

GEOSPATIAL FACT SHEET: ADDRESSING

WHAT TO KNOW ABOUT ADDRESSING, the most commonly used identification for buildings, properties, and events; they are what citizens know about their location, and they are found in virtually all local government records. Good addressing data management is critical to efficient, effective, and economical government. If you work with address information in your position, this information will help you.

Why is addressing important to the GIS community?

- Addresses are a systematic system of identifying the geographic locations of places, objects and events. Virtually all of the work that is done by local governments use addresses as a locational reference system and as an aid to navigation. Addresses are embedded in virtually every system (digital and paper) used by local governments. They are also used by citizens, private businesses, and state and federal agencies.
- Many addresses exist only in tabular form; they have not been geo-located or associated with a specific object, place, or event. As GIS technology has evolved, the ability to precisely locate individual address points has matured. GIS professionals are increasingly using address points in sophisticated data analyses to support decision-making.

What current activities affect addressing in the GIS community?

- The 2020 Census is coming up quickly. In preparation for this, Census has distributed information to all local governments about updating their address information. Census's program, Local Update of Census Addresses (LUCA) has a new interactive web platform for local governments to use for this process. Many federal programs allocate funds based on the number of people counted in each jurisdiction, so making sure that Census has ALL the addresses is important for every jurisdiction.
- Next Generation 911, or NG-911, is an initiative within the emergency management and E-911 community to upgrade entire dispatching systems to integrate with new forms of communications (including text, email, voice-over-internet phones, smartphones, and social media), and to identify incident and caller locations more precisely through the use of GIS data and address points. Again, this is a critical function of local government, with significant requirements for address data provided by local address authorities. URISA is working with its partner, the National Emergency Number Association (NENA), to develop standards and integrate GIS technologies into the emergency response community.
- With the addition of addresses as a new theme of the National Spatial Data Infrastructure, the Census Bureau and U.S. Department of Transportation are co-sponsoring the development of a publicly accessible National Address Database. The processes for developing and managing the NAD are still in development and testing. Data will be aggregated from the creators (local jurisdictions) to states, and thence to the federal level into the NAD.

Who is working on address standards?

- Address standards have been developed in the United States by several different entities. A comprehensive standard for address **data** was developed by **URISA's** Address Standard Working Group (ASWG), and endorsed as a Federal standard by the Federal Geographic Data Committee (FGDC) in 2011.
- A standard for **address data** within an E-911 call record, (CLDXF) was adopted by the National Emergency Number Association (NENA) in 2013. It is very closely aligned with the FGDC standard.
- The US Postal Service maintains a **formatting standard** for placement of an address on a mail-piece (letter or parcel) in USPS Publication 28.
- Neither the NENA nor the USPS standard contain a data model or are intended to be used as the basis for functional address repositories. They are very useful for the business cases (emergency dispatching and mailing) that they serve.
 - ⇒ Comprehensive data standards and data models are critical because they allow the exchange of data between systems, and the use of ubiquitous data in many systems at once.
- Standards for the **assignment** of addresses to specific objects have not been set at the national level. Each local government (city/town or county) assigns according to its own business rules. There is considerable variability among the over 20,000 address-assigning jurisdictions in the United States. There are numerous types of addressing systems in use in the U.S. The most common urban type is a "grid" form, while areas with more challenging topography and rural land uses often use linear referencing (mileposts, etc.) as the basis for their systems. There is no "best practice" system for assignment, although there are certain rules (like putting even and odd numbers on opposite sides of a street) that are helpful in making the scheme comprehensible and easily navigated by citizens.
- Once an addressing system has been put in place in a local community, it is extremely difficult and disruptive to change the fabric of street names and numbers.
 - ⇒ People navigate by their understanding of the addressing system on the ground: street names (with signs) and address numbers (posted on buildings, or listed in records of the local government, private companies, etc.). While digital devices may be useful in locating an address, a well-designed address system should be navigable on the ground without benefit of any device that is dependent on an internet or cell phone connection to supply a map and routing information.



Terms to Know:

- Next Generation 911 (NG-911)
- National Address Database (NAD)
- Federal Geographic Data Committee (FGDC)
- Address Standard Work Group (ASWG)

How is URISA involved?

- URISA has been a leader in promoting the development of national standards through the ASWG (Address Standard Working Group) formed in 2004. Members of this group were the primary authors of the *United States Thoroughfare, Landmark and Postal Address Data Standard*, endorsed by the Federal Geographic Data Committee (FGDC) in 2011.
- URISA has formed a NG-911 (Next Generation 911) Task Force that is working with the ASWG on standards and procedures for provisioning NG-911 dispatching systems with GIS and address data, using standards developed by NENA (the National Emergency Number Association) and FGDC.
- URISA regularly schedules sessions and other presentations on Addressing, NG-911, and other aspects of addresses in GIS applications. From 1998 through 2013, URISA also hosted an Addressing Conference. This may be rescheduled in the near future. An Addressing Special Interest Group is also being formed within URISA.

Where can I find more information about addressing?

United States Census 2020: www.census.gov/2020census

NG9-1-1 Project: www.nena.org/?NG911 Project

National Address Database: www.transportation.gov/nad



URISA is a multi-disciplinary geospatial organization that provides professional education and training, a vibrant and connected community, advocacy for geospatial challenges and issues, and essential resources. URISA fosters excellence in GIS and engages geospatial professionals throughout their careers. For more information, visit www.urisa.org.