"Infrastructure of GIS Coordination"

The New York State Experience

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Critical Infrastructure Coordination

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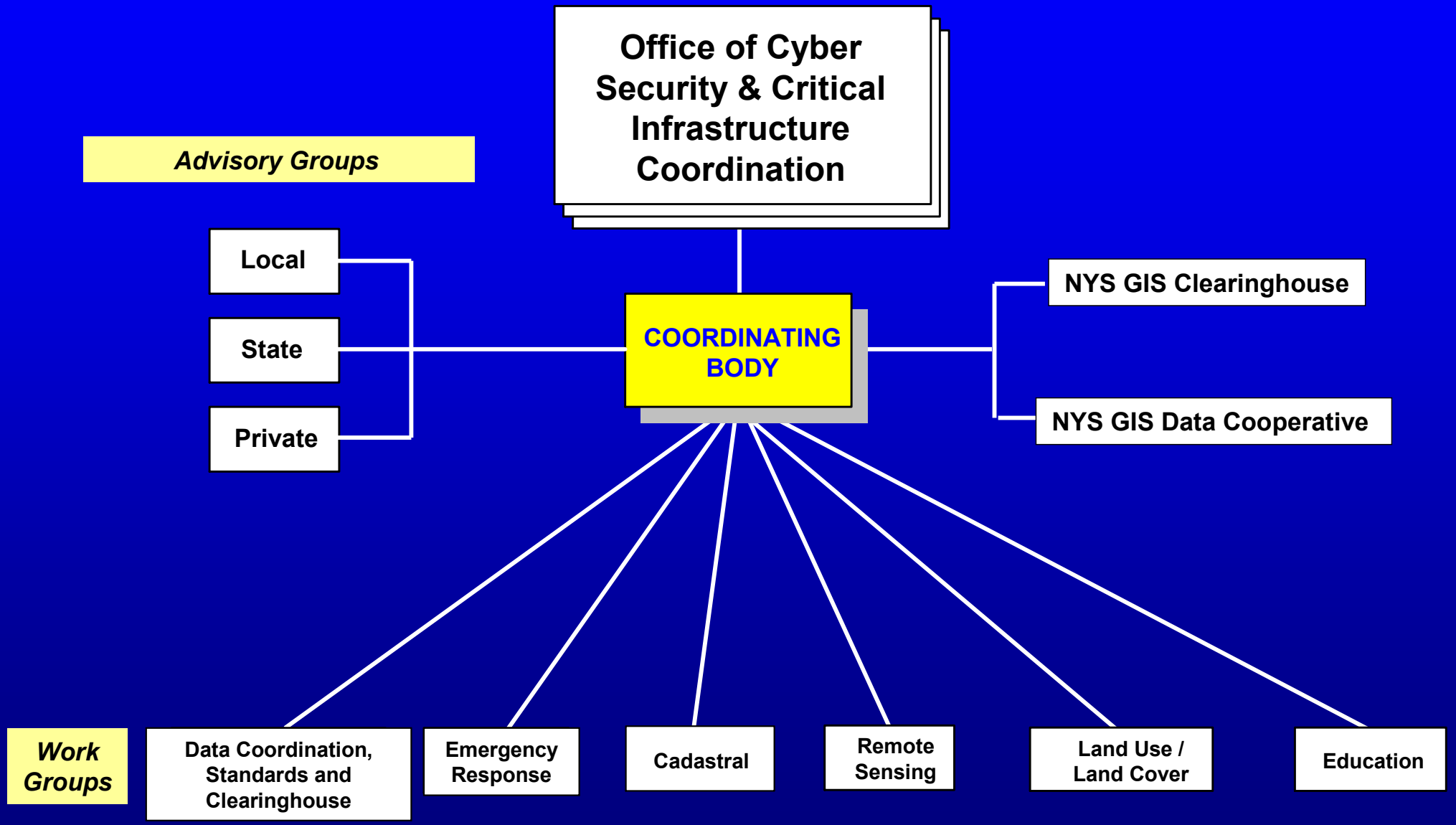
What I'll cover

- Overview of the New York State GIS Coordination Program
- Projects & Initiatives of the program
- NSGIC Model States criteria
- Some recommendations

NYS GIS Coordination Program



NYS GIS Coordinating Body

Loc

- *Jo*
- *M*
- *Ch*
- *Ja*
- *Sa*
- *M*
- *To*

Stat

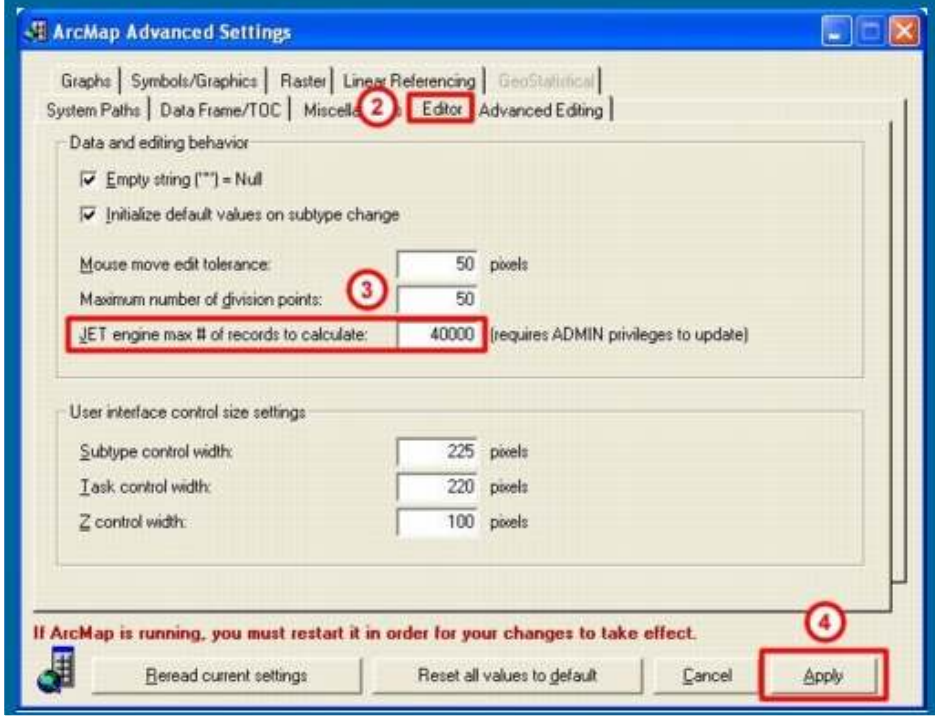
- *Jo*
- *To*
- *Br*
- *Va*

NYS GIS Clearinghouse

On-Line GIS Support

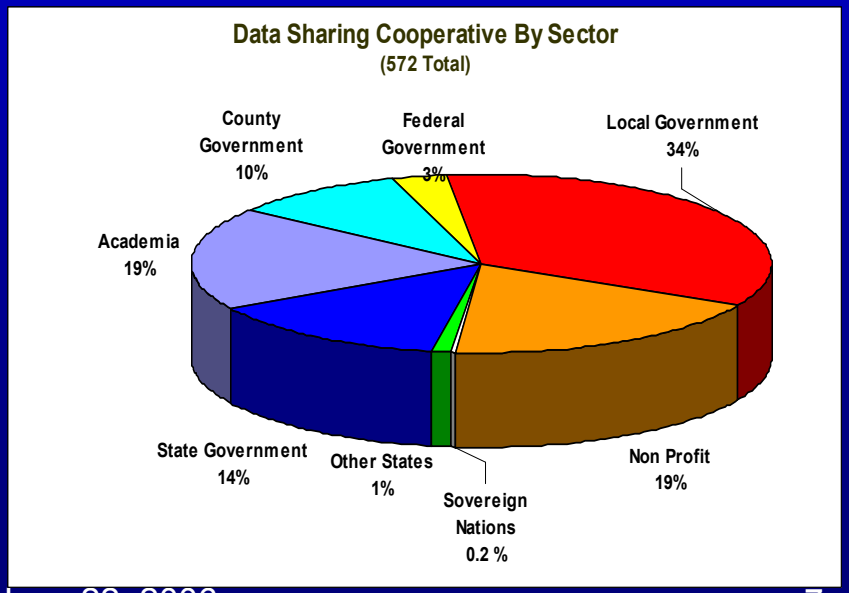
- FREE On-Line Help Desk
- Knowledge Base containing over 2300 questions & answers
- Questions answered within (1) business day

1. Open **AdvancedArcMapSettings.exe** located under C:\Program Files\ArcGIS\Utilities.
2. Click on the **Editor** tab of the **Advanced ArcMap Settings** dialog.
3. Under the *Data and Editing Behavior* section, enter a new value into the *Jet engine max # of records to calculate* text entry box. Please note that the Help Desk has not come across a formula which can be used to determine an appropriate value to enter. In all reviewed documentation, broad suggestions are made to simply increase the value as needed. You may wish to increase the value in increments of 5,000 until your calculation runs.
4. Once a value has been answered, click the **Apply** button to apply the changes and close the dialog. See the image below.



NYS GIS Data Sharing Cooperative

A group of government agencies and non-profit organizations who have executed the Data Sharing Agreement for the purpose of improving access to GIS data for members.



Data Available to the Cooperative

- 600+ members
- 4,500+ Datasets in Cooperative
- 4,200+ NYS Datasets available on-line
- Staff at the Clearinghouses will put datasets on line for free

Home / GIS Data / **Data Set Listing by Data Set Name**

List Data Set Owners | List Data Set Owners by Sector | List Data Sets by Name | Search

To access secured data sets you must [Login]

|A| |B| |C| |D| |E| |F| |G| |H| |I| |K| |L| |M| |N| |O| |P| |Q| |R| |S| |T| |U| |V| |W| |Z|

20 Data Sets Listed

	Data Set Name & Description	Member Organization (Data Set Owner)
1.	**Abandoned Railroads** - Abandoned railroads; line file; former railroad rights-of-way; June 1997; Decimal degrees Data Set Details	**Genesee Transportation Council** Member Inventory Member Details
2.	**Accommodations** - Point file describing lodging facilities and type of accommodation within Rensselaer County. Data Set Details	**Rensselaer County** Member Inventory Member Details
3.	**Active Railroads** - Active railroads; line file; June 1997; Decimal degrees Data Set Details	**Genesee Transportation Council** Member Inventory Member Details
4.	**Activity Centers** - Activity centers; point file; Medical, commercial, industrial, etc.; March 1998; Decimal degrees Data Set Details	**Genesee Transportation Council** Member Inventory Member Details
5.	**Adirondack Clean Waters Initiative** - Three geo-referenced databases: Location and morphometric information of all Adirondack Park lakes (from "Characteristics of New York State Lakes: Gazetteer... Data Set Details	**Adirondack Aquatic Institute** Member Inventory Member Details
6.	**Adirondack Park Blue Line** - Outer boundary of New York State Adirondack Park as described in Section 9-0101 of the Environmental Conservation Law. Sources include... Data Set Details	**NYS Adirondack Park Agency** Member Inventory Member Details
7.	**Adirondack Park Designated Rivers and River Buffer Area** - Wild, Scenic, Recreational, and Study River corridor polygons for the Adirondack Park pursuant to Environmental Conservation Law,	**NYS Adirondack Park Agency**

Virgin Island

Outreach & Education

- NYS GIS Day
  - Nov. 16th 2005
- Free GIS Workshops
  - ½-day format
  - Coffee/donuts
  - Professional trainer
  - 8-10 locations

Free ½-day Workshops

2000 - Metadata Creation

2001 - Introduction to Digital Orthoimagery

2002 - GIS for the Decision Maker

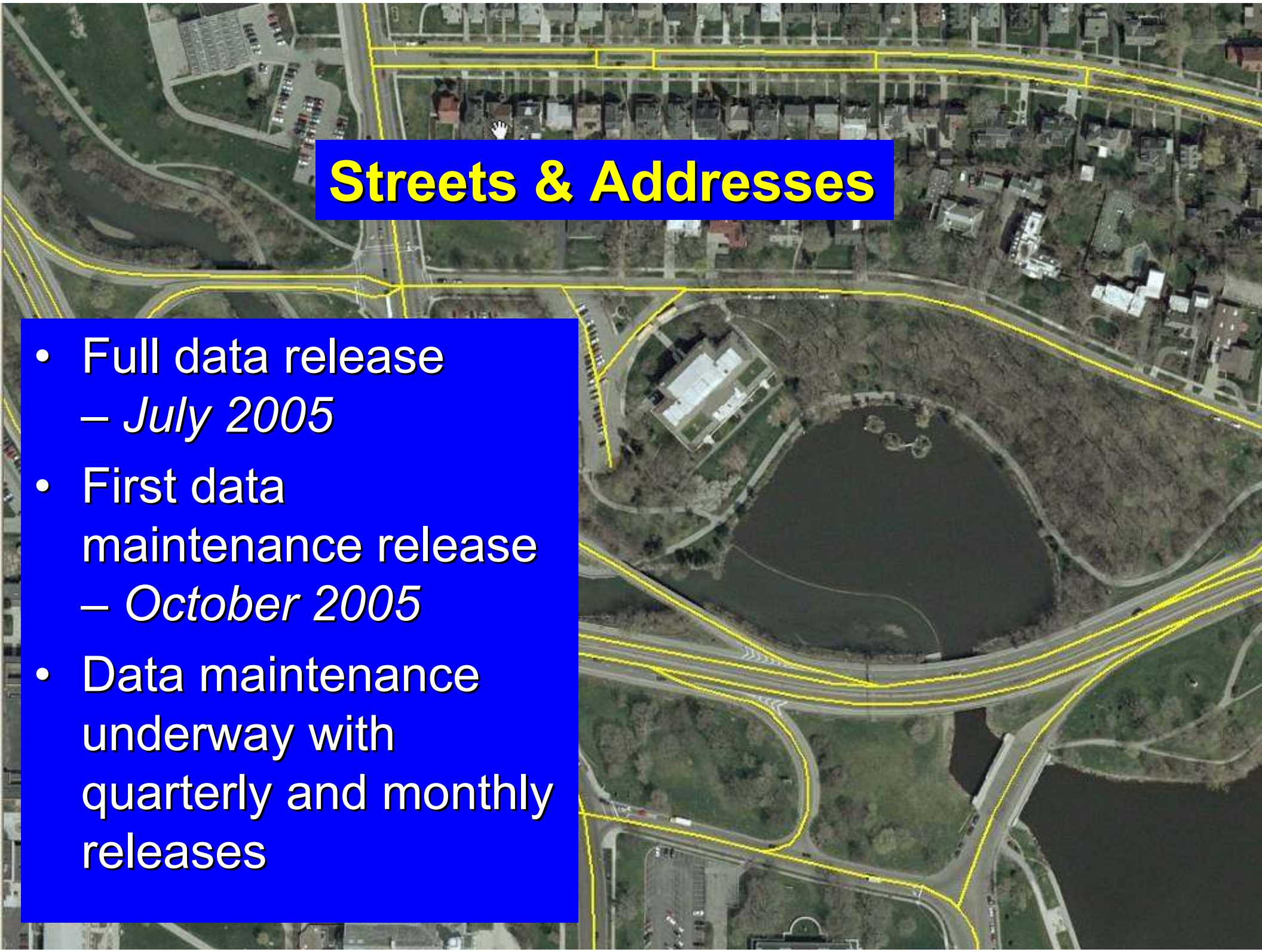
2004 - Geocoding and Data Improvement **

2005 - Integration of GIS and GPS Technologies **

2006 - Remote Sensing applications

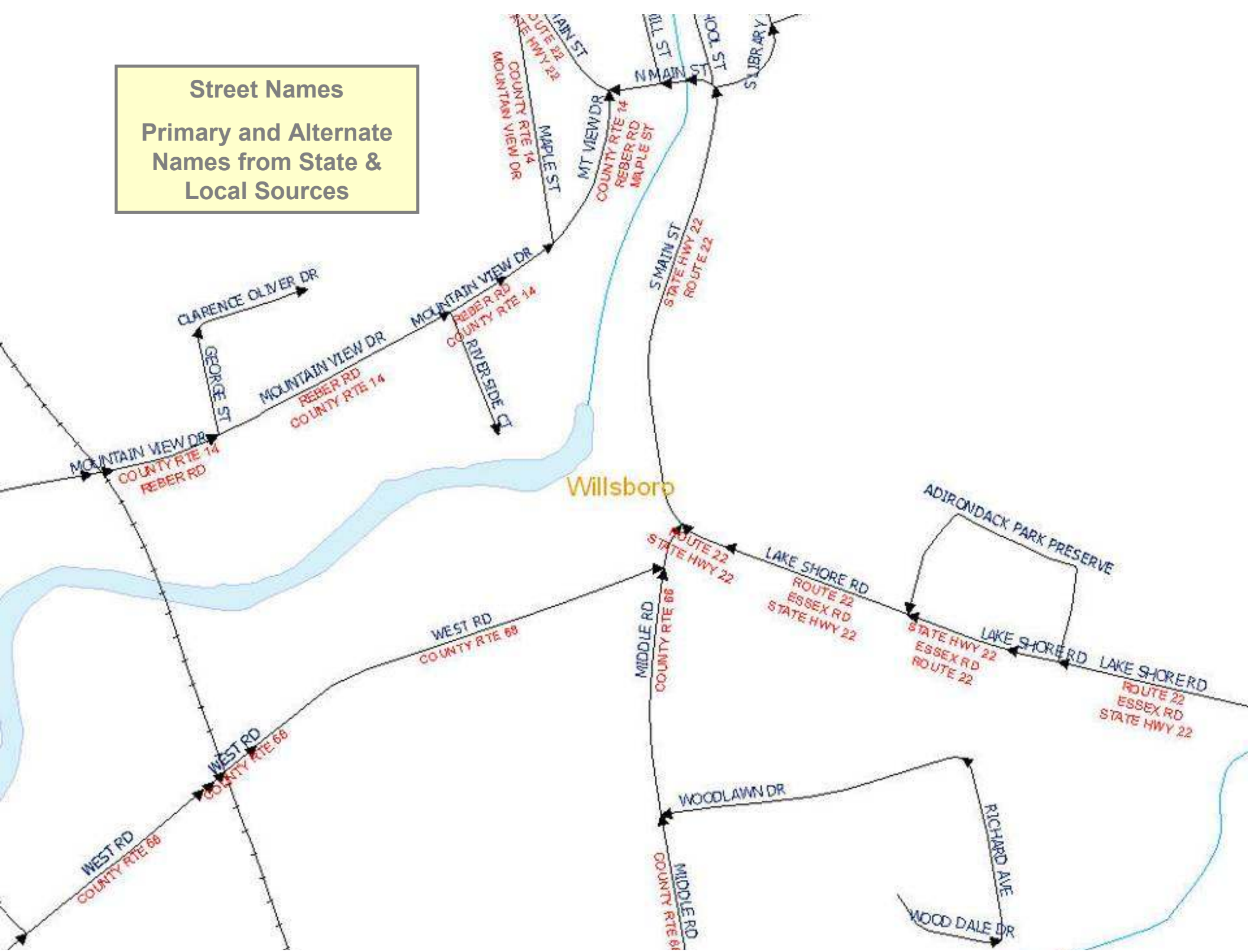
** DVDs available

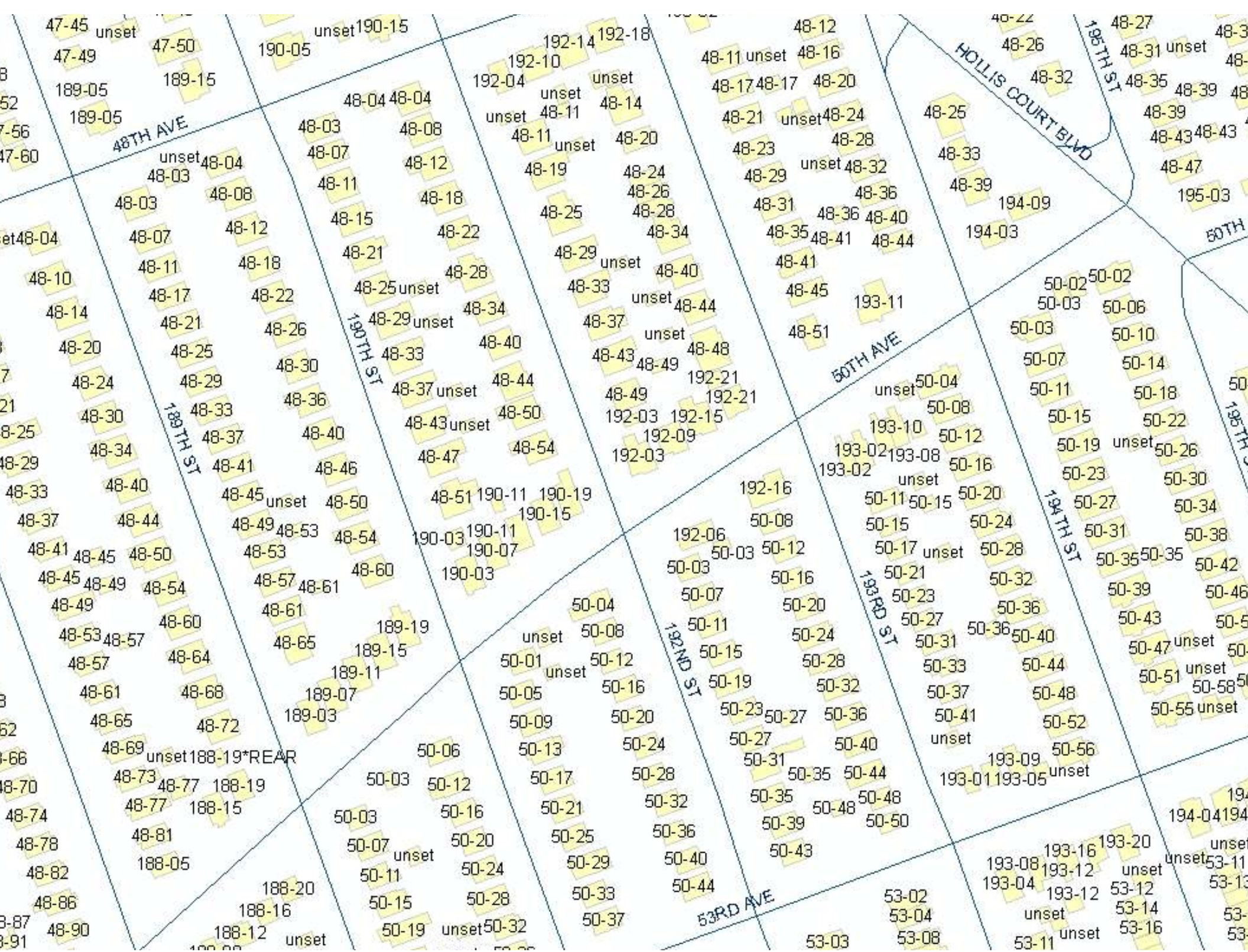
Outreach & Workshop Coordinator

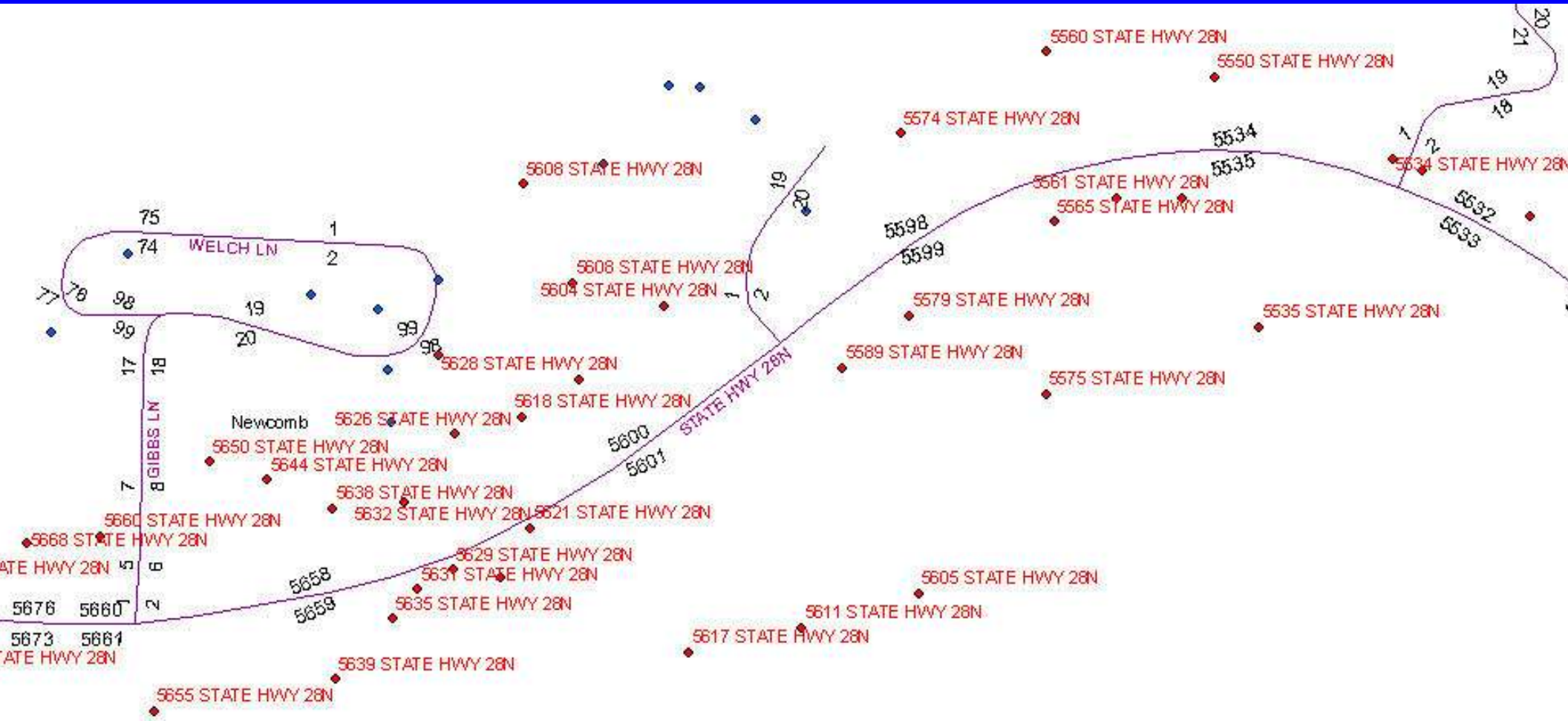


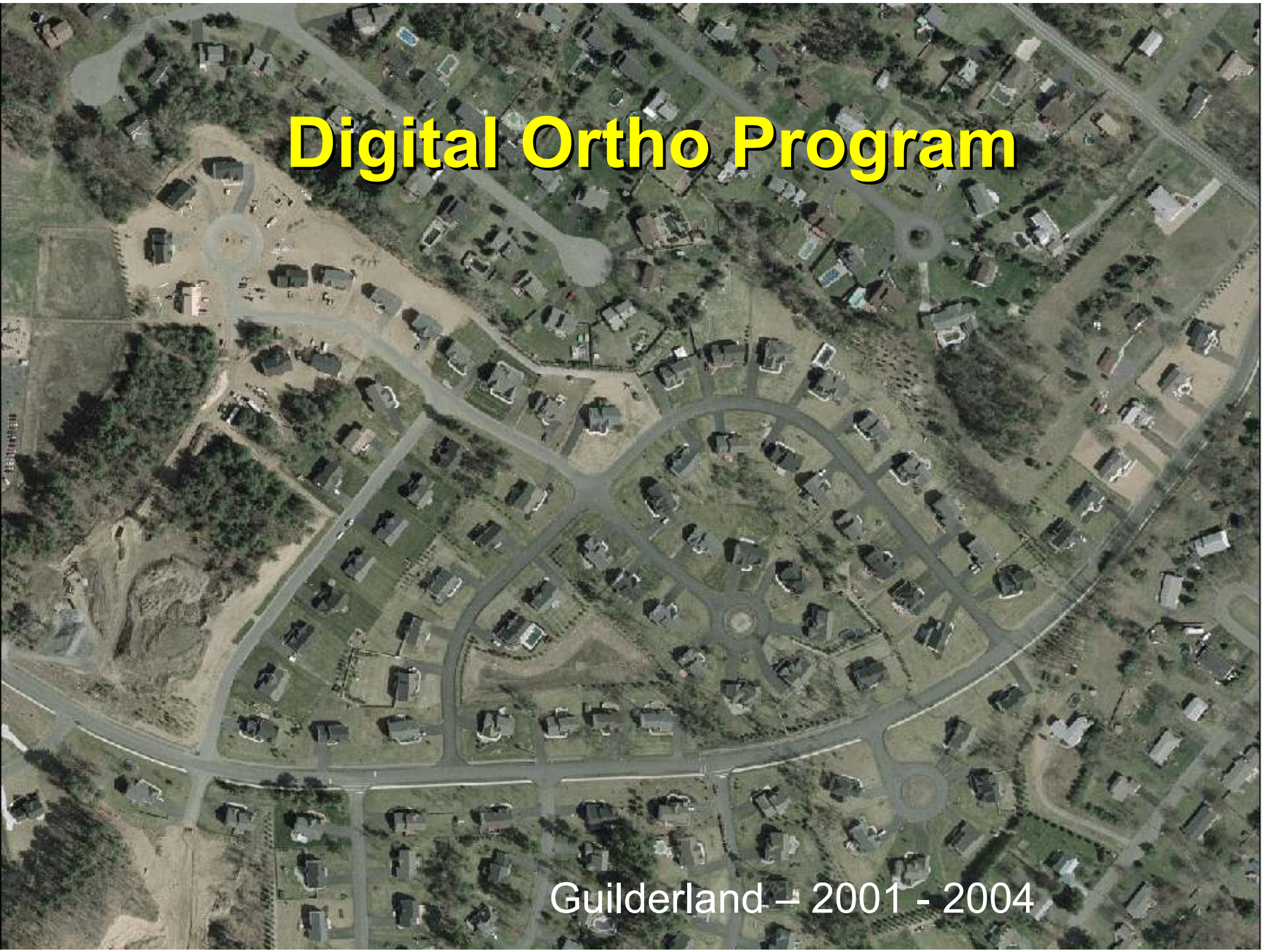
Streets & Addresses

- Full data release – *July 2005*
- First data maintenance release – *October 2005*
- Data maintenance underway with quarterly and monthly releases


Street Names
Primary and Alternate Names from State & Local Sources
Willsboro
N MAIN ST
MAPLE ST
MT VIEW DR
COUNTY RTE 14
REBER RD
MAPLE ST
COUNTY RTE 14
MOUNTAIN VIEW DR
S MAIN ST
STATE HWY 22
ROUTE 22
CLARENCE OLIVER DR
GEORGE ST
MOUNTAIN VIEW DR
REBER RD
COUNTY RTE 14
MOUNTAIN VIEW DR
REBER RD
COUNTY RTE 14
RIVERSIDE CT
MOUNTAIN VIEW DR
COUNTY RTE 14
REBER RD
ROUTE 22
STATE HWY 22
LAKE SHORE RD
ROUTE 22
ESSEX RD
STATE HWY 22
ADIRONDACK PARK PRESERVE
STATE HWY 22
ESSEX RD
ROUTE 22
LAKE SHORE RD
LAKE SHORE RD
ROUTE 22
ESSEX RD
STATE HWY 22
WEST RD
COUNTY RTE 68
MIDDLE RD
COUNTY RTE 68
WEST RD
COUNTY RTE 68
WEST RD
COUNTY RTE 68
WOODLAWN DR
RICHARD AVE
MIDDLE RD
COUNTY RTE 68
WOOD DALE DR


48TH AVE
189TH ST
190TH ST
192ND ST
193RD ST
194TH ST
195TH ST
HOLLIS COURT BLVD
50TH AVE
53RD AVE
50TH

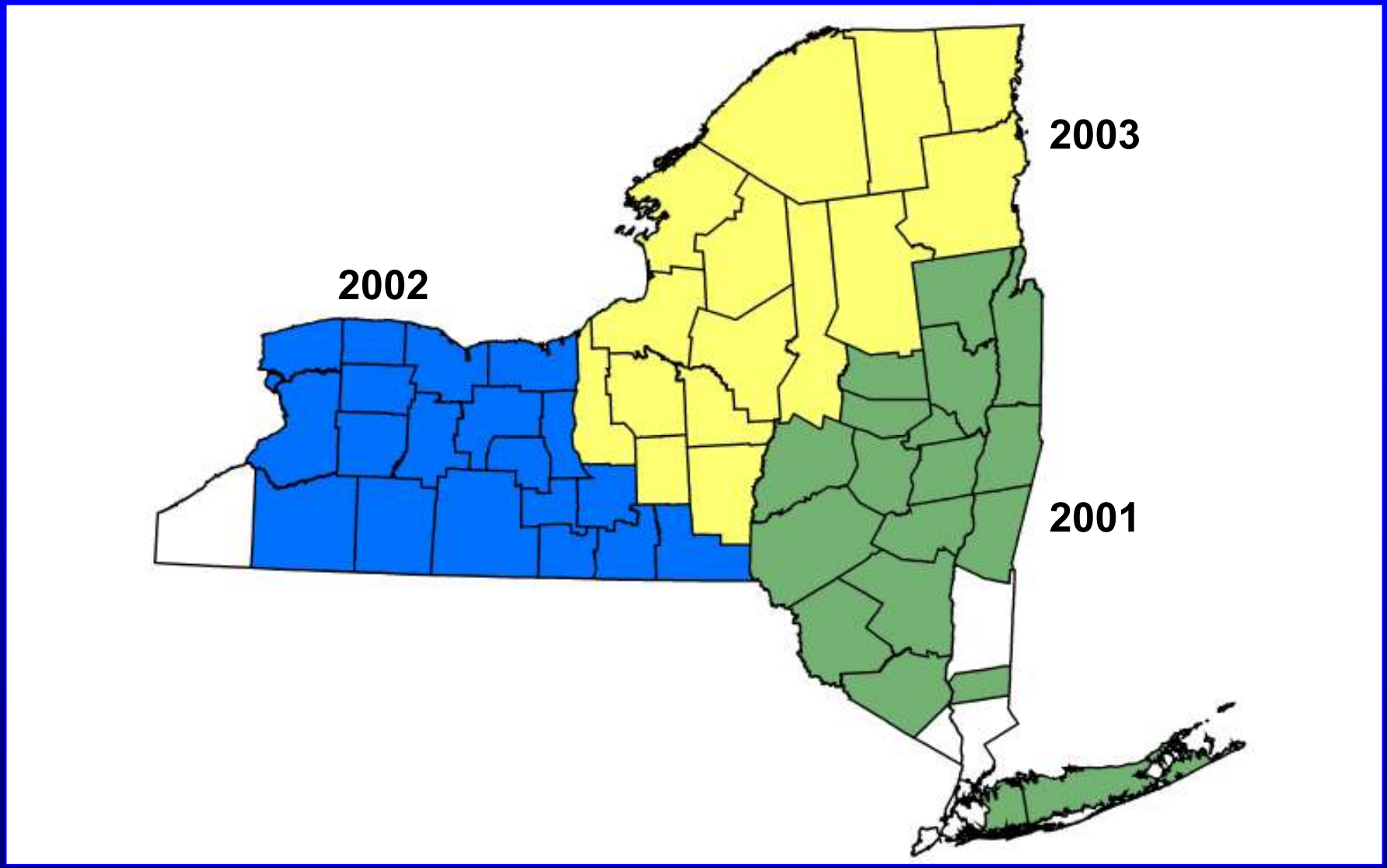

5560 STATE HWY 28N
5550 STATE HWY 28N
5574 STATE HWY 28N
5608 STATE HWY 28N
5534
5535
5561 STATE HWY 28N
5565 STATE HWY 28N
5532
5533
5598
5599
5608 STATE HWY 28N
5604 STATE HWY 28N
5579 STATE HWY 28N
5535 STATE HWY 28N
5589 STATE HWY 28N
5575 STATE HWY 28N
5628 STATE HWY 28N
5618 STATE HWY 28N
WELCH LN
GIBBS LN
Newcomb
5626 STATE HWY 28N
5650 STATE HWY 28N
5644 STATE HWY 28N
5600
5601
STATE HWY 28N
5638 STATE HWY 28N
5632 STATE HWY 28N
5621 STATE HWY 28N
5660 STATE HWY 28N
5668 STATE HWY 28N
5629 STATE HWY 28N
5631 STATE HWY 28N
5658
5659
5635 STATE HWY 28N
5605 STATE HWY 28N
5611 STATE HWY 28N
5617 STATE HWY 28N
5676
5660
5673
5661
5639 STATE HWY 28N
5655 STATE HWY 28N


Digital Ortho Program
Guilderland – 2001 - 2004

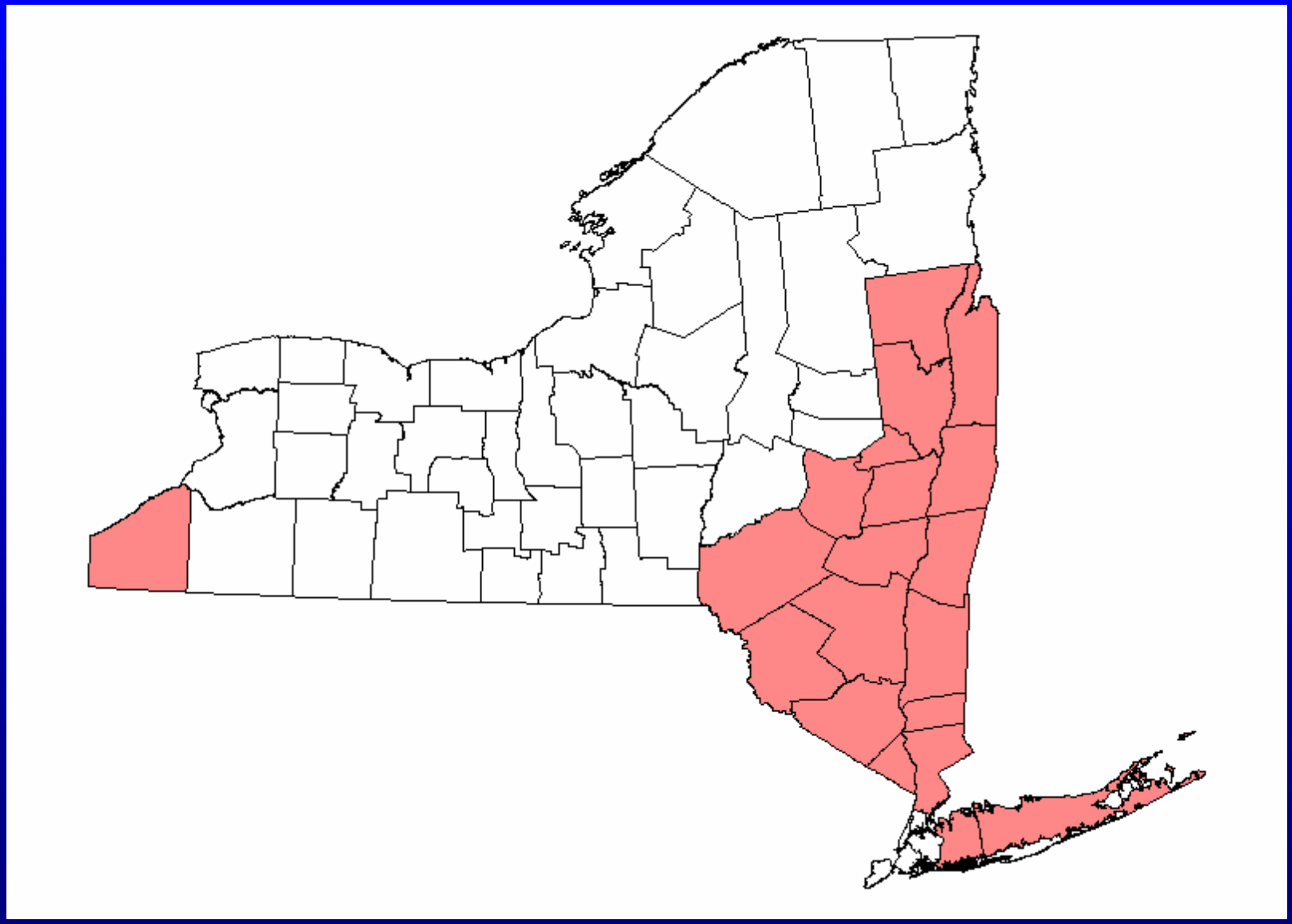
Program Overview

- Continuous program – fly portion of state every year
- Mix of image types and resolutions
- Data released in Public Domain
- State “base funding” with menu of “buy-up” options

First Cycle, 2000-2001
(53 Counties)

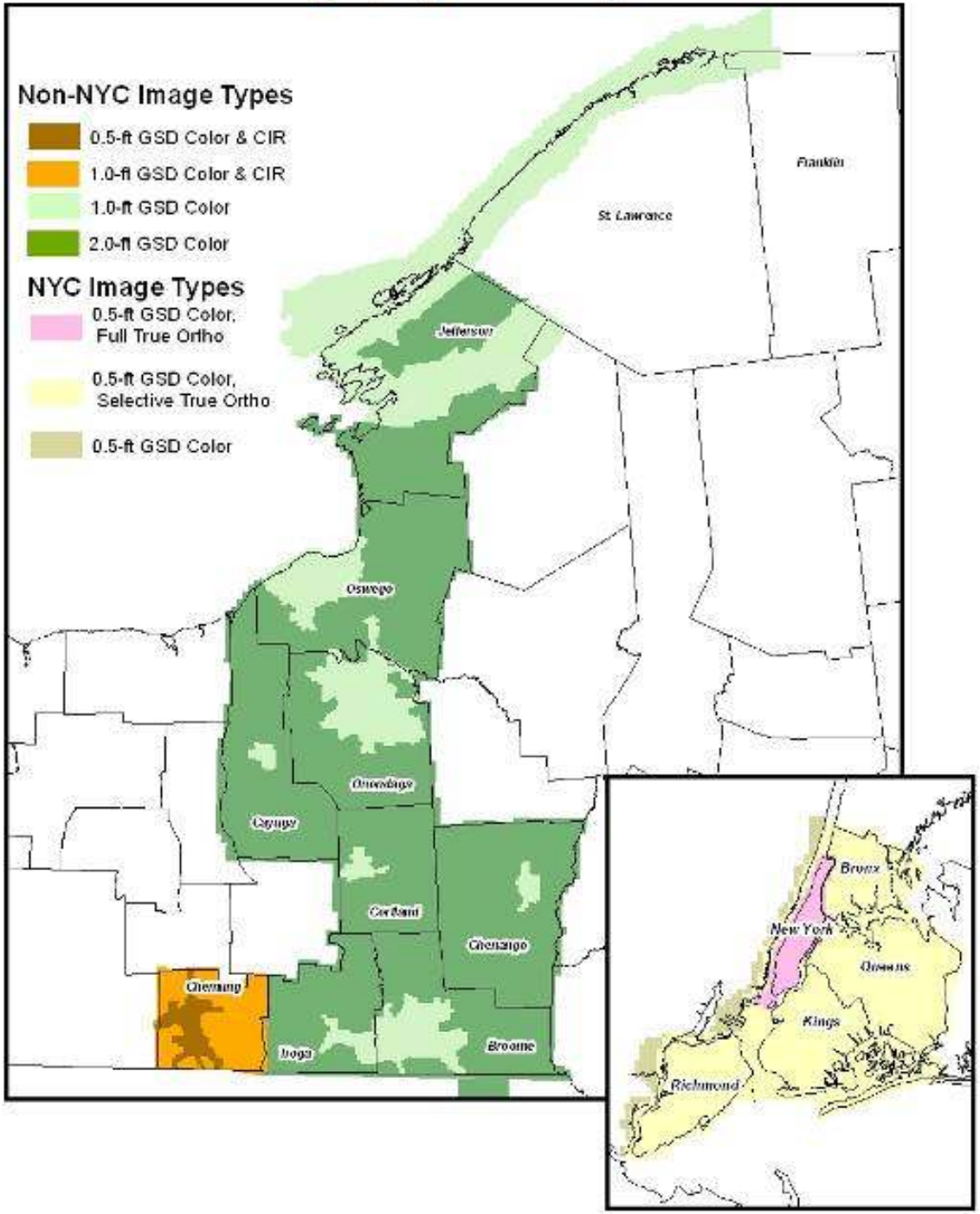


2004 (20 Counties)



2005 (12 Counties)

NYSDOP Annual Lot 6 (2006 Flights)
Imagery Type Coverage

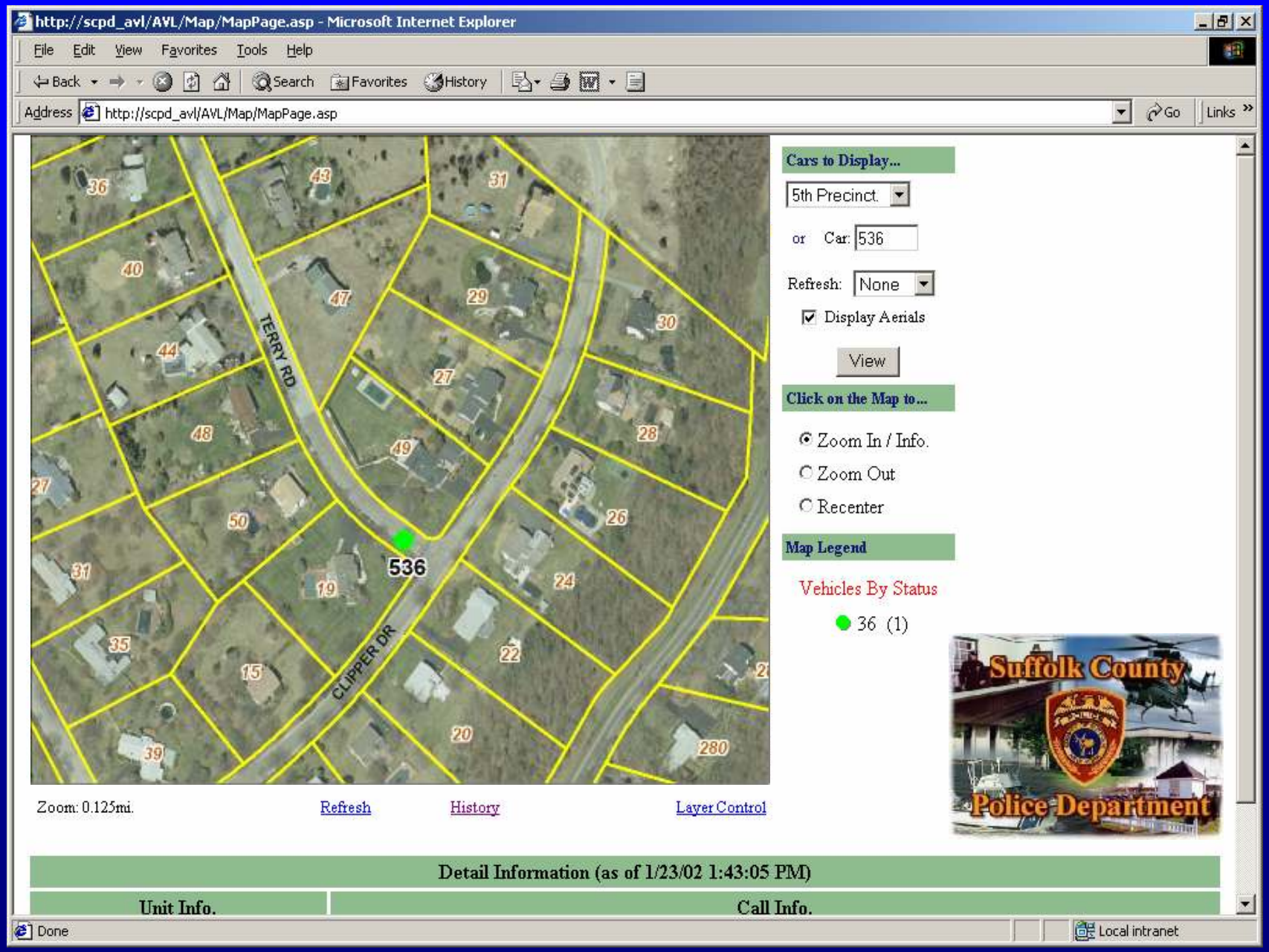


DOQQ: 1 meter CIR, 1994

1 ft Natural Color, 2001

.5 ft CIR, 2004

Local Gov – Tax parcels



Shoreline change 1880-1994

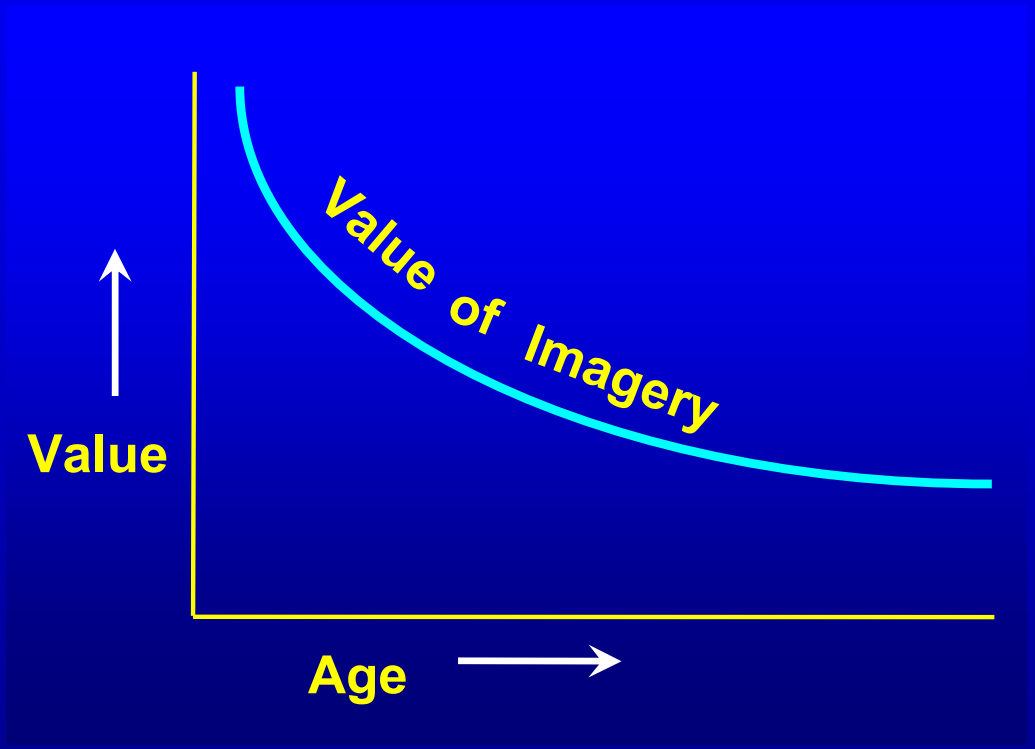
Orthos – THE framework layer

- Forget about other “standards”: the best way to get interoperable data is for it to be tied to a high-quality* ortho base.
- Done right, nothing, repeat, ***nothing*** gets more “bang for the buck”.
- Users will tie their vectors to it: extract, fix, align, update, improve….
- ***HUGELY*** popular with everyone.

** timely, hi-res, high spatial accuracy*

Speed is Very, Very Important!

- Image value decays rapidly with age
- Image age is especially important to locals!
- Use incentives (contract bonuses) to ensure speedy delivery



Distribution

- Keep orthos in the Public Domain
  - HUGE benefits for all
- Channels
  - State GIS Clearinghouse for downloads (more than 7,000,000 image downloads in 2004)
  - Web Viewer application
  - Image archive at EROS Data Center
  - USB hard drives for bulk distribution (to each County, 12 State Agencies, 6 Federal agencies)
  - *Current effort:* Image Web Service (OGC compliant) for serious GIS users (thick client)

Digital Ortho Program Team

Cadastral Data Workgroup

Chairperson: John Trimber

Began: November 2004

Purpose: Develop recommended standards for digital tax parcel mapping for use of the data for local, regional, and statewide GIS applications.

Status: Draft standard has been developed and is under review.

National States Geographic Information Council >>>

State GI Model Coordination Survey

Summary of Results

NSGIC MidYear Conf 3-26-04

2105 Laurel Bush Road, Suite 200
Bel Air, Maryland 21015
(443) 640-1075
http://www.nsgic.org

NSGIC 2005
15TH ANNUAL
CONFERENCE
ROCHESTER, NY
focusing on our
geospatial future

Coordination Criteria

- A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans.
- A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.
- The statewide coordination office has a formal relationship with the state's Chief Information Officer (or similar office).
- A champion (politician or executive decision-maker) is aware and involved in the process of coordination.
- Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned.
- The ability exists to work and coordinate with local governments, academia, and the private sector.
- Sustainable funding sources exist to meet projected needs.
- Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.
- The Federal government works through the statewide coordinating authority.

Model State Criteria:

- 2003 MidYear
- 2003 Annual – approved
- First survey conducted Fall '04 to measure the states
- Need to measure annually – track progress and changes

NSGIC

Key Findings on "The Infrastructure of Coordination"

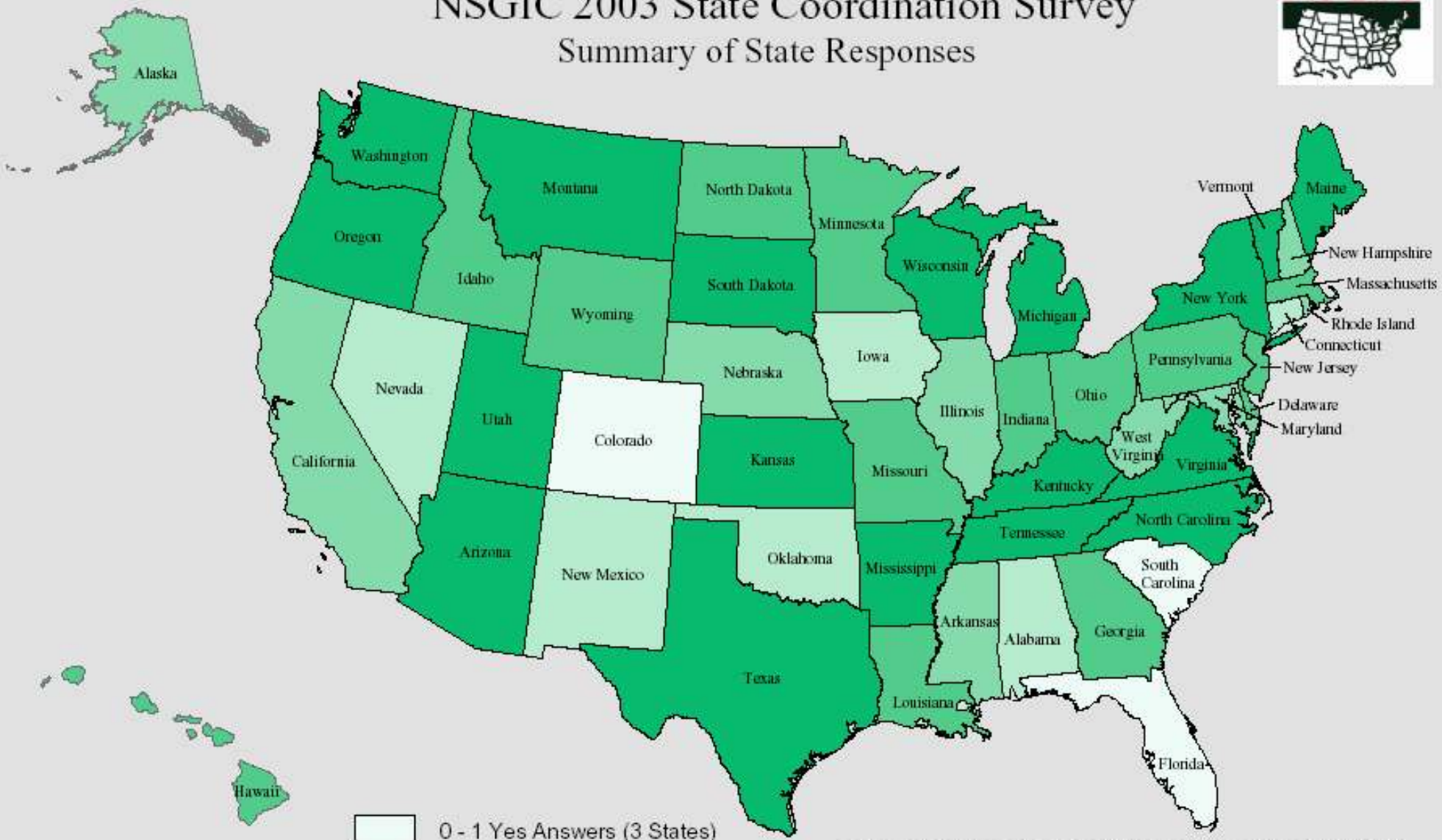
- 49 states responded; self-assessment
- Overall it's better than we thought
- No regional patterns
- 8 states meet all 9 criteria
- 19 states meet 8 or more criteria
- 31 states meet 6 or more of the 9 criteria
- Only 18 meet less than 6 criteria
- Sustainable funding is the most consistently lacking criteria

Question #	Questions	Positive Results
1	Has your state designated a full-time, paid coordinator position that has the authority to implement the state's business and strategic plans?	29
2	Does a clearly defined authority exist for statewide coordination of geospatial information technologies and data production?	40
3	Does your statewide coordination office have a formal relationship with the state's Chief Information Officer (or similar office)?	36
4	Do you have a champion (politician or executive decision-maker) that is aware and involved in the process of coordination?	36
5	Does your state have assigned responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse?	39
6	Does your state have mechanisms to work and coordinate with local governments, academia, and the private sector?	43
7	Does a sustainable funding source exist to meet projected needs?	13
8	Does your state GIS Coordinator have the authority to enter into contracts, and receive or expend funds?	29
9	Does the Federal government work through your statewide coordinating authority?	40

NSGIC

NSGIC 2003 State Coordination Survey

Summary of State Responses



- 0 - 1 Yes Answers (3 States)
- 2 - 3 Yes Answers (6 States)
- 4 - 5 Yes Answers (9 States)
- 6 - 7 Yes Answers (14 States)
- 8 - 9 Yes Answers (18 States)

This map portrays a summary of state's responses to the NSGIC 2003 nine question survey regarding GIT coordination. The survey asked state representatives to measure, as best they could, whether their state met NSGIC's nine point criterial for successful GIT coordination. It should not be interpreted as levels of GITactivity within each state.
Note: There was no response from S. Carolina and it was given a null value. There were two responses from Wyoming and the response from their GI Coordinator was chosen.

Results

Number of Yes Answers		Pd. Coord	Defined Authority	CIO Interact	Champion	NSDI Responsibilities	Local Coord.	Sustain Funding	Contract Authority	Fed. Interact
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
9 Yes Answers										
	Kansas	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Michigan	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	New York	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	Oregon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Utah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Vermont	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Virginia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Wisconsin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8 Yes Answers										
	Arizona	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
	Arkansas	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Indiana	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Kentucky	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Maine	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	Montana	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	North Carolina	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	South Dakota	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	Tennessee	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
	Texas	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	Washington	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
7 Yes Answers										
	Delaware	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
5	Idaho	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
	Missouri	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
	New Jersey	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
	Ohio	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes

		Pd. Coord	Defined Authority	CIO Interact	Champion	NSDI Responsibilities	Local Coord.	Sustain Funding	Contract Authority	Fed. Interact
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
6 Yes Answers										
	Georgia	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes
	Hawaii	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes
	Louisiana	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
	Massachusetts	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
	Minnesota	No	Yes	Yes	Yes		Yes	No	Yes	Yes
	North Dakota	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
	Pennsylvania	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes
5 Yes Answers										
	Alaska	No	No	Yes	Yes	Yes	Yes	No	No	Yes
	California	No	Yes	Yes	Yes	No	Yes	No	No	Yes
	Mississippi	No	Yes	Yes	Yes	Yes	No	No	No	Yes
	Nebraska	No	Yes	No	Yes	Yes	Yes	No	No	Yes
	West Virginia	Yes	Yes	No	No	Yes	No	No	Yes	Yes
	Wyoming	No	Yes	Yes	No	Yes	Yes	No	No	Yes
4 Yes Answers										
	Illinois	No	Yes	Yes	Yes	Yes	No	No	No	No
	Maryland	No	Yes	No	Yes	Yes	Yes	No	No	No
	New Hampshire	No	Yes	No	No	Yes	Yes	No	No	Yes
	Rhode Island	Yes	Yes	Yes	No	No	Yes	No	No	No
3 Yes Answers										
	Alabama	No	No	No	Yes	Yes	Yes	No	No	No
	Iowa	No	No	No	No	Yes	Yes	No	No	Yes
	Nevada	No	No	No	Yes	No	Yes	No	No	Yes
2 Yes Answers										
	Connecticut	No	No	No	No	No	Yes	No	No	Yes
	New Mexico	No	No	No	No	Yes	Yes	No	No	No
	Oklahoma	No	No	No	No	No	Yes	No	No	Yes
1 Yes Answers										
	Colorado	No	No	No	No	Yes	No	No	No	No
0 Yes Answers										
	Florida	No	No	No	No	No	No	No	No	No

C
4

What are the keys to success?

Technology is the easy part

- It's too easy to focus on the latest version of software, or web app, or wireless handheld, or…
- Technology changes very rapidly; techie solutions tend to be disappointingly ephemeral
- Organizational issues are the hard part:
  - How do you get people working together?
  - How do you change the culture?
- Focus on **people**!

Strive for supported self-sufficiency

- A centralized GIS “service shop” is a trap
- Coordination Council should seek to provide (enable) base resources needed by all
- Goal should be to embed GIS in routine business processes; incremental progress
- Collaborate, collaborate, collaborate

Build once – use many

- Some elements are so fundamentally necessary for everyone, that they should be created centrally and distributed widely:
  - Digital orthoimagery
  - Street centerlines w/addresses
  - Tax parcel mapping
- Distribution mechanism (clearinghouse)
- Policies

Work in a Consensus-building process

- Partnerships build buy-in and therefore commitments moving forward
- Seek answers to: *"What's in it for me?"*
- Provide copious opportunities to be involved
- Communicate widely
  - Local & regional meetings
  - Newsletters, web forums, etc.

Think of it as an Ecosystem

- The whole is greater than the sum of its parts
- Everything is interconnected
- It's alive, and therefore changing constantly
- The bottom of the food chain supports everything above it
  - Local, day-to-day uses of GIS are what enable the "Big Apps" like emergency response

Final thoughts

- There is great power in volunteers who believe in the cause and want to get involved
- Focus on helping people, not on implementing technology, and good things will happen
- Trumpet every success, no matter how small
- Just do it

Thank You

Any Questions?