

BEST PRACTICES FOR LOCAL GOVERNMENT GEOSPATIAL PROGRAMS

Local government geospatial programs support a wide variety of government functions and provide opportunity to minimize costs and maximize benefits for a jurisdiction's investments. A common saying in the geospatial community is "build it once, use it a bunch." Successful geospatial programs are built on a foundation that includes many of the common elements listed below.

1. **Establish a Geospatial Program.** Sustained coordination, planning, and execution are critical to working across complex organizations such as local governments to manage multi-agency investments. Elements of successful programs include:
 - **Executive sponsorship and support** – Enlightened mayors, county commissioners, city administrators, and tribal leaders don't leave this important function to chance – they use legislation, ordinances, or executive orders to establish geospatial programs.
 - **A defined strategic vision/mission** – A vision of the desired future state and a clear mission for the geospatial program guide the direction and investments in the program.
 - **Shared governance** – Agencies expected to coordinate activities, share costs, and derive benefits from the geospatial program are engaged in the program's administration through a steering committee or board whose members are drawn from stakeholders in the program.
 - **A designated coordinator or manager** – Local communities have an individual assigned with both the responsibility and resources to plan and oversee a geospatial strategy and program. The coordination responsibility is both horizontal (across the locality's departments) and vertical (with federal, state, regional, and neighboring jurisdictions).
 - **Use of recognized industry standards** – The geospatial industry has established standards to ensure data that is collected for one purpose can be used many times to meet multiple needs. The adoption of standards and specifications published by the [Federal Geographic Data Committee](#) (FGDC) and the [Open Geospatial Consortium](#) (OGC) are recommended.
 - **A geospatial strategy or plan** – The plan or roadmap outlines the jurisdiction's priorities and expected investments in geospatial data and technology. It might also specify what geospatial standards the jurisdiction will adopt to ensure interoperability.
2. **Develop and Maintain Data as an Asset.** Local government geospatial programs typically create and/or license, maintain, document, and share a variety of data sets.
 - **Framework/Base Geospatial Data** – "Base" geospatial data layers provide the context and means to tie other data to the ground and display it on a map.
 - **Transactional/Live Geospatial Data** – Live data may be 911 and 311 calls, permits issued, inspections conducted, students enrolled, repair and maintenance work orders, and more. All of these data can be mapped as they are created allowing for crosscutting analysis across data sources.
 - **Metadata** – Metadata (information about data) is prepared to document the data's origins and limitations.
 - **Published data maintenance schedule** – To ensure reliability of the data and avoid duplication of effort and redundancy, effective programs publish maintenance schedules describing when and how the data will be maintained.

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3. **Take an Enterprise Systems Approach.** Local government information technology departments have been successful in promoting the widespread use of the geospatial data and technology by taking an enterprise approach.
- **Applications (web or desktop)** – These most visible geospatial applications assist with public information via mapping web sites, situational awareness for first responders and emergency managers, assessing property taxes, and many other core government functions.
 - **Centralized database / data warehouse** – It is helpful and complementary to also have a centralized “read only” geospatial database/data warehouse in which all data layers are frequently updated. The central warehouse becomes a one-stop-shop for data consumers.
 - **Pooled software licenses** – Geospatial coordinators have been successful in driving down software costs by pooling their jurisdiction’s software purchase and by deploying networked licenses in a central pool.
 - **Mobile computing** – A comprehensive enterprise system approach includes a plan for supporting the mobile workforce. Deploying geospatial technology in government vehicles and putting the technology in the hands of field crews offers a significant return on investment.
 - **Publication of consumable services (service oriented architecture)** – The goal is publishing geospatial data and functions so that they can be easily consumed by other applications. **Geocoding Services** standardize addresses with location (coordinates), thus allowing jurisdictions to consistently handle addresses across applications and departments. **Map Services** follow OGC’s Web Map Service (WMS) or Web Feature Service (WFS) specifications and allow map layers to be incorporated into other applications.
 - **General IT services and support** – Shared storage for secure backup and recovery, a robust network for dependable access, appropriately configured workstations, and customer support (help desk, training, user communities) are critical for a successful geospatial program.
4. **Share with the Public.** “Build it once, use it a bunch” extends to the public. Successful geospatial programs make their capabilities available to the public.
- **Web based data clearinghouse** – Clearinghouses make it easy to discover and access a jurisdiction’s geospatial data.
 - **Data feedback loop** – Users expect to be able to contribute data and provide feedback in near real time. A robust geospatial program will encourage improvement or expansion of its data holdings through “crowdsourcing,” allowing the public to comment on data and contribute data.

For Additional Information and Support:

- National States Geographic Information Council (www.nsgic.org)
- Geospatial Information and Technology Association (www.gita.org)
- Urban and Regional Information Systems Association (www.urisa.org)
- Federal Geographic Data Committee (www.fgdc.gov)
- U.S. Department of Housing and Urban Development (www.hud.gov)