

Westchester County
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Geographic Information System

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Automation of Tax Maps Continues to Advance Local Government GIS Development Throughout the County

*ESRI's ArcView Emerges as Dominant GIS Software Platform
 Integration of Assessment Role Data Provides Next Major Challenge*

Westchester County GIS estimates that nearly 80% of the county's approximately 249,833 tax parcels will be automated and in digital format by the end of the century. This was thought to be unrealistic only 2-3 years ago. Currently Westchester County is one of only two counties in New York State (Nassau is the other) that does not

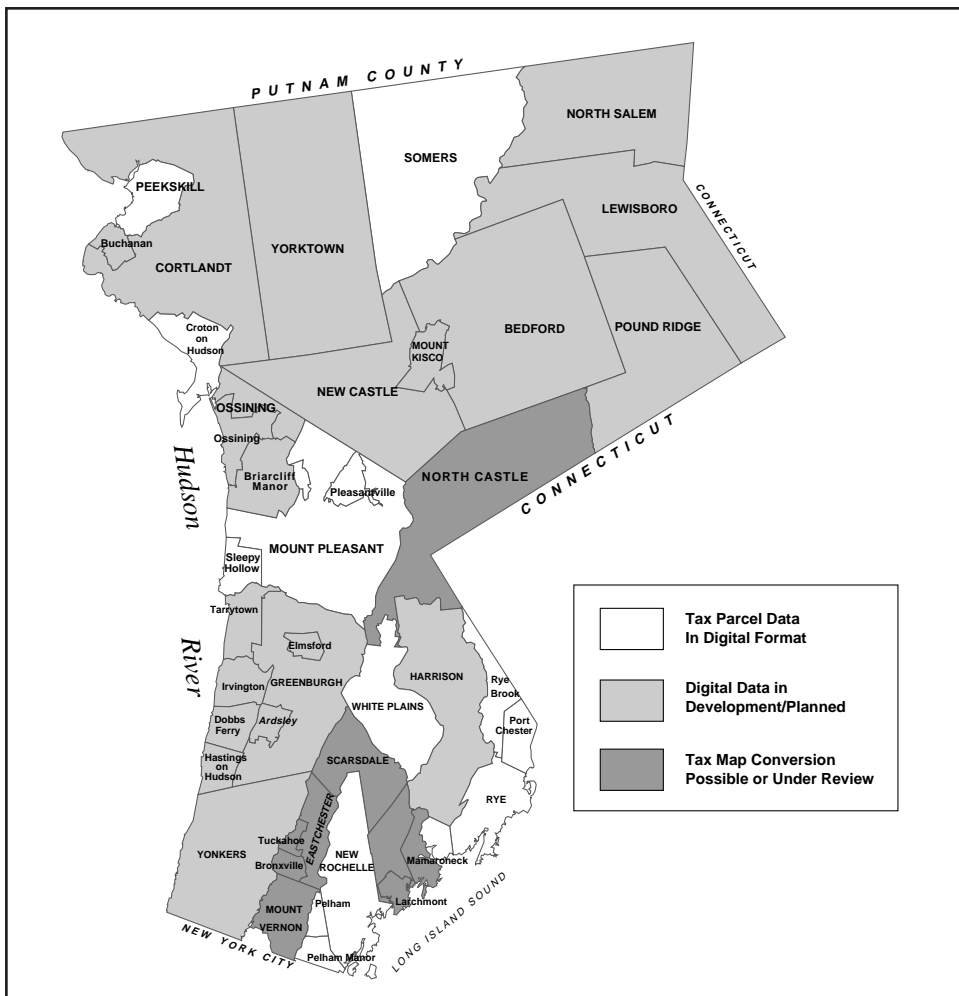
have tax mapping jurisdiction. The responsibility continues to be a function of local government with all municipalities in the county being covered by one of 25 separate tax mapping programs.

As new state tax mapping regulations in the late 1980's required many local governments to "re-map", only a few local gov-

ernments designed and implemented new tax mapping projects which would result in digital tax parcel databases. Furthermore, because GIS technology was only beginning to evolve in local government, many of the early digital tax parcel databases were not designed and delivered to serve as a *GIS database*. Westchester County GIS has been advising or working with several municipalities, (Yonkers, Mount Pleasant, Greenburgh, Somers) which initiated late 1980's or early 1990's tax mapping projects, in building "central" GIS databases. These projects automated nearly 126,000 tax parcels.

Other tax mapping jurisdictions chose, based largely on financial considerations or other local priorities, to comply with the new mapping regulations in one of two ways: (1) develop new hardcopy tax maps or (2) update and/or edit existing tax maps to sufficiently comply with state regulations. Municipalities such as the City of Rye and New Rochelle, which had spatially accurate and high quality hardcopy maps, chose recently to convert their existing tax and planimetric maps to support emerging local GIS programs.

Conversion of hardcopy maps is underway in at least eight other northern Westchester County municipalities involved in the Croton Watershed Planning project. These recent and ongoing hardcopy conversion projects include approximately 72,600 parcels. Remaining parcels are located throughout the county in municipalities which (1) do not have new tax mapping or conver-



Status of Municipal Digital Tax Parcel Data, Westchester County, Fall 1998

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1998 GIS Conferences

Northeast ARC/INFO User Group

GIS staff member Tim Gulden and Planning Dept. staff Paul Gisondo attended the 13th annual Northeast ARC/INFO Users Group (NEARC) Conference October 4-7 in Bethel, Maine. The conference was attended by about five hundred users of ESRI mapping products and, like other NEARC conferences, was extremely productive.

The conference covered a broad range of GIS topics ranging from technical training sessions to application case studies and GIS management strategies. Paul Gisondo focused on cartography, investigating new professional map production tools for use with ARC/INFO and techniques to improve map displays in ArcView. Tim Gulden learned a great deal about new trends in system architecture including ARC/INFO for WinNT, ArcView, ArcExplorer, MapObjects, the Spatial Database Engine (SDE), and various Internet Map Server (IMS) approaches. The conference provided a great opportunity to review the latest in hardware products and renew professional contacts across the industry.

New York State GIS Conference

The 14th Annual NYS GIS Conference was held September 23-24th in Rochester, NY. Entitled "*Breaking Down the Barriers to GIS*", the conference was attended by over three hundred professionals, including county GIS staff members Ana Hiraldo, Laura McGinty and Sam Wear. The pre-conference program included a GIS metadata workshop and a seminar for GIS managers. The metadata workshop was designed to encourage the development of consistent GIS metadata throughout New York State. The GIS seminar introduced managers to the nature and capabilities of GIS and discussed the elements of a successful GIS implementation. Sam Wear was one of the invited speakers for this seminar. Other topics presented at the conference included: GIS on the Internet, environmental applications, data collection, and public access. GIS staff presented three posters; *Westchester County GIS Metadata Conversion Project* by Laura McGinty, *ArcView Development in Spanish* by Ana Hiraldo, and *Westchester County Internet GIS* by Xiaobo Cui.

Global Positioning System (GPS) Committee Formed

Evolving Technology Increasingly Being Integrated with GIS Applications

Recognizing the increasing demand and potential uses of GPS technology throughout county government, Westchester County's Chief Information Officer, Dr. Norm Jacknis has formed a committee to review and make recommendations on deployment of the technology throughout the organization. Sam Wear, the county's GIS Manager, has been appointed to chair the committee. Initial GPS committee members include representatives from Departments of Public Works, Environmental Facilities, Planning, Health, Parks and Recreation, Public Safety, Transportation, and the County Executive's Office. It is anticipated additional county departments will join the committee.

What is GPS?

Global Positioning Systems (GPS) are space-based radio positioning systems that provide 24-hour, three-dimensional position, velocity and time information to suitably equipped users anywhere on or near the surface of the earth (and sometimes off the earth). Global Navigation Satellite Systems (GNSS) are extended GPS systems, providing users with sufficient accuracy and integrity information to be useable for critical navigation, surveying, and mapping applications. The NAVSTAR system,



An example of a typical GPS unit used for data collection.

operated by the U.S. Department of Defense, is the first GPS system widely available to civilian users. The Russian GPS system, GLONASS, is similar in operation and may prove complimentary to the NAVSTAR system. By combining GPS with current and future computer mapping techniques, users can better identify, map and manage a wide range of geographic features including natural resources, public infrastructure, and transportation elements such as vehicles and mass transit. Additional information on GPS and it's related technologies can be obtained at <http://www.gpsworld.com>.

GPS Vendors Provide Overview

On November 17th, nearly 20 county staff attended a GPS presentation by Michael Margolis, a licensed surveyor and Magellan GPS distributor. Additional information was provided by Spatial Solutions, Inc. of Hauppauge, New York, a GIS and GPS consulting firm which works closely with local governments throughout the metropolitan region. In addition to discussing the types of GPS systems which are required to support different kinds of GPS functions (i.e., engineering / surveying, generalized mapping & data collection, automated vehicle locator, etc.), the consultants used ArcView to display point data which was captured the day before in Saxon Woods Park.

The GPS Committee anticipates meeting again before the end of the year to establish 1999 activities and priorities, as well as beginning to establish a detailed list of county program areas which can benefit and utilize GPS technology. For more information on the GPS Committee, contact Laura McGinty at 285-3888 or e-mail lam7@exchange.co.westchester.ny.us.

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tion efforts planned, or (2) maintain existing hardcopy tax maps which are of limited spatial quality or may not be cost effective to convert.

While much work has been done throughout the county in tax map automation, it is anticipated that the next generation of GIS development will focus on integrating assessment role data into the GIS databases. Wide-spread uniformity in this effort will be initially difficult due to the fact that taxing jurisdictions throughout the county use a variety of different comput-

er programs (both public domain and commercially available) in managing assessment data. Standards for managing tax parcel assessment data are established by the New York State Office for Real Property Services (ORPS) which is currently rewriting the RPS (Real Property System) software program as a Windows application. The new version, known as Version 4.0, will also include a mapping component built with ArcView 3.1. Information on development of RPS Version 4.0 can be obtained from the ORPS web site <http://www.orps.state.ny.us>.

Westchester County DOT Working with Dynamic Segmentation

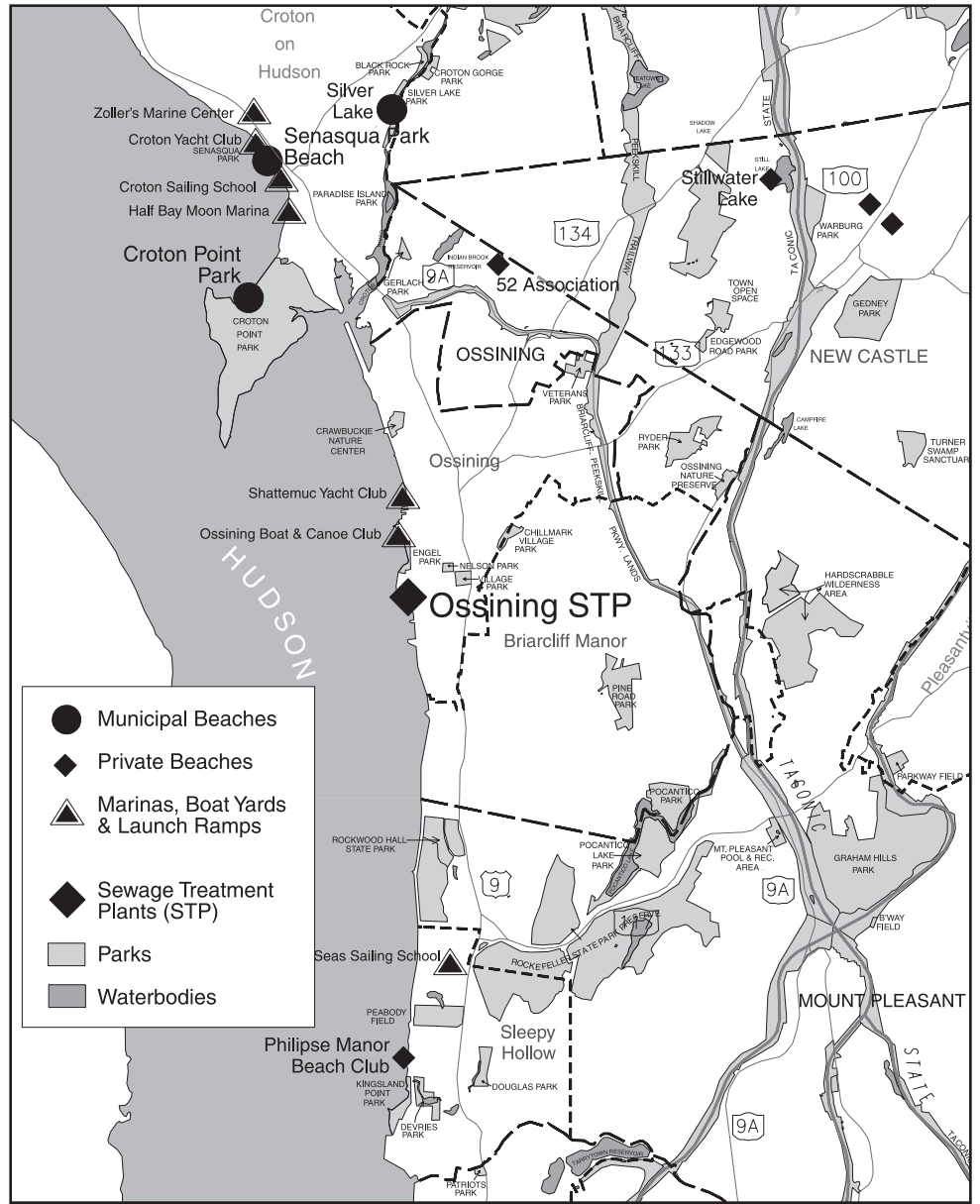
The Westchester County Department of Transportation (WCDOT) has begun several GIS projects that will utilize ARC/INFO's Dynamic Segmentation (DynSeg) data model. These projects include a network of the Bee-Line bus routes and stops, modeling of Local Highway Inventory (LHI) data, and depiction of data collected for a three-County Bicycle/Pedestrian Master Plan Study (Westchester, Rockland, and Putnam).

WCDOT plans to merge bus stop inventory data with geographic stop location points, and store these features as "point events" along the bus route DynSeg network. Merged with stop bus data, DOT's GIS users will be able to identify and display specific bus stop attributes (i.e. poles, shelters, etc.).

WCDOT, in cooperation with the New York State Department of Transportation (NYSDOT), is geocoding LHI data that will be used by NYSDOT to build a DynSeg Functional Class model of all locally owned Federal Aid eligible roads in Westchester County. This project will help NYSDOT identify local roads whose functional class has changed because of 1990 Census changes. The resulting data will also help WCDOT to identify local roads that are eligible for inclusion in various federal aid programs. For more information you can contact Greg Sullivan at (914) 285-6112 or e-mail ggs5@exchange.co.westchester.ny.us.

**Westchester County
GIS Data Request**
lam7@exchange.co.westchester.ny.us
 or (914) 285-6276
 or visit NYS Clearinghouse at
<http://www.nysl.nysed.gov/gis/repository>

New Beach and Marina Data Layers



The Planning Department recently developed GIS coverages identifying county regulated beaches and marinas for the County Health Department. The data helps create a series of three maps covering different areas of the County: Long Island Sound Shore; Inland and Upper Hudson River, and Lower Hudson River. County Health Department officials will use the maps to determine which facilities to notify in the event of sewage spills or other pollution occurrences. The maps will also be used by field inspectors to locate regulated beaches at Hudson River, Long Island Sound and inland locations for routine water testing during the swimming season. For more information, contact Paul Gisondo at (914) 285- 3032 or e-mail at pxg3@exchange.co.westchester.ny.us.

New GIS User Group Started!

Led by Ms. Edye McCarthy, IOA Assessor in the City of Rye, with support from Westchester County GIS a new GIS user group has been started in Westchester County. The group intends to serve as a forum to facilitate the sharing of information relevant to GIS technology independent of individual GIS/mapping software programs. It is anticipated that intergovernmental and other multi-agency GIS initiatives will also be discussed, as well as information on grants, legislation,

and other regional and statewide programs. GIS users from both government and business are welcome to participate.

The first meeting was held on October 22, which was hosted by the City of Rye. The meeting was well attended by over 25 people and the guest speakers were Ana Hiraldo, Tim Gulden, and Sam Wear of Westchester County GIS. The three provided an overview of the current county GIS project and future GIS initiatives. The next meeting will be held on

December 17th and will be hosted by Westchester County GIS, at 2:00PM in the Michaelian Office Building, Room 102, 148 Martine Ave., White Plains. Guest speakers will be Ray LaFever and Joanne Rydzynski of the State Archives and Records Administration (SARA) who will provide information and discuss the 1999 - 2000 SARA grants for GIS projects. Please call Ana Hiraldo at 285-4416 to reserve a seat. Seating is limited.

GIS Speak!

A recurring column dedicated to unraveling some of the mysteries of GIS jargon.

RDBMS: Relational Database Management System. The defining characteristic of a GIS is that it links graphical "map" information with tabular "database" information. An RDBMS is a program that handles the database end of the GIS. Thus far, the Westchester County GIS have used an RDBMS called INFO. Soon the project will move its main data storage to a much more powerful software package called Oracle.

Client-Server: Client-Server is a network oriented way of designing computer software which breaks up the storage and processing aspects of computing for greater efficiency and flexibility. The county is moving many of its applications to a type of client-server architecture known as "three tier" architecture where the data resides on one machine (the data server), the application processing happens on another machine (the application server) and the user interface is managed by the desktop machine (the client).

MapObjects: MapObjects is a set of tools made by ESRI which allow programmers to build custom mapping applications with Visual Basic or C++ with a minimum of work. MapObjects will serve as the basis for the application server part of many three tier, client-server applications in the future.

MORE GIS WEBSITES

GeoSearch

<http://www.geosearch.com>

GIS LinX

<http://www.gislinc.com>

INFOMINE'S Maps and GIS

<http://lib-www.ucr.edu/mapsinfo.html>

National Spatial Data Infrastructure

<http://www.fgdc.gov/nsdi/nsdi.html>

EROS Data Center

<http://edcwww.cr.usgs.gov/eros-home.html>

Happy Holidays From Westchester County GIS



*Xiaobo
Laura
Sam
Greg*



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