

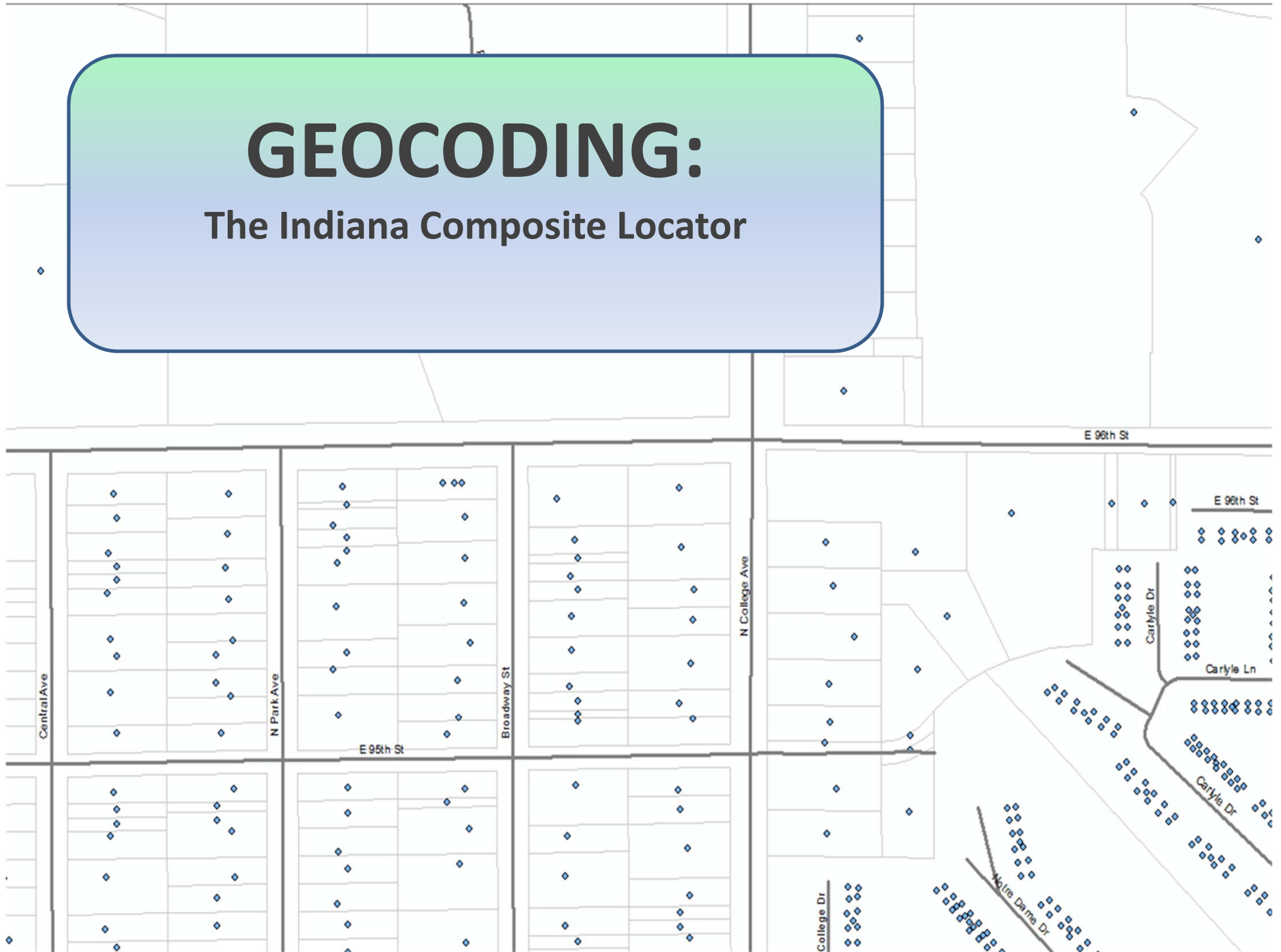
ARCGIS DESKTOP GEOCODING



Amanda O'Daniel
Geographic Information Office
Indiana Office of Technology
amodaniel@iot.in.gov
<http://www.in.gov/gis/>

GEOCODING:

The Indiana Composite Locator

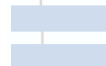


What is Geocoding?

Dataset
With
addresses



Address
Locator



Point
Feature
Class

Geocoding is the process of transforming a description —such as a pair of coordinates, an address, or a name of a place—to a location on the earth's surface. (ESRI)

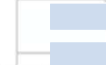


ADDRESS_STREET1	ADDRESS_STREET2	ADDRESS_CITY	STATE	ZIP_CODE	COUNTRY
0914 S WESTFIELD AVENUE		LA PORTE	IN	46350	US
2010 COLONY WOOD DR		INDIANAPOLIS	IN	46229	US
8142 EAST 1100 NORTH		OSHAAN	IN	46777	IN
8220 S 100 E		LAGRANGE	IN	46761	US
12771 CO RD 38		LADLEY	IN	46761	US
2260 N 870 W		LAGRANGE	IN	46761	US
8313 N 870 E		HILL CREEK	IN	46368	IN
8344 E 600 S		LA PORTE	IN	46350	US
1381 E 400 S		LAGRANGE	IN	46761	US
		GREENSBURG	IN	47240	US
		OSHAAN	IN	46777	IN
		LAGRANGE	IN	46761	US
		CLARKSVILLE	IN	47120	US
		LAGRANGE	IN	46761	IN
		HARTFORD CITY	IN	47340	US
		HOLLOTTVILLE	IN	46760	US
		LAGRANGE	IN	46761	US
		LAGRANGE	IN	46761	IN
		KNOX	IN	46540130	IN
		DECATUR	IN	46715	US
		LA PORTE	IN	46350	US

Input Addresses



Find Locations



Create Points

Address Matching Process

Add the address table to the map

Choose the Address Locator

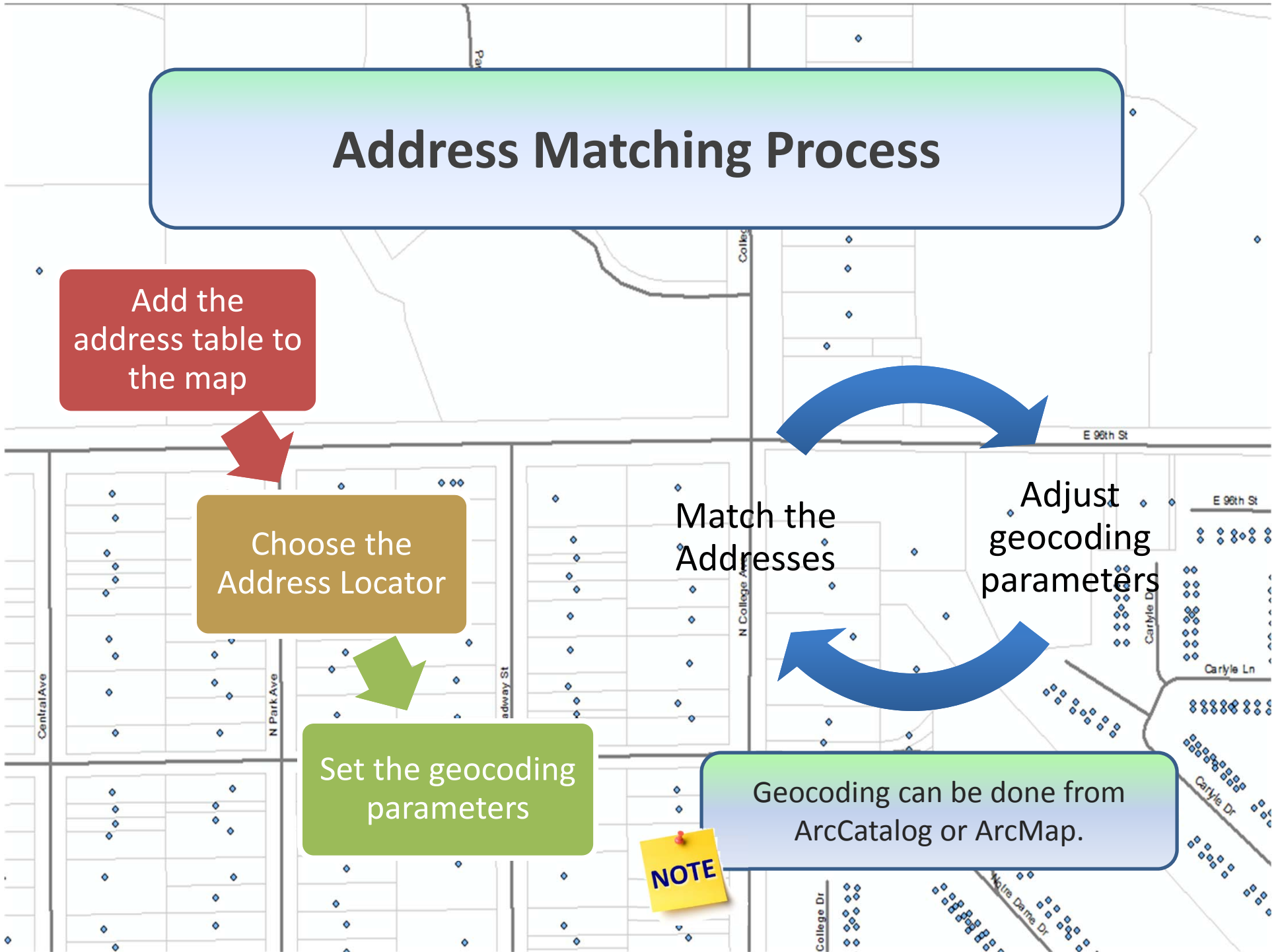
Set the geocoding parameters

Match the Addresses

Adjust geocoding parameters

Geocoding can be done from ArcCatalog or ArcMap.

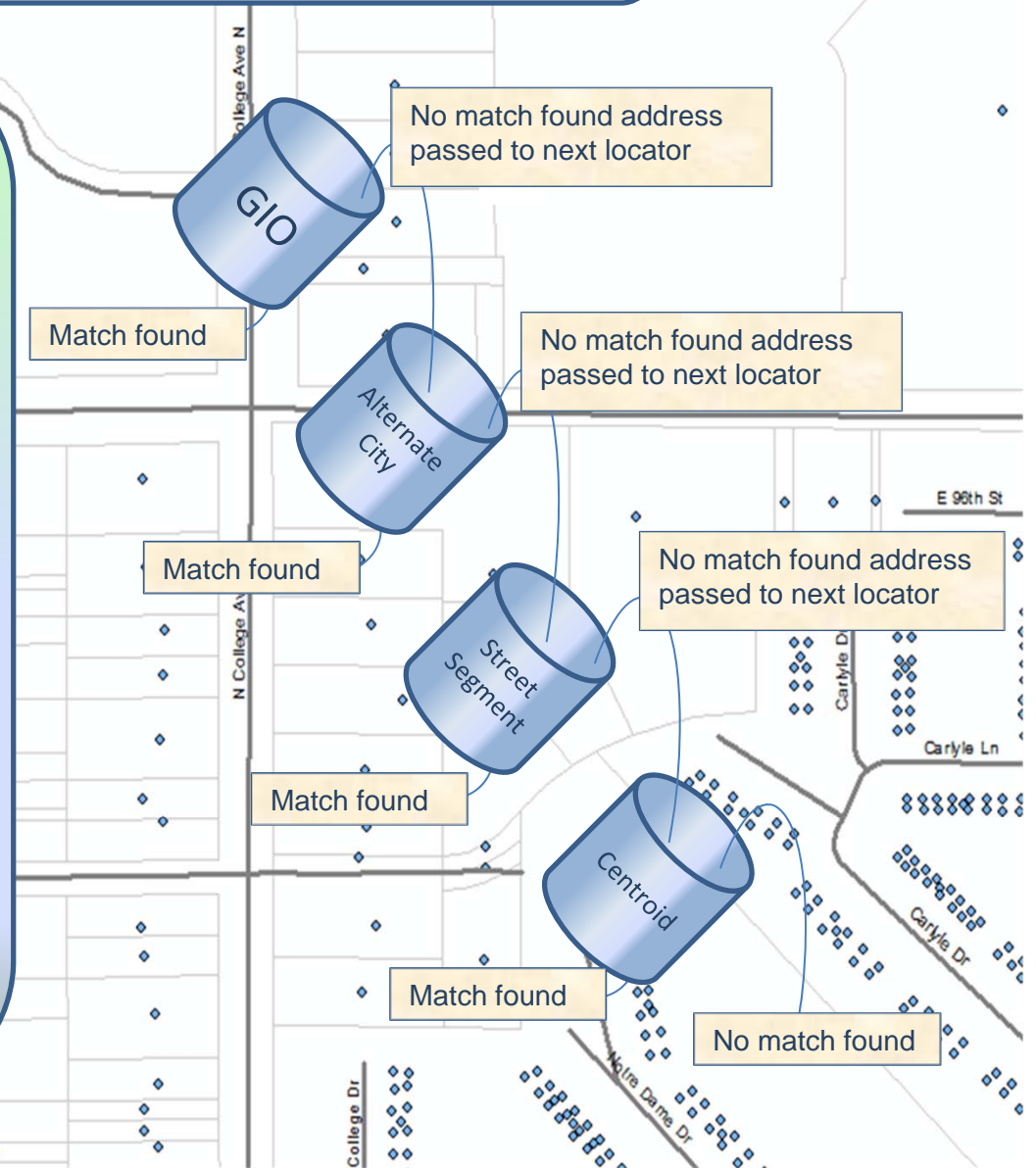
NOTE



State GIO Composite Locator

<https://gis.in.gov/arcgis/rest/services>

- Contains multiple locators
- Allows for more address matching types.
- Order is important...the locators are searched from the top down.
- Once an address is matched searching stops for that address.

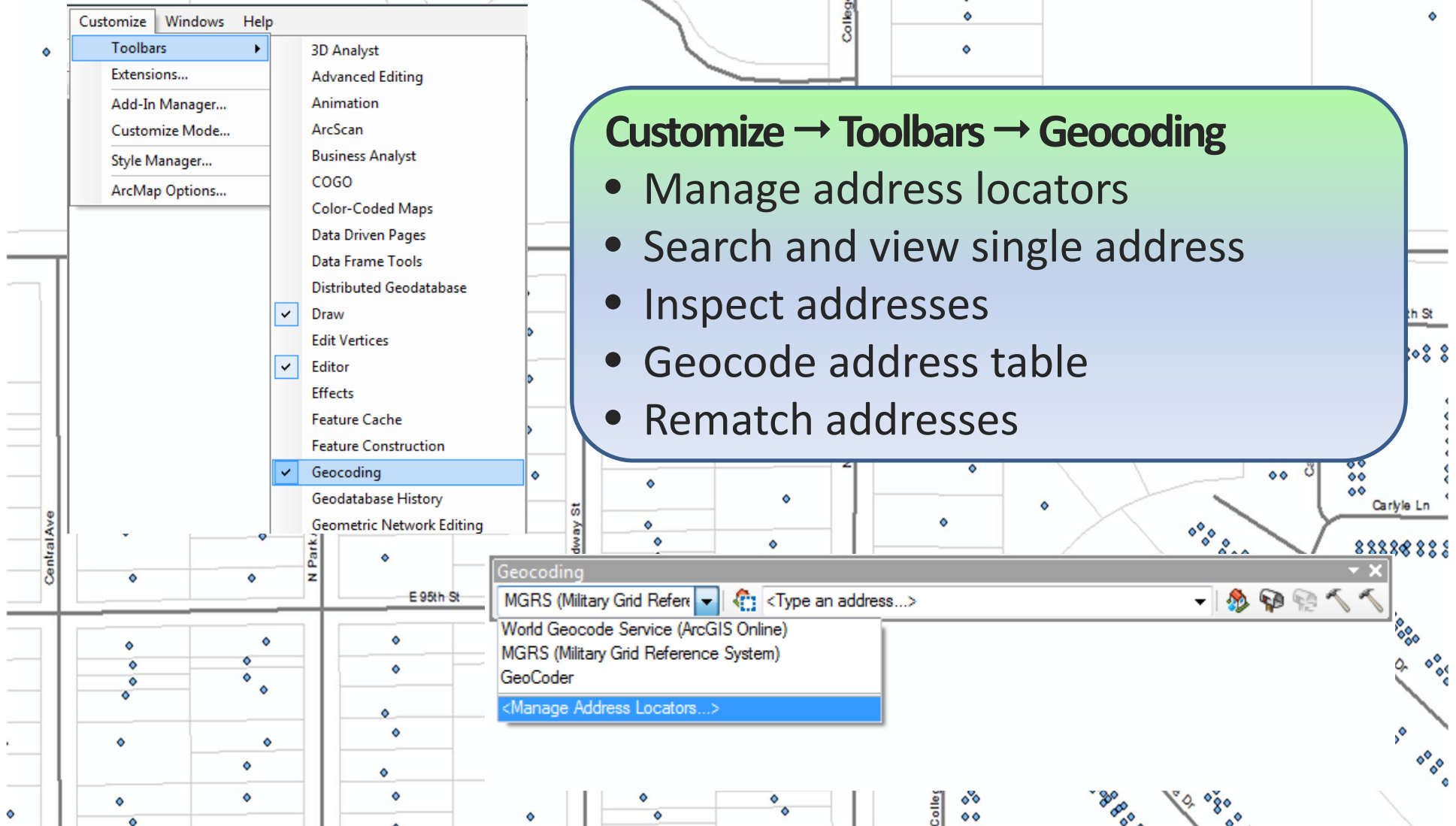


Geocoding Example

Adding the Geocoding Toolbar

Customize → Toolbars → Geocoding

- Manage address locators
- Search and view single address
- Inspect addresses
- Geocode address table
- Rematch addresses

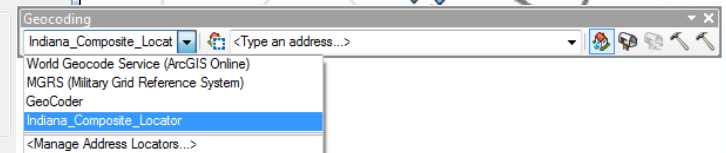
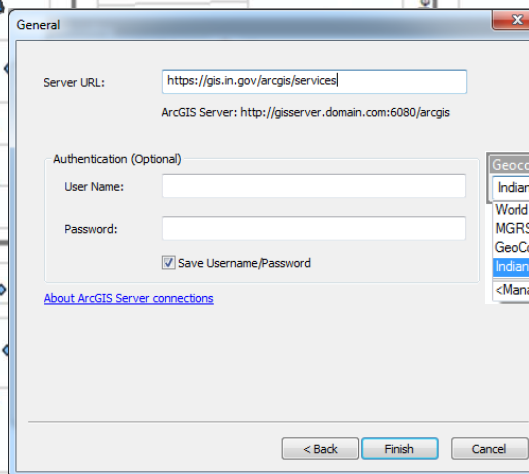
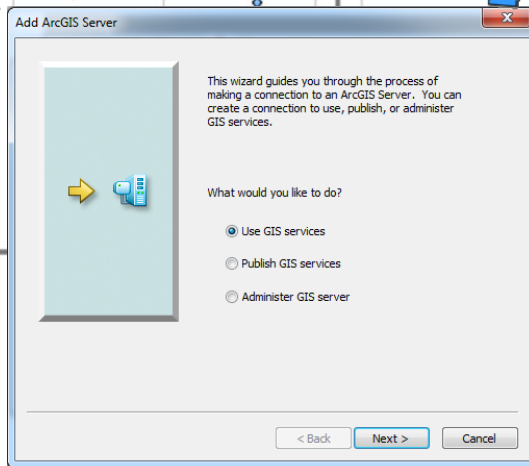
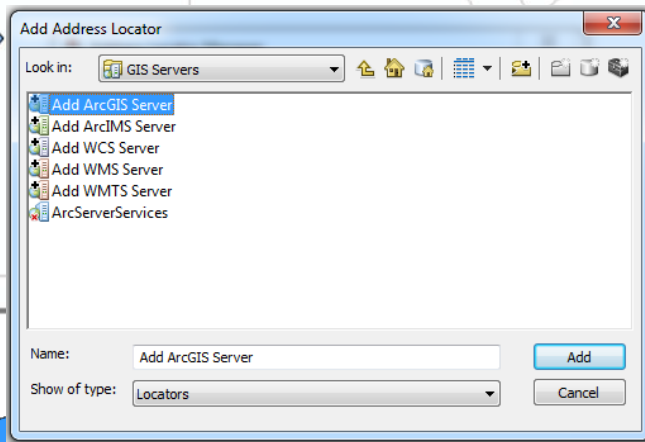


Geocoding Example

Adding the State Composite Locator

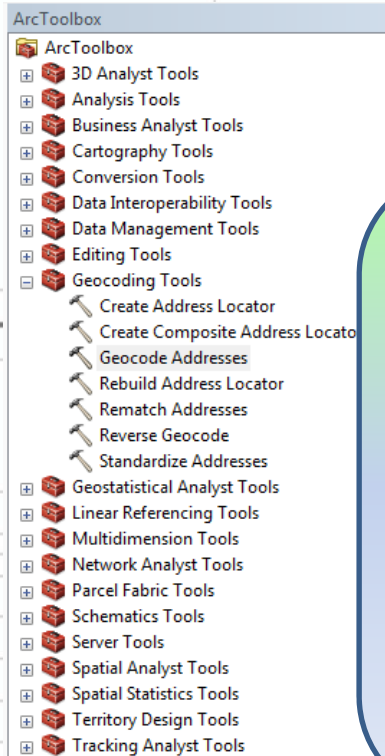
From the Geocoding Toolbar:

- Choose Manage address locators
- Navigate to GIS Servers
- Add State ArcGIS Server
- URL: <https://gis.in.gov/arcgis/services>
- Locate Indiana_Composite_Locator



Geocoding Example

Start Geocoding!



Many ways to get started

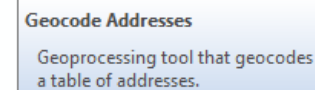
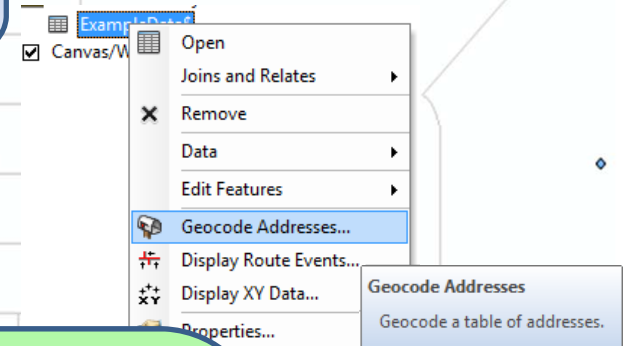
1. Right-click on address table in Table of Contents

OR

2. Select Geocode tool from Geocoding Toolbar

OR

3. Choose Geocoding Tools > Geocode Addresses from ArcToolbox



Geocoding Example

Check Results

Unmatched addresses can be matched manually

Interactive Rematch - Geocoding_Result

Show results: All Addresses Manage result sets... Refresh Rematch Automatically

Status	ADDRESS_ST	ADDRESS_1	ADDRESS_CI	STATE
U	4962 JONQUIL	76		IN
U	800 N UNION ST APT 308	APT 308		IN
U	312 MAJOR BAUMAN TERRACE			IN
U	2801 TOLEDO RD APT 917		ELKHART	IN
U	1505 LOCUST ST APT 109		ELKHART	IN
U	54185 NORTH HASTINGS		ELKHART	IN
U	1000 W MISHAWAKA RD APT 31		ELKHART	IN
U	1101 EDWARDSBURG AVE		ELKHART	IN
U	1432 PRESIDENT DT		ELKHART	IN
U	9923 S NORTHBROOK		FT WAYNE	IN
U	127 WATER TOWER CT		GOSHEN	IN
U	58043 JEMIAN DR		GOSHEN	IN
U	1460 SHERMAN ST		HAMMOND****	IN

9432 (of 13012)

Address: 2801 TOLEDO RD APT 917

City or Placename: ELKHART

State: IN

ZIP Code:

172 Candidates

Score	Side	Match_addr	Hour
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280
100		2801 Toledo Rd, Elkhart, IN, 46516	280

Candidate details:

House: 2801

PreDir:

PreType:

StreetName: Toledo

SufType: Rd

SufDir:

City: Elkhart

State: IN

ZIP: 46516

Ref_ID: 228496

X: -85.926932

Y: 41.673833

User_fid: 0

Geocoding Options... Zoom to Candidates Pick Address from Map Search Match Unmatch Save Edits Close

Geocoding Addresses...

■	Matched:	9427 (72%)
■	Tied:	0 (0%)
■	Unmatched:	3585 (28%)

Completed

Average speed: 711,000 records/hour

Rematch Close

NOTE Some records may not be matched due to data entry errors !!!

Geocoding Results

Challenging Addresses

♦ Finding out why an address has not been matched can be difficult and may require extensive investigation

- **Spelling errors are probably the most common reason for an unmatched address.**

- To verify spelling errors, you may need to compare the addresses to other sources, such as phonebook (or online), address directories or reference data.

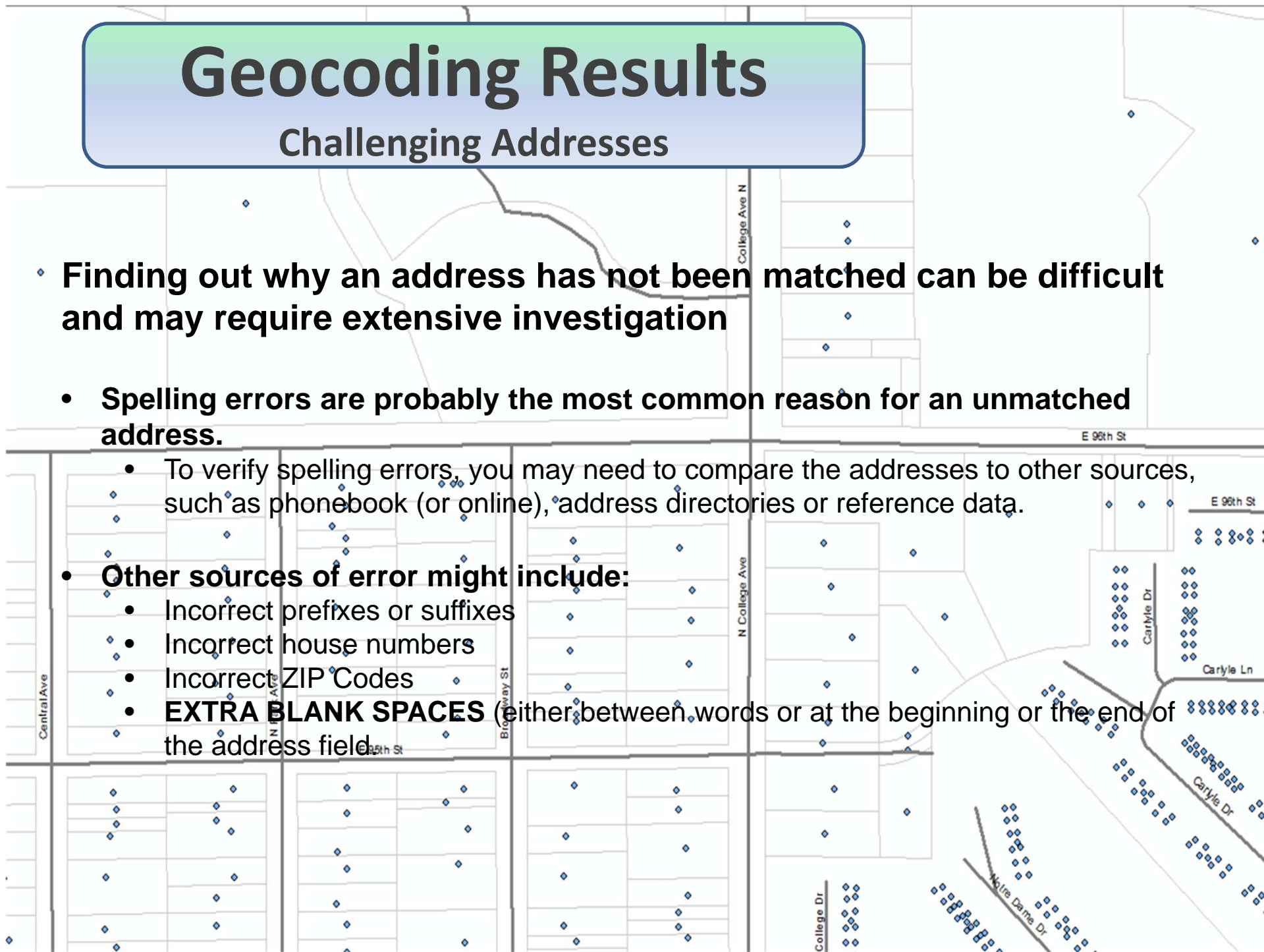
- **Other sources of error might include:**

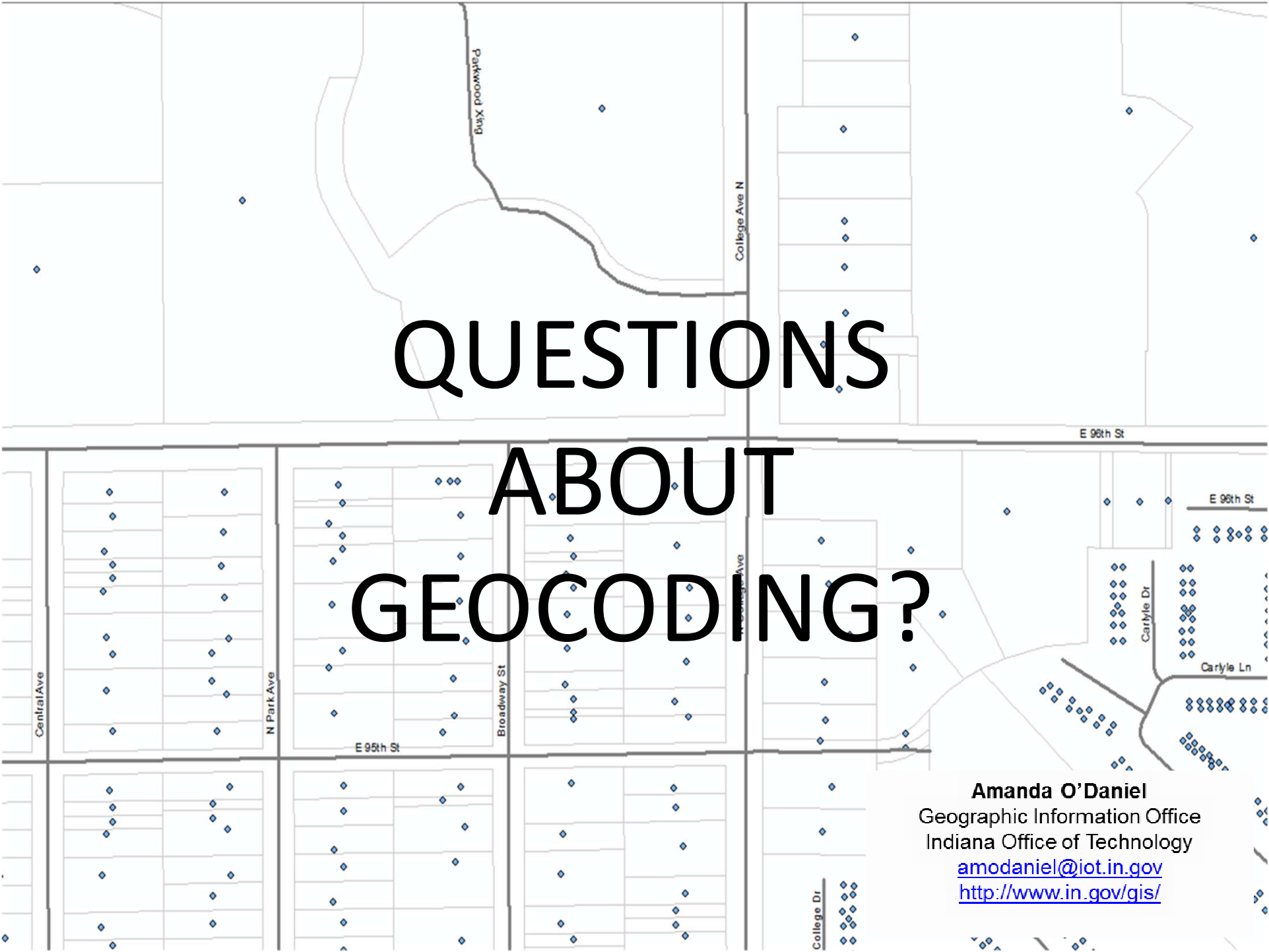
- Incorrect prefixes or suffixes

- Incorrect house numbers

- Incorrect ZIP Codes

- **EXTRA BLANK SPACES** (either between words or at the beginning or the end of the address field)





QUESTIONS ABOUT GEOCODING?

Amanda O'Daniel
Geographic Information Office
Indiana Office of Technology
amodaniel@iot.in.gov
<http://www.in.gov/gis/>