Virginia Road Centerline Data Standard

Agenda

TOC Review
NVRRCL Regional model
VGIN/VDOT Common Data Model
RCL Existing Schema
RCL Proposed Schema Additions
RCL Proposed Attributes

Draft Overview Table of Contents

1) **Developing Road Centerlines**
    a) Road Centerline Schema
    b) Road Centerline Attributes
2) **Road Centerline Field Standardization**
    a) Addressing Standards For Road Centerline
    b) Road Name Standards for Road Centerline
    c) Roadway Characteristics from VDOT and Localities

NVRRCL

- Five jurisdictions in Northern Virginia desired to route across region by using a single data model and standardized data elements

- PSAP grant to develop model, ETL, QC processes, and error reporting application for localities in the region and VGIN

- Used existing standards from FGDC, USPS, & NENA along with NOVA specific standards for CAD

- Local and State stakeholder input into model development process

- Relational database model: centerline geometry, 3 related tables and relationship classes

- Developed snap points for edge matching

VDOT Common Data Model

- Data sharing transfer model between VGIN and VDOT
- VGIN and VDOT data input into development and transfer processes
- Used NOVA model as basis for relational elements in locality attribution (Street Name table and Address Range table)
- Provides VGIN and publication data sets access to key roadway characteristics
- Allows flexibility to provide more data via ID values

Existing and Proposed Schema:

- ID Values

- Street Names

- Address Ranges

- VDOT Roadway Characteristics

- Routing & Symbology

- NENA NG911 Components

Existing RCL Schema

IDs

Database Value	Source
Statewide Road Centerline ID	VGIN
VDOT Database ID	VDOT
Local Government ID	Jurisdiction

Database Maintenance

Database Value	Source
Geometry Source/ Segmentation Provider	VGIN
Geometry Edit Type	VGIN
Database Centerline Geometry Edit Date	VGIN
Database Street Name Edit Date	VGIN
Database Address Range Edit Date	VGIN
Database Routing Attribute Edit Date	VGIN

Administrative

Database Value	Source
FIPS / Locality	VGIN
Zip Code Left	VGIN/Locality
Zip Code Right	VGIN/Locality

Existing RCL Schema

Street Name

Database Element	Source
Street Prefix Directional	Locality
Street Prefix Modifier	Locality
Street Prefix Type	Locality
Street Name	Locality
Street Suffix	Locality
Street Suffix Directional	Locality
Street Suffix Directional Modifier	Locality
Full Street Name	Locality

Address Ranges

Database Element	Source
From Left Address	Locality
To Left Address	Locality
From Right Address	Locality
To Right Address	Locality
Address Range Type	Locality

Existing RCL Schema

Roadway Characteristics

Data Element	Source
VDOT Route Number	VDOT
Route Type	VDOT
Route Category	VDOT
Functional Class	VDOT
Pavement Type	VDOT
Speed Limit (posted where available)	VDOT
Lane Count	VDOT
Pavement Width	VDOT
Surface Width	VDOT
Average Annual Daily Traffic	VDOT

Routing & Symbology

Data Element	Source
One Way Direction Indicator	Locality/VGIN
Speed Limit (CAD/Local)	Locality/VGIN
Divided Highway Indicator	Locality/VGIN
MTFCC	Census
Segment Type Classification	NOVA/VGIN

Proposed RCL Schema

Needs:

- Gradually move Virginia toward a relational database environment:

  - Carry Alternate and Alias Road names in separate table

  - Carry Alternate and secondary address ranges in separate table

- Fill in Gaps where NG911 data will be necessary (NENA)

Proposed RCL Schema

Column Additions:

- Community Left ?

- Community Right ?

- ESN Left ?

- ESN Right ?

- Workgroup recommendations for gaps in schema?

- NENA NG911 data model elements?

Attributes

Data Maintenance:

-     Localities to maintain a unique and persistent numeric centerline ID value in their own database

Addressing Data Standards:

- Follow NENA addressing standards and best practices for data entry

Road Name Data Standards:

- Use existing USPS elements along with NENA for data entry

Attributes

- Implement GDB domain and LOV tables for QC and standardization

- Reduce data entry error and allow "cleaner" concatenations for MSAG/ALI synchronization

- Follow NENA guidelines for address entry

- Use USPS standards which are easily available

Attributes

Street Name attribute domain values which follow USPS for:

- Directional (Prefix & Suffix)
- Prefix Type
- Street Suffixes
- Prefix Modifier
- Suffix Modifier

Address Range attribute domain value for:

- Address Range Type

Roadway Characteristics – VDOT info as domain

Routing – One Way, MTFCC, Miscellaneous Y/N characters

Conclusion

Final Comments? Questions?

Next Workgroup meeting:

- Tuesday July, 14th @ 2

- Topic: GEOMETRY ☺