Address Point & Street Centerline Data Standard Proposal White Paper

Under Review by the WLIA Technical Committee

10/16/2018

WISCONSIN
LAND INFORMATION
ASSOCIATION

1. Introduction
    a. The Wisconsin Land Information Association (WLIA) is a grassroots organization founded in 1987 representing a collection of concerned professionals working to develop, maintain, and apply a network of statewide land information systems. We are united by an interest in land records modernization, GIS and related technologies, and by the need for government policies and programs that support their efficient and effective application. Following that mission, the WLIA Technical Committee is working toward the development of Address Point and Road Centerline Data Standards for Geographic Information Systems digital datasets.
2. Purpose
    a. The goal is to create a common data exchange format, and ultimately statewide layers, which can feed into many applications that require address data.
        i. Due to this goal of a multipurpose applicability, the standard is not identical to the National Emergency Number Association (NENA) standard. The proposed schema does, however, encompass the NENA standard and therefore can be easily translated to it.
    b. There is no intent to mandate the format in which data custodians are to maintain their own data.
        i. WLIA is not proposing data consumers or producers change any of their current business practices. The common data format will allow users to build tools to intake data into their own systems from a known standardized schema.
3. Layer Descriptions
    a. Street Centerlines
        i. Many municipalities and counties maintain road centerlines with address ranges for their own business needs. These road centerline files support a variety of applications such as address management, vehicle routing, and 911 dispatch.
    b. Address Points
        i. Address points are the basic descriptor needed to identify people and places in our state. In urban areas they are needed to differentiate between units in multi-tenant buildings. In rural areas they are needed to pinpoint a building (home, shed, etc.) on very large tracts of land.
4. Data Standards Proposals
    a. Proposed Address Data Standard
    b. Proposed Road Centerline Data Standard
    c. Proposal Table Field Description
        i. Field: Element Grouping
            1. Identification Element
                a. Unique ID
            2. Relate Element
                a. Key ID's to external related tables
            3. Address Element

        a. Fields required for address standardization and geocoding applications
    4. Area Element
        a. Fields that may be spatially derived by maintained public datasets such as county and state boundaries, or found with US Census reference tables
    5. Functional Element
        a. Metadata about the specific record that affect applications such as routing or geocoding placement
        b. Address Points describe information such as the data point's specific placement within a property
        c. Street Centerlines describe information such as speed limit and one way for routing
    6. Management Element
        a. Record keeping and cartographic data about the specific record such as creation and last edited dates

ii. Field Name
    1. Field names are case sensitive
    2. Field names will not be maintained in a Shapefile (.shp) format due to field name length restrictions

iii. Type, Width
    1. General database types and lengths that should be mapped to their equivalents in SQL, ESRI Field Types etc

iv. Requirement
    1. Mandatory
        a. Ideally, data provided in the proposed schema would have an entry for each record for these fields
    2. Conditional
        a. Data must be provided only when the data exists (i.e. if there is no post directional, a NULL entry is permitted)
    3. Optional
        a. If the data is maintained, ideally it will be provided, but is not required

v. Possible Values
    1. Sample expected values
    2. Boolean fields such as 'Situs' provide examples of standardized values of only 'Yes' or 'No'

vi. Description
    1. Brief Field Description

vii. Note
    1. Example of how Dane County creates the standard. (i.e. 'Populated from Master Street Name DB')

5. Comparison to the National Emergency Number Association (NENA) Standard (https://www.nena.org/page/NG911GISDataModel)

a. Comparison of Proposed Address Data Standard with National Emergency Number Association (NENA) Standard
b. Comparison of Proposed Road Centerline Data Standard with National Emergency Number Association (NENA) Standard
c. NextGen911 (NG911)
    i. NG911 is expected to be one of the applications supported with the proposed data standard. The following simple comparison tables are intended to show how other requirements, such as NG911 via the National Emergency Number Association (NENA) standard, fit within the proposed data standard. In other words, the proposed standard would be used to translate address information into other data standards such as the NENA standard.
d. Description of Comparison
    i. The right section of the table, 'NENA Schema Equivalency', is intended to show the equivalent field in the NENA standard, and denote any differences.
    ii. The bottom right section of the table 'Missing Mandatory or Conditional Fields' denote the fields in the NENA standard that are 'mandatory' or 'conditional' that are currently missing from the proposed standard.
        1. Note: These missing fields may be derived from publically available datasets
    iii. Field Descriptions
        1. Equivalent Field
            a. Translated field name in the NENA standard
        2. Alt. Description
            a. If the NENA description of the field is not exactly the same as proposed, the difference is denoted
        3. Requirement
            a. Required status of the NENA field that matches the proposed standard field
        4. Differences
            a. Denotes specific schema differences in the equivalent fields