



Building a Collaborative Process for Address Point Data for Minnesota

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Build an Understanding ...

- 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

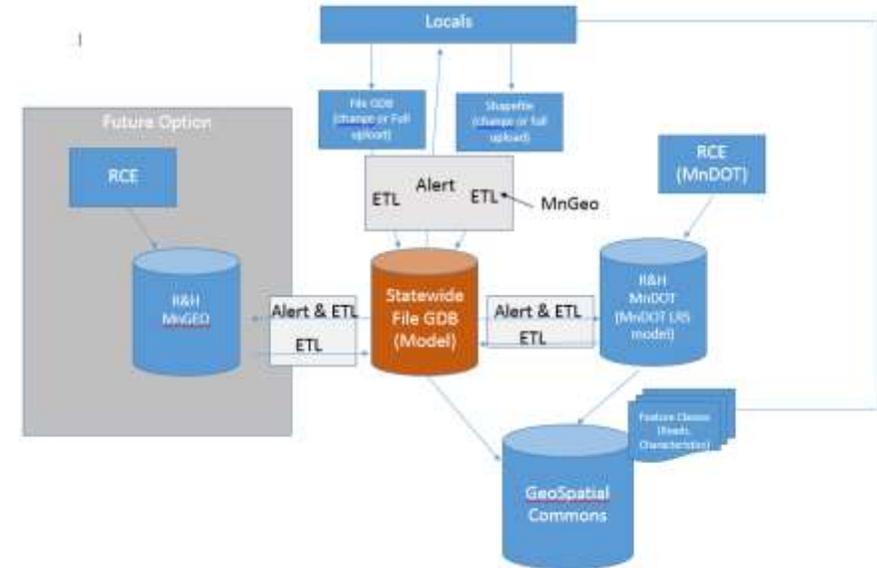
- Come together to create once and use many times
- Build a common standard for the data – meets the needs of multiple agencies
- Roles and responsibilities

Use Authoritative data source wherever possible

- Initial data
- Data cleanup
- Data maintenance

Combining multiple efforts

- 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



Create a plan...

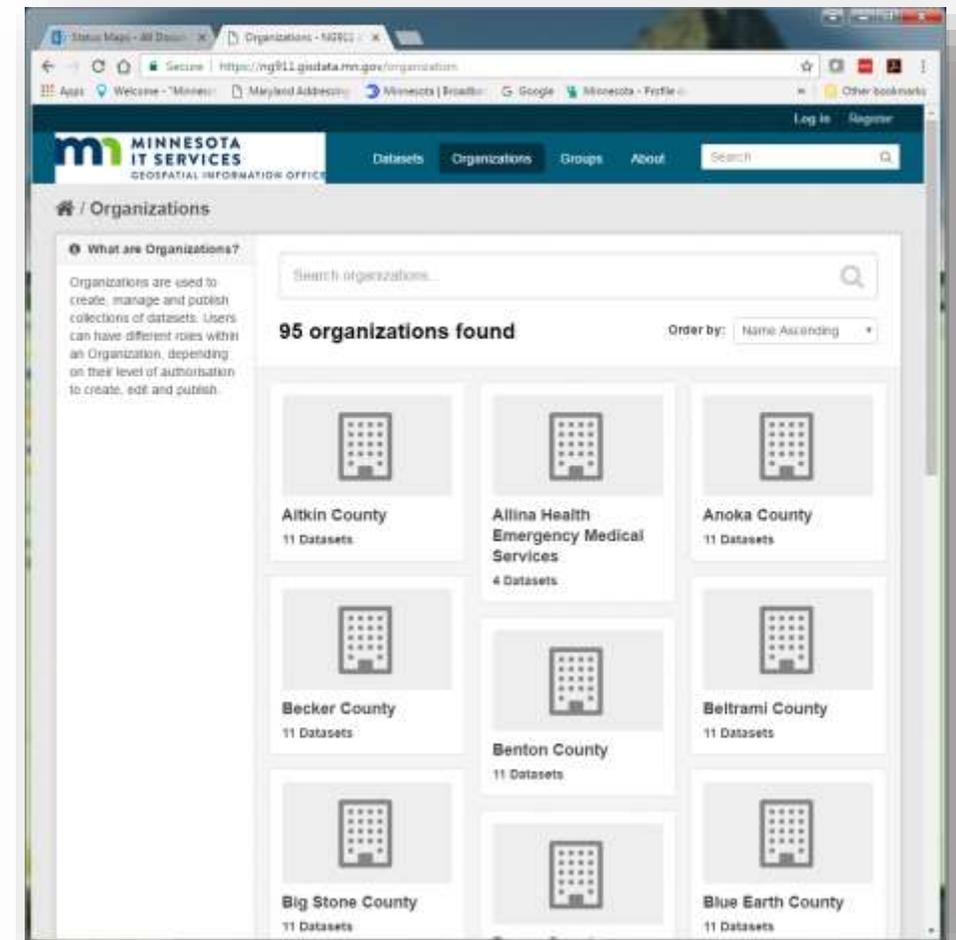
NG9-1-1 Project

- 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?



Basic Steps

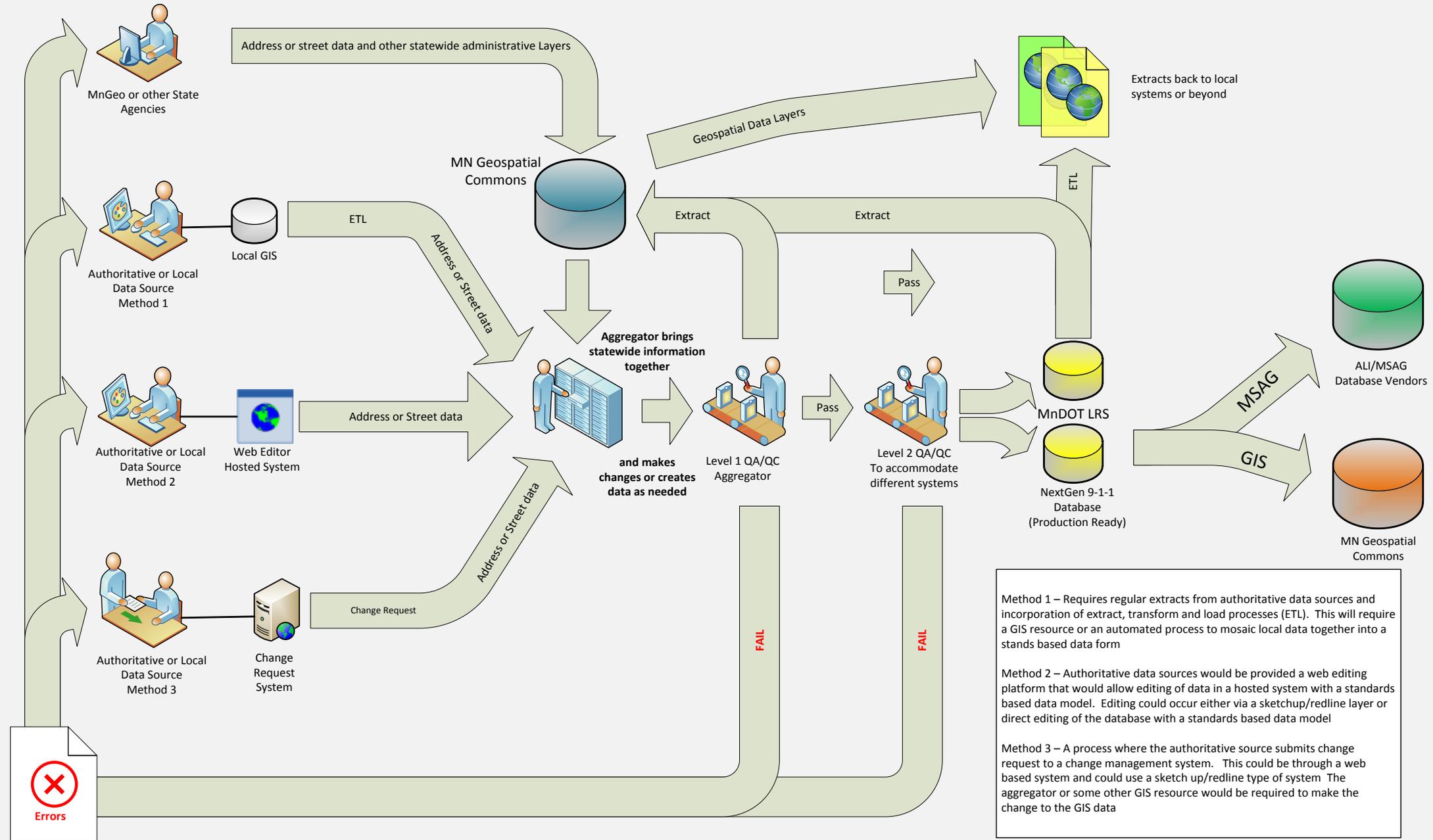
- Data intake and access – multiple formats, projections, coordinate systems
 - Portal to bring in data and share back data from stakeholders
- Validate the data
- Report back to the authoritative source
- Standardize
- Aggregate
- Share back to the community



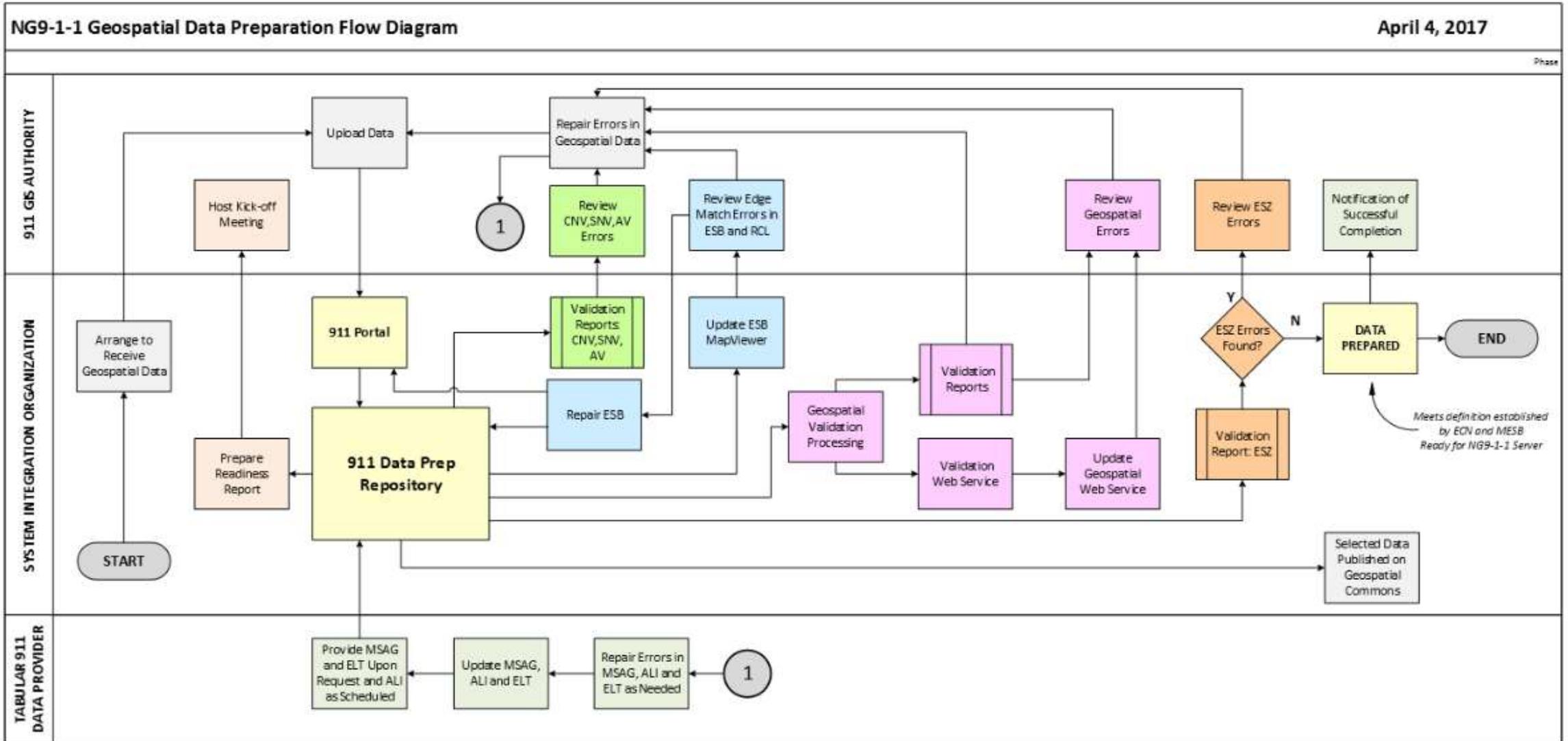
Recognizing the Needs of Stakeholders

- 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

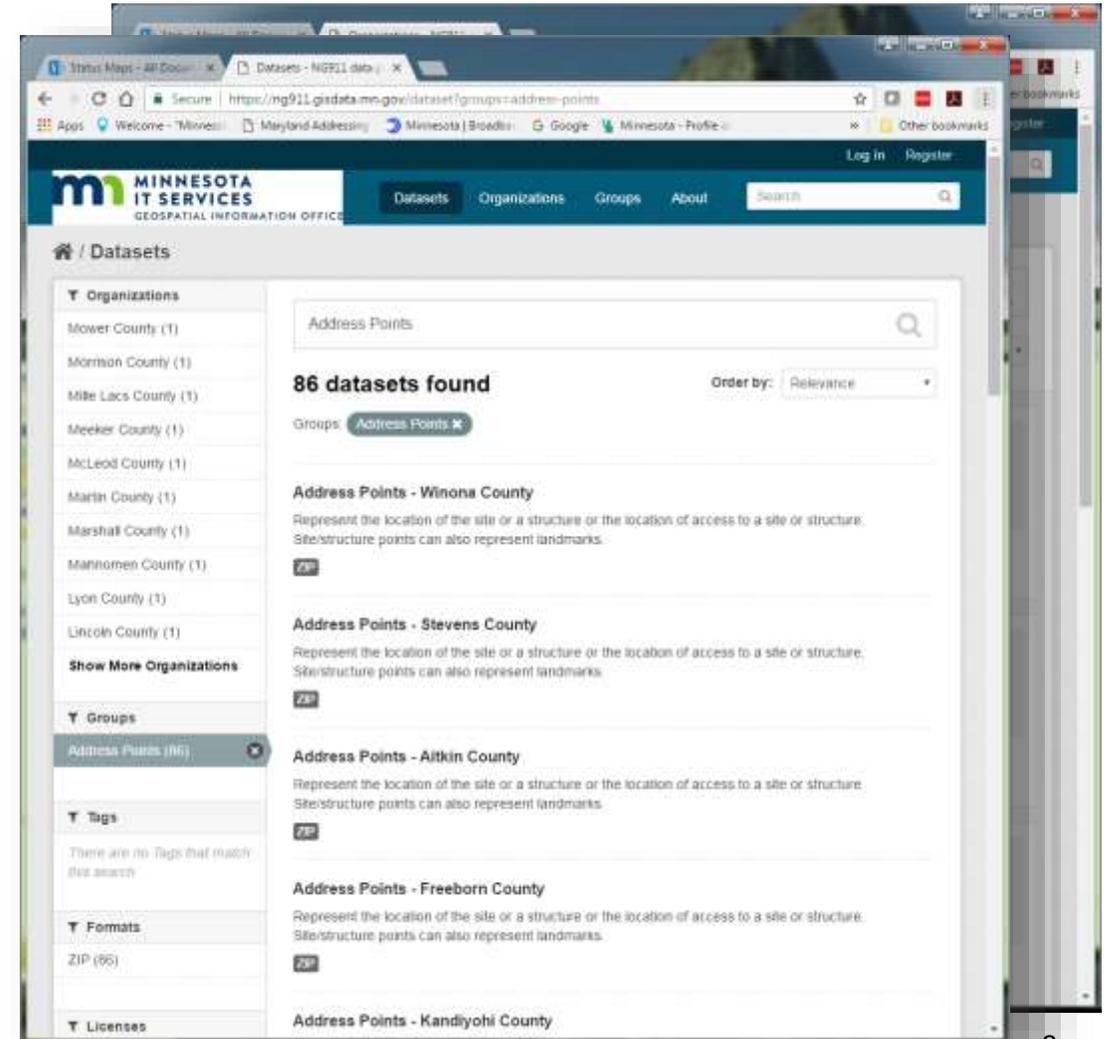


More Detailed Process



Secure Portal

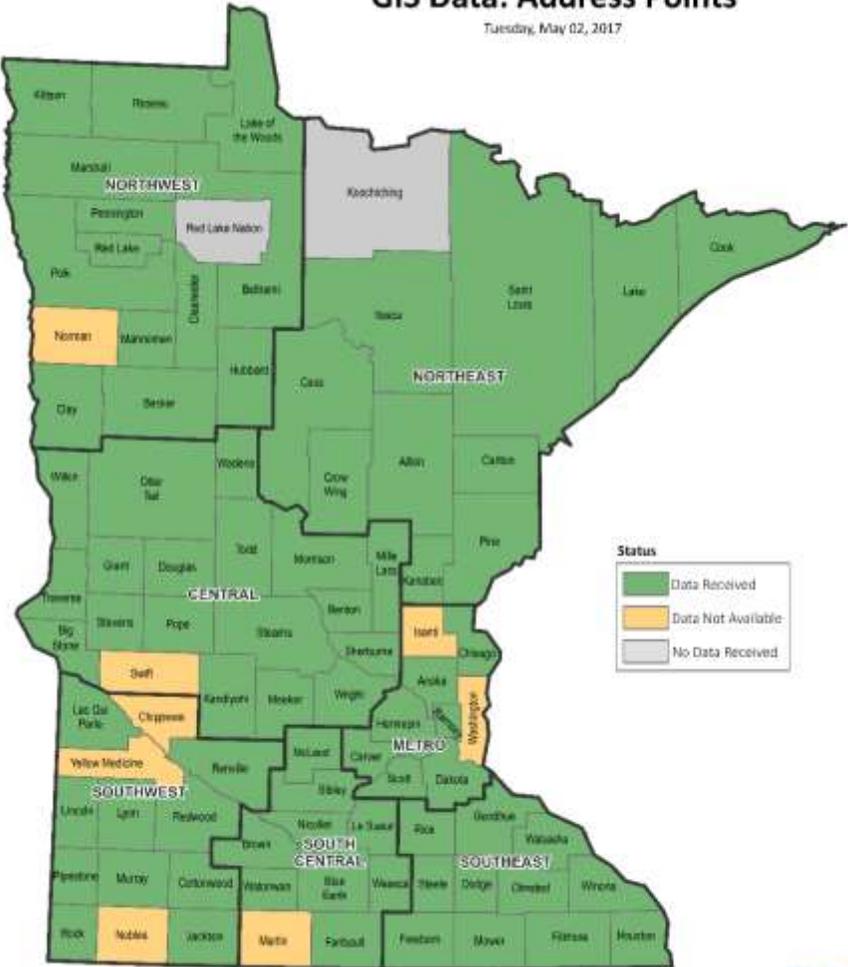
- Each organization has a provided a single IP for access
- Multiple secure logins per organization
- Each has their own organization
- Incoming and outgoing
- All geospatial data, validation reports, scripts, standards, user guides
- Open Source



Authoritative Data and Challenges

GIS Data: Address Points

Tuesday, May 02, 2017

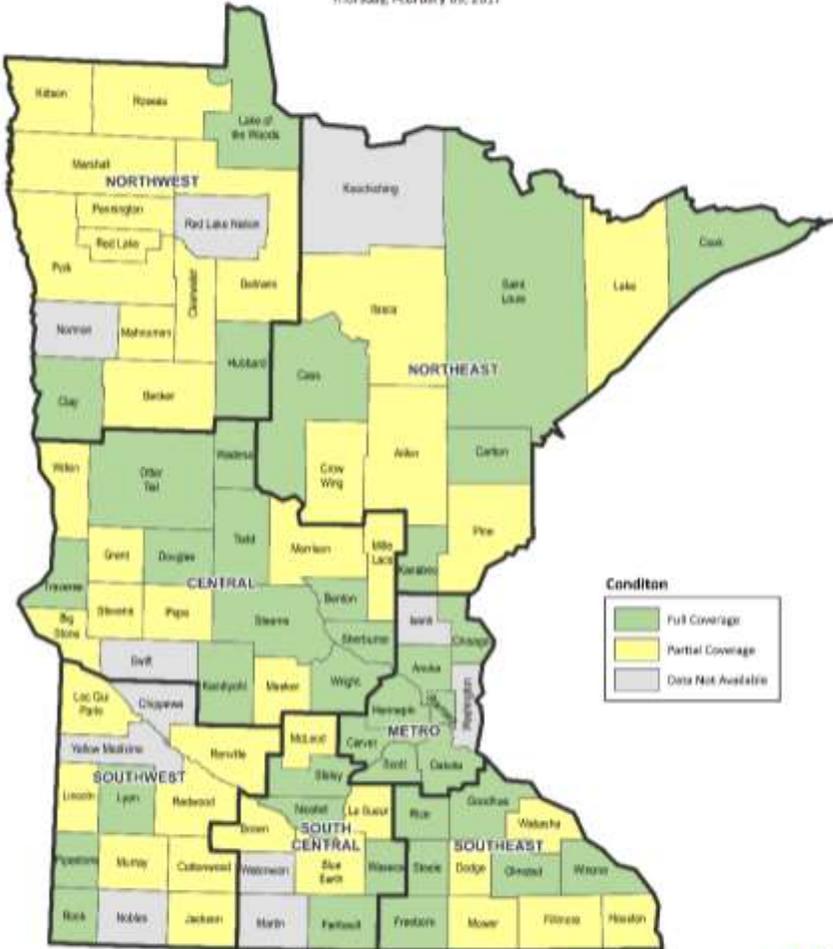


Status

- Data Received
- Data Not Available
- No Data Received

GIS Data Gaps: Address Points

Thursday, February 09, 2017

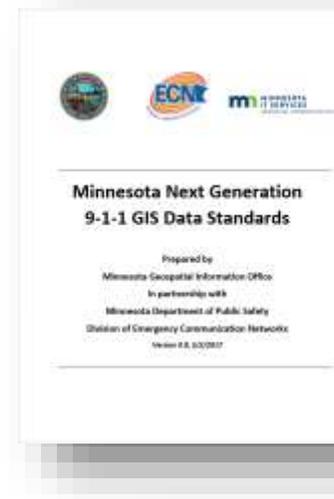


Condition

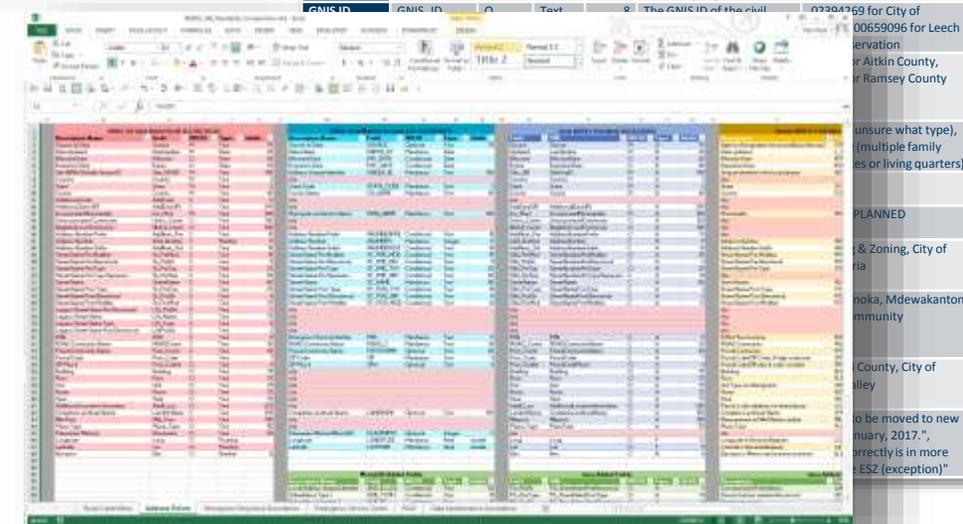
- Full Coverage
- Partial Coverage
- Data Not Available

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



Name	Field	M/C/O	Type	Width	Definition	Examples
Local Address Unique Identifier	ADD_ID_LOC	O	Text	50	The unique identification number assigned to an address by the addressing authority.	21453700, 77E45619
Subaddress Type 1	SUB_TYPE1	O	Text	12	The primary type of subaddress to which the associated Subaddress Identifier applies.	APARTMENT 17C, BUILDING 6, TOWER B, FLOOR 2, SUITE 1040 (subaddress type in bold)
Subaddress Identifier 1	SUB_ID1	O	Text	12	The primary identifier used to distinguish different subaddresses of the same type when several occur within the same structure.	APARTMENT 17C, BUILDING 6, TOWER B, FLOOR 2, SUITE 1040 (subaddress identifier in bold)
Subaddress Type 2	SUB_TYPE2	O	Text	12	The secondary type of subaddress to which the associated Subaddress Identifier applies.	APARTMENT 17C, BUILDING 6, TOWER B, FLOOR 2, SUITE 1040 (subaddress type in bold)
Subaddress Identifier 2	SUB_ID2	O	Text	12	The secondary identifier used to distinguish different subaddresses of the same type when several occur within the same structure.	APARTMENT 17C, BUILDING 6, TOWER B, FLOOR 2, SUITE 1040 (subaddress identifier in bold)
Parcel Unique Identifier	PIN	O	Text	17	Unique state-wide parcel ID comprised of the COUNTY_CODE and Parcel or Property Identification Number (PIN).	27123-7524136698



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%

	A	B	C	D	E
1	Fields	NG_911	M/C/O	National Minimum Content Guideline	Aitkin
2					
3	UNIQUE_ID	UNIQUE_ID	M	GUID	
4	UNIQUE_ID_TYPE	TEXT			
5	UNIQUE_ID_LENGTH		38		
6					
7	Address Number Prefix	ANUMBERPRE	C	AddNum_Pre	
8	Address Number Prefix_TYPE	TEXT		TEXT	
9	Address Number Prefix_LENGTH		15		15
10					
11	Address Number	ANUMBER	M	Add_Num	STH_NUM
12	Address Number_TYPE	LONG		Long	TEXT
13	Address Number_LENGTH		6		6
14					10
15	Address Number Suffix	ANUMBERSUF	C	AddNum_Suf	
16	Address Number Suffix_TYPE	TEXT		TEXT	
17	Address Number Suffix_LENGTH		15		15
18					
19	Street Name Pre Directional	ST_PRE_DIR	C	STN_PreDir	PRE_DIR
20	Street Name Pre Directional_TYPE	TEXT		TEXT	TEXT
21	Street Name Pre Directional_LENGTH		9		50
22					2
23	Street Name Pre Type	ST_PRE_TYP	C	STN_PreTyp	
24	Street Name Pre Type_TYPE	TEXT		TEXT	
25	Street Name Pre Type_LENGTH		25		25
26					
27	Street Name Pre Type Separator	ST_PRE_SEP	O	STN_PreSep	
28	Street Name Pre Type Separator_TYPE	TEXT		TEXT	
29	Street Name Pre Type Separator_LENGTH		20		20
30					
31	ST_NAME	ST_NAME	M	StreetName	STH_NAME
32	ST_NAME_TYPE	TEXT		TEXT	TEXT
33	ST_NAME_LENGTH		60		60
34					75
35	Street Name Post Type	ST_POST_TYP	C	STN_PostTyp	STH_TYP

of NU address: 0

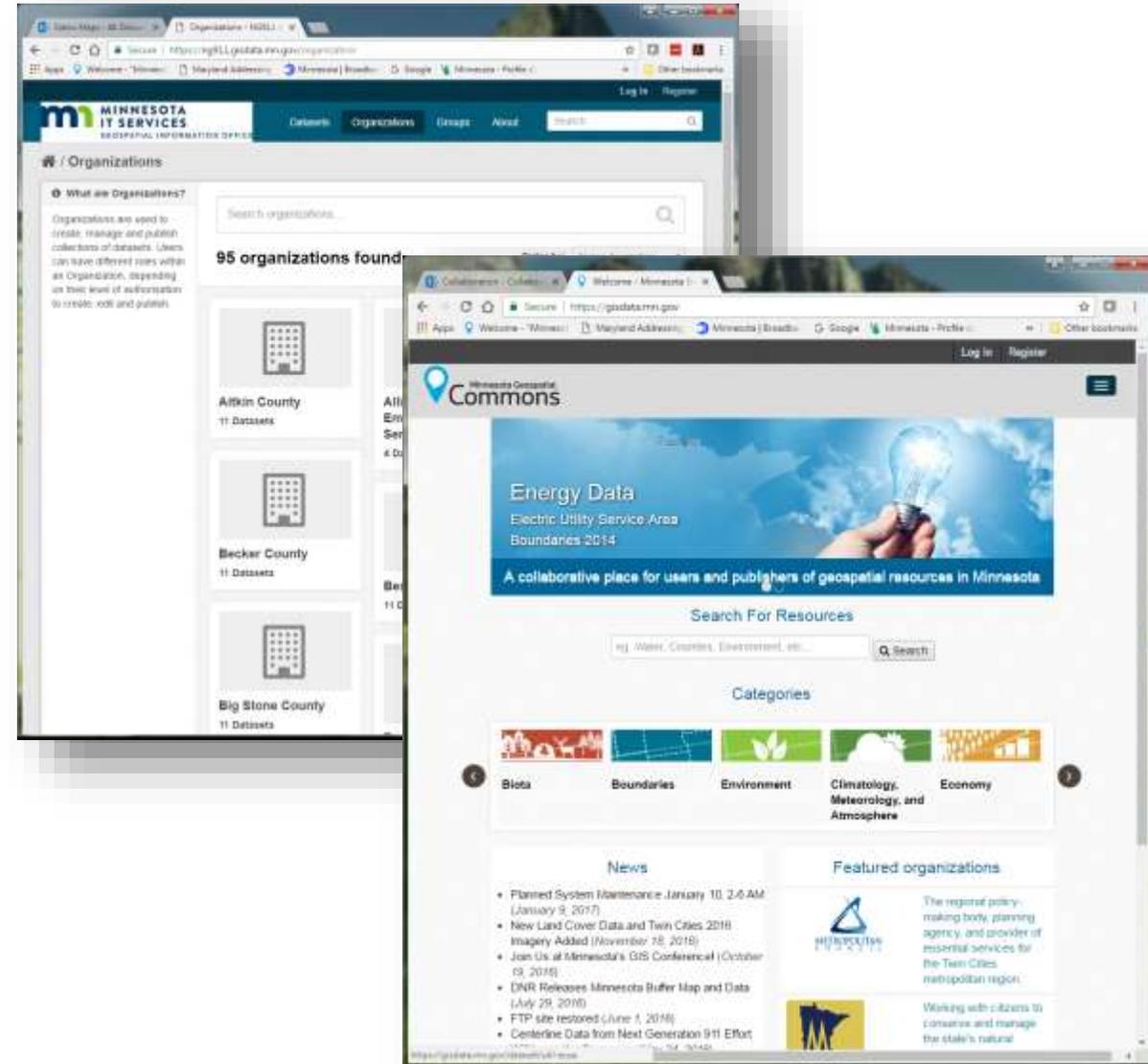
% Address Point Match Rate: 93.00%

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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