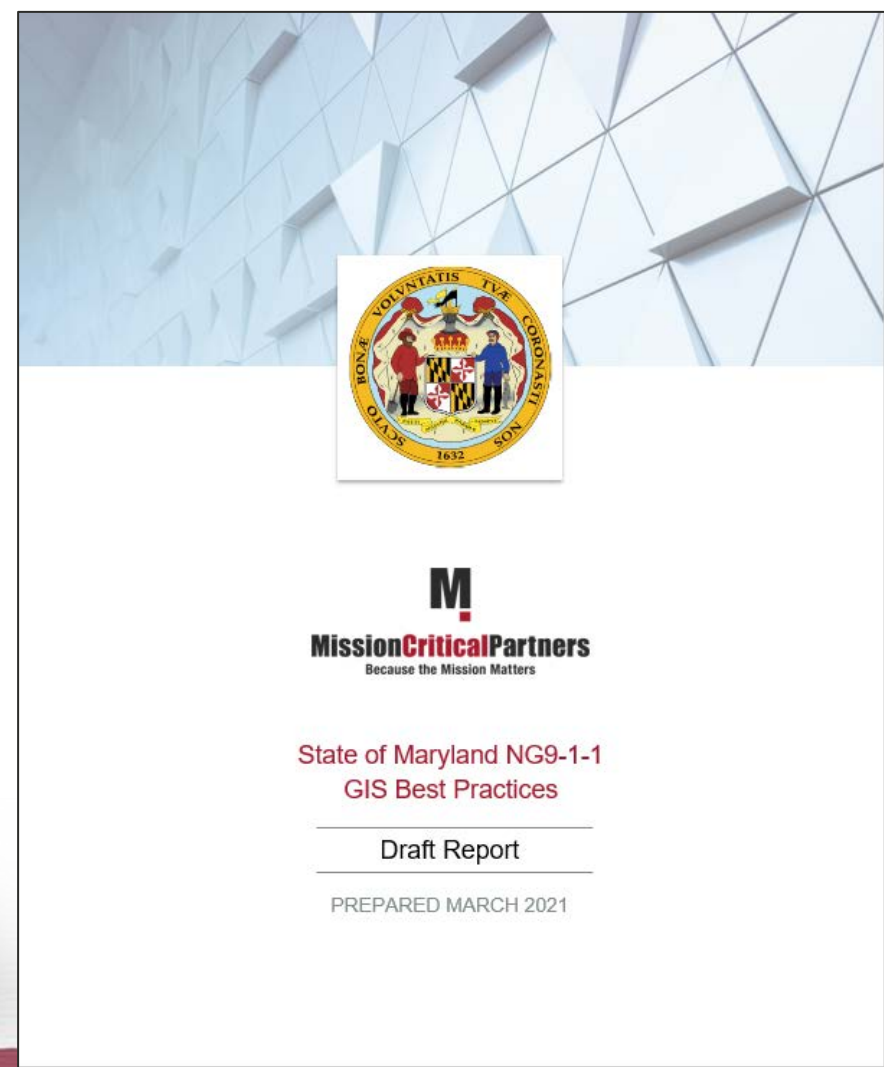


Best Practices Documentation

Best practices documentation:

- Provisioning and PSAP boundary guidance
- Emergency Service Boundary creation and maintenance
- Address points and road centerlines

These documents have been created and will be updated as best practices and standards are finalized for NG911 GIS data.



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- Oversee the development and maintenance of the GIS platform, which will include coordinating with other agencies and providing guidance on the design, review and dissemination of maps and data files. Full system redundancy and elaborate security must be designed into the platform as core components.
- A foundational requirement for the successful integration of GIS into the 9-1-1 community is to continue supporting public-safety GIS programs at the local level through training and large-scale data-collection programs such as statewide ortho-imagery and Light Detection And Ranging (LiDAR).
- Promote the adoption of GIS standards based on the NENA Civic Location Database Exchange Format (CLDXF) standard for all public-safety GIS datasets.
- Provide education, training and collaboration opportunities for all data stewards to ensure program success.



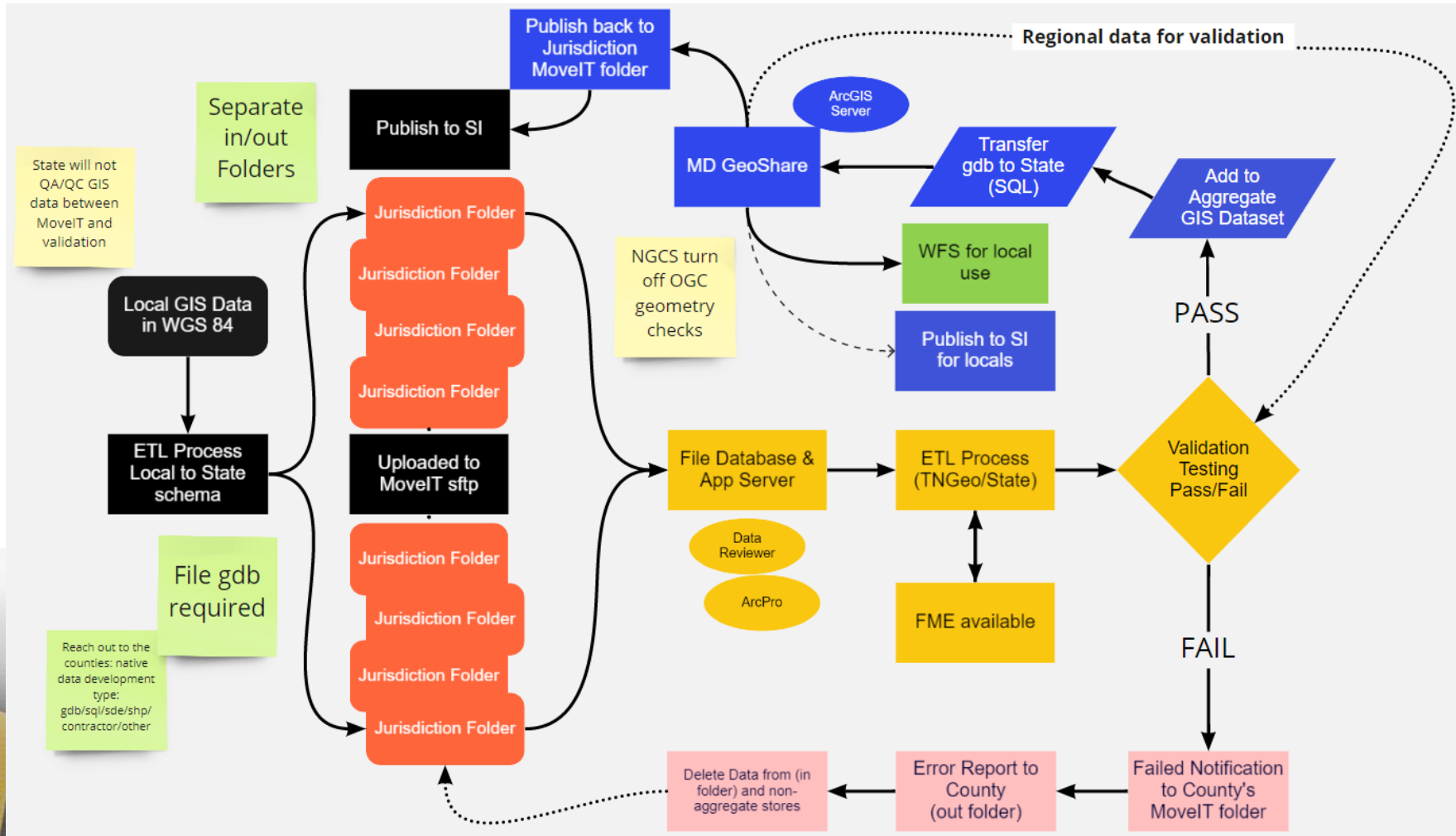
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Cross-ESInet GIS Data Validation



State will not QA/QC GIS data between MoveIT and validation

Separate in/out Folders

File gdb required
Reach out to the counties: native data development type: gdb/sql/sde/shp/contractor/other

NGCS turn off OGC geometry checks

Regional data for validation

NG9-1-1 GIS Strategic Plan Review

Core principle: GIS data, as the foundation of NG9-1-1, must be standardized across the state and interoperable between PSAPs, between ESInets, and coordinated with neighboring PSAPs in other states to realize a seamless, statewide NG9-1-1 system.

- Identify the data stewards at every jurisdiction
- Establish statewide datum that can be leveraged for regional data development
- Define a geospatial data-sharing methodology to reduce data-update lag.
- Provide a toolset for geospatial data validation
- Create a centralized catalog of NG9-1-1-specific geospatial data



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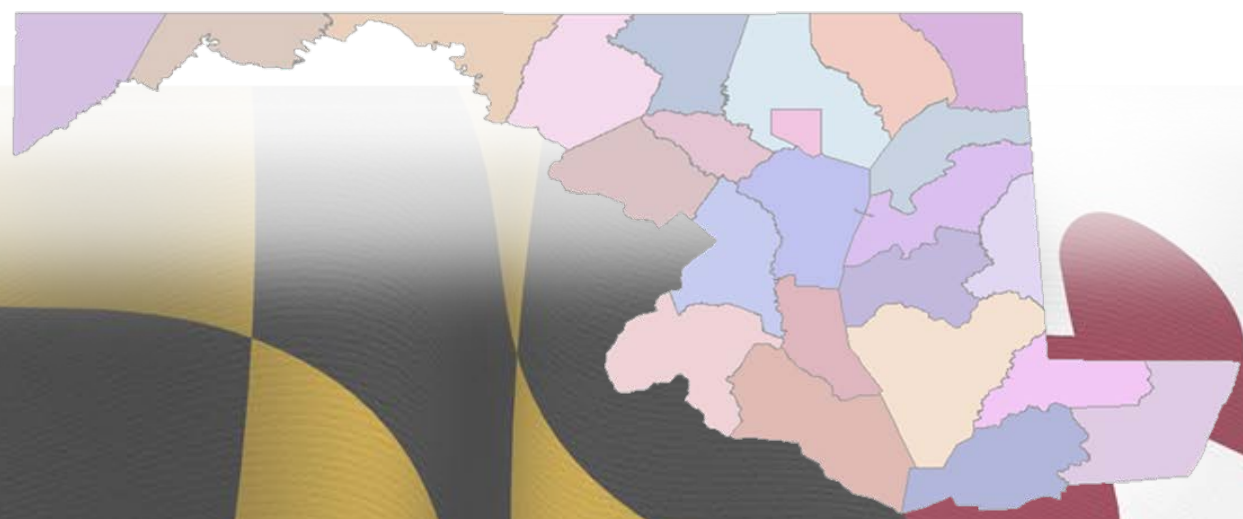
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Provisioning, PSAP and Emergency Service Boundaries

- Aggregated Statewide Provisioning Boundary – **Achieved**
- Aggregated Statewide PSAP Boundary – **Achieved**
- Aggregated Statewide Emergency Service Boundaries (ESBs) – **In Progress**

As jurisdictions Go-Live, required NGCS and ESInet attributes will be populated into the statewide dataset.



NG9-1-1 GIS Strategic Plan Review

Core principle: In a multi-ESInet environment, it is vital that all SI providers utilize the same GIS data, that the GIS data is validated locally and cross-jurisdictionally.

- Promote the use of the Task Force on Optimal PSAP Architecture (TFOPA) Scorecard at the local level as a progress tracking tool
- Sponsor in-depth assessments within each jurisdiction to ensure NG9-1-1 readiness
- Assist the ECC GIS Workgroup in developing templates for interlocal and service level agreements
- Fully develop and implement system components to support data regionalization
- Establish a funding stream for state-sponsored systems



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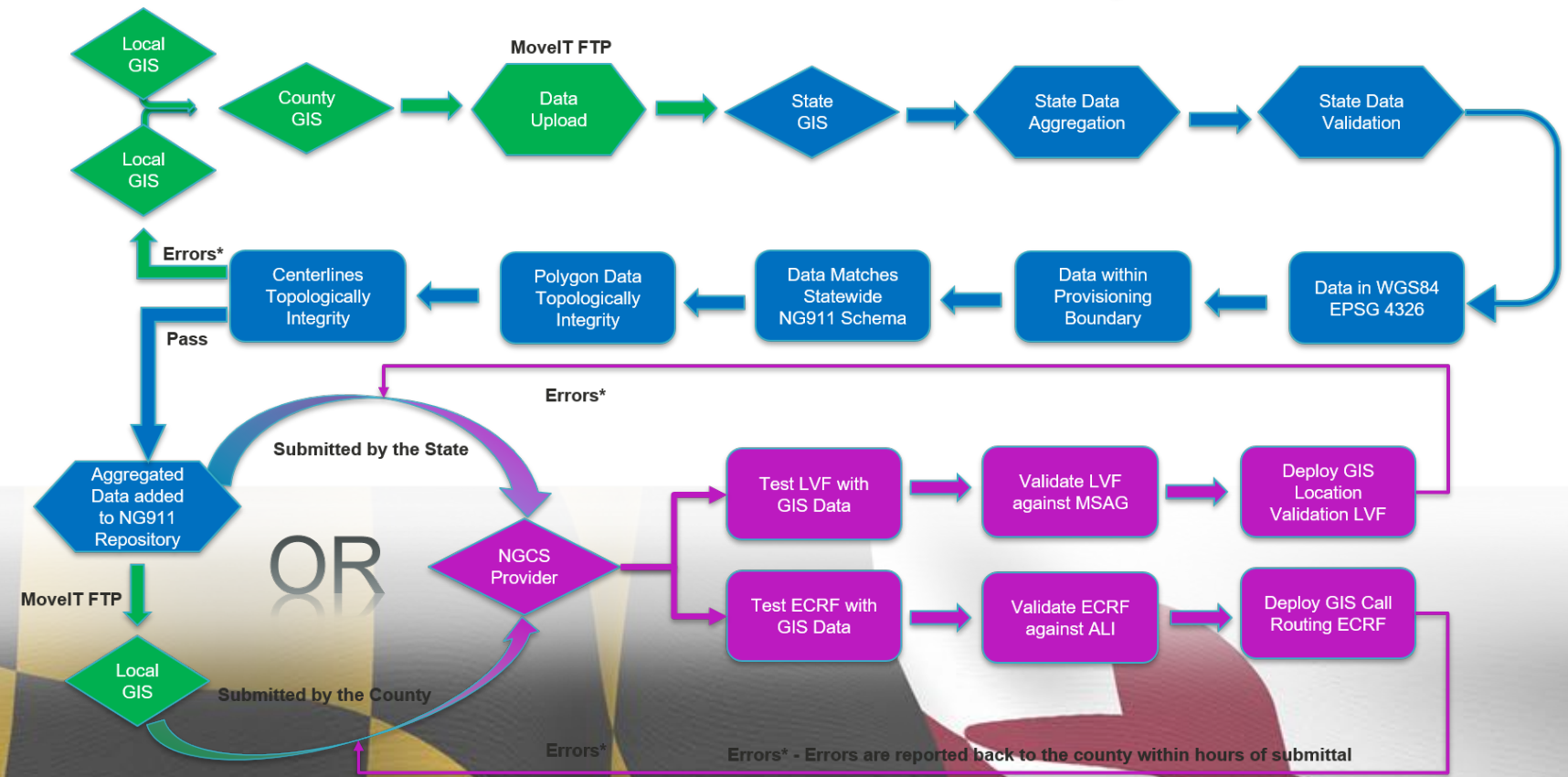
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Data Regionalization Workflow

- City/County
- State
- NGCS Provider



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Core principle: Using national standards as a baseline, Maryland must promote the development and maintenance of GIS data to standards best suited for the multi-ESInet environment in the state in the interest of interoperability.

- Actively participate in the ECC GIS Workgroup
- Share ECC GIS Workgroup needs and successes with other GIS communities, such as the Maryland State Geographic Information Committee (MSGIC)
- The Maryland GIO should promote and support the development of standards to the ECC GIS Workgroup



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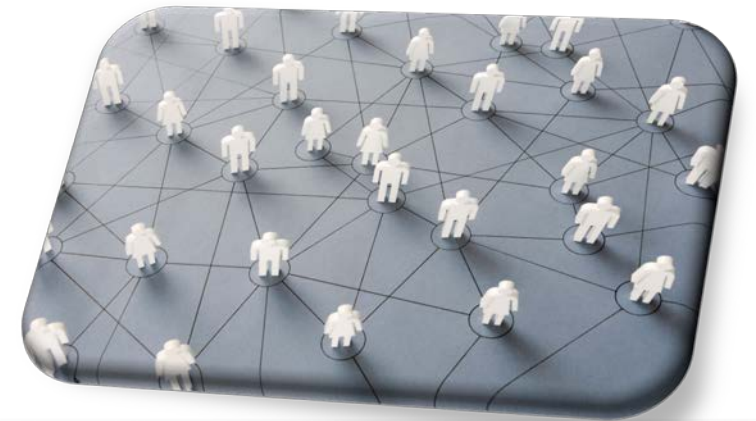




GIS Community Outreach

Local and State leaders participate in GIS community outreach by presenting to various committees and conferences along with the monthly ECC GIS Work Group meeting on the status of NG911.

- Monthly ECC GIS Work Group Meetings Discussions
 - GIS Data Model Standards
 - Map projections and transformations
 - Regionalize dataset vs stand-alone data
 - Best Practices for geometry and attribute GIS data
- Maryland iMAP Technical Committee – Status and Next Steps
 - NG911 basics and background
 - Status of statewide NG911 layers
- TUGIS Conference – Upcoming August 2021
 - Maryland NG911 GIS Implementation – How we are getting there and why







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Core principle: The migration to NG9-1-1 relies upon continuous GIS data creation and maintenance. The professional staff performing the work at the local and state levels will require immediate and sustained funding to ensure GIS data availability.

- Formalize the funding request process by implementing a workflow recommending Maryland GIO review ahead of submission to the 9-1-1 Commission
- Release funding request guidance in the form of a white paper that:
 - Describes how to format the request
 - Identifies eligible and ineligible expenses
 - Identifies the required expense breakdown
 - Defines the local matching funds' requirement
 - Describes the project management plan



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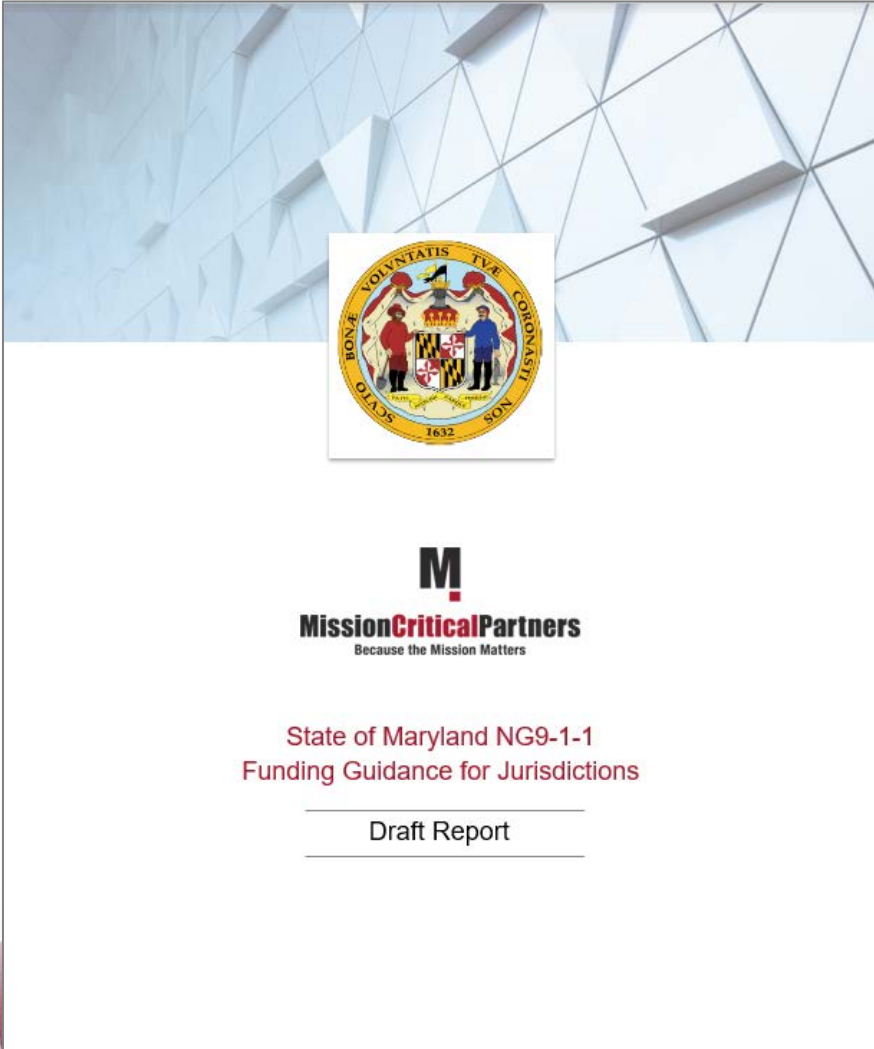
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Funding

Guidance is currently best drafted.





Common Place Names Work Group

The Common Place Names Work Group is evaluating and proposing a standardized dataset for common place names for NG911 and CAD

- Feature naming standards for non-traditional locations (parks, marinas, hiking trails, hunting stands, fishing spots, etc)
- An independent dataset
- Share data state-wide and regionally

