

# Utilizing GIS Technology for Rockland County

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Rockland County Planning Department  
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# Presentation Agenda

- Introduction
- What is GIS
- What can GIS do
- GIS Efforts for BOE
  - Resources for BOE Staff
  - Address Research and Verification
  - Database Scrubbing
  - Redistricting Efforts  
(past, present)
- Data Sources
- Questions & Comments

# Introduction

- **Planning Department is the Lead Agency for GIS within Rockland County.**
- **Started GIS development nearly 20 years ago.**
- **Responsible for all Tax Mapping with Rockland County.**
- **Develop GIS data and applications for County Agencies as well as for the public.**
- **Provide mapping and support for 911.**
- **Improve GIS data quality for all efforts within Rockland County (ex. Board of Elections).**

# What is GIS?

**GIS is an acronym for Geographic Information System, sometimes referred to as computer mapping. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed.**

**GIS Layer is a visual representation of a geographic dataset in any digital map environment.**

**On a map, for example, roads, national parks, political boundaries, and rivers might be considered different layers.**



# Role of GIS

**GIS Can be used to:**

- **Visualize your data.**
- **QA and QC your data.**
- **Illustrate options.**
- **Perform Overlay Analysis – useful for reporting changes.**
- **Print and distribute maps.**

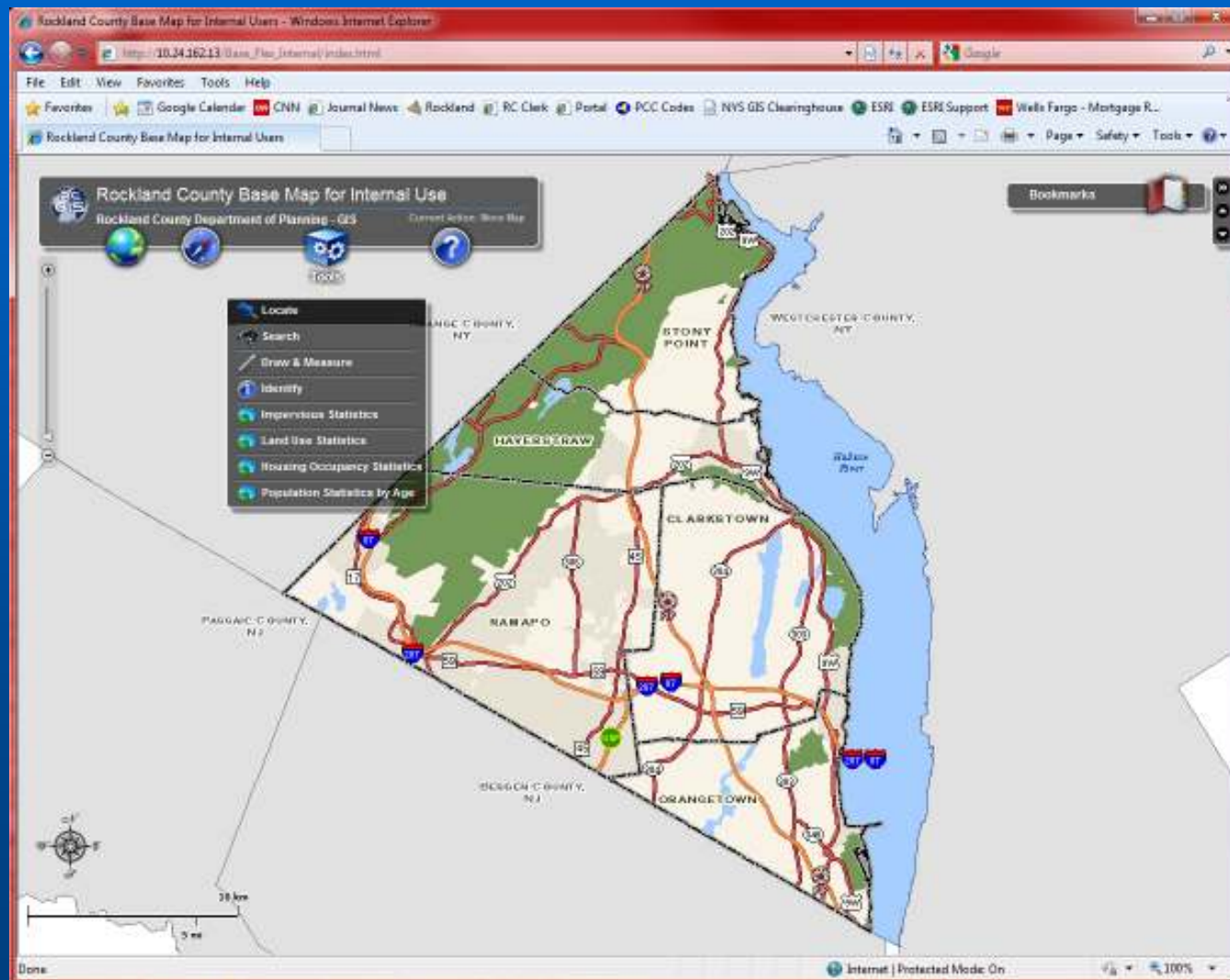
# GIS efforts for BOE

- **Resources for BOE Staff**
  - Intranet Applications
  - GIS Portal
- **Address Research and Verification**
- **Database Scrubbing – QA/QC measures**
  - Geocoding BOE Database
  - Illustrating Discrepancies
  - Providing Responses/Solutions
- **Redistricting Efforts**
  - Past Experiences
  - Current Project Goals
  - Time Frame
  - Approach
  - Current Status

# Resources for BOE Staff

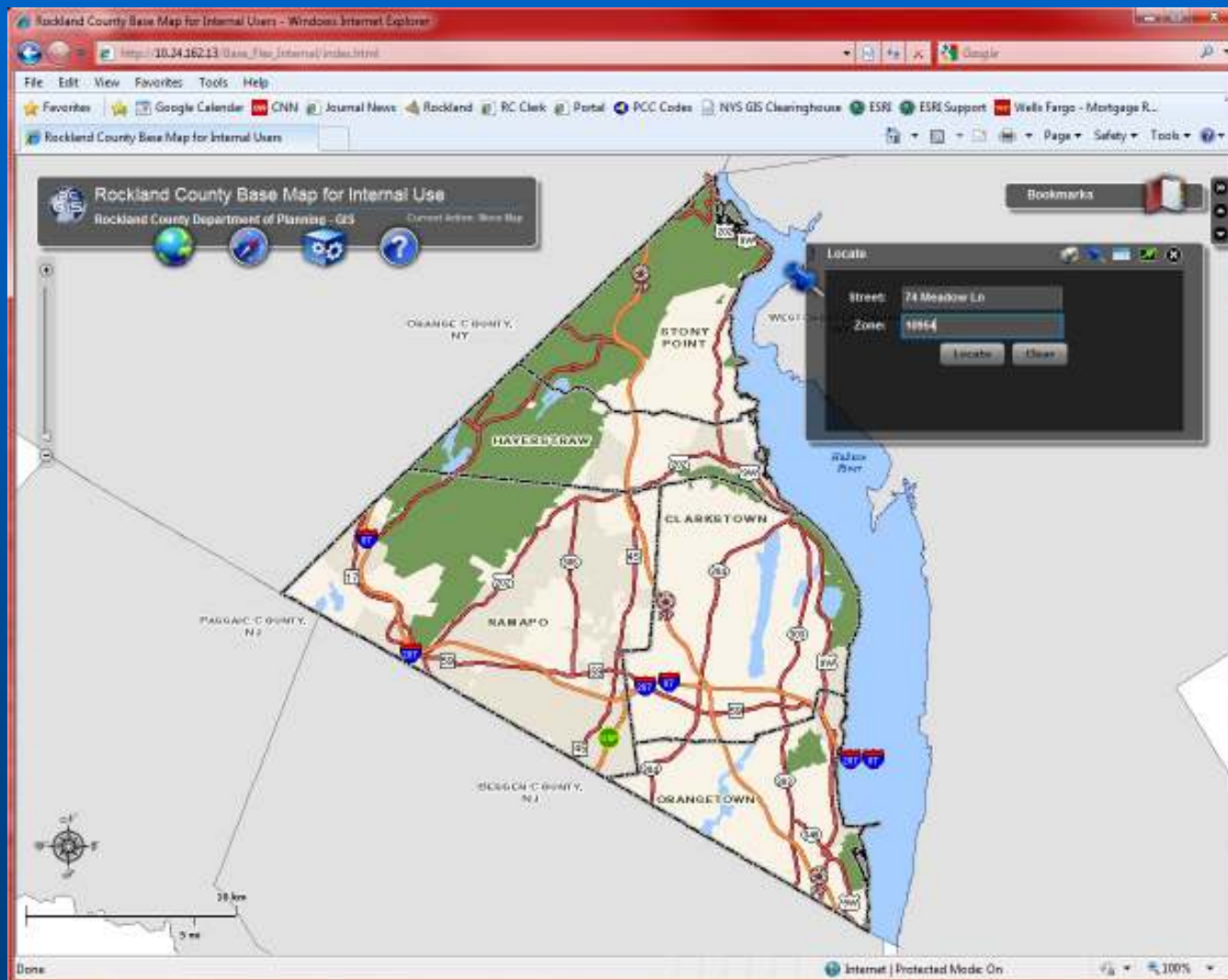
- **Intranet GIS Applications**
  - Address Research and Verification
- **GIS Portal – (BOE and Public)**
  - GIS applications
  - Data Repository
  - Map Repository
- **GIS Technical Staff**

# Intranet Application for BOE

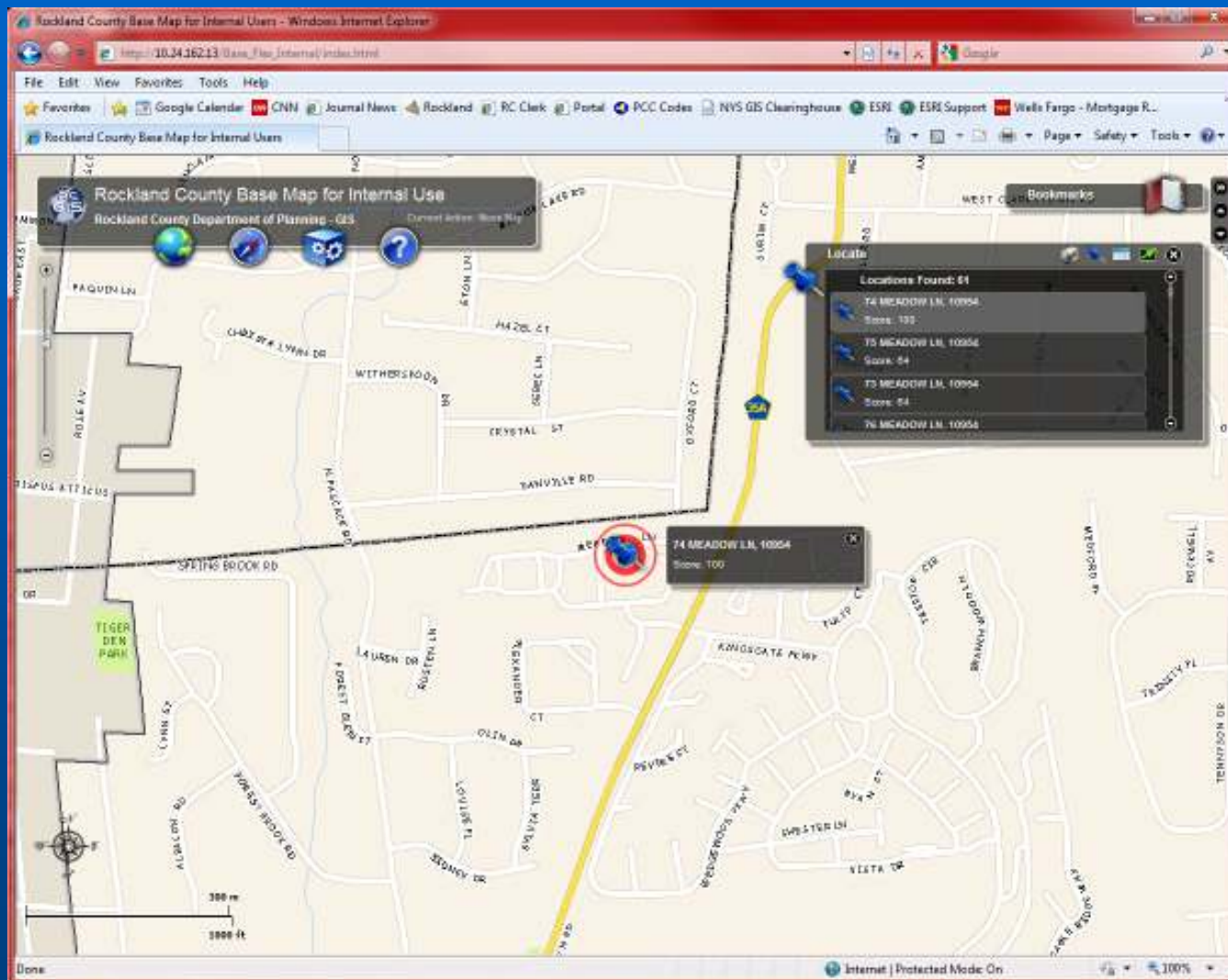




# Intranet Application for BOE



# Intranet Application for BOE



# Rockland County GIS Portal

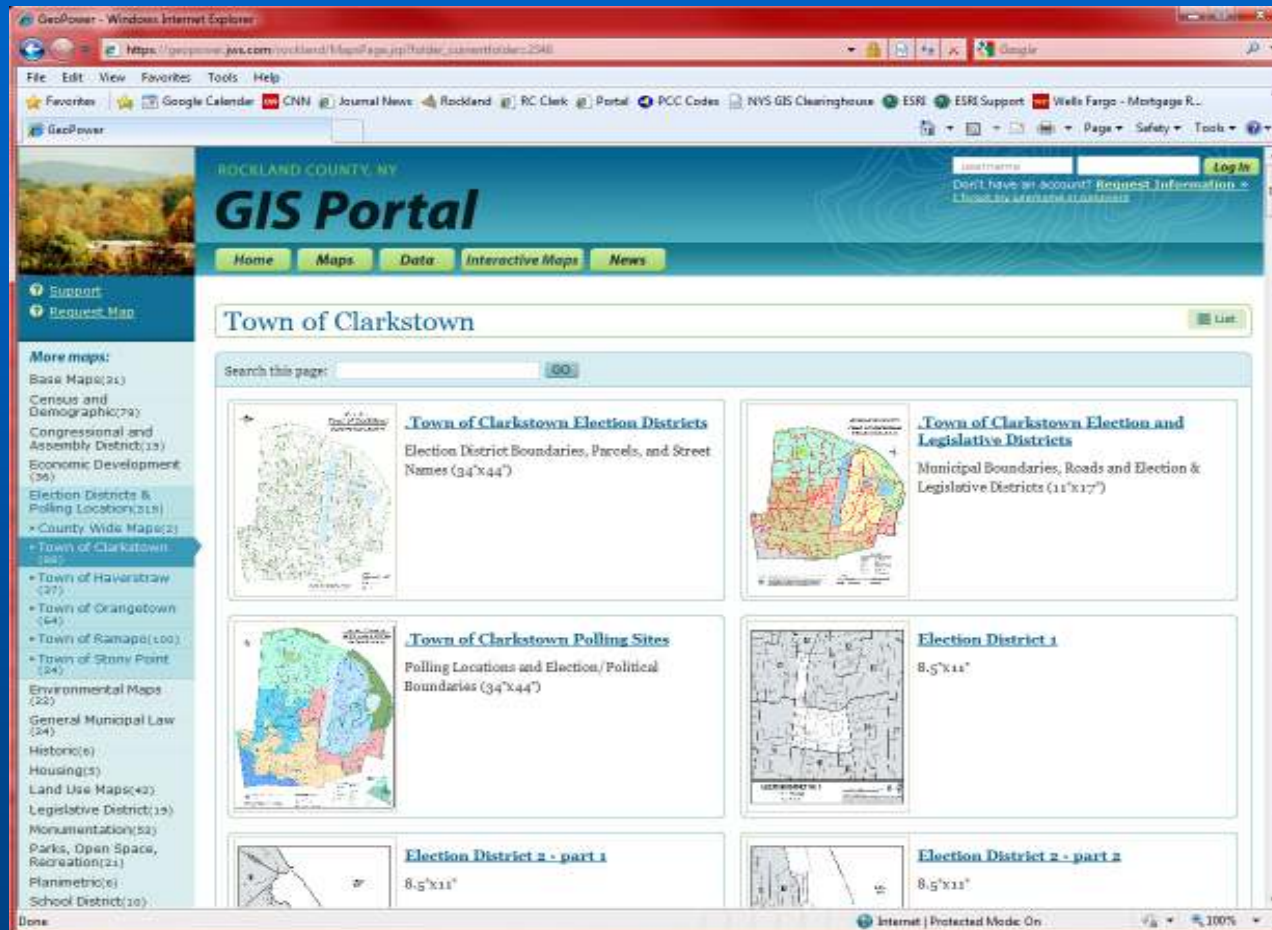


**GeoSpatial  
Leadership  
Award Winner**  
**Geoworld Magazine  
2010**

**Can access the  
GIS Portal from  
Rockland  
County's web  
page.**

**Portal Direct Link: <https://geopower.jws.com/rockland/>**

# Rockland County GIS Portal



**GIS Portal Users have access to pre-made maps, data and applications.**

**Portal Direct Link: <https://geopower.jws.com/rockland/>**



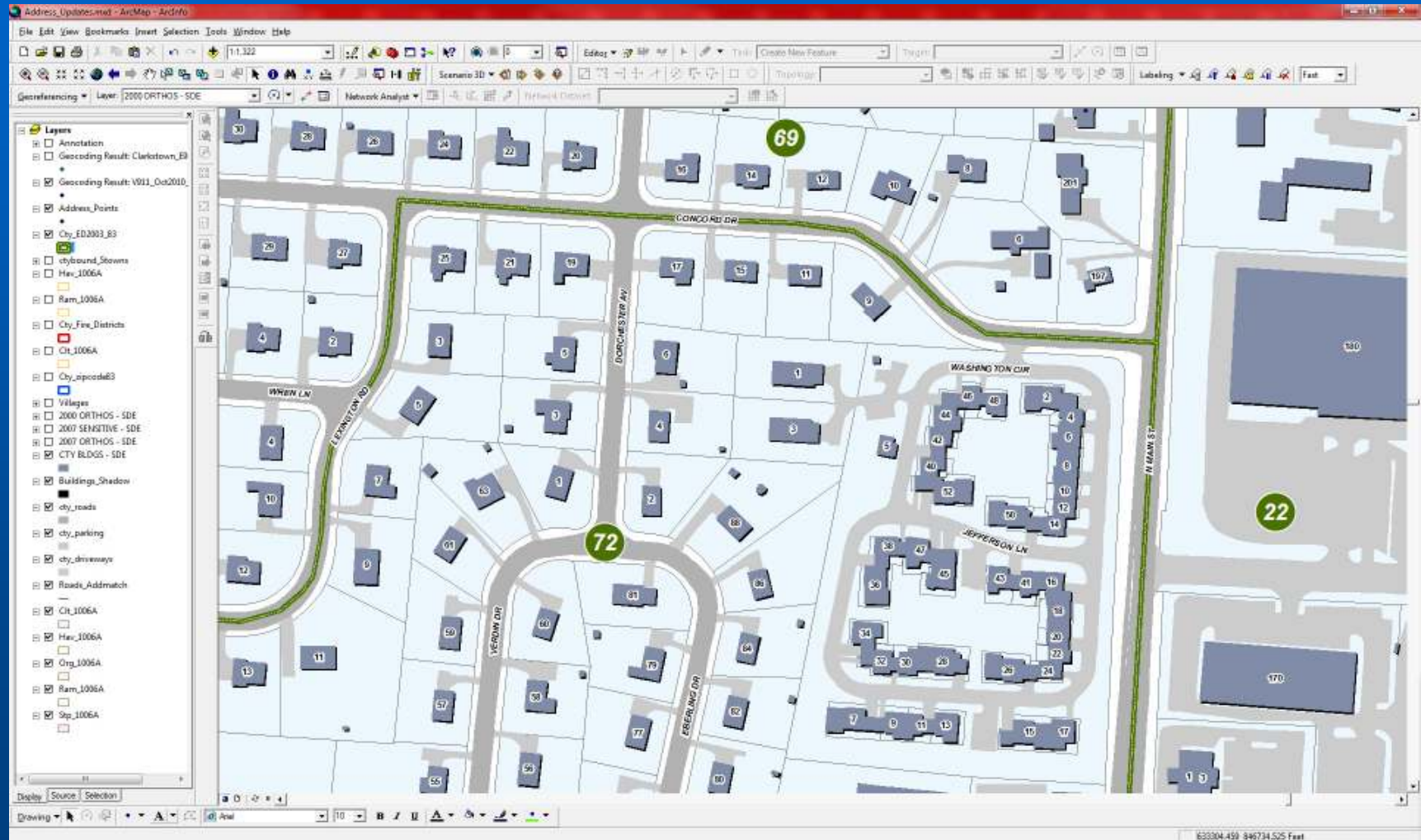
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# Address Research & Verification

- **Coordinate all official address sources to improve quality and accuracy of address information.**
- **Address Sources:**
  - Rockland County Enhanced 911 (E911)
  - United States Postal Service
  - Local Assessors
  - Verizon 911 Database
- **Address Standards:**
  - United State Postal Service
  - National Emergency Number Association (NENA)
- **The above efforts help to improve the accuracy of GIS address information:**
  - Street Address Ranges (Accurate Locations)
  - Address Points (Very Accurate Locations)

# Address Research & Verification



# GIS efforts for BOE

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# Database Scrubbing – QA/QC

- **Geocode BOE voter database.**
  - Giving the database a spatial component using the registered voters address.
- **Illustrate discrepancies**
  - Street Name Issues
  - Old Pre 911 Addresses
  - Incorrect Addresses (Data Input Errors)
  - False Addresses (Don't Exist)
  - Verify commercial vs. residential
- **Provide solutions.**
  - Suggest street name corrections
  - If registered owner is the same as the property owner we can provide new E911 addresses.
  - Can point out data input errors (Address, ED, School, Etc.).

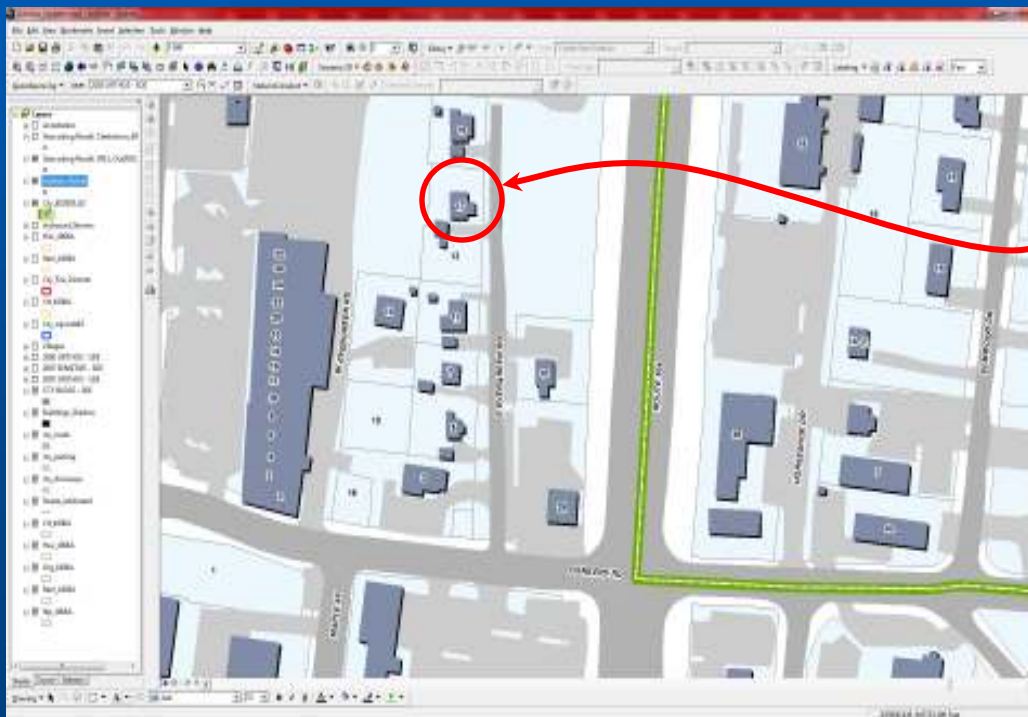
# Geocoding the BOE database

*Every voter in the BOE database contains an address which is used for geocoding.*



Attributes of BOE\_Demo\_Not\_Important

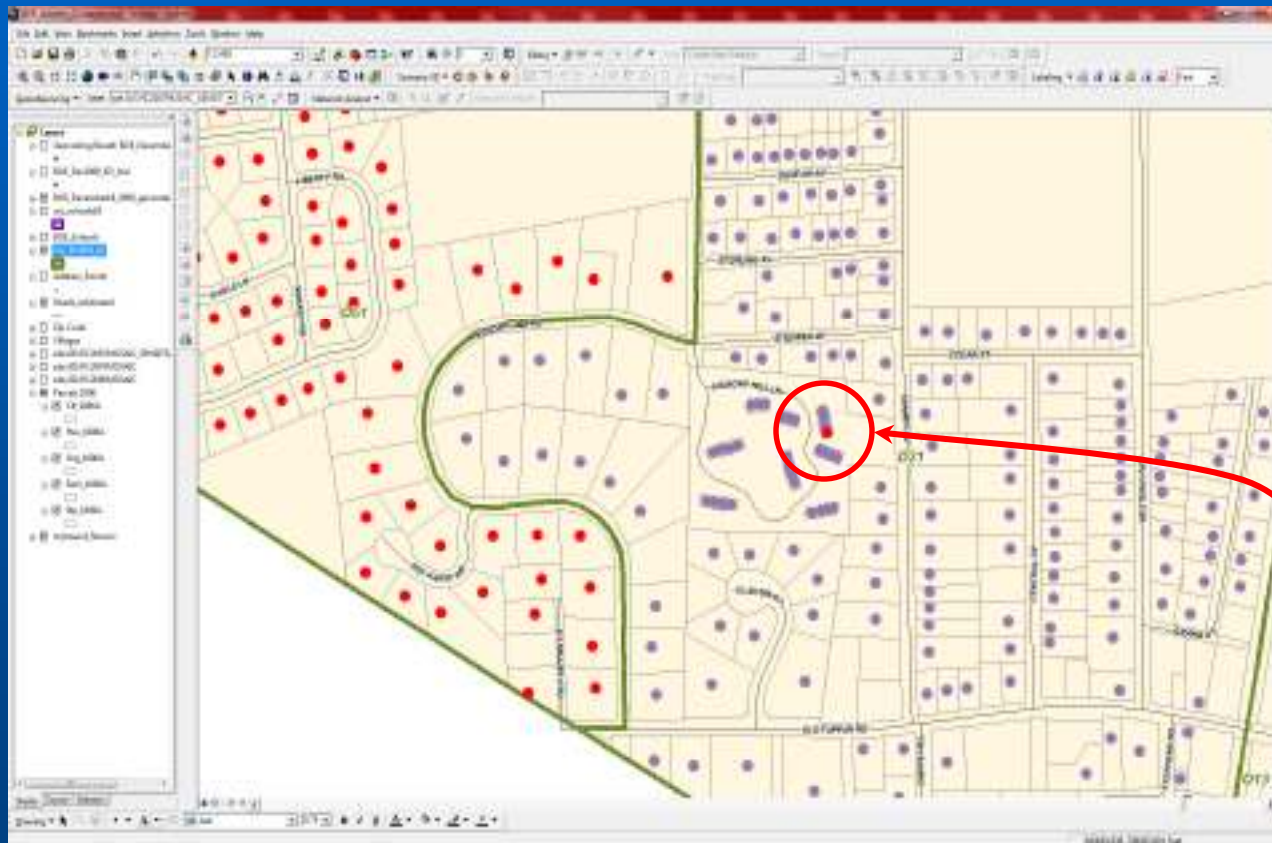
BOE_ID	F_NAME	M_NAME	L_NAME	SUFFIX	ADD_NUM	HALF	STREET	APT_NO	ADD_LIN2	ADD_LIN3	CITY	STATE	ZIP	ZIP4	DOB	SEX	TOWN	WARD	DISTRICT	CONGRESS	SENATE	ASSEMBLY	SCHOOL	VLLAGE
1000	JOHN	M	DOE		12		PSBROCK LN				NEW CITY	NY	1095	0120	195510	M	C	0	1	10	30	94	CE1	
1001	MARY	F	DOE		17		E EVERGREEN RD				NEW CITY	NY	1095		1955121	F	C	0	1	10	30	94	CE1	
1002	WILLIAM	A	DOE		17		E EVERGREEN RD				NEW CITY	NY	1095		1955110	M	C	0	1	10	30	94	CE1	
1003	PHILIP		DOE		17		E EVERGREEN RD				NEW CITY	NY	1095		1975410	M	C	0	1	10	30	94	CE1	
1004	SUSAN	V	DOE		17		E EVERGREEN RD				NEW CITY	NY	1095		1995013	F	C	0	1	10	30	94	CE1	



*Using the address from the BOE database the GIS software places a dot on the map at the correct address.*

# Database Discrepancy

*BOE Voter database geocoded and then color coded by Election District.*



*Once the BOE voter database is overlaid on the map, input errors become very apparent.*

*Note the red dot that shows up in the middle of a purple colored election district.*

# GIS efforts for BOE

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# Redistricting Efforts

- **Past Experience**
- **Current Project Goals**
- **Redistricting Methodology**
- **Redistricting Timeline**
- **Methodology Examples**
  - Census Bureau translation.
  - How we generate change reports.
- **Current Status**

# Past Experience – 2000 Census

- Completed the same task during 2001-2003.
- Many lessons learned regarding Census geography.
- Created a model to use for future redistricting efforts.

# Current Project Goals

## Use GIS to:

- Create a more efficient process to review new Legislative districts.
- Adopt new Legislative Districts
- Illustrate and review election district changes.
- Formulate an efficient process to adjust election district boundaries.
- To quickly summarize changes for BOE staff.
- Generate maps of new districts for BOE staff and the public.

# Redistricting Methodology

- **Translate Census Geography.**
- **Create new Legislative Districts based on 2010 Census.**  
(Rockland has hired a consultant for this)
- **Look for conflicts with existing election districts.**
- **Decide how to redraw conflicted areas.**



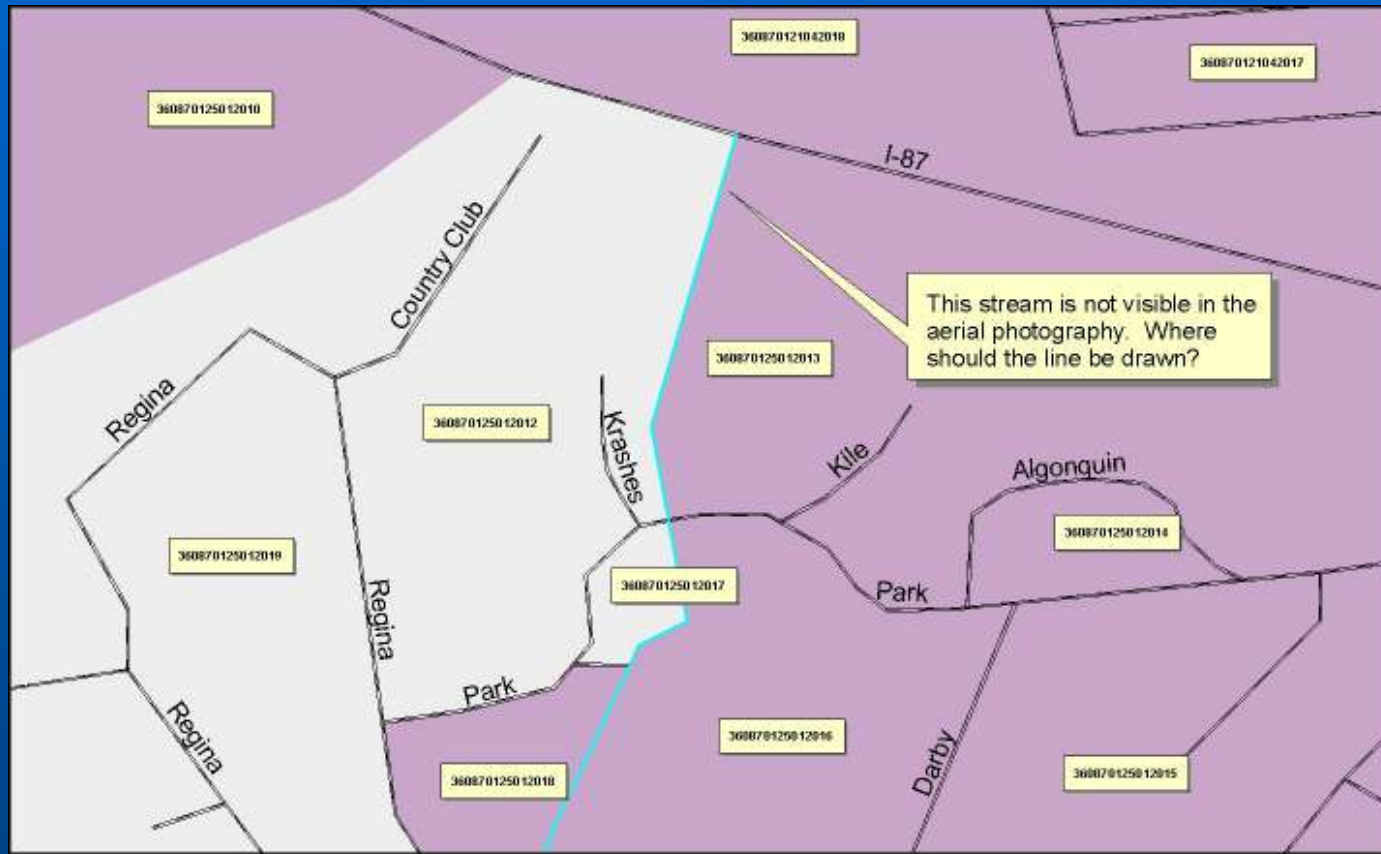
# Redistricting Methodology cont.

- **Generate change reports for BOE.**
- **BOE makes changes to their system**
- **Review existing election districts for registered voters – split if necessary.**
- **Generate new election districts.**
- **Create maps.**
- ***Revisit in future after Federal/State Districts adopted***

# Timeline – Rockland’s Goal

- **March 31, 2011 – Census 2010 data release date by Federal Government on or before.**
- **April/May 2011 – Legislative Districts need to be completed and adopted by the Legislature.**
- **June 2011 – All Legislative Districts and new Election districts must be entered into BOE voter system prior to the first date for signing petitions.**
- ***2011/2012 – Impact of State and Federal Districts***

# Translate Census Geography



**Problem:**  
Census  
geography  
from 2000  
TIGER files  
does not  
accurately  
reflect the  
real world.

  
Map prepared by:  
The Rockland County  
Department of Planning  
August - 2002

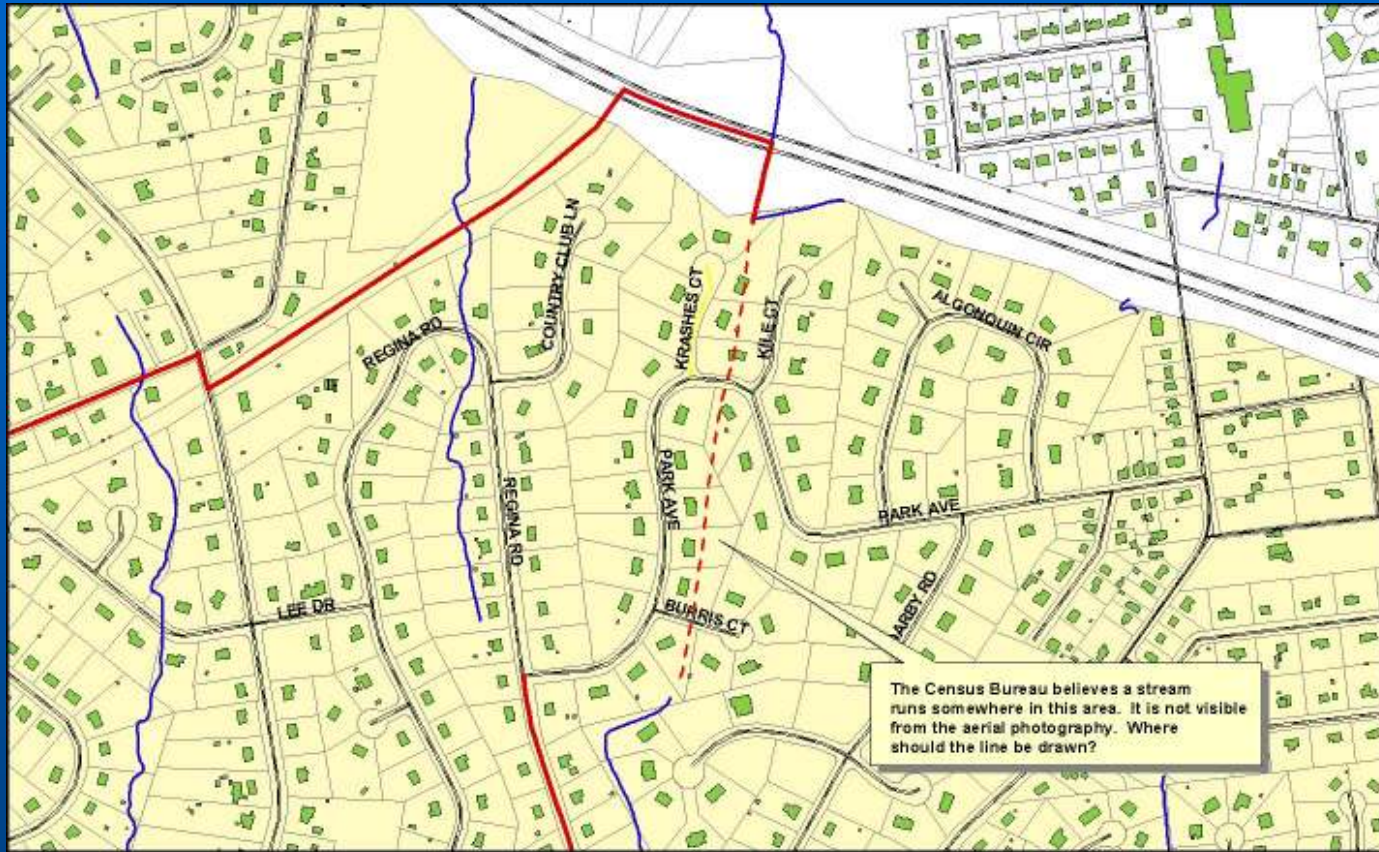
## U.S. CENSUS BUREAU - TIGER DATA

PROBLEM AREA NO. 6

Legislative District Mapping  
Rockland County, 2002



# Translate Census Geography



Problem:  
There is no stream to follow as illustrated in the TIGER file.



Map prepared by:  
The Rockland County  
Department of Planning.  
August - 2002

## ROCKLAND COUNTY DATA

PROBLEM AREA NO. 6

Legislative District Mapping

Rockland County, 2002

### Legend

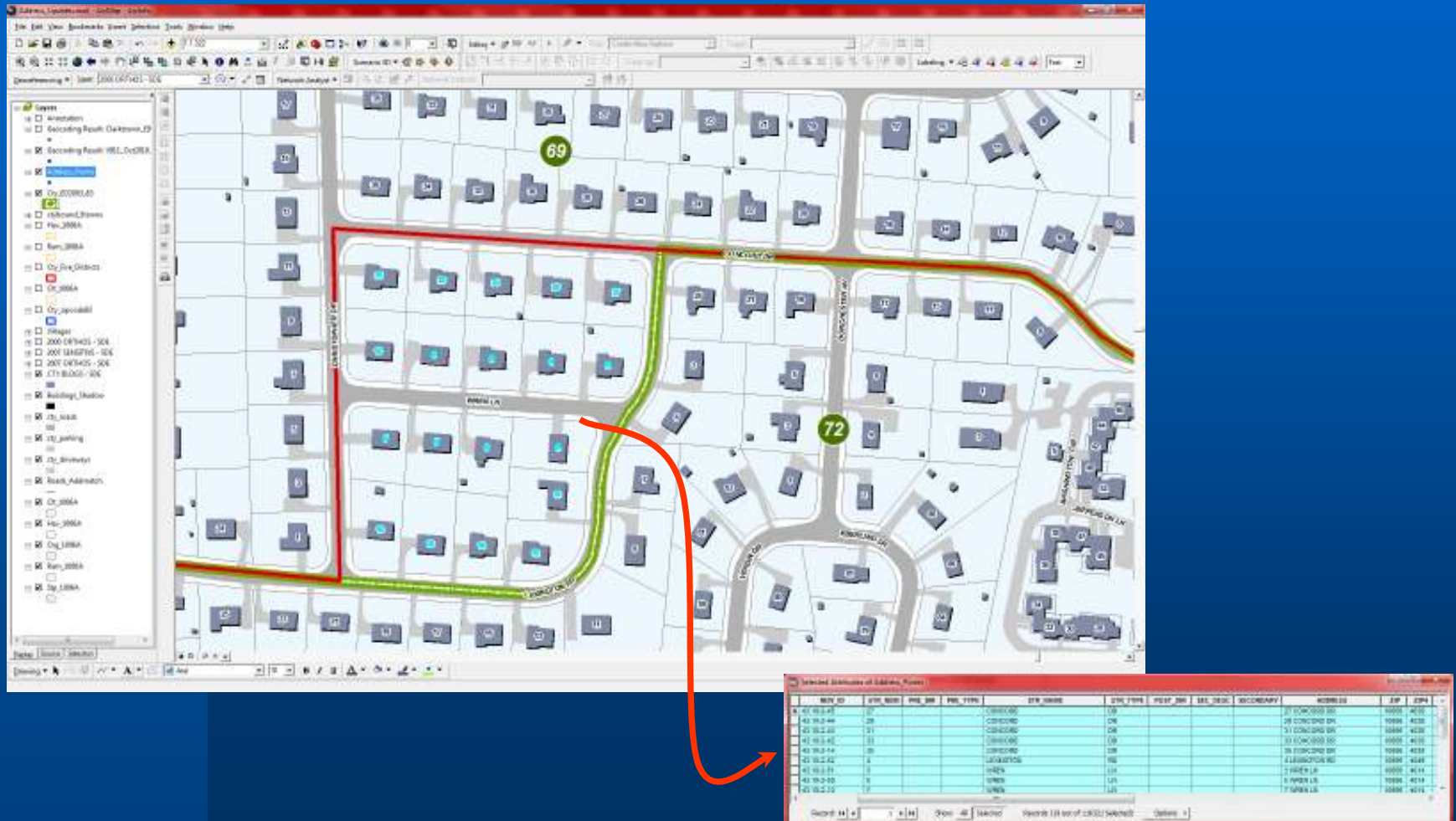
- Address
- Water
- Large Roadside
- Legislative District Boundary
- Stream
- Stream

0 50 100 150 200 Feet





# Change reports for BOE



# Current Status

- **Received Census Bureau geography files (TIGER) – New York released January 2011.**
- **In the process of reviewing Census geography.**
- **Will need to create new Census layers based on local GIS information.**
- **Waiting for Census 2010 numbers to be released – by March 31 at the latest.**

# Data Sources

- Census Bureau Redistricting Data File Information available 24 hours after NYS receives it – <http://factfinder.census.gov>
- Information regarding the Census Bureau's 2010 Census Redistricting Data Program, as well as redistricting data and geographic layers can be found at – <http://www.census.gov/rdo/>

# Questions & Comments

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