

National Geospatial Collaborative

NSDI Governance Models – Action Plan

1. Initiative Overview

- **Title:** NSDI Governance Models
- **Mission Statement:** Goal 1 of the 2025-2035 NSDI Strategic Plan is, “Governance: Implement National Governance”. It aims to “*increase multisector nationwide participation and accountability in NSDI governance and implementation and establish and execute national oversight and management mechanisms for the NSDI.*” This initiative will directly support the establishment of national governance via evaluation of governance models that could be applied nationally.
- **Lead(s):** Tim Johnson, Jonathan Duran
- **Work Group:** Cy Smith, State of Massachusetts; Mark Reichardt, Geospatial World (consultant); Frank Pichel (OGC); Kate Kiyanitsa (NSGIC Parcels and Land Records Working Group and State of New York); Shelby Johnson (NSGIC Parcels and Land Records Working Group and State of Arkansas); Jill Saligoe-Simmel (Esri).

Executive Summary

Governance of geospatial data is critical to the future success of the location intelligence ecosystem to meet broader goals and use cases. Public and private organizations, and especially citizens, need to count on the availability of geospatial data to meet a range of purposes. Some of the most important of these are emergency preparedness and response, transportation planning, economic development, service delivery (by both the public and private sectors), infrastructure management, and recreation.

The NSDI Governance Models will enable participants and observers to better understand the questions to answer with geospatial data and the readiness of the ecosystem to answer them in a consistent way regardless of where you are in the country. Evaluation of governance models will help the community identify workflows that exist today in data creation and maintenance and determine improvements that will facilitate governance in the future.

These efforts will tackle subject matter that is important to the broad community, engage collaborators who have a stake in improving the geospatial ecosystem and its ability to respond, and give the community a better idea of the data gaps and the need for

inter-jurisdictional standardization. The variance in workflows from local to state government, state to national, and between public and private sectors and non-profits is critical to understand.

Ultimately, a key outcome is the establishment of a framework for an NSDI governance structure which includes shared decision making across all stakeholder groups articulated in the Geospatial Data Act (GDA), including robust state, local, and tribal government participation. A shortfall in the existing governance structure is the lack of formal participation and shared decision-making outside the federal government.

The systems that drive local and state government infrastructure need to be better understood because the data itself is only one piece of the puzzle. Other vital elements for consideration are the beneficiaries, both as participants and consumers of the results. NGC will engage those that can contribute to successful evaluation of governance models, as well as those that can support the results via their actions and investment. Consequently, an outcome of each instance of governance models will be identification of potential sources of investment to build and sustain the geospatial infrastructure, critical for national implementation.

NSDI Governance Model efforts will start with an evaluation of collaborative data governance, including existing state models for parcel data. The process will help NGC and the broader community evolve a template for application to other key foundational datasets.

2. Problem Statement

- **Current state:** What are the challenges or gaps?
 - There is a lack of formal participation in the NSDI governance processes outside the federal government.
 - In a broad sense, there is incomplete comprehension of the geospatial infrastructure, particularly the contributions and challenges for state, local, and tribal government data producers and the systems that could enable sharing across a national enterprise. Those contributions will serve as the foundation of a future NSDI that operates seamlessly in terms of the people, systems, and data that drive it.
 - There is limited understanding of the workflows throughout the system and differences across the country and between data themes.

- o Gaps, but also inconsistencies exist in terms of data completeness. Little is known about refresh cycles for key datasets. There are also gaps in the systems that serve the data as we look across the national landscape. Some entities are well-resourced while others lack that committed investment by their localities.
- o The existing workflows need to be documented for key NSDI themes, particularly the major themes that involve multiple stakeholders. Governance is missing that traces actions and responsibilities from local to state, tribal, and national. Both the private sector and non-profit sector contributions to the current workflow, where they exist, need to be identified, as they contribute to the current national picture.
- o Standards need to be revisited across the NSDI themes and should have input from the data producers, particularly at the local government level. The models should also surface any interoperability shortcomings among the public sector, private sector, and non-profit stakeholders in building the NSDI.
- o Inconsistent or lack of investment, as well as a lack of diversity in the sources of that investment, has limited progress for many years. Those broad-based investments are critical to create and sustain the geospatial data, systems, and underlying governance across the country, especially as we look at the geospatial ecosystem regionally and ultimately nationally.
- **Impact:** How does this problem affect stakeholders, efficiency, policy, or operations?
 - o Within the confines of the public sector, data managers and executive level decision makers cannot fully evaluate problems and issues that have a geospatial context. Natural events such as wildfires and hurricanes are geospatial at their core and are not constrained to political/administrative boundaries between counties or states. The data and the systems that drive the infrastructure must operate seamlessly to support decision making that is geospatial in nature and crosses jurisdictions. An analysis that a governor or other executive may request needs to count on the infrastructure to deliver a product or a result of the analysis that is complete and consistent.
 - o Applications that rely on geospatial data are hampered by data gaps and lack of governance structures. This affects the ability to fully utilize infrastructure for important purposes such as economic development and emergency preparedness and response, among others.

- **Root causes:** Why does this problem exist?
 - Lack of expansion and distribution of responsibilities, documented workflows, and overall governance to generate data themes that will meet national objectives and yield a robust NSDI.
 - Lack of investment primarily, at all levels of government.
 - Lack of engagement with the private and non-profit sectors to define what is needed to support the infrastructure and consider more than just the traditional sources of funding (i.e., federal government) to pursue it.
 - The non-public sector has emerged as a key contributor to the geospatial infrastructure since the NSDI was first envisioned in the 1990s when the idea was federal government focused. The emergence of the private sector with the advent of the Internet, smartphones, and other technologies has increased the need for and value of geospatial data and tools in significant, tangible ways. The non-profit portion of the geospatial ecosystem has also emerged in recent years because of interest in improving data and tools that enable geospatial search and analysis.
 - Contemporary standards have not kept pace with the ever-evolving 21st century uses of geospatial technology.
 - Uncertain, inconsistent leadership and lack of specific vision in recent decades which partially ties back to budget challenges (e.g., staffing, cost share funding).
- **Why Now?** What makes solving this issue urgent?
 - Geospatial technology is ubiquitous, and we depend on it for a near unending list of aspects of our day-to-day existence, often without even being conscious of it. Our environment is filled with sensors and we are awash in data.
 - With some core and sustained investments nationally, and with targeted support from the private and non-profit sectors, as well as state and local investment, the broad geospatial community can realize its full potential in creating value for citizens.
 - The emergence of artificial intelligence and how it might impact data accessibility and selection of data to respond to inquiries only makes the situation more urgent to solve in the short term.

3. Justification for Selection as an NGC Priority

The NSDI Governance Models initiative was selected as an NGC priority for several reasons as outlined below. It warrants investment of time and funding to move the needle on national governance.

- Alignment with NGC's mission and strategic goals
 - One of NGC's primary goals is to pursue nationally significant initiatives. The NSDI is an inherently nationally significant initiative and NGC is well positioned to have an impact on its future. NSDI Governance Models are necessary to help the broader community, including public, private, and philanthropic interests, non-profits, and academia, develop a common understanding of the need for consistent, complete data and the governance structure necessary to sustain it. We need to invest the effort in evaluating the models to determine what works and what does not work; then prepare a path forward.
- Potential impact at national, regional, or local levels
 - Pursuing the evaluation and then development of NSDI Governance Models will focus the conversation on workflows, current governance structures (or lack thereof), gaps and challenges but also the importance of geospatial data and technologies in the subject matter on which each data theme focuses. Governance models that are agreed upon by stakeholders and sustainable will help raise the priority level at the *national* level, not just within the federal government, hopefully leading to subsequent action. They will also help give the geospatial community stakeholders tangible examples of the NSDI and the importance of the geospatial ecosystem.
- Urgency and timing
 - NGC, and NSGIC by extension, supports the 2025-2035 NSDI Strategic Plan and the need for implementation plans to make it a reality for state and local government partners. We need to demonstrate that geospatial strategy is apolitical and that the NSDI can be politically resilient as a concept and in implementation. State and local governments have made and will continue to make progress to meet their unique needs with geospatial technology, but it is inconsistent across the country. More investment is needed and states are ready to engage.

- Stakeholder demand and readiness
 - Every citizen is a stakeholder and “the map” as a communication mechanism touches every life whether it comes in the form of ordering goods and services, responding to the latest disaster, registering to vote, or participating in a public hearing about a local issue where location is key. The demand exists but the readiness of the geospatial ecosystem to respond is inconsistent. We need to improve our collective readiness to meet that demand. NGC has an important role to play to make the demand and the readiness sides of the equation equal. Having well considered NSDI Governance Models can help us take another step forward.
- Long-term sustainability and scalability
 - The NSDI Governance Models will help us learn about scalability from local to regional to national implementation. These models will help inform next steps for the ecosystem.
- Availability of resources and partnerships to support success
 - Resources have not been identified in advance, but the perception is that those resources exist but not via federal government sources. Perhaps philanthropic sources will be primary to providing the necessary resources. A next step would be to start identifying possibilities and reach out to potential partners.
 - The NSDI Governance Pilots were first identified at the 2024 GeoGov Summit. The Summit gathered federal, state, and local government as well as private sector, non-profits, and academia. Trails and underground infrastructure were first identified as pilots to pursue. However, neither gained the traction needed to pursue nationally through NGC and the Open Geospatial Consortium (OGC), respectively. Parcels is viewed as a logical dataset to pursue instead since strong local government investment has already been made and it is a valuable dataset for many use cases from local, regional, and national perspectives. The private sector has played key roles along the way as a contractor for local governments and at the national level as an aggregator of local parcel data up to a national picture with added value. It also follows the track of the NGC NAD 2.0 initiative, building from local data to achieve a national dataset with a meaningful contribution from the private sector and others in the geospatial ecosystem.
 - NGC’s logical approach has also evolved to replace pilots with models since instances of well functioning yet application specific models exist across the nation for data themes such as parcels but for others as well. There is not a need

for pilots but rather to gather information about the existing models with a goal of proposing a model that could be successful nationally. Engagement with representatives from those communities represented at the 2024 Summit as well as specific organizations including the National League of Cities (NLC) and the National Association of Counties (NACo) will be important as partners to achieve success.

4. Goals/Desired Outcomes, Objectives, Actions, Steps, and Measures of Success

The primary goal is to establish a national governance framework for parcel data that enables a coherent, trusted, and usable parcel data ecosystem across jurisdictions.

Goal 1: Seek existing models for the parcels data theme through comprehensive analysis of nationally available information.

- Objective 1: Identify the desired, sustainable content and structure of a national parcels dataset.
 - Actions
 - Engage public and private sector producers, integrators, and users.
 - Evaluate any existing content standards either developed in the US or outside the US to inform the ecosystem.
 - Derive requirements based on those discussions and analyses.
- Objective 2: Seek examples of states where a parcels dataset and successful maintenance have occurred.
 - Actions
 - Review the 2025 NSGIC Geospatial Maturity Assessment and any other sources of compiled information that would represent a national picture.
 - Leverage the institutional knowledge of the NSGIC Parcels and Land Records Working Group, and interview states to get a complete picture of successes, pitfalls, and especially non-technical issues that would need to be addressed when pursuing a national dataset.

Goal 2: Derive a proposed national approach to developing and implementing a national parcels dataset that is comprehensive, authoritatively sourced, current, and sustainable.

- Objective 1: Summarize findings of the national evaluation of governance models for parcels.
 - Actions

- Summarize workflow challenges.
 - Summarize the availability of standards and/or best practices that could support national implementation (or the lack thereof that would either delay or inhibit it).
 - Summarize potential governance challenges if expanded to a national scope including any legal or policy concerns.
 - Develop and publish a proposed governance model that clarifies roles, responsibilities, and decision pathways.
 - Establish a national definition of parcel readiness and define shared criteria for completeness, currency, quality, accessibility, and usability.
- Objective 2: Recommend next steps based on the findings.
 - Actions
 - Identify recommendations for workflows and governance structure to support national implementation.
 - Identify roles and responsibilities for the future state including potential involvement from public, private, non-profit, and academic sectors.
 - Create the value proposition for the model to be implemented nationally.
 - Document the challenges and obstacles including technical, legal, and policy aspects.
 - Estimate the potential costs to build and sustain the content defined in each pilot and how those costs should be shared.
 - Objective 3: Communicate the results to potential partner organizations and seek support.
 - Actions
 - Perform outreach to core stakeholders such as NSGIC, FGDC, GPN, NACo, NLC, and the International Association of Assessing Officers (IAAO), among others.
 - Prepare use cases to underpin why effort is needed and why now.
 - Share with potential funding sources that will enable gap fill across the country.
 - Seek buy-in from states including each state's political leadership.
 - Facilitate coordination across local and state parcel systems to improve alignment.
 - Provide decision-ready guidance to support adoption within existing authorities.

5. Working Group

Primary Goal(s): Establish a high-functioning, cross-sector working group that provides leadership, coordination, and accountability for the NSDI Governance Models initiative, ensuring it reflects diverse perspectives and fosters meaningful, sustained progress.

Key Objectives:

Objective 1: Identify and recruit a diverse membership representing state and local governments, tribal entities, academia, private sector, associations, and non-profits, etc.

Objective 2: Establish a consistent meeting schedule and shared workspace prior to working group launch, with an initial meeting held within 45 days of finalizing membership.

Objective 3: Formally launch the NSDI Governance Models Working Group with clear purpose, roles, and responsibilities defined.

Key Outcome(s):

Key outcomes for the working group will be framed in the context of benchmarks. In the short term, it will be formally established, cross-sector members identified and engaged, and integrated into the NGC and OGC frameworks for guidance and oversight. In the intermediate term, the working group will become a hub for coordination and cooperation with the project team(s) and contributions to strategic initiatives will be documented. Long-term, the working group should be recognized as a national model for fostering inclusive, collaborative geospatial governance.

6. Stakeholder Assessment

Who Benefits from This Initiative?

Public Sector

Local, state, and federal government entities benefit from their ownership and/or stewardship roles in the parcel data value chain. They benefit from having control over the process from creation to subsequent aggregation and publication and can apply appropriate standards and improve the parcel data product(s) in the system of record.

- Local government tax offices typically produce the data through their normal business operations and maintain the data for tax administration and other purposes. Complete,

consistent data increases its value to citizens as decisions can be made more confidently and efficiently. As the value expands to a larger user base it furthers the need and expectation for continuous refinement and improvement. It helps secure future investment at the local government level to sustain the data for the multitude of beneficiaries.

- State governments increasingly should rely on complete, consistent, standardized parcel data which can benefit many intra-state analyses whether the use case is emergency response, economic development, transportation planning or other needs. Governors, the executive branch of state governments, and state legislatures have an expectation that this data should be readily available for analysis and decision making purposes.
- Similar to the state government example, leadership at the federal level (i.e., the President, Congress, and federal agencies) should rely on an aggregated national parcels dataset that benefits a multitude of federal programs, many of which result in the distribution of funding to state and local governments as well as individual citizens. Rather than each federal agency pursuing acquisition of this data with finite budgets and potential duplication of effort, a nationally maintained, complete, consistent, and standardized dataset is an efficient means of supporting federal programs and providing value not just to the federal agencies but to every citizen.

Private Sector

Private sector companies benefit from access to quality, properly governed parcel data from the system of record to provide better value-added goods and services to their customers. Those companies will have easier, more timely access to the data on a national scale. Employees in the private sector benefit by having trusted, standardized data to do their day-to-day jobs.

Non-Governmental Organizations

Non-profits, academics, community-driven groups, and mass media benefit from using quality, properly governed parcel data in research and applications that in turn will benefit their internal and external stakeholders.

General Public

Landowners, and everyone whose lives are affected by landowners, benefit from parcel data being properly recorded and governed within the system of record and throughout the parcel data supply chain. Citizens benefit when parcels are governed well within the jurisdictions to which they belong (local, state, federal).

Who Must Be Actively Engaged and Directly Involved?

- **NSGIC Leaders** – Each pilot would benefit from awareness by the NSGIC leaders and more direct involvement, where appropriate. NSGIC has deep institutional knowledge and subject matter expertise pertaining to the NSDI and its implementation. Input from NSGIC’s Board, as well as committees and work groups which have a vested interest in improving the governance of the NSDI will provide valuable guidance and help “map” the needs and goals of the models.
- **NGC Board of Directors (BOD)** – Provides governance and strategic direction.
 - The NGC BOD should be directly involved in each of the three major initiatives that it has identified. The NSDI Governance Models is an important initiative and represents a piece of the overall national picture, involving public, private, non-profit, and philanthropic interests. Funding of the Parcels Governance Model will flow through NGC as well as project management and delivery of results to the broader geospatial community.
- **Other Key Stakeholders** – Identify other, non-NSGIC-centric key players.
 - Identification of the set of stakeholders is a future step but there are many interests outside of the current NSGIC membership that need to be considered. Some examples include NACo, NLC, and IAAO.
- **Individual States and Local Governments** – The Parcels Governance Model will be developed through interaction with state and local governments nationally.