

National Geospatial Collaborative

NSDI Governance Pilots – Action Plan

Prepared October 20, 2025

1. Initiative Overview

- **Title:** NSDI Governance Pilots
- **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 various pilot projects.
- **Lead(s):** Tim Johnson, Jonathan Duran
- **Work Group:** Cassie Lee (OGC Chief Innovation Officer) and Frank Pichel (OGC); Cy Smith, State of Massachusetts; Mark Reichardt, Geospatial World (consultant); Maggie Cawley, OpenStreetMap US; Alan Leidner, New York City (retired).

Executive Summary

Governance of geospatial data is critical to the future success of the 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 Pilots 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. The pilots will help the community identify workflows that exist today in data creation and maintenance and determine improvements that will facilitate governance in the future.

The pilots 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 all stakeholder groups articulated in the Geospatial Data Act (GDA). A shortfall in the existing governance structure is the lack of formal participation 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 of the pilots, both as participants and consumers of the results. NGC will engage those that can contribute to successful pilot execution, as well as those that can support the results via their actions and investment. Consequently, an outcome of each pilot will be identification of potential sources of investment to build and sustain the geospatial infrastructure, critical for national implementation.

Five NSDI Governance Pilots have been identified or proposed thus far. They are:

1. Protecting Our Public Lands and Trails
2. Developing Consistent and Standardized Underground Infrastructure Data to Support Strategic Use Cases
3. Public and Private Service Delivery
4. Improving Community Resilience
5. Navigation and Routing

2. Problem Statement

- **Current state:** What are the challenges or gaps?
 - 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 and local 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.
 - 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.

- 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 to 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.
- Standards need to be revisited across the NSDI themes and should have input from the data producers, particularly at the local government level. The pilots should also surface any interoperability shortcomings among the public sector, private sector, and non-profit actors in building the NSDI.
- 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?
 - 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.
 - 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 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.

3. Justification for Selection as an NGC Priority

The NSDI Governance Pilots 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 a nationally significant initiative and NGC is well positioned to have an impact on its future. NSDI Governance Pilots are necessary to help the broader community, including public and private, philanthropic, non-profit, 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 in the pilots to determine what works and what does not work, then prepare a path forward.

- Potential impact at national, regional, or local levels
 - Conducting the NSDI Governance Pilots 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 pilot focuses. The pilots 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 bipartisan 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. The NSDI Governance Pilots can help us to take another step forward.
- Long-term sustainability and scalability
 - The NSDI Governance Pilots will help us learn about scalability from local to regional to national implementation. The pilots themselves are not intended to be sustainable beyond their immediate scope, rather, the pilots will inform next steps.
- 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 Trails and Infrastructure pilots have a projected cost of \$1M each.

- The NSDI Governance Pilots were first identified at the 2024 GeoGov Summit. That event gathered federal, state, and local government as well as private sector, non-profits, and academia. Engagement with representatives from those communities 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

Goal 1: Establish pilot projects that will identify, document, and strengthen workflows present in the current geospatial ecosystem.

- Objective 1: Identify participants based on a thorough understanding of the use case(s) for each pilot.
 - Actions
 - Work with OGC and other leaders to communicate goals of pilots and develop interest.
 - Jointly develop each pilot project with key stakeholders to have the best chance of success.
 - Select geographic areas and leadership in public, private, non-profit, and academic sectors to implement the pilots.
- Objective 2: Prepare realistic scenarios for each of the five pilot domains with priority on the first two pilots listed earlier.
 - Actions
 - Establish content and duration of each pilot to achieve desired results in a reasonable timeframe.
 - Engage participants to develop data requirements and document current workflows and/or gaps.
 - Produce pilot project execution steps that will yield documentation of necessary workflows to achieve national implementation. Share with partners for interim feedback.

Goal 2: Execute pilot projects and deliver results identifying strengths, shortcomings, and gaps of current workflows and governance.

- **Objective 1:** Summarize each completed pilot project.
 - Actions
 - Prepare a summary document for each pilot that outlines what was proposed, what was actually implemented (if different), and lessons learned.
 - 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.
- **Objective 2:** Recommend next steps based on the pilot projects.
 - Actions
 - Identify recommendations for workflows and governance structure to support national implementation of each pilot.
 - Identify roles and responsibilities for the future state including potential involvement from public, private, non-profit, and academic sectors.
 - Create the value proposition for each pilot to be implemented nationally.
 - Document the challenges and obstacles based on the results of each pilot, considering national implementation, 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.

5. Working Group

Primary Goal(s): Establish a high-functioning, cross-sector working group that provides leadership, coordination, and accountability for the NSDI Governance Pilots 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 Pilots 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 pilot project 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 Analysis

(The answers to the questions in this section are based on the first two pilots listed in the Executive Summary.)

Who Benefits from This Initiative?

Public Sector

More robust data for trails and underground infrastructure can benefit public sector operations in several ways. The Trails Pilot would support the availability of more robust data for recreation users, accessible from state or local government websites or online tools. The Underground Infrastructure Pilot would support government operations at all levels in use cases such as economic development, transportation planning, and emergency preparedness/response and certainly others.

Private Sector

Commercial providers of applications could make better use of trails data when the pilot is successful and standardized data is scaled to a national level. This will enable a more comprehensive representation of trails in a geographic area. For the underground infrastructure pilot, this data is currently created by private sector producers to meet their business needs. However, there are also many instances where the data is created by a public sector source. |

In either case, the data is not typically shared unless there is an emergency response or public safety need. One benefit of this pilot is greater awareness of what is being created and how each might have a better understanding of what resources are available.

Non-Governmental Organizations

There are various non-governmental organizations, particularly in the non-profit space, who would have an interest in both pilot projects. Such groups might be advocates for improvements in access to trails, and others may want to have better access to underground infrastructure data, not necessarily for precise location purposes, but to answer a simple “yes/no” question about presence of broadband assets which would support increased availability, for example.

General Public

The average citizen and interest groups of the third decade of the 21st century have a thirst for knowledge about the inherently geospatial landscape in which they live. Smart phones and other individually accessible technologies have created an environment and an expectation that the data needed to answer any question is readily available, current, and accurate. Both pilots described would foster valuable insights for a multitude of citizens needing an inherently geospatial answer, whether rooted in a recreational interest or one based on a location where underground infrastructure may or may not exist.

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 pilots.
- **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 Pilots is an important initiative and represents a piece of the overall national picture, involving public, private, non-profit, and philanthropic interests. Funding of the pilots 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 for each pilot is a future step but there are many interests outside of the current NSGIC membership that need to be considered.
- **Individual States and Local Governments** – pilots will be centered in a geographic area.
 - Once the pilots have been identified, the projects will involve state and local government entities in those areas. Those jurisdictions and their respective GIOs or equivalents will need to be part of the pilots because they will be data sources and can help define how the pilots can be implemented.