TIPS Development

Tennessee Information for Public Safety
Statewide GIS program
Next Generation 9-1-1

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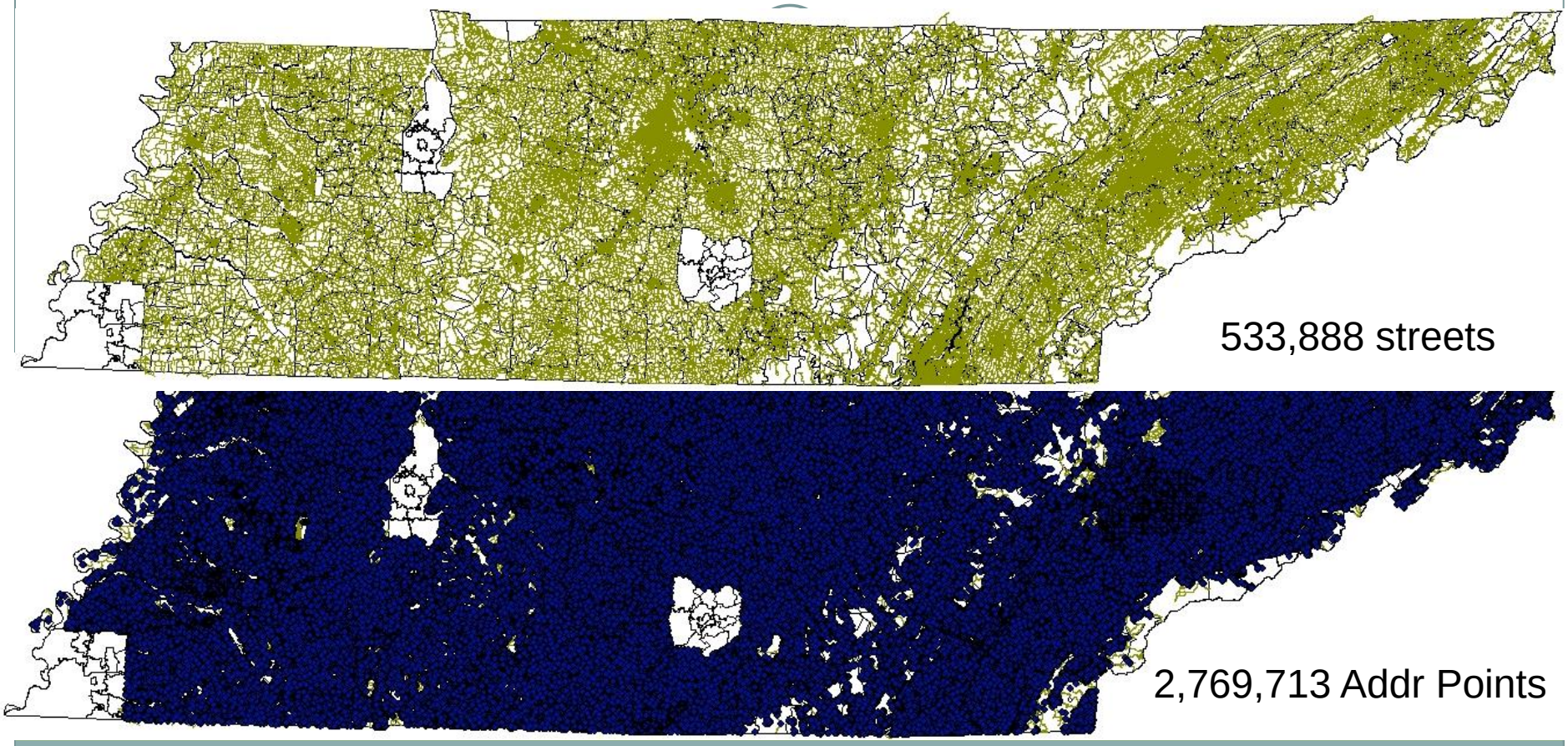
Current Status



Over Simplified Steps for building your Next Gen 9-1-1 GIS

Step 1 – Develop a data format that will satisfy the needs/requirements

Step 2 – Adopt a data format standard (that is flexible)

Step 3 – Migrate all 9-1-1 districts to standard data format

Step 4 – Develop program to find changes and passes those to the State

Step 5 – Develop programs to check the quality of the data

Step 6 – Work with 9-1-1 districts to clean up the data for use in Next Gen 9-1-1

Step 7 – Conduct regional meetings to build out a statewide, seamless call routing layer

Step 8 – Develop a user friendly web site for maintenance of call routing boundaries

Step 9 – Process data to ECRF nightly

Step 10 – Breathe

Step 1 – Develop a data format

- Things to take into account
  - How will it work with current vendors?
  - Can it integrate in the various requirements of the various NENA documents?
  - How many fields will a 9-1-1 center actually take the time to fill in?
  - Will it allow flexibility for varying requirements?
    - School bus routing, voting districts, etc
  - What is your base software?
    - Tennessee has chosen to do all work in ESRI format

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Step 2 – Adopt a data format standard

- Once a data format has been developed work with shareholders to have the format adopted for the project
  - Tennessee Emergency Communications Board
    - As a recommended by the Operations Committee adopted the TIPS format statewide
      - Standard format for:
        - Address Points
        - Street Centerlines
        - ESN boundaries
      - Also required a form submitted with:
        - District GIS contact
        - Maintenance plan

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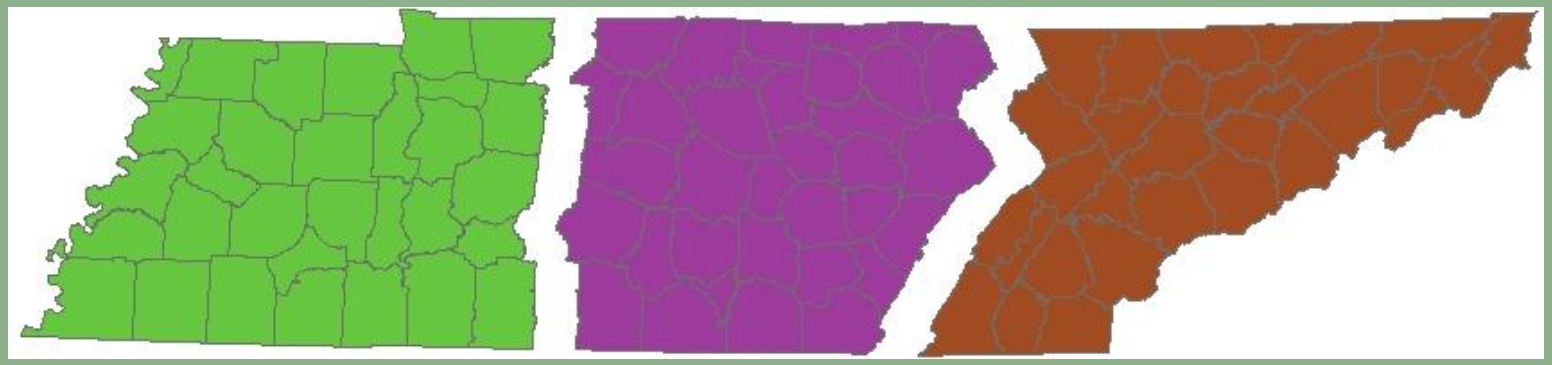
Step 3 – Migrate all 9-1-1 districts to format

- The State was broken up into 3 regions
  - One regional rep for each
  - ~33 districts per region
  - They worked to coordinate with districts and did the migration
    - Needed to know who the 9-1-1 Mapping vendor was to determine process



Step 4 – Develop program to find changes

- Looked at standard off the shelf solutions
  - ESRI replication
  - Backup software
- Decided that a home built solution would allow the most flexibility
  - Allows for additional fields at district for other purposes
  - Allows district to maintain local data – state to maintain state
  - Integrates in quality checks prior to data submission to state
  - Data at state is only TIPS fields, others don't get transferred

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Step 5 – Develop programs to check the quality

- Quality checks were developed to ensure data integrity for Next Gen 9-1-1
  - Through many reviews of the NENA quality requirements
  - Through past experience of building data
- Examples:
  - Street segment address overlaps
  - Points and centerlines match
  - Duplicate feature testing
  - MSAG test
  - ALI test
  - Segment direction and parity test

Step 6 – Work with 9-1-1 districts

- Most 9-1-1 facilities do not have GIS expertise
- The size and scope of this work is daunting
- If the task seems to daunting this can cause the districts to resist
- Having the regional people assigned gives the districts the sense of “not being alone”

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Step 7 – Conduct regional meetings

- A chance to get districts together – this was a rarity
- Seamless call routing boundary meeting
  - The 9-1-1 directors attended these meetings
  - My regional analysts edited the GIS data
  - Once editing was completed the directors got a copy of the data to verify
  - Attempts were made to have districts maintain
    - This was unsuccessful

Step 8 – Develop a user friendly web site

- In order to maintain the seamless call routing boundaries
- Attempts were made to have each district maintain but holes were created
  - Likely due to ESRI licensing restrictions for topology
- Proposal was made to have an easy to use web site where directors could submit changes to boundaries
- State saw the value of this and authorized the development

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Step 9 – Process data to ECRF nightly

- Testing to pass statewide data to ECRF will begin soon.
- Likely going to use ESRI standard replication process
- Database will be duplicated 100%
- Processing will need to happen prior to replication to ensure appropriate fields are added and maintained
  - Postal community
  - Country
  - Others as determined

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Step 10 – Breathe

- Nothing goes smooth
- There are going to be hiccups
  - ESRI version updates
  - New computers
  - Network issues
  - Server crashes
  - District introduced errors (mass deletes)
  - Data is moved
  - District changes Vendor

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