Geocoding an Address List

Updated: May 21, 2012
Software: ArcGIS for Desktop – ArcCatalog 10.0

Background:

Lists of addresses can be added to a map through a process called geocoding, which finds the location of an address based on a set of GIS reference data such as a road centerline layer or address point layer. The accuracy of the input address list and the GIS reference layer determines the success rate of the geocoding process.

Geocoding uses an Address Locator to find the location of each address in the list. A score is given to each address based on how closely it matches the reference data. The address locator is programmed to automatically accept matches that are above a specified score. If the address score falls below the minimum acceptable match score, then the address point will not be added to the map. Addresses that do not find a match can be re-matched using the Interactive Review tool.

The geocoding process can be completed in either ArcMap or ArcCatalog. Addresses saved in an MS Excel spreadsheet can be geocoded directly without saving the data in another format. These directions describe performing the geocoding function within ArcCatalog.

Procedures:

1. Open ArcCatalog

2. Navigate to the folder where the address list is saved

   a. Click the + to expand the folder contents

   b. Double-click the Excel workbook that contains the address list to show the individual worksheets

3. Right-click the worksheet containing the address list → Geocode Addresses
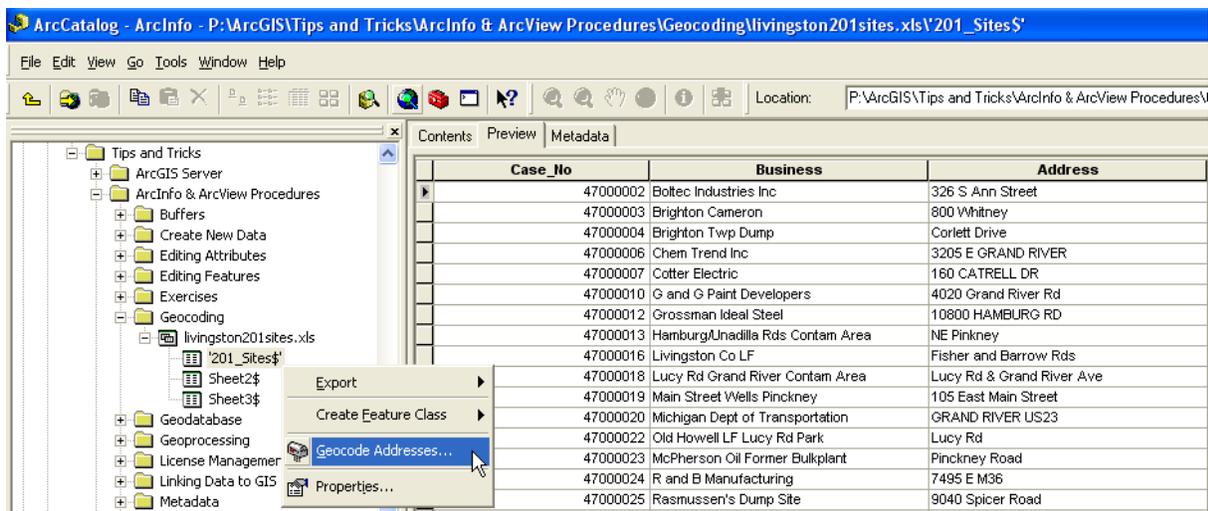
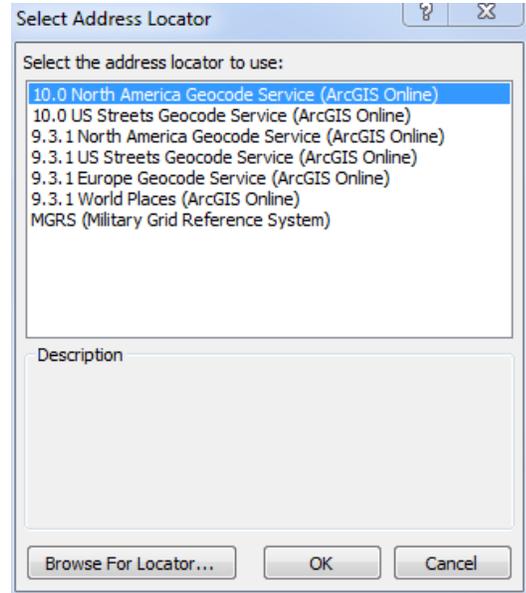**4.** Click Browse for Locator in the Select Address Locator dialog box

5. Navigate to an address locator:
   a. P:\Data\Roads → Roads Address Locator OR P:\Data\AddressPoints → Address Locator 10 OR P:\Data\Roads → Composite Address Locator

   b. Click Choose

> **Tip:** If you have not created an Address Locator, follow the instructions titled "Setting Up an Address Locator" prior to completing Step 5.
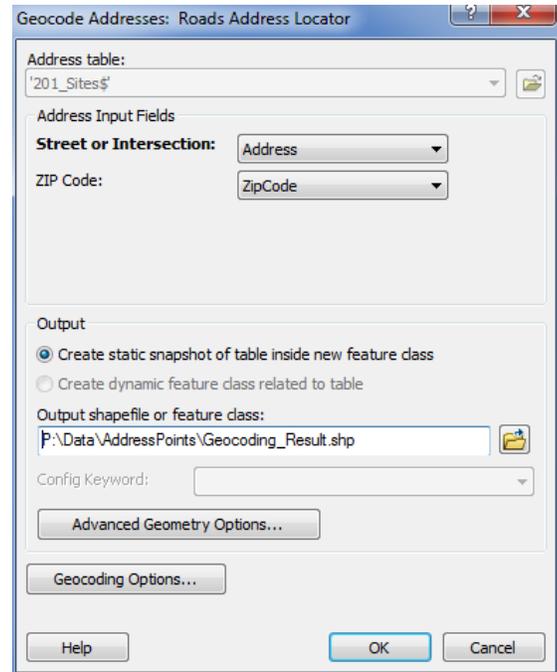
6. Review the Geocode Addresses dialog box

   a. From the Street or Intersection: drop-down, select the field that contains the addresses

   b. From the ZIP Code: drop-down, select the field that contains the ZIP code data

   c. Specify an output location for the new shapefile that is created by the geocoding process

   d. Click OK

> **Tip:** If the address spreadsheet does not have ZIP codes, click Geocoding Options… Change the Minimum match score to 45 to have a greater number of automatic matches.
>
> The Geocoding Options dialog box also allows you to specify the distance away from the road centerline for points added to the map and calculate the X, Y coordinates for each point.

7. Review the geocoding results shown in the Geocoding Addresses dialog box
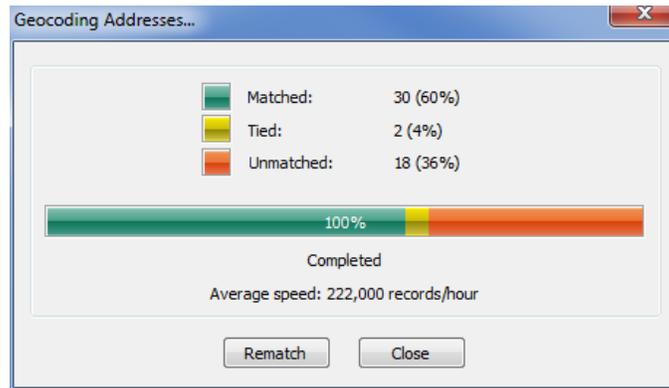
a. If addresses are unmatched, click Rematch to open the Interactive Rematch window

b. Select Unmatched Addresses from the Show Results drop-down

Interactive match scenarios are explained below:

| Scenario	Resolution	Example
Missing house number or business name listed in address	Look up address in another source, if possible	E Grand River/Cornell = 2165 E Grand River
Grand River address	Try Rd, Ave, or nothing as a suffix	4020 Grand River Rd = 4020 E Grand River
Lakeland, Hamburg, or Cohoctah Post Offices OR ZIP is NULL	Delete ZIP code from Zone	10800 Hamburg Rd, 48139 = 10800 Hambug Rd
Road intersection	Use & between road names	Fisher and Barrow Rds = Fisher Rd & Barrow Rd
Road name misspelled	Correct spelling by adding or removing spaces in the road name or typing correct name	Fisher and Barrow Rds = Fisher Rd & Barron Rd
Pre-direction missing	Add N, E, S, or W before road name	4325 Old US23 = 4325 S Old US23
ZIP code incorrect	Type correct ZIP code in Zone	410 E Marr Rd, 48843 = 410 E Marr Rd, 48855
Suffix missing for roads where last word is an acceptable suffix	Add Rd or Dr to road name	6150 Whitmore Lake = 6150 Whitmore Lake Rd
Numeric roads	Spell out name of road	12676 West 10 Mile Rd = 12676 West Ten Mile Rd

8. Correct any errors following the examples cited in the table above

a. Select an address in the table so it is highlighted in blue

b. Fix address information
   i. Type address or road name corrections in the Street or Intersection box

   ii. Type correct ZIP code or delete ZIP code in the Zone box

Tip: Pressing tab after entering correct info will also rematch the address

c. Either hit Enter or click Search to find the potential matches

d. Select the record in the Candidates window that is the best match

e. Click Match

   i. Status will change from U to M and the standardized address will display in the Match_addr field
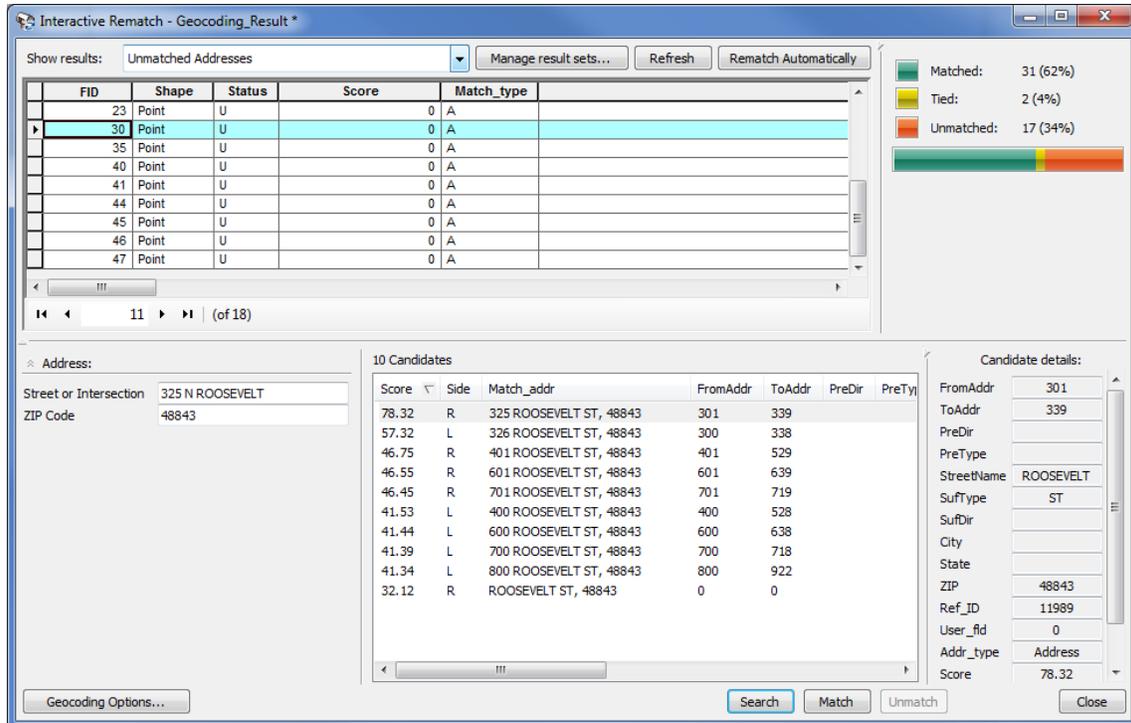
9. Click Close after all matches have been found