Address Point Creation Using ArcGIS Desktop & Mobile Platforms

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County of Lexington, South Carolina
Planning & GIS
Lexington County

750 square miles
15 municipalities

Lake Murray
50 square miles

Over 120,000 Dwelling Units
Lexington County Addressing

- Structure/feature – power, water, septic or permit
- Unincorporated area – 195,000 people
Point Addressing?

- Solid Waste
- E911 & NextGen9-1-1
- Public Safety
  - Services
    - Building Inspections / Permitting / Zoning
    - Appraisers
- Municipalities & Schools
- General Public – via Maptopia
• Assumes address is more accurate than what you have today
• Z-factor is coming – above and below ground
• National database for address points
• NENA group working on address point standards
NG9-1-1 Options

1. Side of road
2. Near road on parcel
3. Parcel or parcel centroid
4. Near road on driveway or access
5. Centroid of structure
6. Front door or entry way
360 Pilgrim Church Rd is actually here

360 Pilgrim Church Rd would appear here with geocoding to roads
In the Beginning...
Data Collection

- Original Address Assignment Data
- Tax Assessor Records
- Zoning
- Building Permits
- 911 Telephone Records
- Municipalities
- Postal Data
How We Started

• Geodatabases created based on 18 zip codes
• Also divided by Residential and Commercial
• 9 people started editing in ArcMap
• 2 people took over & did lions share
• Massive data compilation
• Modified points - loaded into The Addresser
Our Point Addressing
Point Placement

Front door or primary entrance to the structure
• ArcMap alone is too time consuming
• BCS ~ The Addresser ~ *created by Scott Davis who has local addressing experience*
• Allows our municipalities to edit/update their addresses
The Addressee

- Desktop – ArcMap extension
- Web based version – Javascript API
- Live editing of address points
- Mobile App for editing in the field
The Desktop Addresser

- Used primarily for road editing
- Ability to add additional layers on the fly
- Re-symbolize layers to visually find errors
County and municipalities can edit address points within the same database.

Edit within municipal boundary only.

Can set addressing rules.
- Identify and search tools
• About 150 apartment units for one parcel

• Over 250 mobile homes on one parcel

Can assign multiple addresses per parcel
## Point Classification

<table>
<thead>
<tr>
<th>Source</th>
<th>Unit Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apt Building Layout</td>
<td>Apartment</td>
</tr>
<tr>
<td>Apt Unit Layout</td>
<td>Office</td>
</tr>
<tr>
<td>Archived Maps</td>
<td>Building</td>
</tr>
<tr>
<td>Building Permit Data</td>
<td>Room</td>
</tr>
<tr>
<td>Call In</td>
<td>Basement</td>
</tr>
<tr>
<td>Dept Initiated</td>
<td>Side</td>
</tr>
<tr>
<td>E911 Data</td>
<td>Department</td>
</tr>
<tr>
<td>Field Verified</td>
<td>Slip</td>
</tr>
<tr>
<td>Municipality</td>
<td>Floor</td>
</tr>
<tr>
<td></td>
<td>Space</td>
</tr>
<tr>
<td></td>
<td>Front</td>
</tr>
<tr>
<td></td>
<td>Suite</td>
</tr>
<tr>
<td></td>
<td>Hanger</td>
</tr>
<tr>
<td></td>
<td>Stop</td>
</tr>
<tr>
<td></td>
<td>Lobby</td>
</tr>
<tr>
<td></td>
<td>Trailer</td>
</tr>
<tr>
<td></td>
<td>Lot</td>
</tr>
<tr>
<td></td>
<td>Unit</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Data</td>
<td></td>
</tr>
<tr>
<td>Postal Data</td>
<td></td>
</tr>
<tr>
<td>Property Parcel Data</td>
<td></td>
</tr>
<tr>
<td>Telephone Data</td>
<td></td>
</tr>
<tr>
<td>Subdivision Data</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
</tr>
<tr>
<td>Walk In</td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td></td>
</tr>
<tr>
<td>Zoning</td>
<td></td>
</tr>
</tbody>
</table>
## Point Classification

<table>
<thead>
<tr>
<th>Status</th>
<th>Dwelling Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>Accessory Building</td>
</tr>
<tr>
<td>Preliminary</td>
<td>Mobile Home</td>
</tr>
<tr>
<td>Inactive</td>
<td>Activity/Event</td>
</tr>
<tr>
<td>Field Check</td>
<td>Mobile Home Park</td>
</tr>
<tr>
<td>Nonstandard</td>
<td>Apartment</td>
</tr>
<tr>
<td>To Be Placed</td>
<td>Multiple Use</td>
</tr>
<tr>
<td></td>
<td>Business</td>
</tr>
<tr>
<td></td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Cemetery</td>
</tr>
<tr>
<td></td>
<td>Residential</td>
</tr>
<tr>
<td></td>
<td>Commercial Center</td>
</tr>
<tr>
<td></td>
<td>School</td>
</tr>
<tr>
<td></td>
<td>Condo</td>
</tr>
<tr>
<td></td>
<td>Signs</td>
</tr>
<tr>
<td></td>
<td>Church</td>
</tr>
<tr>
<td></td>
<td>Townhome</td>
</tr>
<tr>
<td></td>
<td>Detention Pond</td>
</tr>
<tr>
<td></td>
<td>University/College</td>
</tr>
<tr>
<td></td>
<td>Duplex</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Government</td>
</tr>
<tr>
<td></td>
<td>Utility</td>
</tr>
</tbody>
</table>
Common Point Errors

- Number Unknown
Common Point Errors

- Road Names Discrepancy
  - Rail Fence vs Railfence
  - Pebble Branch vs Pebblebranch
  - Endicott St vs Endicot St
  - Dowd Rd vs Dowd Dr
  - Isiah Hall vs Isaiah Hallman
  - Appaloosa Dr vs Appalossa Trl
  - Lloydswood Dr vs Lloydwood Dr
  - Lloydwoods Dr vs Lloyd Woods Dr
  - Point vs Pointe
What makes a Road Name “Official”?

- Original Name Reservation
- Subdivision Plat
- Road Sign
- 911 MSAG
- Road Centerline
- Road Naming Petition
- Municipal Declaration
- SCDOT Data
- Public Works Data
- Drivers License
- Deed
- Designated government department
Common Point Errors

- Address is out of Street Range
Common Point Errors

- Zip Codes Disagree
Common Point Errors

- Odd and Even Numbers on wrong side
Common Point Errors

- Developers re-subdividing lots in a subdivision
Common Point Errors

- Other Data Interference ...
- i.e. Parcels are wrong so addresses are wrong
Common Point Errors

- Address Point Completely Missing
  - MHP lot numbers
  - Apartment units
  - Commercial centers
Neither was on the rolls before Pictometry nor after the first or second flight
How to look for what is not there?

- Pattern with grid
Addresser Mobile

- JavaScript API and HTML 5
- Any Tablets (iPad, Android, and Surface)
- iPad app in development for disconnected editing
Address Validation

Enter Attributes

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>enter address</td>
</tr>
<tr>
<td>Half</td>
<td>N/A</td>
</tr>
<tr>
<td>Unit Type</td>
<td>N/A</td>
</tr>
<tr>
<td>Unit</td>
<td></td>
</tr>
<tr>
<td>Town</td>
<td>enter town</td>
</tr>
<tr>
<td>Discrepancy</td>
<td>select a discrepancy</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Contact</td>
<td>your name</td>
</tr>
<tr>
<td>Phone</td>
<td>your phone</td>
</tr>
<tr>
<td>eMail</td>
<td>your email</td>
</tr>
</tbody>
</table>

Save  | Cancel
• Used within ArcMap and TheAddresser
• Obliques with multiple viewing angles
• Assist with structure classification
• Can overlay GIS layers
- Get address right
- Alert lead Appraiser
- Correct address in CAMA
- Add appropriate notes
• 45% of county - 850
• Same urban / rural
• 2015 Pictometry coming
Look for “missing”
Search for layer sets
  - Churches, Businesses, etc.
Sweep ~ different direction
Usual queries
  - 9-1-1
  - EMS
  - School routing
Geocode against address points
Public
Apartments

➢ Oblique view is invaluable
Shopping Centers

➢ Oblique view saves time and field checks
Uses of Address Points

- 911
- Public Safety
- Solid Waste
- School Districts
- Code Enforcement
- Residential Permits
- LUCA
- Library Patronage Verification
- Assessor
- Voter Registration
Looking Ahead

- Addressing 80 miles of 3 rivers for river rescue

- Address points correlate with river markers