

# Geographic Information Systems (GIS) and VR Program Needs Assessment: Locating Potential Unserved and Underserved Areas and Clients

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# Outline

- Introduction
  - Background on geographic information systems (GIS)
  - Purpose
  - Goals
- Identification of Potential Underserved and Unserved Areas
  - Summary
  - Details, step by step
- Identification of Potential Unserved Minority Areas and Clients
  - Summary
  - Details, step by step
- Summary
  - Other GIS possibilities in VR

# Background on GIS

- What is it? How does it work?
- What are the benefits?
- Who uses GIS? What is it used for?

# What is GIS?

## GIS?

- A system designed to inform decision making from data

# How Does it Work?

## Data Sources



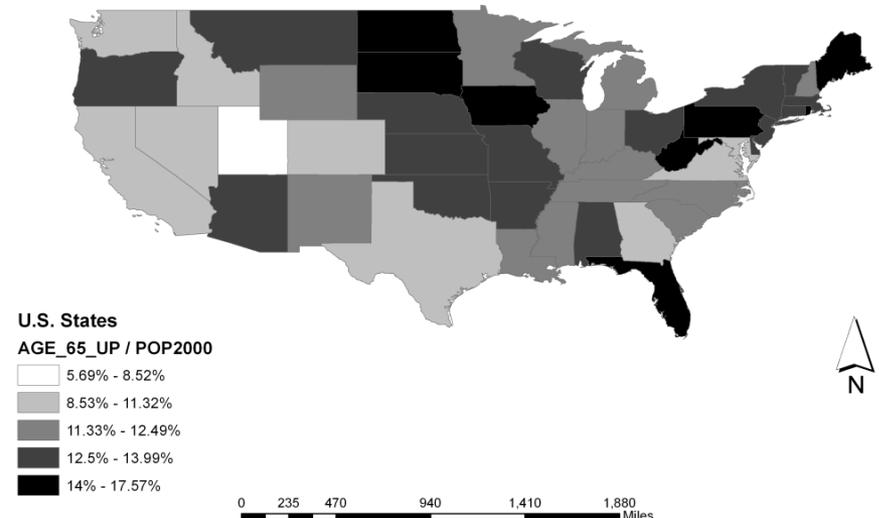
# What are the Benefits?

## Benefits?

- Data
  - Capture
  - Store
  - Manage
  - Display
  - Analyze
    - Most efficient and effective for VR administrators
    - Ease with which data can be communicated

## Example: Tabular Data

Individuals Age 65 and Older in the United States



# Who Uses GIS?

## Who?

- Government Agencies
  - Federal
  - State
  - Local
- Real Estate
- Health Care
- Retail
- Information
- Others

# What is it Used for?

## Uses?

- Federal Government
  - Monitor predatory lending practices
- State Government
  - Maintain highways and roads
- Local Government
  - Establish evacuation routes
  - Track local crime patterns
- Real Estate
  - Track property values and tax information
- Health Care
  - Track spread of disease
- Retail
  - Find optimal location for new store
  - Trade Area
- Information
  - Planning of utility expansion

# Purpose

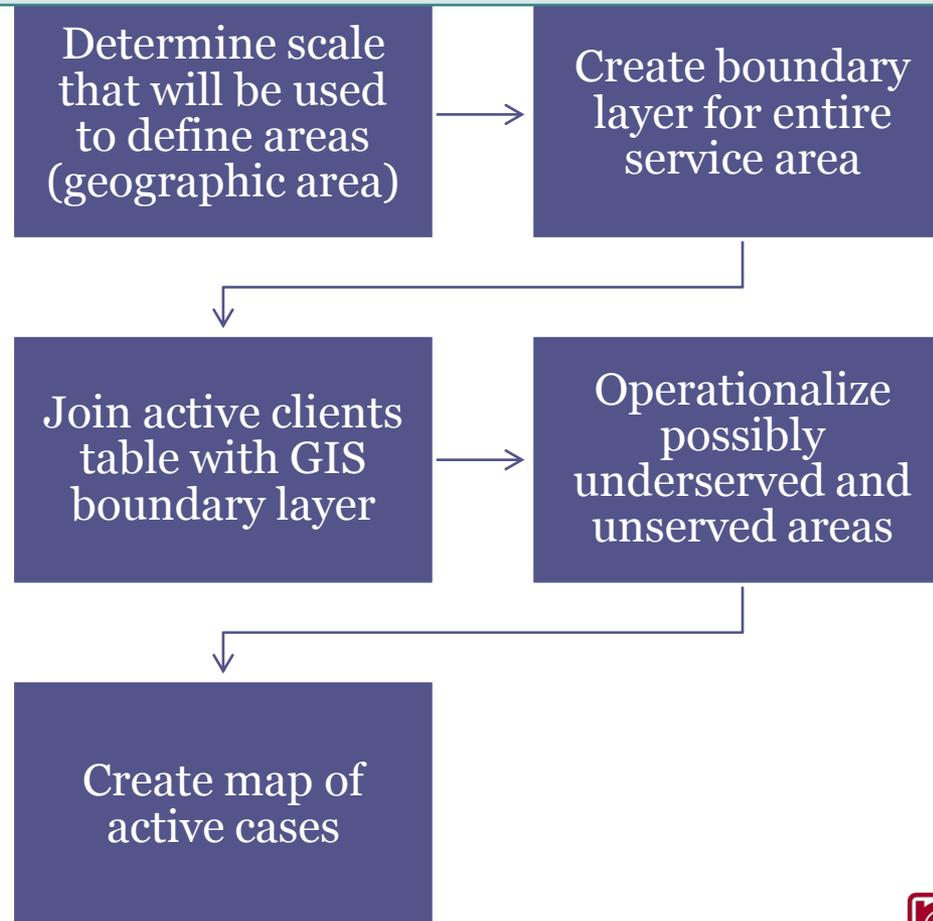
- Introduce GIS (ArcGIS: ArcMap 10) as a tool to pinpoint parts of West Virginia where populations, especially minorities, are potentially unserved and possibly underserved by WVDORS

# Goal

- Improve planning for community outreach efforts (especially for persons with disabilities from minority backgrounds)
  - Cost-effective method to increase awareness of WVDRS programs and services among VR stakeholders and consumers

# Identification of Potential Underserved and Unserved Areas

## Summary of Steps



# Step 1. Determine scale for potential underserved and unserved areas (geographic area)

## Possible scales

District

County

\*Zip Code

Census Tract

Block Group

Block

\*Proposed RSA-911 requires VR agencies to report zip code information



# Step 2. Create Zip Code Boundary Layer for State of West Virginia (WVDRS service area)

## Outline of Step 2

2.1

- Navigate Network to Find Corresponding Data Source

2.2

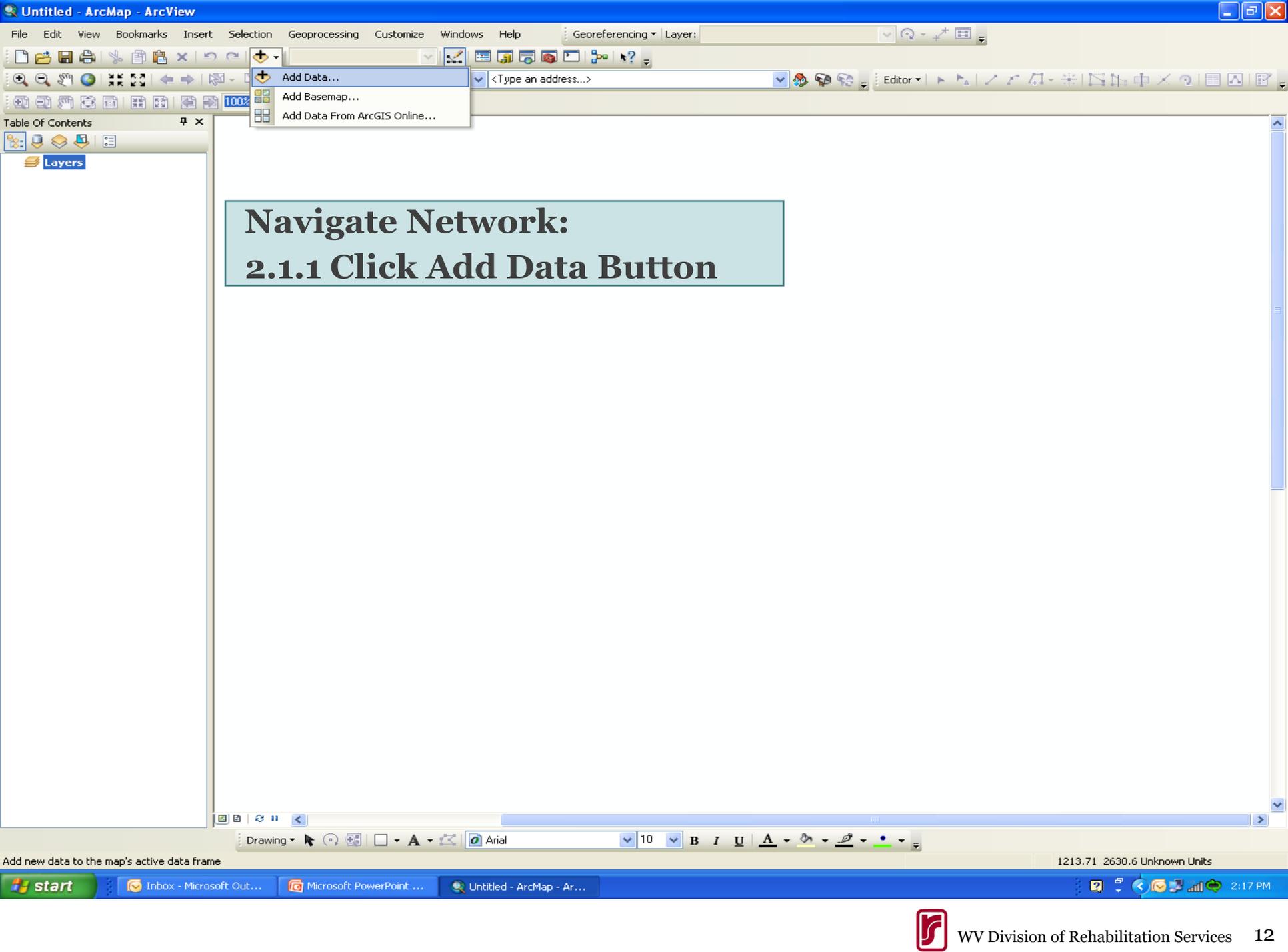
- Add U.S. Zip Code Layer

2.3

- Confirm U.S. Zip Code Selection Includes Post Office Information

2.4

- Create WV Zip Code Layer



**Navigate Network:  
2.1.1 Click Add Data Button**

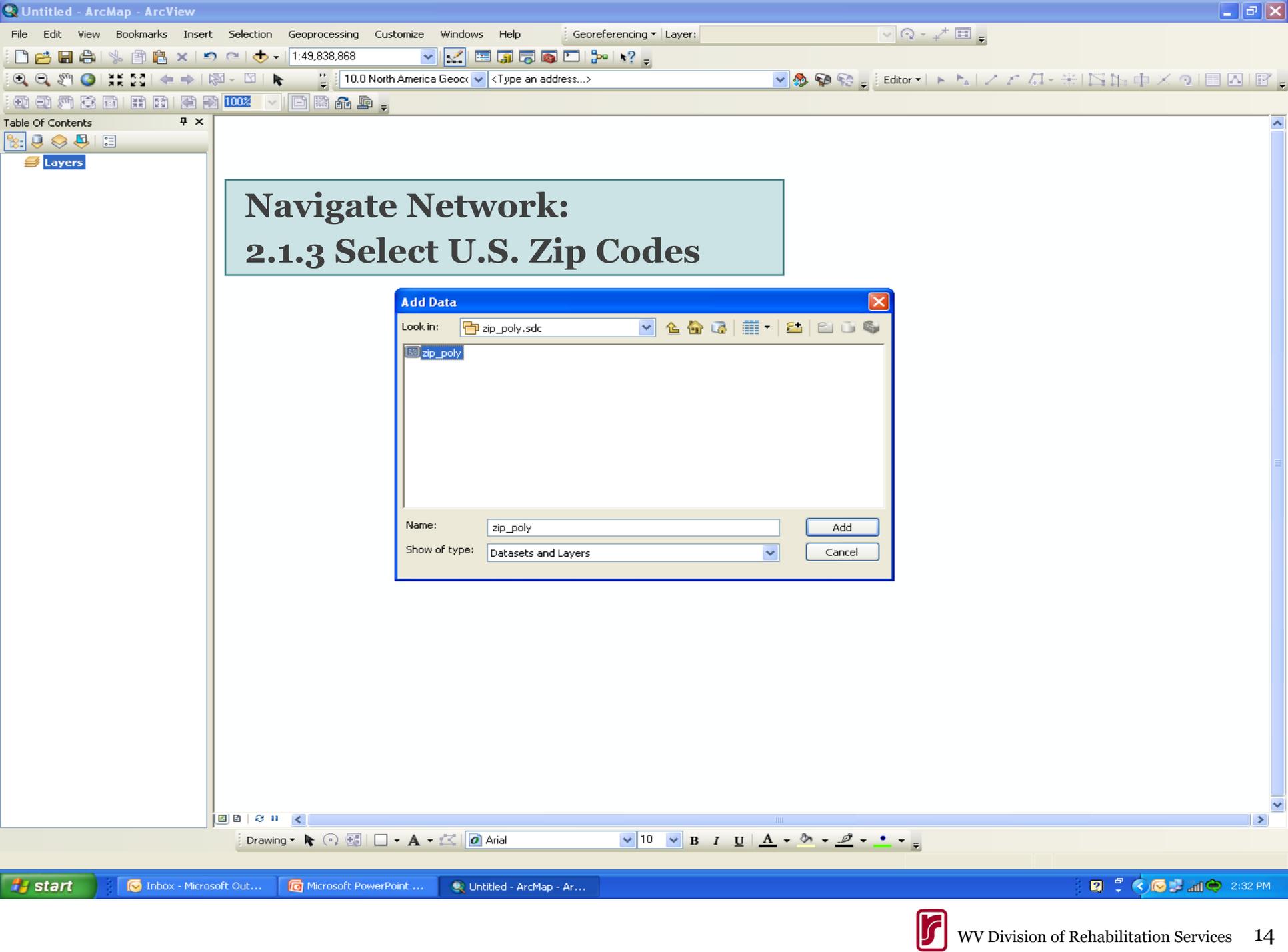
Add new data to the map's active data frame

1213.71 2630.6 Unknown Units

Table Of Contents  
Layers

# Navigate Network: 2.1.2 Locate Folder with Data

The screenshot shows the 'Add Data' dialog box in ArcMap. The 'Look in:' field is set to 'C:\Documents and Settings\al1'. The folder list contains 'DDA', 'help', 'streetmap\_na', and 'usa'. The 'Connect to Folder' sub-dialog box is open, showing a tree view of folders: 'maps', 'DDA', 'help', 'streetmap\_na', 'usa', 'background', 'census', 'hydro', 'landmarks', and 'other'. The 'census' folder is selected. The 'Folder:' field at the bottom of the sub-dialog is 'C:\Documents and Settings\al10249\GIS DATA\'. Buttons for 'Add', 'Cancel', 'Make New Folder', 'OK', and 'Cancel' are visible.



# Navigate Network: 2.1.3 Select U.S. Zip Codes

**Add Data**

Look in: zip\_poly.sdc

- zip\_poly

Name: zip\_poly

Show of type: Datasets and Layers

Untitled - ArcMap - ArcView

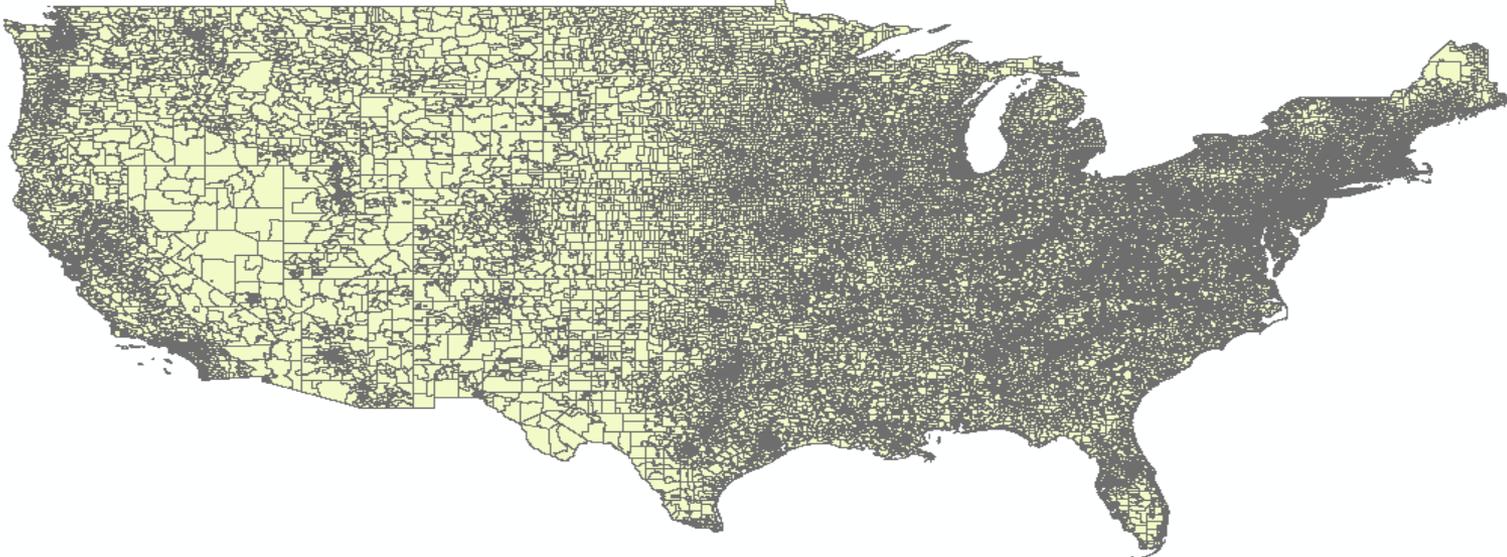
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help Georeferencing Layer: 1:24,354,841

10.0 North America Geoc <Type an address...> Editor

Table Of Contents

- Layers
  - zip\_poly

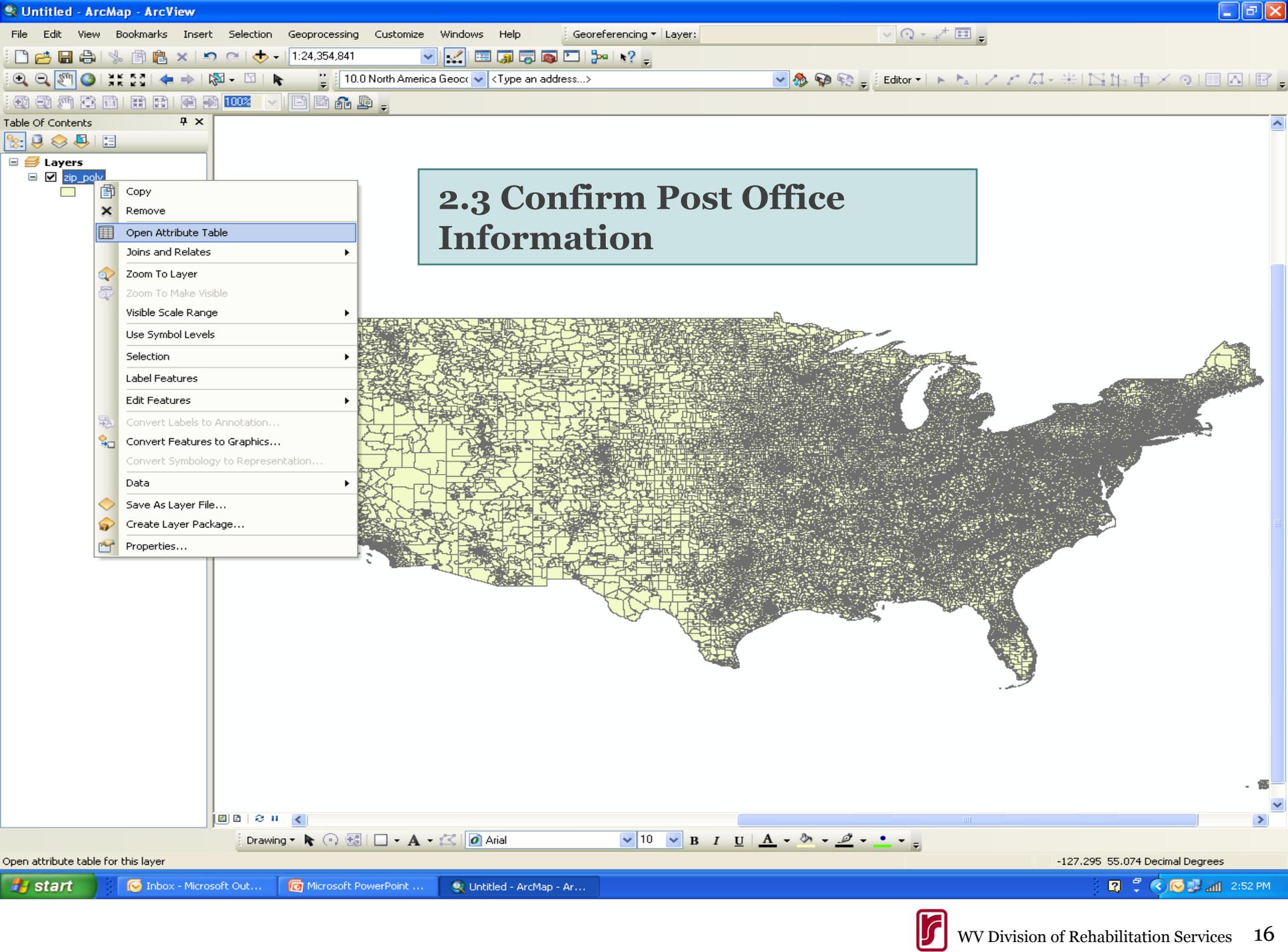
## 2.2 Add U.S. Zip Codes



Drawing Arial 10 B I U A

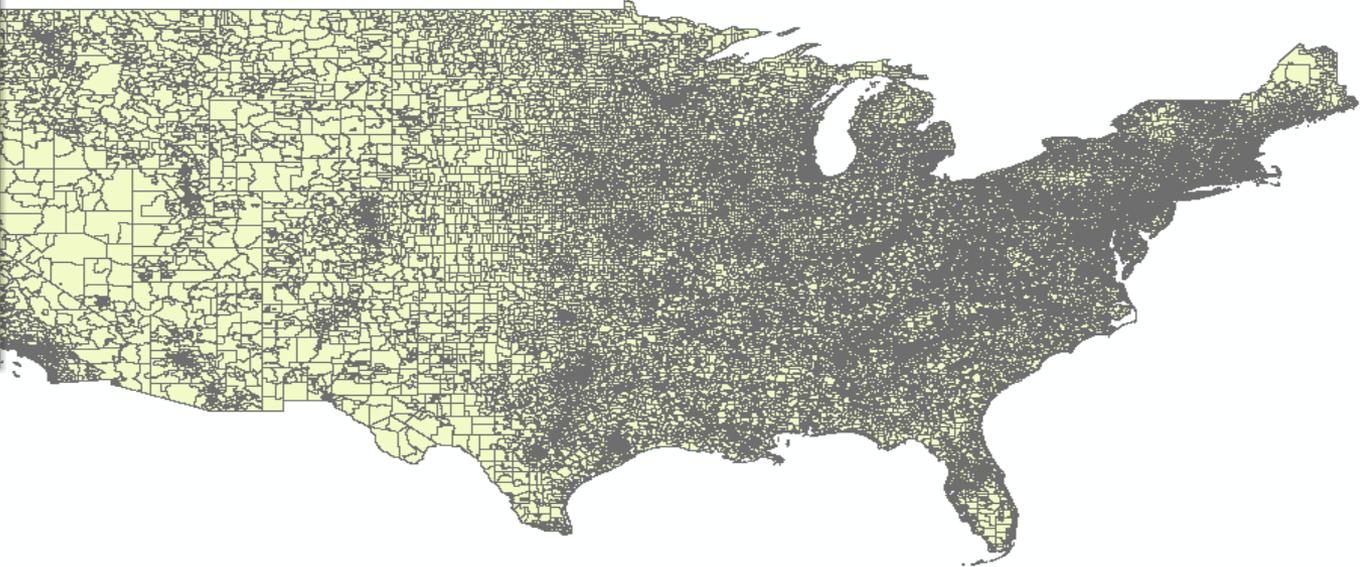
-103.072 43.715 Decimal Degrees

start Inbox - Microsoft Out... Microsoft PowerPoint ... Untitled - ArcMap - Ar... 2:45 PM



## 2.3 Confirm Post Office Information

- Copy
- Remove
- Open Attribute Table**
- Joins and Relates
- Zoom To Layer
- Zoom To Make Visible
- Visible Scale Range
- Use Symbol Levels
- Selection
- Label Features
- Edit Features
- Convert Labels to Annotation...
- Convert Features to Graphics...
- Convert Symbolology to Representation...
- Data
- Save As Layer File...
- Create Layer Package...
- Properties...



Drawing | Arial | 10 | B I U | [Color and Style Icons]

Open attribute table for this layer

-127.295 55.074 Decimal Degrees

Table

zip\_poly

ObjectID ^	Shape ^	ZIP	PO_NAME	STATE	SUMBLKPOP	POP2010	POP10_SQMI	SQMI
0	Polygon	00001	N Dillingham Census Area	AK	80	-99	-99	16192.36
1	Polygon	00002	Yukon Flats Nat Wildlife	AK	1146	-99	-99	92767.79
2	Polygon	00003	Alaska Peninsula NWR	AK	176	-99	-99	14320.74
3	Polygon	00004	W Kenai Peninsula Boroug	AK	11	-99	-99	6530.2
4	Polygon	00005	N Lake and Peninsula Bor	AK	111	-99	-99	3713.35
5	Polygon	00006	Matanuska-Sustina Bor	AK	759	-99	-99	17481.47
6	Polygon	00007	Southerly North Slope Bo	AK	-99	-99	-99	64915.88
7	Polygon	00009	Lake Clark National Pres	AK	2	-99	-99	2788.42
8	Polygon	00010	Yukon Delta Wilderness	AK	99	-99	-99	5216.32
9	Polygon	00011	Kenai NTL Wildlife Ref	AK	31	-99	-99	2756.27
10	Polygon	00012	Mt Meadows Area	CA	-99	-99	-99	30.92
11	Polygon	00014	West Pima County	AZ	57	-99	-99	1215.01
12	Polygon	00015	Coronado NTL Forest	AZ	37	-99	-99	128.91
13	Polygon	00016	Sequoia National Forest	CA	6	-99	-99	39.33
14	Polygon	00017	Northeast Fresno County	CA	-99	-99	-99	564.38
15	Polygon	00018	Los Padres NTL Forest	CA	-99	-99	-99	90.83
16	Polygon	00019	Lassen NTL Forest	CA	25	-99	-99	412.78
17	Polygon	00020	Sierra National Forest	CA	-99	-99	-99	411.72
18	Polygon	00022	Jackson St Forest	CA	8	-99	-99	11.12
19	Polygon	00026	East Tulare County	CA	52	-99	-99	1456.2
20	Polygon	00027	Pike NTL Forest	CO	16	-99	-99	42.98
21	Polygon	00028	Plumas NTL Forest	CA	4	-99	-99	113.83
22	Polygon	00029	Tahoe National Forest	CA	-99	-99	-99	2.17
23	Polygon	00031	Lassen National Forest	CA	-99	-99	-99	67.69
24	Polygon	00032	Los Padres NTL Forest	CA	-99	-99	-99	561.36
25	Polygon	00033	Tahoe National Forest	CA	-99	-99	-99	43.94
26	Polygon	00034	Klamath National Forest	CA	101	-99	-99	178.86
27	Polygon	00035	Modoc Shasta Klamath for	CA	14	-99	-99	889.23
28	Polygon	00037	West Tehama County	CA	-99	-99	-99	97.59
29	Polygon	00038	East Tehama County	CA	34	-99	-99	441.15

0 (0 out of 30377 Selected)

zip\_poly

## 2.3 Confirm Post Office Information cont.



- Select By Attributes...
- Select By Location...
- Select By Graphics
- Zoom To Selected Features
- Pan To Selected Features
- Statistics...
- Clear Selected Features

# Create WV Zip Code Layer

## 2.4.1 Select by Attributes (WV)

**Select By Attributes**

Layer: zip\_poly

Only show selectable layers in this list

Method: Create a new selection

Attributes:

- "ObjectID"
- "ZIP"
- "PO\_NAME"
- "STATE"
- "SUMBLKPOP"
- "POP2010"

Operators:

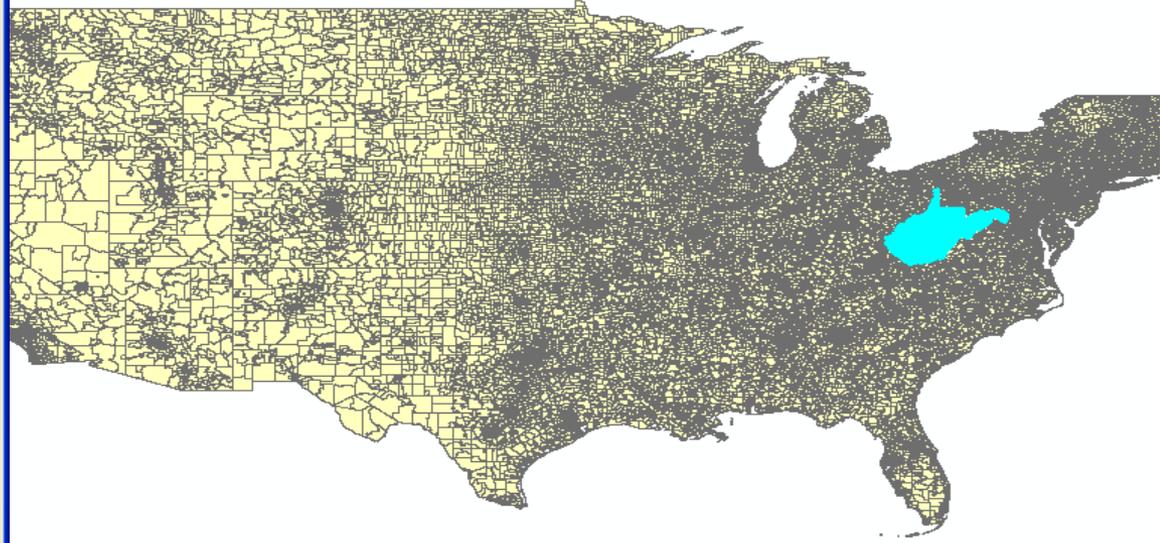
- = <> Like
- > >= And
- < <= Or
- % (%) Not
- !s

Get Unique Values Go To:

SELECT \* FROM zip\_poly WHERE:

"STATE" = 'WV'

Buttons: Clear Verify Help Load... Save... OK Apply Close



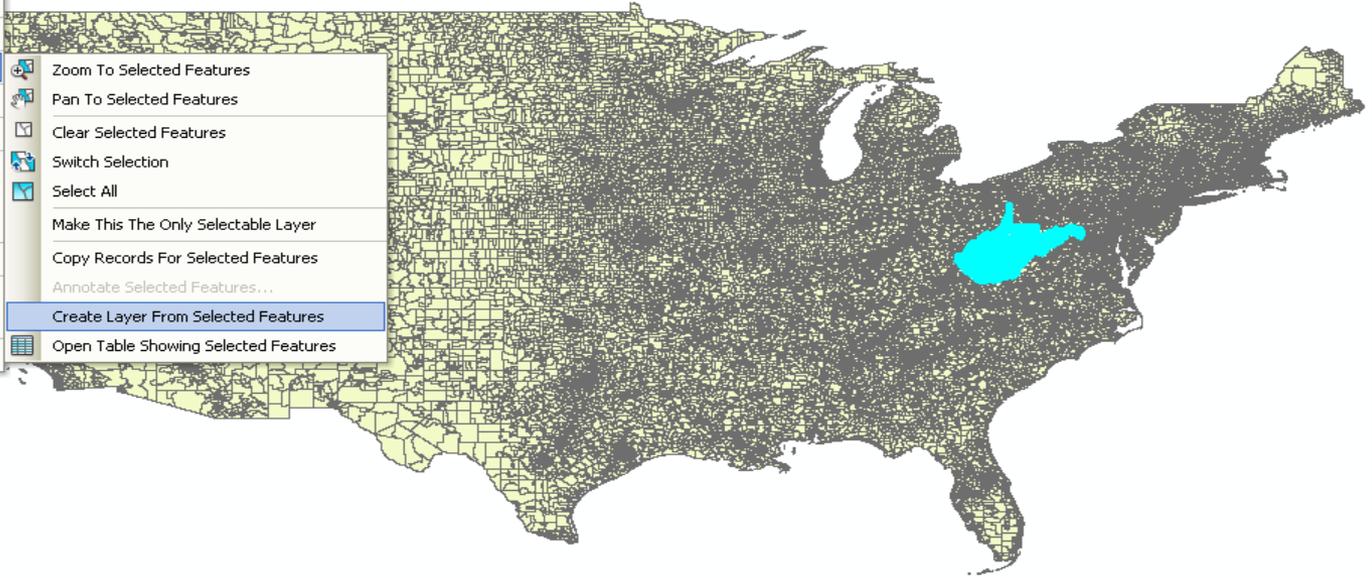
Layers

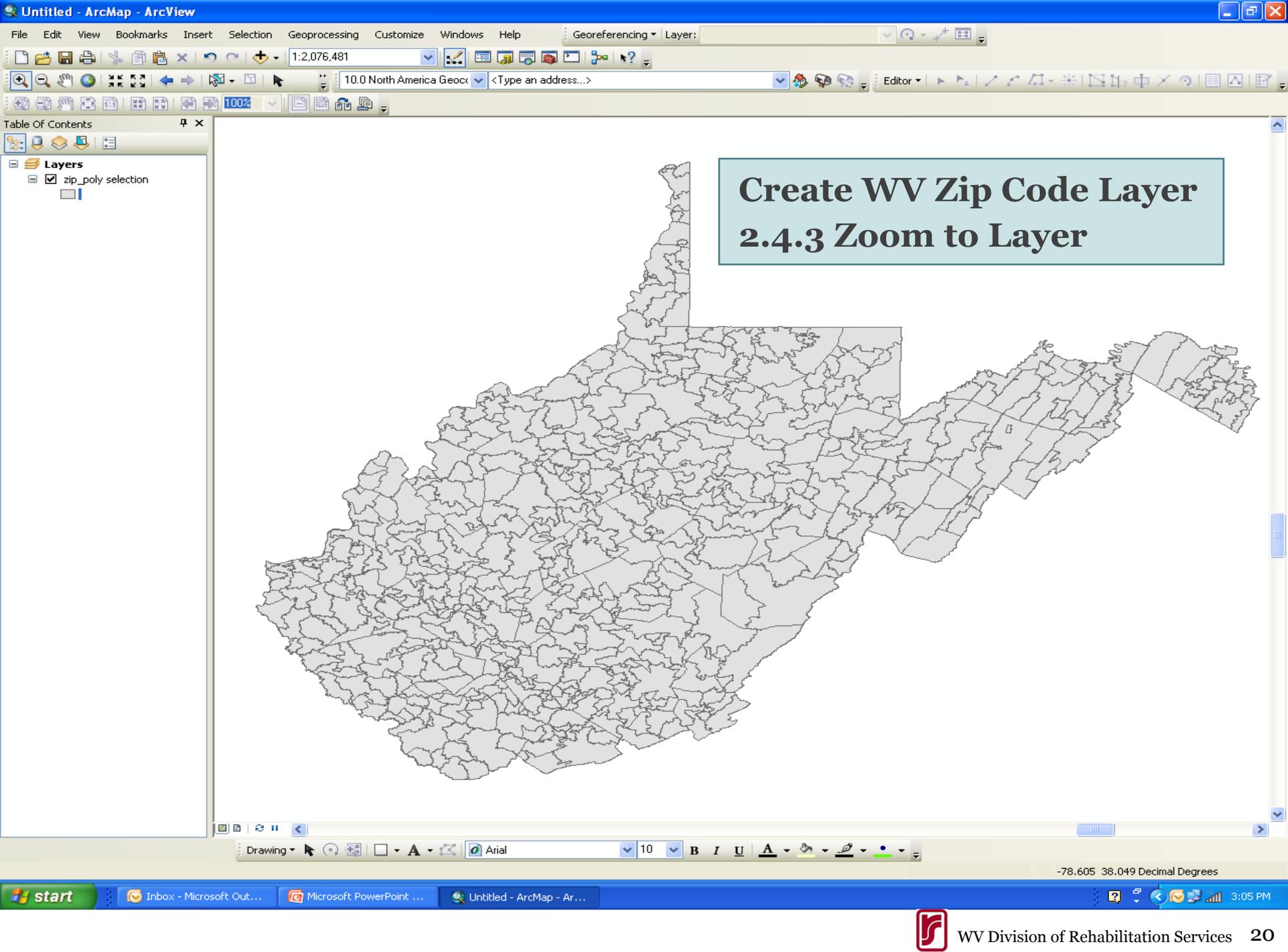
- zip\_pc...

- Copy
- Remove
- Open Attribute Table
- Joins and Relates
- Zoom To Layer
- Zoom To Make Visible
- Visible Scale Range
- Use Symbol Levels
- Selection**
  - Zoom To Selected Features
  - Pan To Selected Features
  - Clear Selected Features
  - Switch Selection
  - Select All
  - Make This The Only Selectable Layer
  - Copy Records For Selected Features
  - Annotate Selected Features...
  - Create Layer From Selected Features**
  - Open Table Showing Selected Features
- Label Features
- Edit Features
- Convert Labels to Annotation...
- Convert Features to Graphics...
- Convert Symbolology to Representation...
- Data
  - Save As Layer File...
  - Create Layer Package...
  - Properties...

# Create WV Zip Code Layer

## 2.4.2 Create Layer from Selection





**Create WV Zip Code Layer  
2.4.3 Zoom to Layer**

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- Layers
  - zip\_poly selection
  -

Drawing | Arial | 10 | B I U | -78.605 38.049 Decimal Degrees

# Step 3. Join WVDRS Active Client Table (As of 5-18-2011) with WV Zip Code Layer

## Outline of Step 3

3.1

- Verify Format of Matching Columns (Zip Code) is Identical

3.2

- Perform Join

3.3

- Validate Join

Table

FID	Shape	ObjectID	ZIP	PO_NAME	STATE	SUMBLKPOP	POP2010	POP10_SOMI	SOMI	ZIPCODE
0	Polygon	6967	24701	Bluefield	WV	20907	20270	366.5	55.31	24701
1	Polygon	6968	24712	Athens	WV	2037	1894	54.2	34.94	24712
2	Polygon	6969	24714	Beeson	WV	343	355	49	7.25	24714
3	Polygon	6970	24715	Bramwell	WV	487	430	63	6.82	24715
4	Polygon	6971	24726	Herndon	WV	1852	1740	22.3	78.01	24726
5	Polygon	6972	24731	Kegley	WV	101	115	98.3	1.17	24731
6	Polygon	6973	24733	Lashmeet	WV	788	948	62.8	15.1	24733
7	Polygon	6974	24736	Matoaka	WV	1110	978	37.3	26.23	24736
8	Polygon	6975	24740	Princeton	WV	29697	29237	199.7	146.4	24740
9	Polygon	6976	24747	Rock	WV	4912	4780	94.9	50.38	24747
10	Polygon	6977	24801	Welch	WV	8420	7403	54.2	136.64	24801
11	Polygon	6978	24815	Berwind	WV	2294	1905	43.5	43.76	24815
12	Polygon	6979	24818	Brenton	WV	2729	2585	61.7	41.9	24818
13	Polygon	6980	24822	Clear Fork	WV	667	610	29.8	20.47	24822
14	Polygon	6981	24823	Coal Mountain	WV	115	125	15.4	8.12	24823
15	Polygon	6982	24827	Cyclone	WV	2017	1919	47.5	40.38	24827
16	Polygon	6983	24828	Deary	WV	2293	1945	50.7	38.34	24828

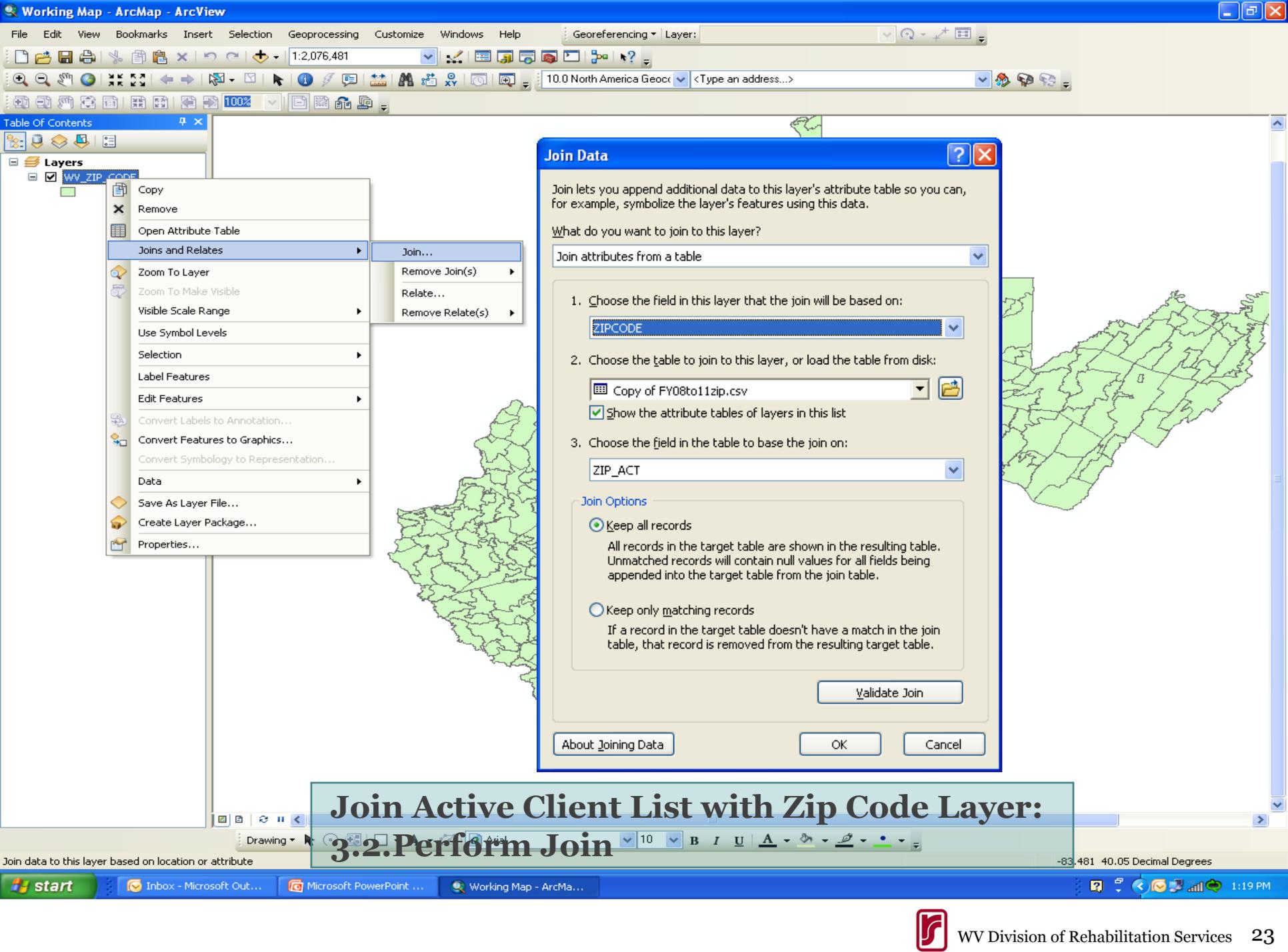
(0 out of 578 Selected)

Copy of FY08to11zips [Compatibility Mode] - Microsoft Excel

A1	ZIP_ACT														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	ZIP_ACT	ACT_CASES08_11	PERCENT_ACT												
2	11234	1	0.003538445												
3	11377	1	0.003538445												
4	12601	1	0.003538445												
5	14724	1	0.003538445												
6	15001	1	0.003538445												
7	15021	1	0.003538445												
8	15025	1	0.003538445												
9	15046	1	0.003538445												
10	15071	1	0.003538445												
11	15078	1	0.003538445												
12	15106	2	0.00707689												
13	15108	3	0.010615336												
14	15129	1	0.003538445												
15	15147	1	0.003538445												
16	15217	1	0.003538445												
17	15220	1	0.003538445												
18	15226	1	0.003538445												

Ready Average: 27924.22807 Count: 1141 Sum: 31833620 100%

# Join Active Client List with Zip Code Layer: 3.1. Match Joining Columns



**Join Data**

Join lets you append additional data to this layer's attribute table so you can, for example, symbolize the layer's features using this data.

What do you want to join to this layer?

Join attributes from a table

- Choose the field in this layer that the join will be based on:  
ZIPCODE
- Choose the table to join to this layer, or load the table from disk:  
Copy of FY08to11zip.csv
- Choose the field in the table to base the join on:  
ZIP\_ACT

**Join Options**

Keep all records  
All records in the target table are shown in the resulting table. Unmatched records will contain null values for all fields being appended into the target table from the join table.

Keep only matching records  
If a record in the target table doesn't have a match in the join table, that record is removed from the resulting target table.

Validate Join

About Joining Data    OK    Cancel

Copy

Remove

Open Attribute Table

Joins and Relates

- Join...
- Remove Join(s)
- Relate...
- Remove Relate(s)

Zoom To Layer

Zoom To Make Visible

Visible Scale Range

Use Symbol Levels

Selection

Label Features

Edit Features

Convert Labels to Annotation...

Convert Features to Graphics...

Convert Symbology to Representation...

Data

Save As Layer File...

Create Layer Package...

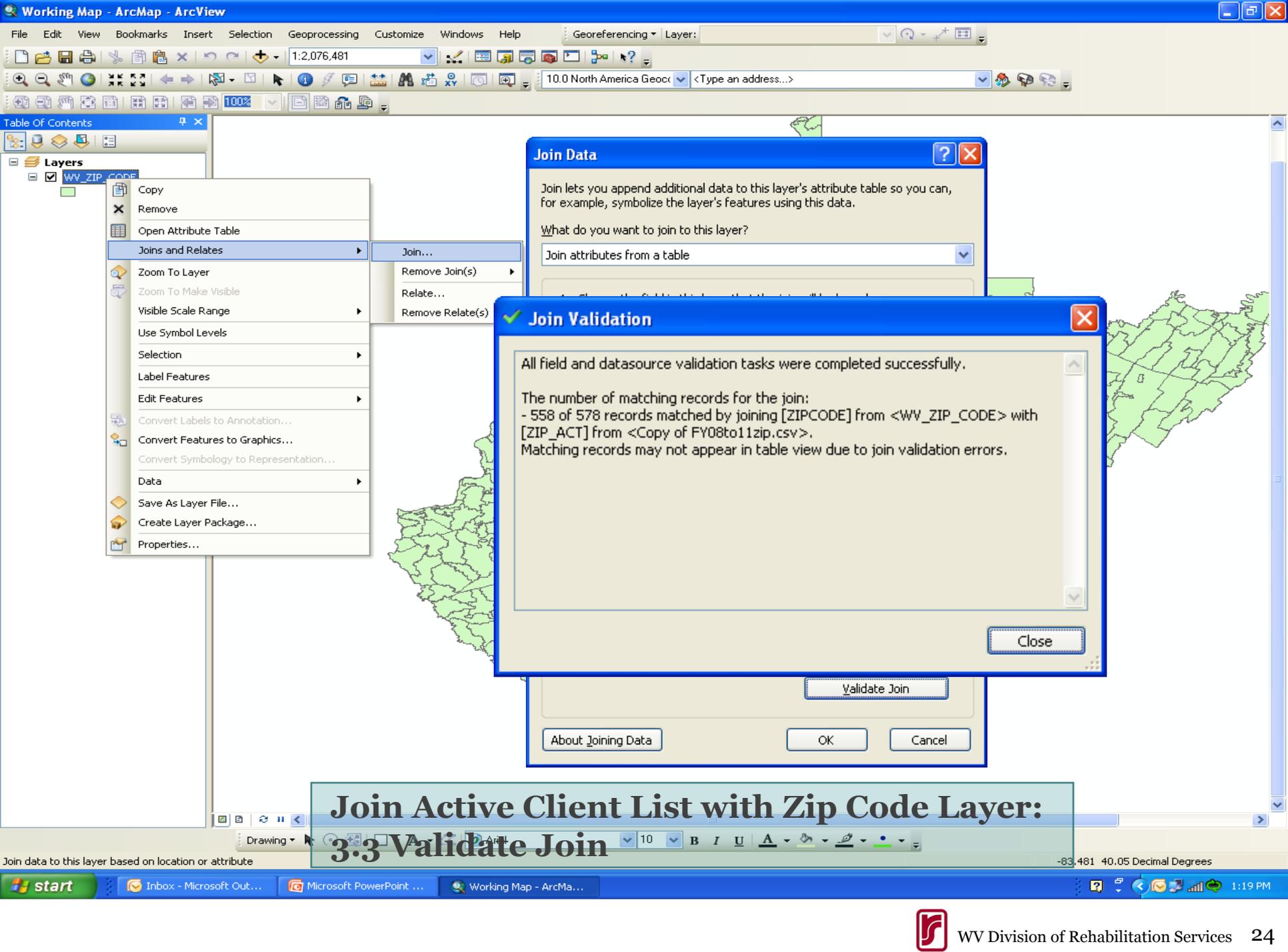
Properties...

# Join Active Client List with Zip Code Layer:

## 3.2. Perform Join

Join data to this layer based on location or attribute

-83.481 40.05 Decimal Degrees



**Join Data**

Join lets you append additional data to this layer's attribute table so you can, for example, symbolize the layer's features using this data.

What do you want to join to this layer?

Join attributes from a table

**Join Validation**

All field and datasource validation tasks were completed successfully.

The number of matching records for the join:  
 - 558 of 578 records matched by joining [ZIPCODE] from <WV\_ZIP\_CODE> with [ZIP\_ACT] from <Copy of FY08to11zip.csv>.  
 Matching records may not appear in table view due to join validation errors.

Close

Layers

- WV\_ZIP\_CODE

- Copy
- Remove
- Open Attribute Table
- Joins and Relates
  - Join...
  - Remove Join(s)
  - Relate...
  - Remove Relate(s)
- Zoom To Layer
- Zoom To Make Visible
- Visible Scale Range
- Use Symbol Levels
- Selection
- Label Features
- Edit Features
- Convert Labels to Annotation...
- Convert Features to Graphics...
- Convert Symbology to Representation...
- Data
  - Save As Layer File...
  - Create Layer Package...
  - Properties...

# Join Active Client List with Zip Code Layer: 3.3 Validate Join

Join data to this layer based on location or attribute

-83,481 40.05 Decimal Degrees

FID	Shape	ObjectID	ZIP	PO_NAME	STATE	SUMBLKPOP	POP2010	POP10_SOMI	SOMI	ZIPCODE	ZIP_ACT	ACT_CASES08_11	PERCENT_ACT
22	Polygon	6989	24859	Marianna	WV	833	844	63.7	13.26	24859	<Null>	<Null>	<Null>
53	Polygon	7020	24962	Pence Springs	WV	294	265	37.2	7.67	24962	<Null>	<Null>	<Null>
62	Polygon	7029	24984	Waiteville	WV	447	422	9.5	44.23	24984	<Null>	<Null>	<Null>
66	Polygon	7033	24993	Wolfcreek	WV	224	262	15.1	17.35	24993	<Null>	<Null>	<Null>
111	Polygon	7078	25115	Kanawha Falls	WV	97	94	38.1	2.47	25115	<Null>	<Null>	<Null>
149	Polygon	7116	25231	Advent	WV	126	135	14.8	9.14	25231	<Null>	<Null>	<Null>
158	Polygon	7125	25251	Left Hand	WV	388	406	30.1	13.48	25251	<Null>	<Null>	<Null>
235	Polygon	7202	25544	Myra	WV	234	228	48.9	4.66	25544	<Null>	<Null>	<Null>
301	Polygon	7268	25876	Saulsville	WV	623	577	25.2	22.88	25876	<Null>	<Null>	<Null>
315	Polygon	7282	25936	Thurmond	WV	14	9	1.8	5.01	25936	<Null>	<Null>	<Null>
364	Polygon	7331	26148	Macfarlan	WV	468	437	10.8	40.43	26148	<Null>	<Null>	<Null>
368	Polygon	7335	26152	Munday	WV	157	167	12.9	12.91	26152	<Null>	<Null>	<Null>
396	Polygon	7363	26230	Pickens	WV	226	214	2.3	94.84	26230	<Null>	<Null>	<Null>
412	Polygon	7379	26268	Glady	WV	671	577	5.7	101.43	26268	<Null>	<Null>	<Null>
424	Polygon	7391	26289	Red Creek	WV	278	243	5.1	47.68	26289	<Null>	<Null>	<Null>
439	Polygon	7406	26339	Center Point	WV	176	177	11.3	15.66	26339	<Null>	<Null>	<Null>
493	Polygon	7460	26561	Big Run	WV	545	490	14.8	33.19	26561	<Null>	<Null>	<Null>
509	Polygon	7476	26615	Copen	WV	194	191	24.9	7.67	26615	<Null>	<Null>	<Null>
542	Polygon	7509	26720	Gormanian	WV	697	764	15.2	50.24	26720	<Null>	<Null>	<Null>
575	Polygon	7542	26865	Yellow Spring	WV	187	188	29.4	6.39	26865	<Null>	<Null>	<Null>
2	Polygon	6969	24714	Beeson	WV	343	355	49	7.25	24714	24714	1	0.003538
86	Polygon	7053	25048	Colcord	WV	66	65	26.4	2.46	25048	25048	1	0.003538
88	Polygon	7055	25051	Costa	WV	470	464	102.9	4.51	25051	25051	1	0.003538
165	Polygon	7132	25264	Mount Alto	WV	345	415	80.4	5.16	25264	25264	1	0.003538
324	Polygon	7291	25977	Meadow Creek	WV	192	181	36.3	4.73	25977	25977	1	0.003538
358	Polygon	7325	26138	Brohard	WV	6	6	11.8	0.51	26138	26138	1	0.003538
394	Polygon	7361	26224	Helvetia	WV	203	197	5.6	35.27	26224	26224	1	0.003538
395	Polygon	7362	26228	Kanawha Head	WV	176	162	13.9	11.64	26228	26228	1	0.003538
398	Polygon	7365	26236	Selbyville	WV	28	27	2.4	11.05	26236	26236	1	0.003538
408	Polygon	7375	26263	Dryfork	WV	267	265	9.3	28.43	26263	26263	1	0.003538
411	Polygon	7378	26267	Ellamore	WV	448	433	25.4	17.08	26267	26267	1	0.003538
415	Polygon	7382	26271	Hendricks	WV	328	303	23.8	12.71	26271	26271	1	0.003538
420	Polygon	7387	26282	Monterville	WV	70	65	1.3	49.96	26282	26282	1	0.003538
433	Polygon	7400	26325	Auburn	WV	291	266	13	20.45	26325	26325	1	0.003538
434	Polygon	7401	26327	Berea	WV	123	119	7.9	15.1	26327	26327	1	0.003538
444	Polygon	7411	26348	Folsom	WV	351	304	25	12.15	26348	26348	1	0.003538
472	Polygon	7439	26443	Troy	WV	106	110	10.9	10.12	26443	26443	1	0.003538
492	Polygon	7459	26560	Baxter	WV	430	437	175.5	2.49	26560	26560	1	0.003538
539	Polygon	7506	26716	Egion	WV	647	677	32.8	20.61	26716	26716	1	0.003538
569	Polygon	7536	26838	Milam	WV	503	484	8	60.58	26838	26838	1	0.003538
46	Polygon	7013	24943	Grassy Meadows	WV	200	208	21	9.9	24943	24943	2	0.007077
74	Polygon	7041	25021	Bim	WV	670	524	11.7	44.68	25021	25021	2	0.007077
102	Polygon	7069	25088	Glen	WV	160	157	18.6	8.44	25088	25088	2	0.007077
139	Polygon	7106	25180	Saxon	WV	161	158	31.2	5.06	25180	25180	2	0.007077
144	Polygon	7111	25204	Twilight	WV	476	451	14.9	30.34	25204	25204	2	0.007077
274	Polygon	7241	25755	Huntington	WV	1491	1598	17755.6	0.09	25755	25755	2	0.007077
276	Polygon	7243	25811	Amigo	WV	500	465	151.5	3.07	25811	25811	2	0.007077
295	Polygon	7262	25857	Josephine	WV	376	386	28.5	13.54	25857	25857	2	0.007077
320	Polygon	7287	25966	Green Sulphur Springs	WV	680	635	22.7	28.01	25966	25966	2	0.007077
389	Polygon	7356	26210	Adrian	WV	933	920	54	17.03	26210	26210	2	0.007077
390	Polygon	7357	26215	Cleveland	WV	423	406	84.6	4.8	26215	26215	2	0.007077
429	Polygon	7396	26296	Whitmer	WV	364	425	5.1	82.83	26296	26296	2	0.007077
517	Polygon	7484	26631	Napier	WV	187	182	24.2	7.52	26631	26631	2	0.007077

**Join Active Client List with Zip Code Layer: 3.3 Validate Join cont.**

0 (0 out of 578 Selected)

WV\_ZIP\_CODE

## Step 4. Operationalize Potential Underserved and Unserved Zip Codes

- Potential Unserved Zip Codes
  - ∅ active clients
- Possible Underserved Zip Codes
  - Number of active clients below the state average, as of 5-18-2011
    - Avg: 44.94

# Step 5. Create Map of Active Clients

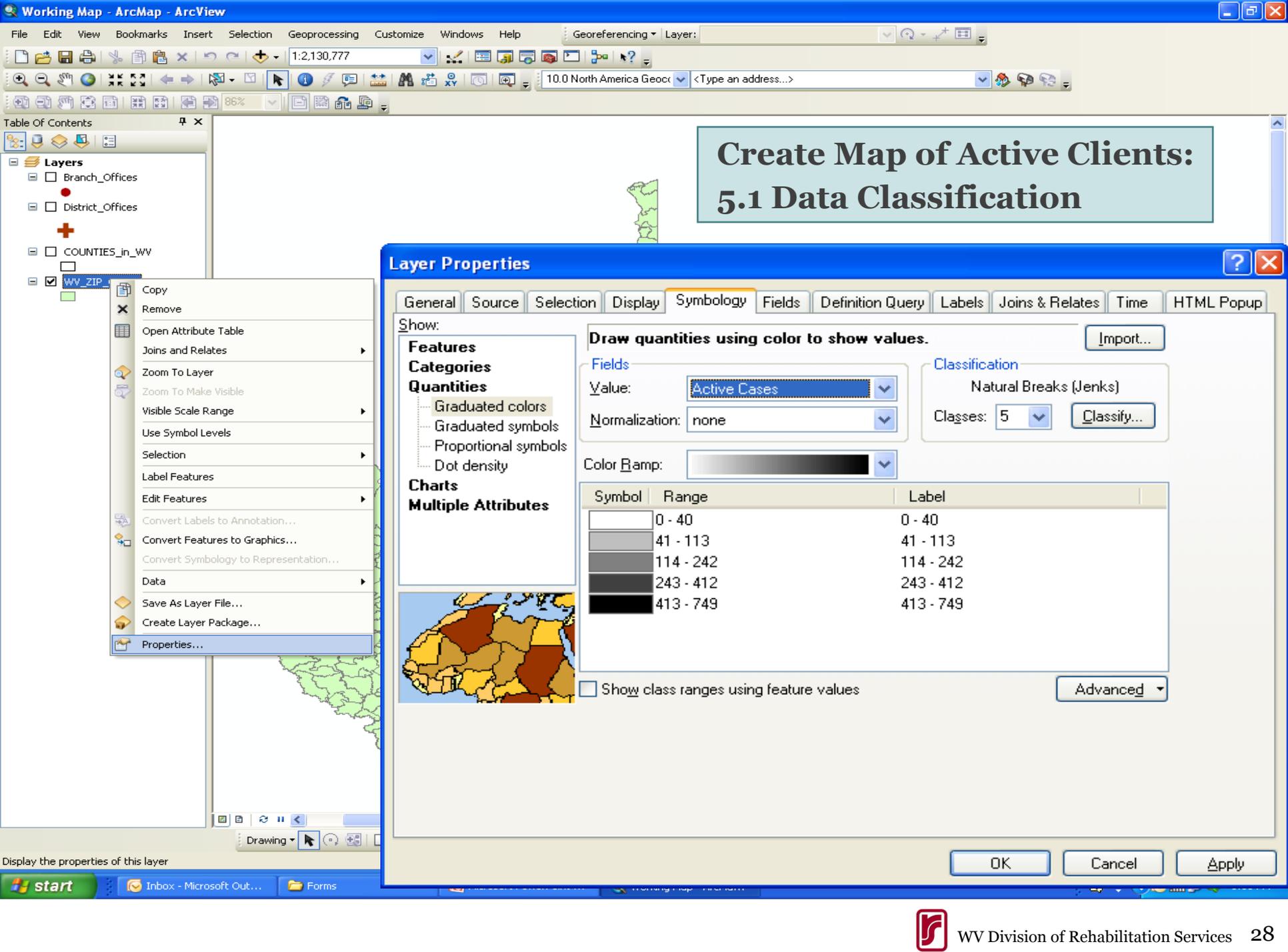
## Outline of Step 5

5.1

- Data Classification

5.2

- Export Map



# Create Map of Active Clients: 5.1 Data Classification

**Layer Properties**

General Source Selection Display **Symbology** Fields Definition Query Labels Joins & Relates Time HTML Popup

Show:

- Features
- Categories
- Quantities**
  - Graduated colors
  - Graduated symbols
  - Proportional symbols
  - Dot density
- Charts
- Multiple Attributes

**Draw quantities using color to show values.** Import...

Fields

Value: Active Cases

Normalization: none

Classification

Natural Breaks (Jenks)

Classes: 5 Classify...

Color Ramp: [Color Ramp]

Symbol	Range	Label
[Lightest Color]	0 - 40	0 - 40
[Light Color]	41 - 113	41 - 113
[Medium-Light Color]	114 - 242	114 - 242
[Medium-Dark Color]	243 - 412	243 - 412
[Darkest Color]	413 - 749	413 - 749

Show class ranges using feature values Advanced

OK Cancel Apply

Table of Contents

- Layers
  - Branch\_Offices
  - District\_Offices
  - COUNTIES\_in\_WV
  - WV\_ZIP**

Copy  
Remove  
Open Attribute Table  
Joins and Relates  
Zoom To Layer  
Zoom To Make Visible  
Visible Scale Range  
Use Symbol Levels  
Selection  
Label Features  
Edit Features  
Convert Labels to Annotation...  
Convert Features to Graphics...  
Convert Symbology to Representation...  
Data  
Save As Layer File...  
Create Layer Package...  
Properties...

Display the properties of this layer

# Classification

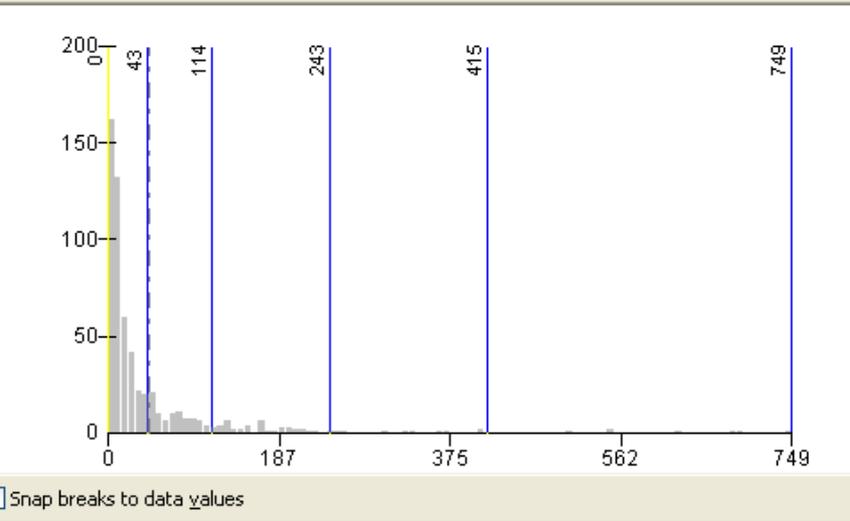
Classification Method: Manual  
Classes: 6

Classification Statistics

Count:	578
Minimum:	0
Maximum:	749
Sum:	25983
Mean:	45
Median:	15
Standard Deviation:	87

Columns: 100  Show Std. Dev.  Show Mean

## Create Map of Active Clients: 5.1 Data Classification cont.



Break Values %

0
43
114
243
415
749

### Layer Properties

General Source Selection Display Symbology Fields Definition Query Labels Joins & Relates Time HTML Popup

Show: Features Categories Quantities **Graduated colors** Graduated symbols Proportional symbols Dot density Charts Multiple Attributes

Draw quantities using color to show values. Import...

Fields: Value: Active Cases Normalization: none Classification: Manual Classes: 6 Classify...

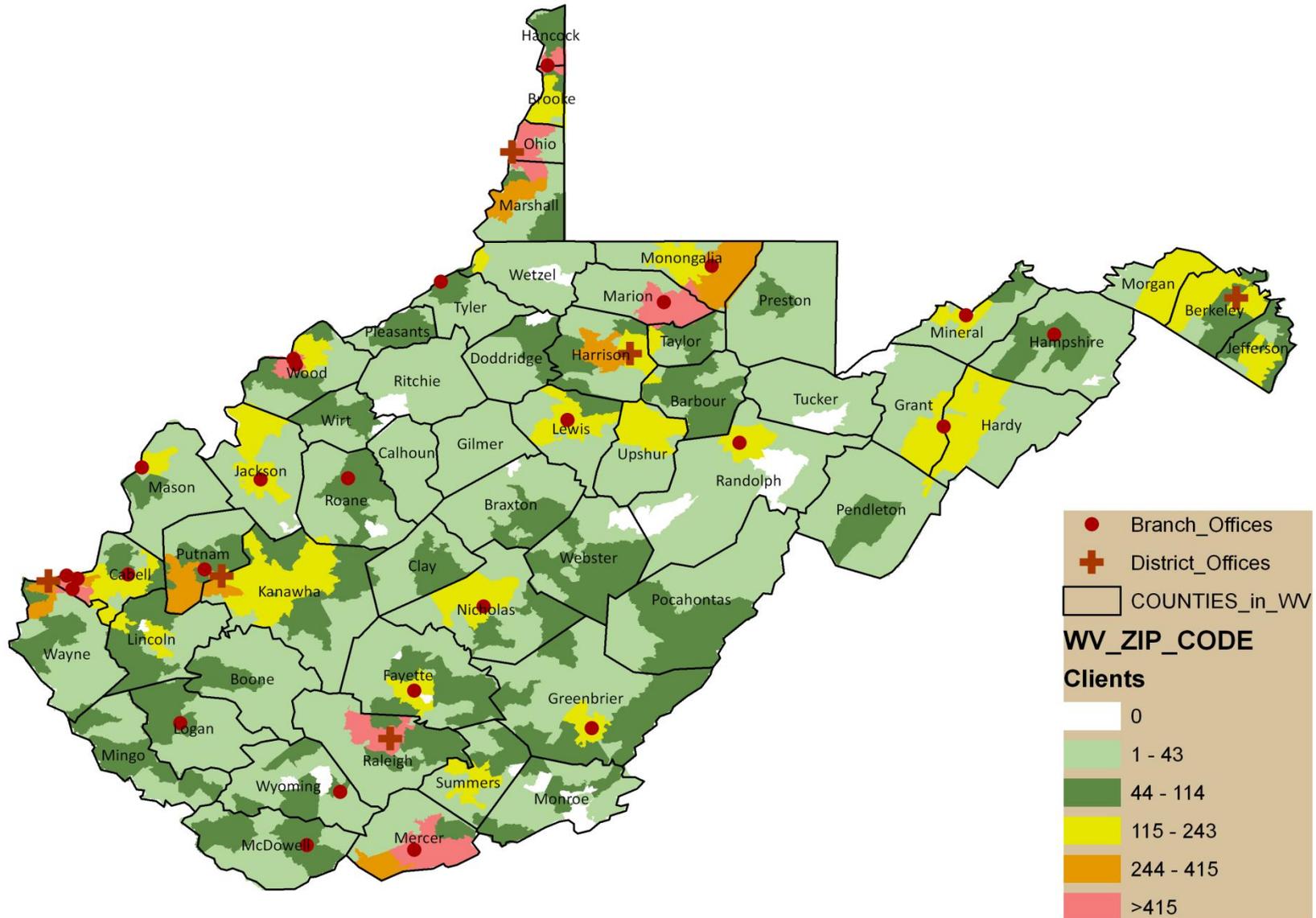
Color Ramp: [Color Ramp]

Symbol	Range	Label
[White]	0	0
[Light Green]	1 - 43	1 - 43
[Green]	44 - 114	44 - 114
[Yellow]	115 - 243	115 - 243
[Orange]	244 - 415	244 - 415
[Red]	416 - 749	>415

Show class ranges using feature values Advanced

OK Cancel Apply

# 2008 - 2011 Active Cases by Zip Code (as of 5-18-2011)



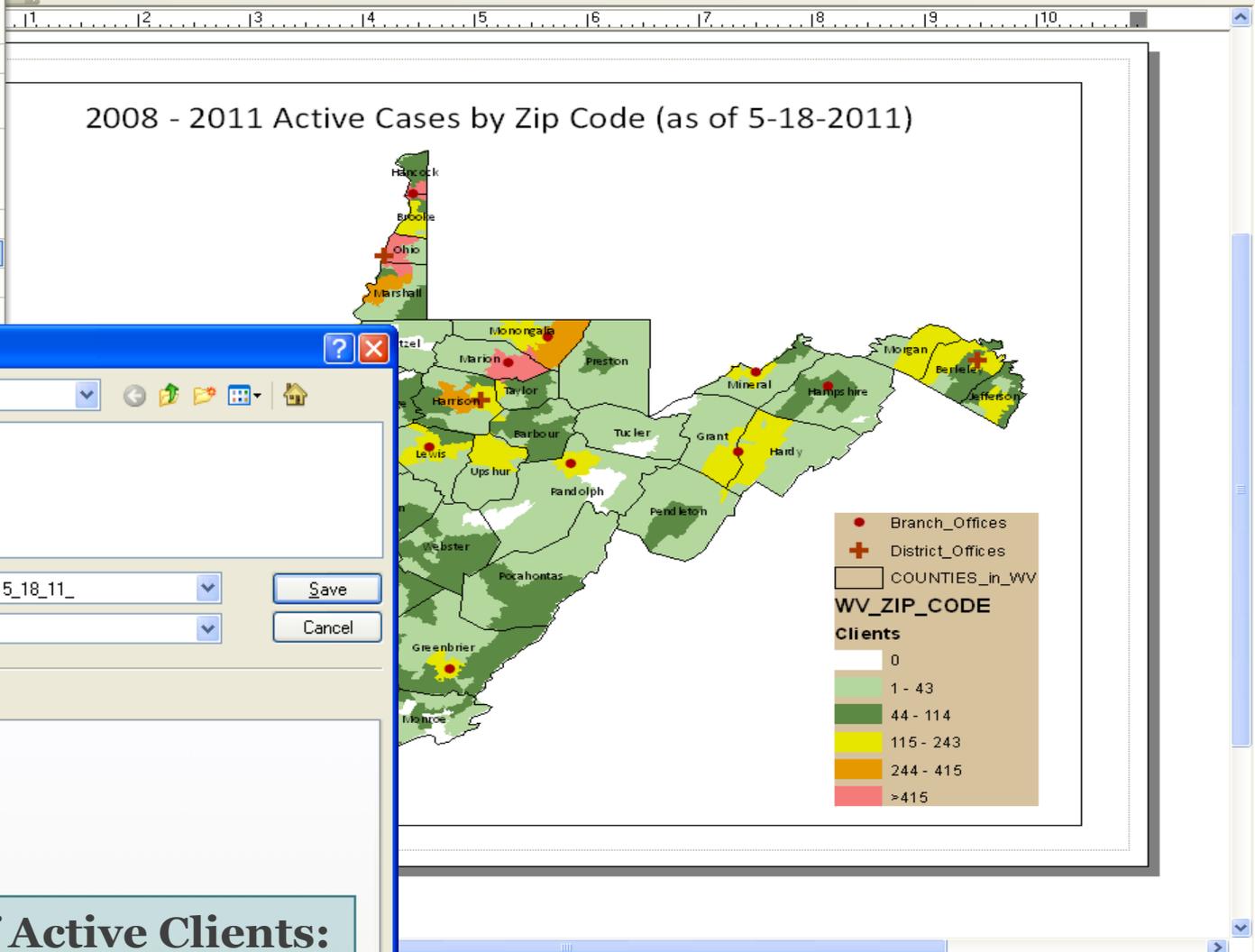
File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help

- New... Ctrl+N
- Open... Ctrl+O
- Save Ctrl+S
- Save As...
- Save A Copy...
- Add Data
- Sign In...
- ArcGIS Online...
- Page and Print Setup...
- Print Preview...
- Print...
- Create Map Package...
- Export Map...
- Map Document Properties...

1 Z:\Conference...\Working Map.mxd

Georeferencing Layer: 10.0 North America Geoc <Type an address...>

1 2 3 4 5 6 7 8 9 10



### Export Map

Save in: powerpoint images

Age 65 and older

File name: Active Clients (as of 5\_18\_11\_

Save as type: TIFF

Resolution: 350 dpi

Width: 3850 pixels

Height: 2975 pixels

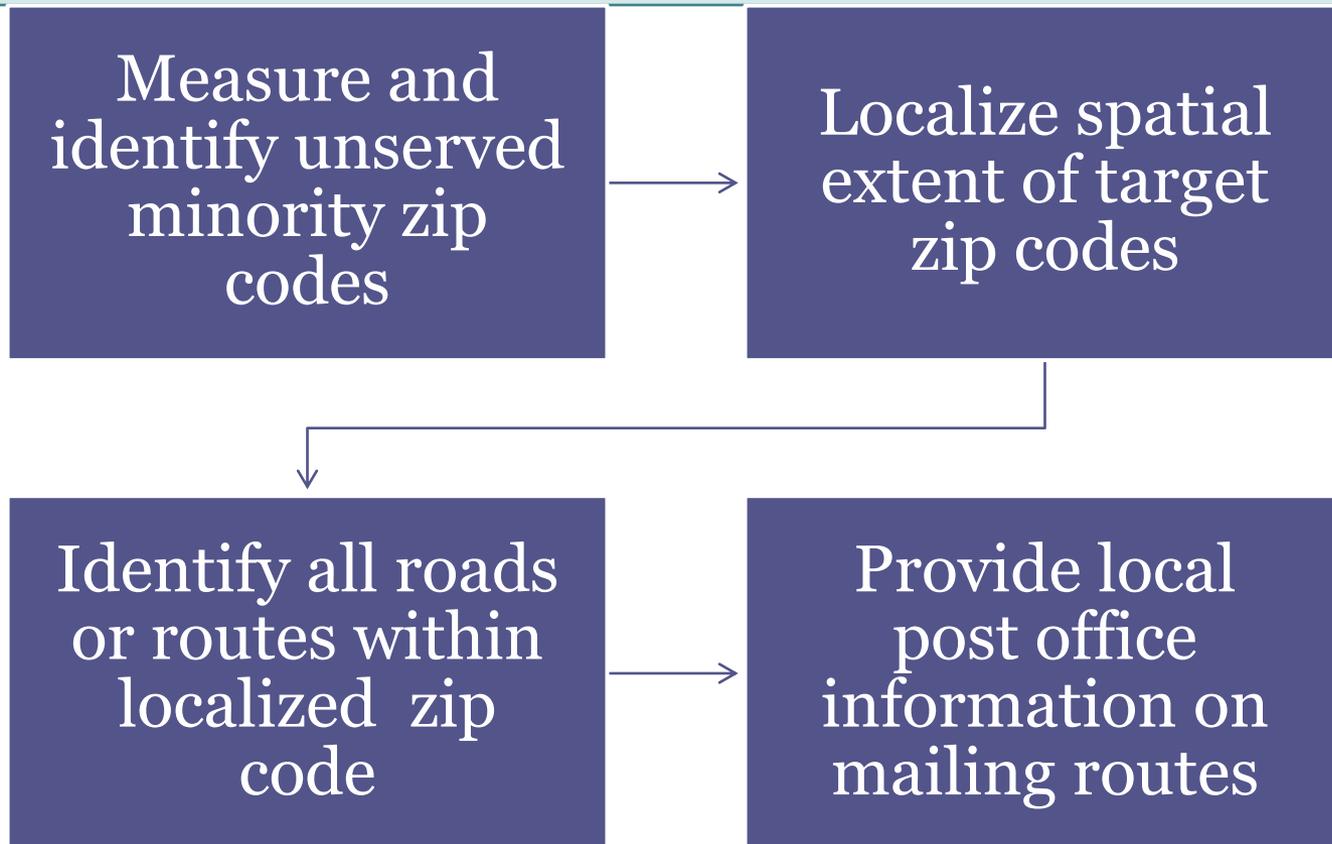
Write World File

Clip Output to Graphics Extent

## Create Map of Active Clients: 5.2 Export Map

# Identification of Potential Unserved Minority Areas

## Summary of Steps



# Step 1. Measure and Identify Potential Unserved Minority Zip Codes

## Outline of Step 1

1.1

- Define Target Zip Codes

1.2

- Join Minority Census and DRS Client Data Tables

1.3

- Create Unserved Minority Zip Codes Layer

# Step 1.1. Define Unserved Minority Zip Codes

- Minority Population
  - $\geq 100$  (U.S. Census 2000)
- DRS Minority Clients
  - Zero Minority Clients Served (As of 5-18-2011)

Table

WV\_ZIP\_CODE

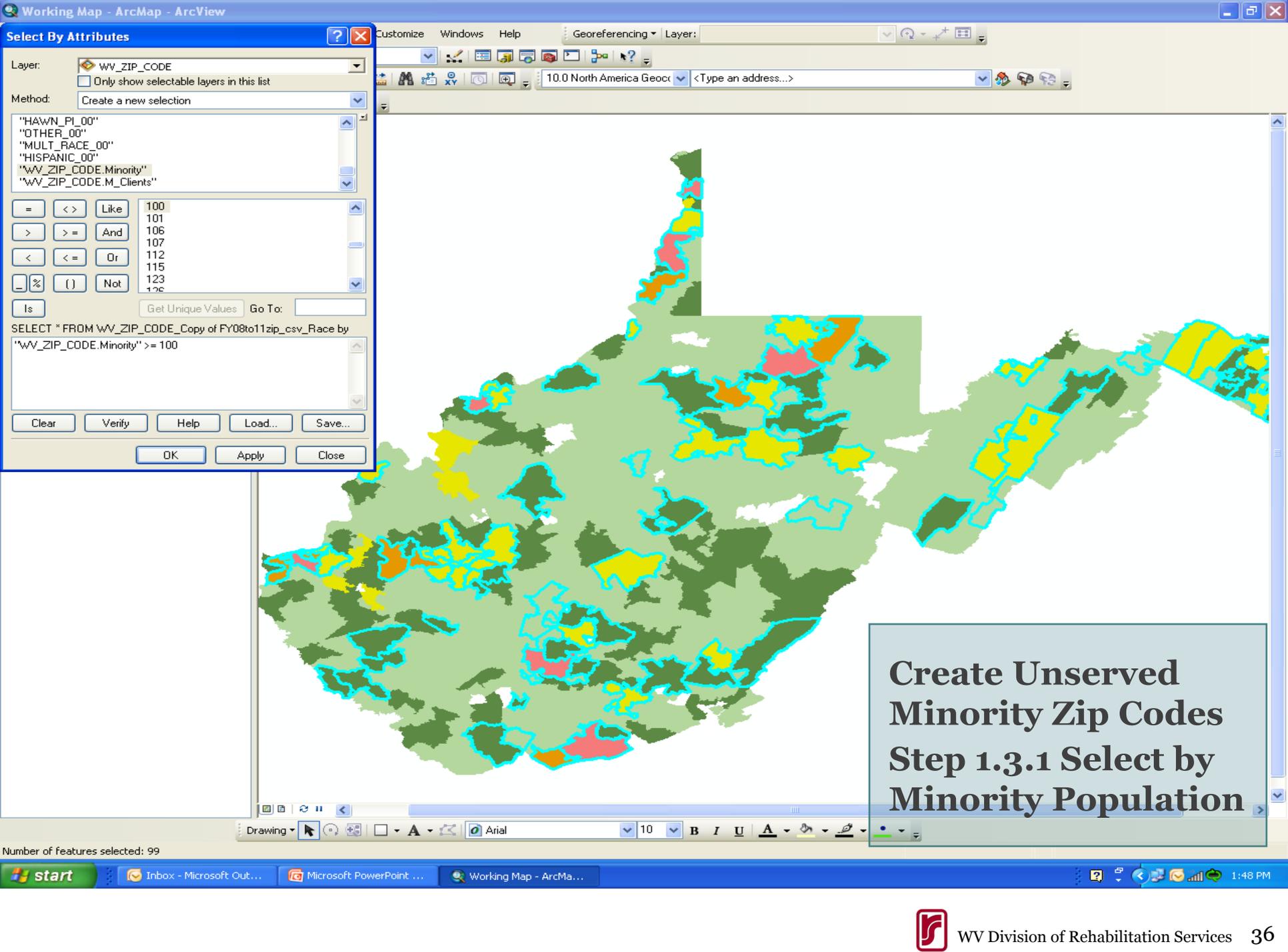
BLACK_00	AMERI_ES_00	ASIAN_00	HAWII_PI_00	OTHER_00	MULT_RACE_00	HISPANIC_00	Total_Minority	Minority_DRS_Clients
2646	30	71	1	31	220	104	2883	87
78	4	31	1	1	13	11	126	4
0	0	0	1	0	0	0	1	0
43	0	0	0	0	10	0	43	1
7	5	0	0	3	7	9	24	0
0	0	0	0	0	2	0	0	1
1	3	0	0	0	10	3	7	0
4	4	4	0	0	6	0	12	0
823	67	178	2	33	241	125	1228	41
35	6	2	3	0	13	24	70	0
811	9	9	0	11	41	41	881	9
46	0	1	0	0	5	2	49	1
0	0	2	0	2	5	12	16	1
4	0	0	0	0	2	0	4	0
1	2	0	0	0	8	9	12	0
0	0	2	0	0	3	14	16	0
11	0	0	1	0	2	2	14	0
<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	0	1
0	2	0	0	0	3	15	17	0
9	2	1	0	0	18	9	21	0
0	1	0	0	0	0	0	1	0
0	0	0	0	0	8	2	2	1
<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	0	0
0	0	0	0	0	4	2	2	0
0	0	0	0	0	4	1	1	0
642	5	0	0	3	19	12	662	13
0	0	0	0	0	0	0	0	0
0	5	0	0	4	26	16	25	0
0	0	0	0	0	1	0	0	0
12	4	3	0	0	14	18	37	0
2	0	0	0	0	1	0	2	0
0	0	0	0	0	0	2	2	0
43	0	0	0	0	1	0	43	0

(0 out of 578 Selected)

WV\_ZIP\_CODE

## Step 1.2 Join Minority Census and DRS Client Data Tables





**Select By Attributes**

Layer: WV\_ZIP\_CODE

Only show selectable layers in this list

Method: Create a new selection

"HAWN\_PL\_00"  
 "OTHER\_00"  
 "MULT\_RACE\_00"  
 "HISPANIC\_00"  
 "wv\_zip\_code.Minority"  
 "wv\_zip\_code.M\_Clients"

= <> Like 100  
 > >= And 101  
 < <= Or 106  
 < <= Or 107  
 < <= Or 112  
 < <= Or 115  
 < <= Or 123  
 < <= Or 126

Is Get Unique Values Go To: \_\_\_\_\_

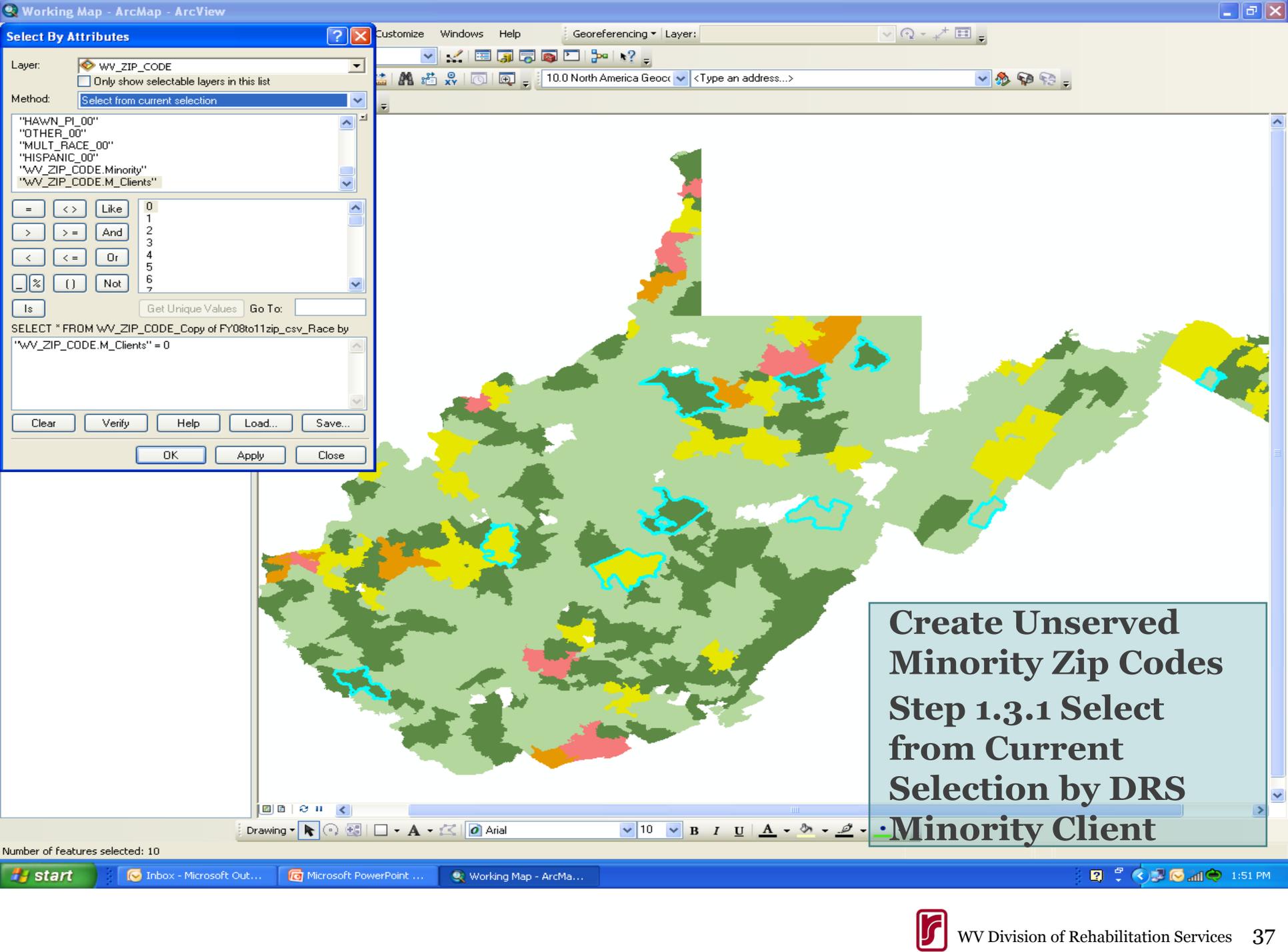
SELECT \* FROM WV\_ZIP\_CODE\_Copy of FY08to11zip\_csv\_Race by  
 "wv\_zip\_code.Minority" >= 100

Clear Verify Help Load... Save...

OK Apply Close

**Create Unserved  
 Minority Zip Codes  
 Step 1.3.1 Select by  
 Minority Population**

Number of features selected: 99



**Select By Attributes**

Layer: WV\_ZIP\_CODE

Only show selectable layers in this list

Method: Select from current selection

"HAWN\_PL\_00"  
 "OTHER\_00"  
 "MULT\_RACE\_00"  
 "HISPANIC\_00"  
 "WV\_ZIP\_CODE.Minority"  
 "WV\_ZIP\_CODE.M\_Clients"

= <> Like 0  
 > >= And 1  
 < <= Or 2  
 < <= Or 3  
 < <= Or 4  
 < <= Or 5  
 < <= Or 6  
 < <= Or 7

Is Get Unique Values Go To: \_\_\_\_\_

SELECT \* FROM WV\_ZIP\_CODE\_Copy of FY08to11zip\_csv\_Race by  
 "WV\_ZIP\_CODE.M\_Clients" = 0

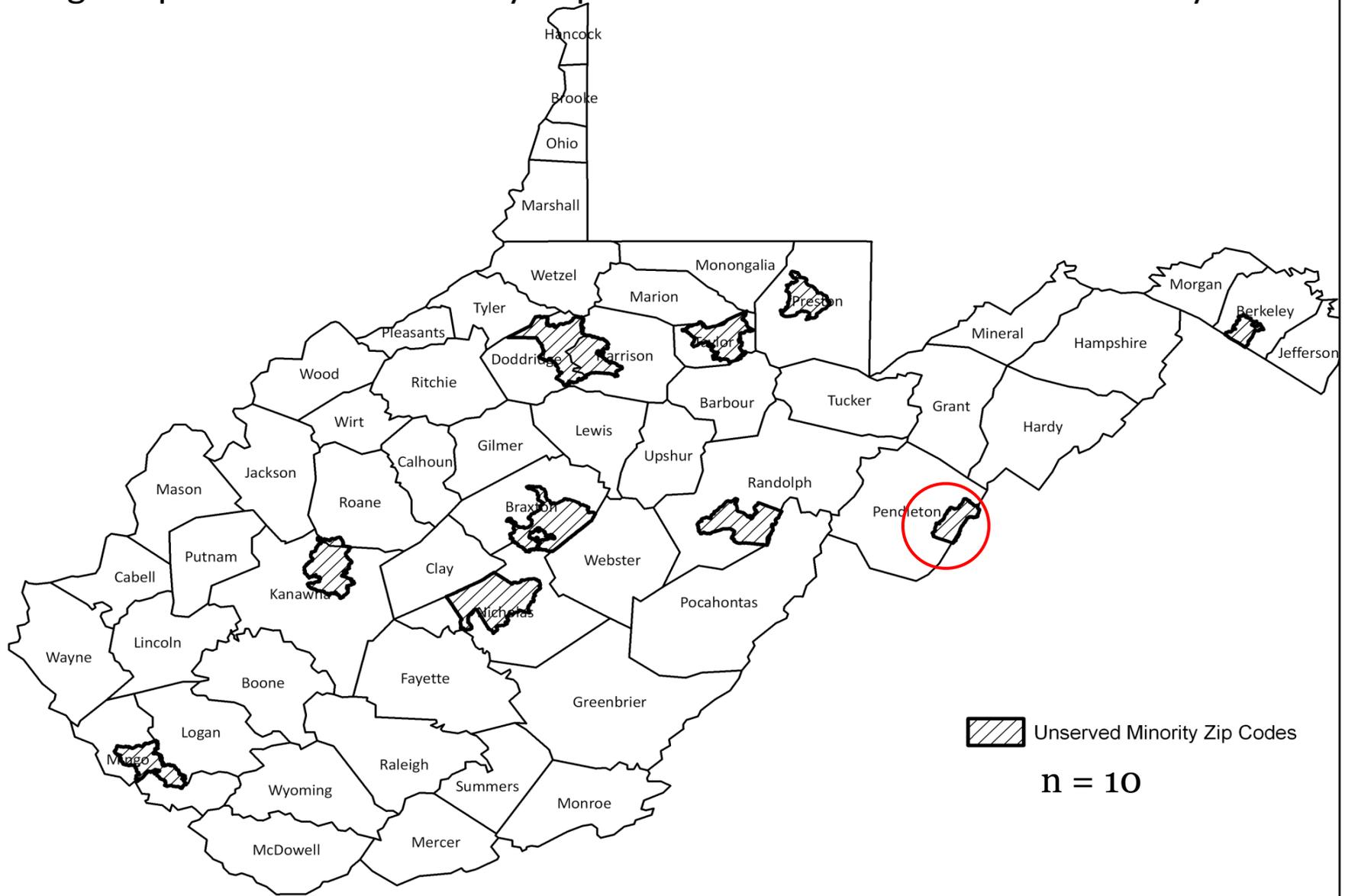
Clear Verify Help Load... Save...

OK Apply Close

**Create Unserved  
 Minority Zip Codes  
 Step 1.3.1 Select  
 from Current  
 Selection by DRS  
 Minority Client**

Number of features selected: 10

# Target Zip Codes with Minority Population $\geq 100$ and Zero DRS Minority Clients



# Step 2. Localize Spatial Extent of Target Zip Code

## Outline of Step 2

2.1

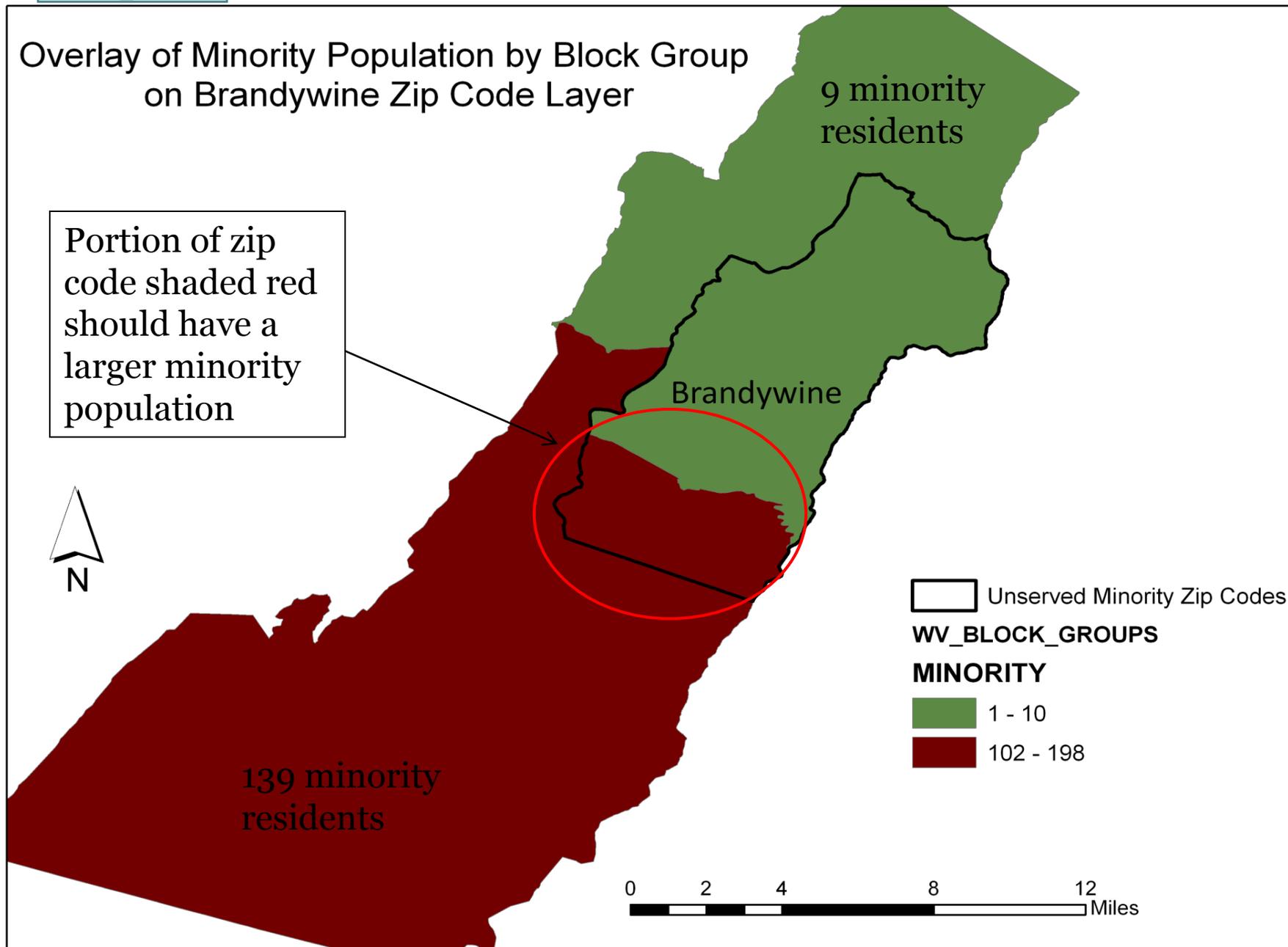
- Overlay Minority Population by Block Group on Brandywine Zip Code Layer

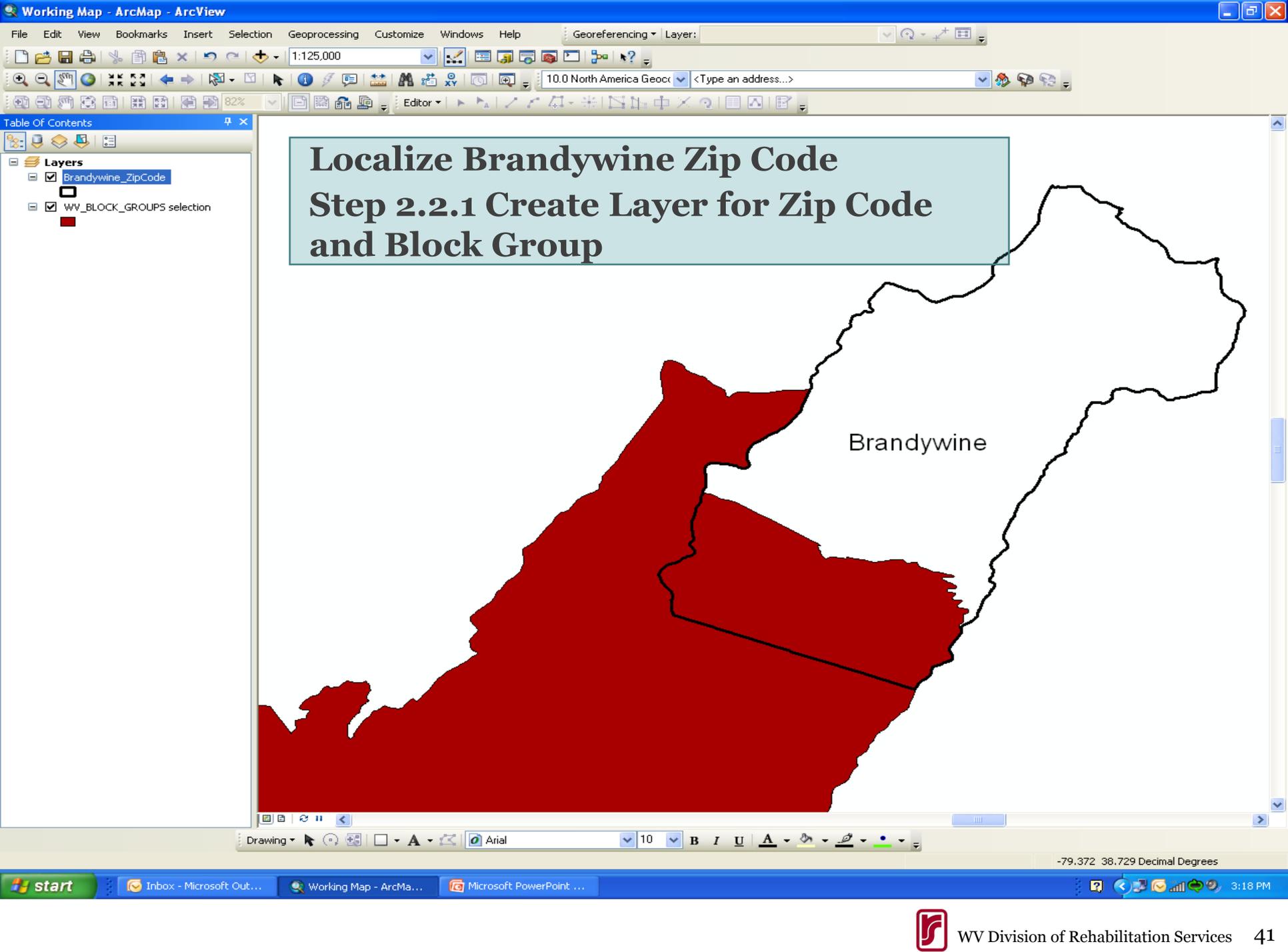
2.2

- Localize Brandywine Zip Code (higher minority population)

## Step 2.1

### Overlay of Minority Population by Block Group on Brandywine Zip Code Layer



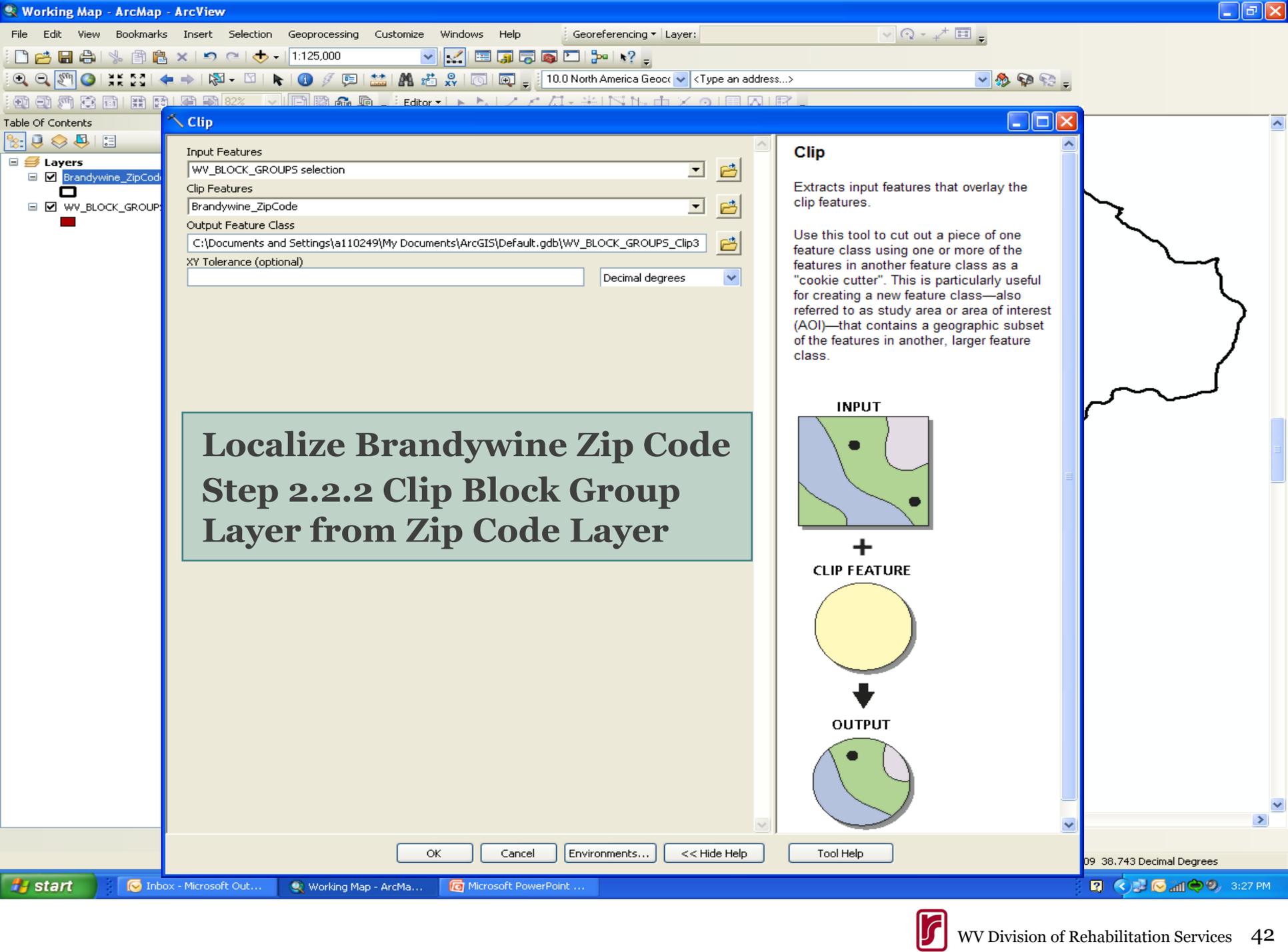


# Localize Brandywine Zip Code

## Step 2.2.1 Create Layer for Zip Code and Block Group

Brandywine

-79.372 38.729 Decimal Degrees

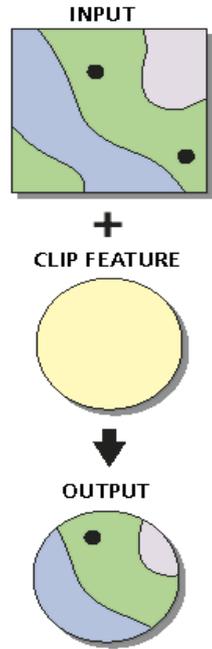


**Localize Brandywine Zip Code  
Step 2.2.2 Clip Block Group  
Layer from Zip Code Layer**

**Clip**

Extracts input features that overlay the clip features.

Use this tool to cut out a piece of one feature class using one or more of the features in another feature class as a "cookie cutter". This is particularly useful for creating a new feature class—also referred to as study area or area of interest (AOI)—that contains a geographic subset of the features in another, larger feature class.



OK Cancel Environments... << Hide Help Tool Help

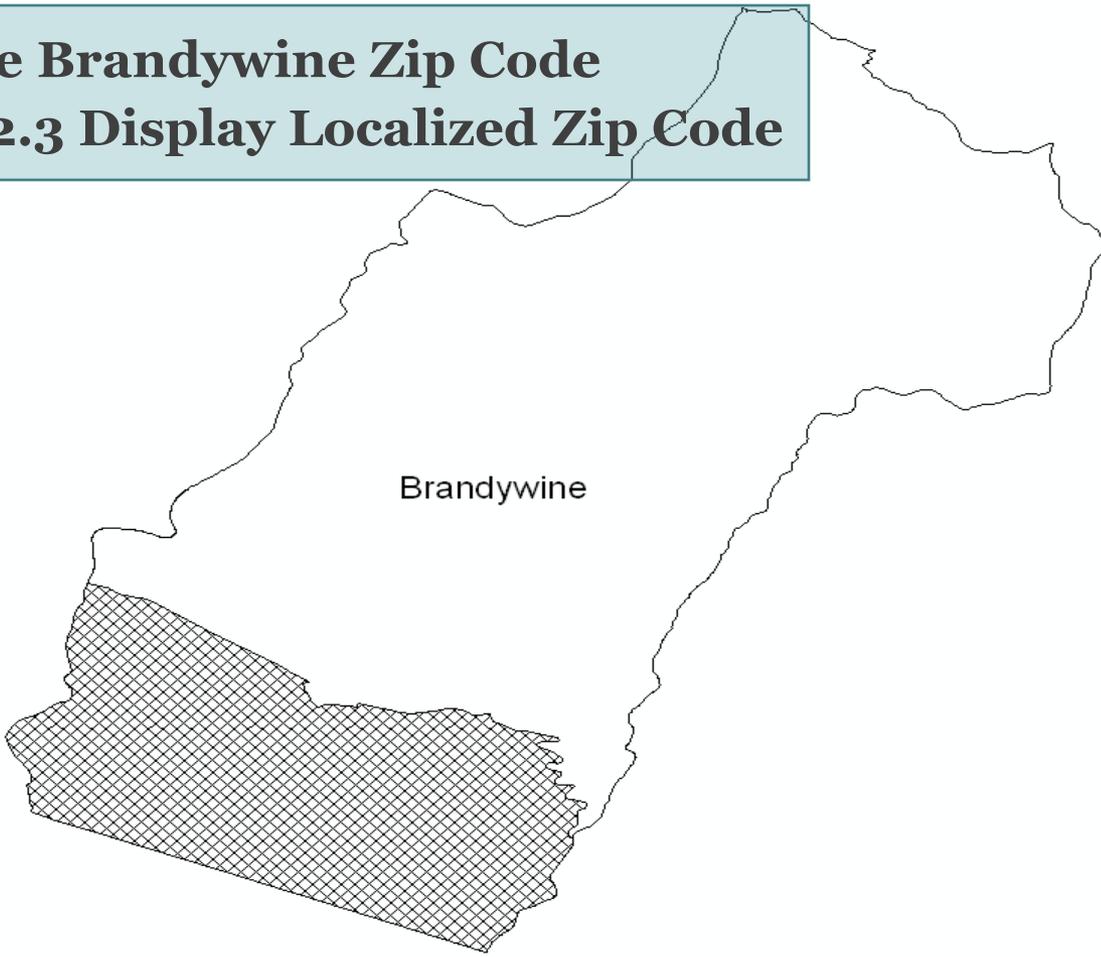
09 38.743 Decimal Degrees

Table Of Contents

- Layers
  - Brandywine\_Zip\_Code selection
  - 
  - Brandywine Minority Zip Code Refined
  -
- New Data Frame

# Localize Brandywine Zip Code

## Step 2.2.3 Display Localized Zip Code



# Step 3. Identify All Roads or Routes within Localized Zip Code

## Outline of Step 3

3.1

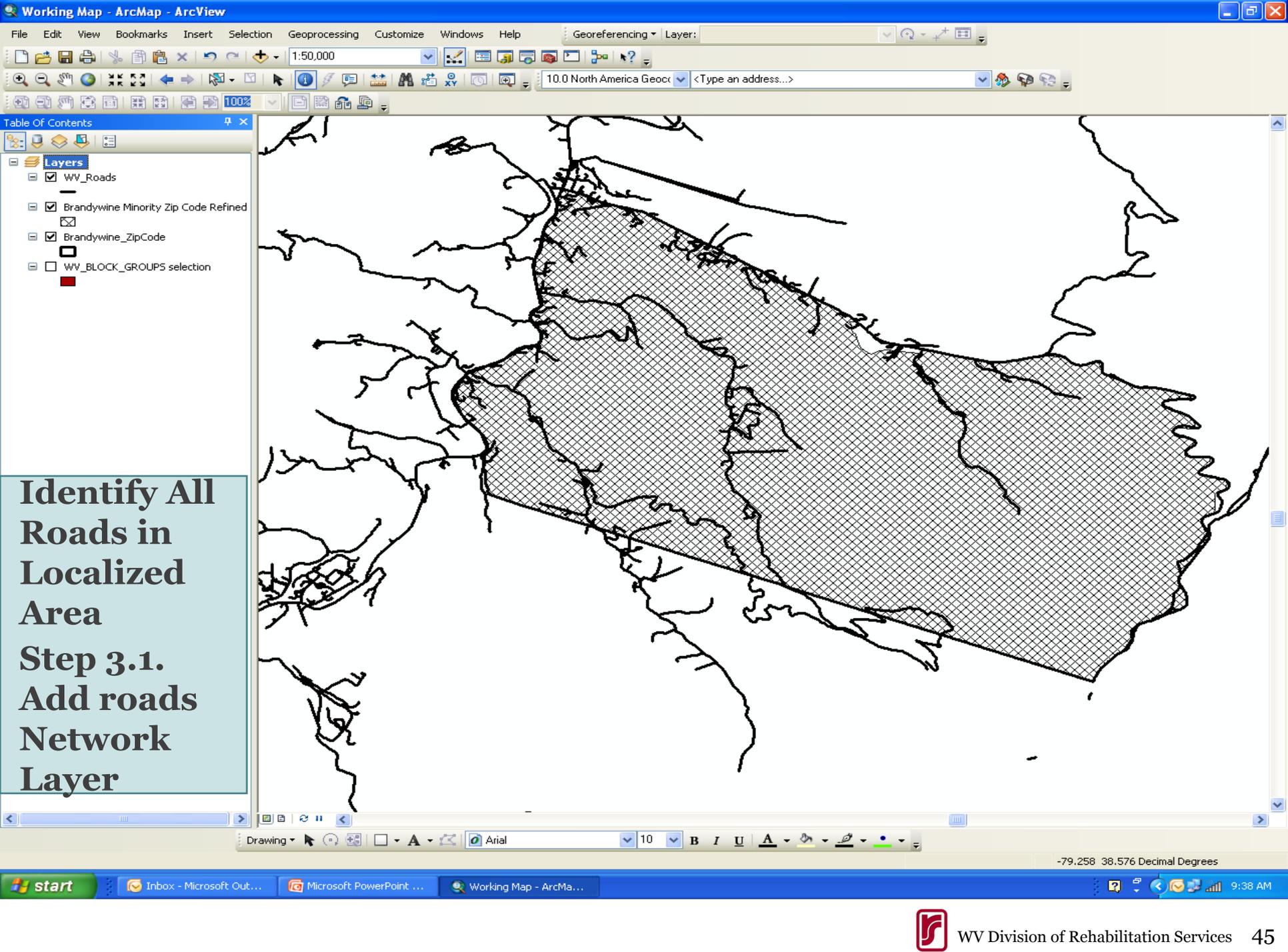
- Add Roads Network Layer

3.2

- Clip Roads Network Layer from Localized Zip Code Layer (Brandywine)

3.3

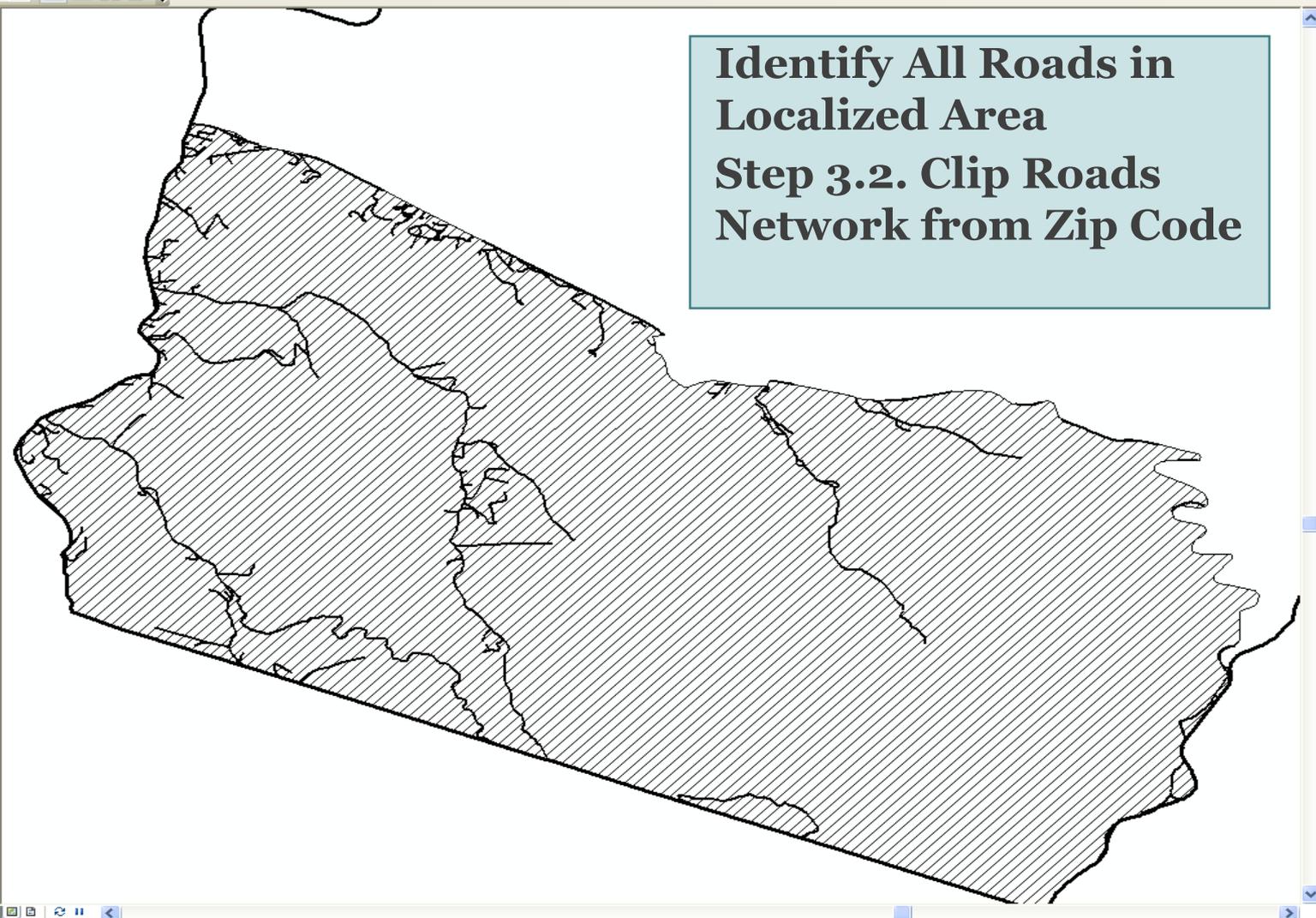
- Catalogue All Localized Roads



**Identify All Roads in Localized Area**  
**Step 3.1.**  
**Add roads Network Layer**

Table Of Contents

- Layers
  - WV\_Roads\_Clip
  - WV\_Roads
  - Brandywine Minority Zip Code Refined
  - Brandywine\_ZipCode
  - WV\_BLOCK\_GROUPS selection



**Identify All Roads in Localized Area**  
**Step 3.2. Clip Roads Network from Zip Code**

Table

Find & Replace...  
 Select By Attributes...  
 Clear Selection  
 Switch Selection  
 Select All  
 Add Field...  
 Turn All Fields On  
 Show Field Aliases  
 Arrange Tables  
 Restore Default Column Widths  
 Restore Default Field Order  
 Joins and Relates  
 Related Tables  
 Create Graph...  
 Add Table to Layout  
 Reload Cache  
 Print...  
 Reports  
 Export...  
 Appearance...

COUNTYTP	TLID	TFIDL	TFIDR	MTFCC	FULLNAME	SMID	LFROMADD	LTOADD	RFROMADD	RTOADD	ZIPL	ZIPR	FEATCAT	HYDROFLG	RAILFLG	ROADFL
071	56205289	218977864	218977864	S1400										N	N	Y
071	56206593	218979661	218979438	S1400										N	N	Y
071	56204461	218978060	218978060	S1400										N	N	Y
071	238643743	218980346	218978064	S1400										N	N	Y
071	56205222	218980346	218978368	S1400										N	N	Y
071	56187802	218978597	218978597	S1740										N	N	Y
071	56202381	218978730	218978731	S1400										N	N	Y
071	56184199	218979415	218978735	S1400										N	N	Y
071	56206452	218978876	218978876	S1400										N	N	Y
071	56205365	218979032	218979032	S1400										N	N	Y
071	56184293	218979404	218980346	S1400										N	N	Y
071	56184090	218979412	218980346	S1400										N	N	Y
071	56184182	218979418	218980346	S1400										N	N	Y
071	56184184	218980346	218979421	S1400										N	N	Y
071	56199086	218980346	218979424	S1400										N	N	Y
071	56197113	218979936	218981577	S1400										N	N	Y
071	56197111	218979936	218980346	S1400										N	N	Y
071	56187875	218980346	218980074	S1740										N	N	Y
071	56198043	218980346	218980152	S1740										N	N	Y
071	56188043	218980321	218980382	S1740										N	N	Y
071	238638232	218980346	218980346	S1400										N	N	Y
071	56185402	218980346	218980346	S1740										N	N	Y
071	56202751	218980346	218980346	S1400										N	N	Y
071	56198042	218980346	218980346	S1740										N	N	Y
071	56185390	218980346	218980346	S1740										N	N	Y
071	56197135	218980346	218980346	S1740										N	N	Y
071	56197136	218980346	218980346	S1740										N	N	Y
071	56197125	218980346	218980346	S1740										N	N	Y
071	56205300	218982736	218980346	S1400										N	N	Y
071	56205342	218980346	218982747	S1400										N	N	Y
071	238642990	218980346	218980346	S1400										N	N	Y
071	56187848	218980346	218980346	S1740										N	N	Y
071	56187849	218980346	218980346	S1740										N	N	Y
071	56187874	218980346	218980346	S1740										N	N	Y
071	56185368	218981549	218981549	S1740										N	N	Y
071	56185370	218981549	218981549	S1740										N	N	Y
071	56200700	218981573	218981573	S1740										N	N	Y
071	56197137	218977729	218978876	S1400										N	N	Y
071	238641854	218980346	218977785	S1400										N	N	Y
071	56187846	218979661	218980345	S1740										N	N	Y
071	238639167	218978060	218978066	S1400										N	N	Y
071	56205243	218978292	218978292	S1400										N	N	Y
071	238642737	218978371	218980353	S1400										N	N	Y
071	56187282	218982720	218978431	S1740										N	N	Y
071	56205429	218978811	218978811	S1400										N	N	Y
071	238639402	218978876	218978876	S1400										N	N	Y
071	56202392	218978876	218978876	S1400										N	N	Y
071	56205263	218979032	218979032	S1400										N	N	Y
071	56196963	218979391	218980346	S1740										N	N	Y
071	56206928	218979392	218979392	S1400										N	N	Y
071	56197123	218979392	218979392	S1740										N	N	Y
071	56205227	218979392	218979392	S1400										N	N	Y

42 Polyline 54  
 44 Polyline 54  
 45 Polyline 54  
 46 Polyline 54  
 47 Polyline 54  
 48 Polyline 54  
 49 Polyline 54  
 50 Polyline 54  
 51 Polyline 54  
 52 Polyline 54  
 53 Polyline 54  
 54 Polyline 54  
 55 Polyline 54  
 56 Polyline 54  
 58 Polyline 54  
 59 Polyline 54  
 60 Polyline 54  
 61 Polyline 54  
 62 Polyline 54  
 63 Polyline 54  
 65 Polyline 54  
 69 Polyline 54  
 70 Polyline 54  
 72 Polyline 54  
 73 Polyline 54

Table Window: **Select by Attributes**

Enter a WHERE clause to select records in the table window.

Method: Create a new selection

Fields in list: "TLID", "TFIDL", "TFIDR", "MTFCC", "FULLNAME", "SMID"

Operator: =

Value: 'Broad Run', 'Co Rte 21/3', 'Delta Rd 104', 'Fultz Gap', 'Miller Rd', 'Millers Run', 'Sugar Grove', 'Sugar Grove Rd'

SQL Query: SELECT \* FROM Wv\_Roads\_Clip WHERE: "FULLNAME" =

Buttons: Clear, Verify, Help, Load..., Save..., Apply, Close

Taskbar: start, Inbox - Microsoft Out..., Microsoft PowerPoint..., Working Map - ArcMa..., 10:04 AM

# Identify All Roads in Localized Area

## Step 3.3. Catalogue All Localized Roads

# Step 4. Provide List of Roads to Local Post Office

---

**Road Name**

---

Broad Run

County Rte 21

County Rte 21/3

Delta Rd 104

Fultz Gap

Miller Rd

Millers Run

Sugar Grove

Sugar Grove Rd

US Hwy 33

---



# Summary

- GIS application in VR
- Improve planning for community outreach efforts, especially for persons with disabilities from minority backgrounds
- Other GIS Possibilities for State VR Agencies
  - Aid in matching employment needs of clients with available jobs
    - Match case management records with local employment dynamics data (U.S. Census)
  - Help find the most suitable location for a new branch office
    - Spatial Analyst Extension in ArcGIS
    - Input model criteria to define best location: Cost; accessibility; terrain; etc.
  - Explore patterns of success in employment outcomes
    - Explore by district office or branch office
    - Map best performers in terms of successful and unsuccessful closure statuses:
    - Model performance (Logistic regression or discriminant function analysis) using data from case management records and quality assurance review
    - Use results to mark areas where improvements could be made