Building a Collaborative Process for Address Point Data for Minnesota

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• Define the stakeholders
• Who are the authoritative sources
  • Counties, cities, vendors
• What state is the data in?
• Who are the users?
• Are there standards that already exist and are being used?
• How can we share?
• What data activity is already occurring?
  • Multiple efforts going on
Multiple

- State Agencies
- Counties
- Cities
- Private companies

Multiple needs to cover

- Come together to create once and use many times
- Build a common standard for the data – meets the needs of multiple agencies
- Roles and responsibilities

Use Authoritative data source wherever possible

- Initial data
- Data cleanup
- Data maintenance
• MnDOT – Roads and Highways Deployment
  • Desire to collect directly from authoritative sources

• Metropolitan Council
  • Regional effort - many data sets (parcels, address points, centerlines)

• NG9-1-1
  • Statewide effort – 104 PSAP
  • Moving faster than DOT so became the driver for the local data collect
  • Statewide standards
NG9-1-1 Project

• Create a plan for:
  • Data intake, development, validation, normalization, aggregation, sharing, maintenance
  • Short and long term

• Consider:
  • Roles and responsibility for each stage of the process
  • Technology
    • Architecture is important
    • Make sure to align the technology with what you need to support (e.g. applications, versus web services versus cached basemaps)
    • Don’t forget security
    • Resources to build/support
      • Budget, human resources, in-house, vendor supported
      • Don’t forget the tails
  • Cost Recovery?
Building the process

Basic Steps

• Data intake and access – multiple formats, projections, coordinate systems
  • Portal to bring in data and share back data from stakeholders
• Validate the data
• Report back to the authoritative source
• Standardize
• Aggregate
• Share back to the community
Recognizing the Needs of Stakeholders

- Multiple ways to provide data
- Validated, standardized and aggregated in a single place
- Error an potential issues reports back to the authoritative source
- Shared back to stakeholders and other users in multiple formats to meet a variety of needs
- Vision is that some form of the data is open to all users

Possible Data Flow for Obtaining Addresses Points and Street Centerline Information

Method 1 – Requires regular extracts from authoritative data sources and incorporation of extract, transform and load processes (ETL). This will require a GIS resource or an automated process to mosaic local data together into a stands based data form

Method 2 – Authoritative data sources would be provided a web editing platform that would allow editing of data in a hosted system with a standards based data model. Editing could occur either via a sketchup/redline layer or direct editing of the database with a standards based data model

Method 3 – A process where the authoritative source submits change request to a change management system. This could be through a web based system and could use a sketch up/redline type of system. The aggregator or some other GIS resource would be required to make the change to the GIS data
More Detailed Process
Secure Portal

• Each organization has a provided a single IP for access
• Multiple secure logins per organization
• Each has their own organization
• Incoming and outgoing
• All geospatial data, validation reports, scripts, standards, user guides
• Open Source
Authoritative Data and Challenges
Standards

- Started with what others had done
  - NENA, FGDC, Other States, Metropolitan Council

- Compared fields from each

- Site Structure Address Points, Street Centerlines, ESZ, Authoritative Boundaries

- Schema definitions, examples, roles and responsibilities
Data Validation

- Currently using Python code
  - Test driving some new tools
- Validation reports for each PSAP for each data set
  - In person meeting with each PSAP to go over reports and data issues and inconsistencies
- Authoritative Source cleans up and updates data
- Rerun each time new data is shared
- Shooting for 98%

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Data normalization and Aggregation

• Individual data sets schema mapped to standard
• Data transformed into the standard
• Use of domains for common elements (e.g. City Name, Street name, prefix, etc.)
• Standardized data is aggregated (just starting this process now)
• Shared back to authoritative source and others who need it
  • Data by region, web services, data download for individual county
• New tools being rolled out for online editing (started with ESZ, address point next)
Sharing it back....

- All data to go back to the 9-1-1 community
  - NG9-1-1 specific data will stay within the 9-1-1 community
- Some data – parcels, centerlines, address points – will be opened up to all
  - Data by region, web services, data download for individual county
Questions?

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