

# GEOGRAPHIC INFORMATION SYSTEMS

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## Mapping the Livable Community Connection

Department of Senior Programs and Services inventories social and community assets

Westchester County GIS has initiated work with the Department of Senior Services and Programs to develop a series of community asset maps throughout the county as part of the Livable Community Connection (LCC) plan. The Livable Community Connection is part of the larger "Livable Communities Initiative: A Vision for All Ages - Bringing People and Places Together" ([http://www.westchestergov.com/seniors\\_livablecommunities.htm](http://www.westchestergov.com/seniors_livablecommunities.htm)) launched by Westchester County Executive Andy Spano in June 2006.

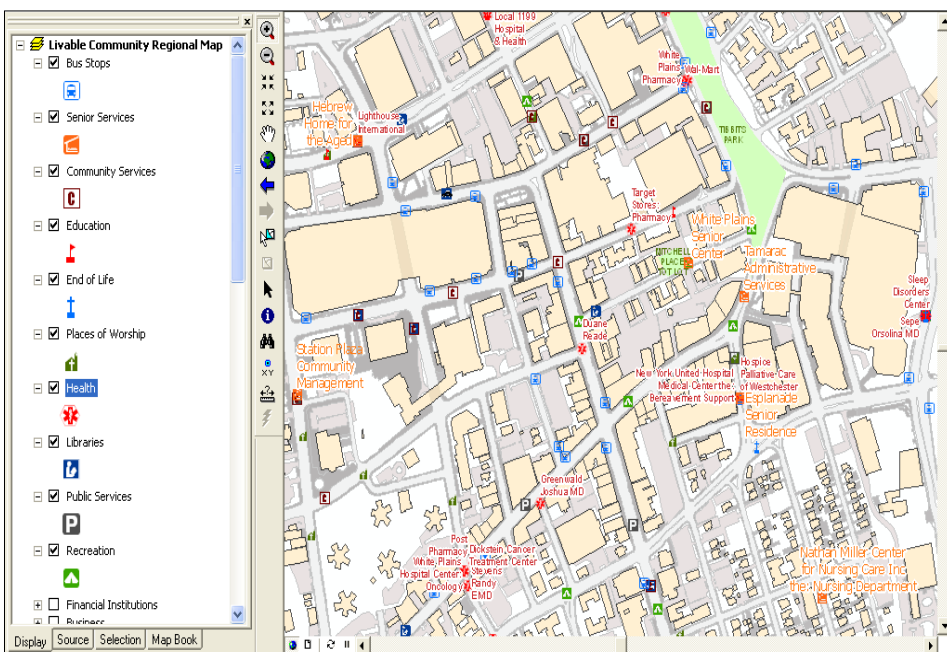
The purpose of the initiative is to identify and develop ways for more seniors to continue living in their homes as they grow older with independence, with supportive services such as affordable housing options, housing for people with limited mobility, adequate and accessible transportation, information on community centers with good programs and opportunities

to socialize. The community asset maps consist of 14 categories including learning institutions, hospitals, community centers, houses of worship, transportation, businesses, restaurants, financial institutions, environmentally friendly sites, shopping centers, and libraries among other facilities that provide services to community members and promote independence and social connectedness while encouraging civic engagement. The project continues to be beneficial in context of cross-referencing existing social service and facility databases being maintained by the county GIS program.

"Maps are tremendously useful in visually discovering gaps in services and will serve as a foundation for strategic service development and planning in the municipalities," notes Colette Phipps, project leader at Westchester County Department of Social Services. "Asset maps will be the

base for strategic community development planning by Livable Community Regional Councils and Municipality Task Forces and can be the basis for forming grassroots organizations like Neighborhood Watch clubs or other associations."

Maps produced will be used by neighborhood block clubs, houses of worships, businesses, corporations, academic institutions, civic and volunteer service clubs, and youth groups. County GIS staff are generating the maps to be available in both hardcopy and digital format as PDFs for redistribution. To date, inventories have been completed for the municipalities of Peekskill, Mt. Vernon, White Plains, and Bronxville. For more information on the Livable Community Connection contact Colette Phipps in the Department of Senior Programs and Services at [cap2@westchestergov.com](mailto:cap2@westchestergov.com) or Ana Hiraldo-Gomez at [aeh2@westchestergov.com](mailto:aeh2@westchestergov.com)



Over 14 types of GIS data layers are being inventoried and mapped for each municipality as part of the Livable Communities Initiative. All datasets will be integrated with the county's web mapping programs. This image highlights services and programs in White Plains.

### Westchester County GIS

receives

### "2008 Best of NY" Award

The Westchester County GIS web-based interactive Green Map application has been awarded the 2008 Green IT Award by Center for Digital Government ([www.centerdigital.gov.com](http://www.centerdigital.gov.com)). The Green Map was developed as part of Westchester County Executive Andy Spano's Global Warming Task Force and built utilizing ESRI's ArcIMS web mapping technology.

Cindy Louie, Green Map project lead, and GIS staff member Ana Hiraldo represented Westchester County at the awards ceremony in Albany on March 19th in Albany. The Green Map can be accessed at <http://greenmap.westchestergov.com>.

## ***New Land Use Data Layer***

Planning Department GIS staff is undertaking an effort to generate a countywide land use map. Westchester County contains nearly 255,417 tax parcels, of which approximately 160,000 are classified as single-family residential use - by far the predominant "designated" land use throughout the County. Using land use records provided by local tax assessors Planning Department GIS staff joined tax parcel geography with land use records to develop parcel-based land use layers of each municipality. A generalized uniform land use coding system is being developed to be used by department staff that will provide a uniform and consistent color code throughout the county for better comparisons and to determine land use change over time. For more information contact Paul Gisondo at [pxg3@westchestergov.com](mailto:pxg3@westchestergov.com).

## ***Address Data Development***

The County has contracted with the James W. Sewall company for the next phase of an anticipated multi-year countywide database development project focusing on the attribution of building footprints with individual address. The project is being implemented to support improved address scrubbing and geocoding services associated with the county's GIS program as well as to improve the accuracy of emergency dispatching functions. This phase of work will focus on the municipalities of New Rochelle and Eastchester and involve validating a small pilot project prior to full project implementation. Several data sources will be used in "tagging" each building footprint with an address including the county's Navteq road file, local tax maps, and the highly detailed NYS Accident Locator Information System (ALIS) database. For more information contact Deborah Parker at [dape@westchestergov.com](mailto:dape@westchestergov.com).

## ***Upcoming GIS Events***

### ***2008 GeoSpatial Summit***

The GeoSpatial Summit will be held on May 21, 2008 at the Welch-Allyn Lodge in Skaneateles Falls, NY. Speakers for this year's event include Jack Dangermond, president of ESRI, Allen Carroll, chief cartographer for the National Geographic Society, and Ed Parsons, Google's new geospatial technologist among others. For more information visit [www.nysgis.org/summit/2008](http://www.nysgis.org/summit/2008).

### ***NEARC Spring Meeting***

The Northeast Arc Users Group Spring meeting will be held on May 13, 2008 at Smith College Campus Center in Northampton, Massachusetts. User papers and posters will be presented and an overview of the upcoming annual fall NEARC in Hyannis, Massachusetts will be made available. For more information and registration visit [www.northeastarc.org](http://www.northeastarc.org).

## ***County Real Estate One Stop (CROS) Project Launched***

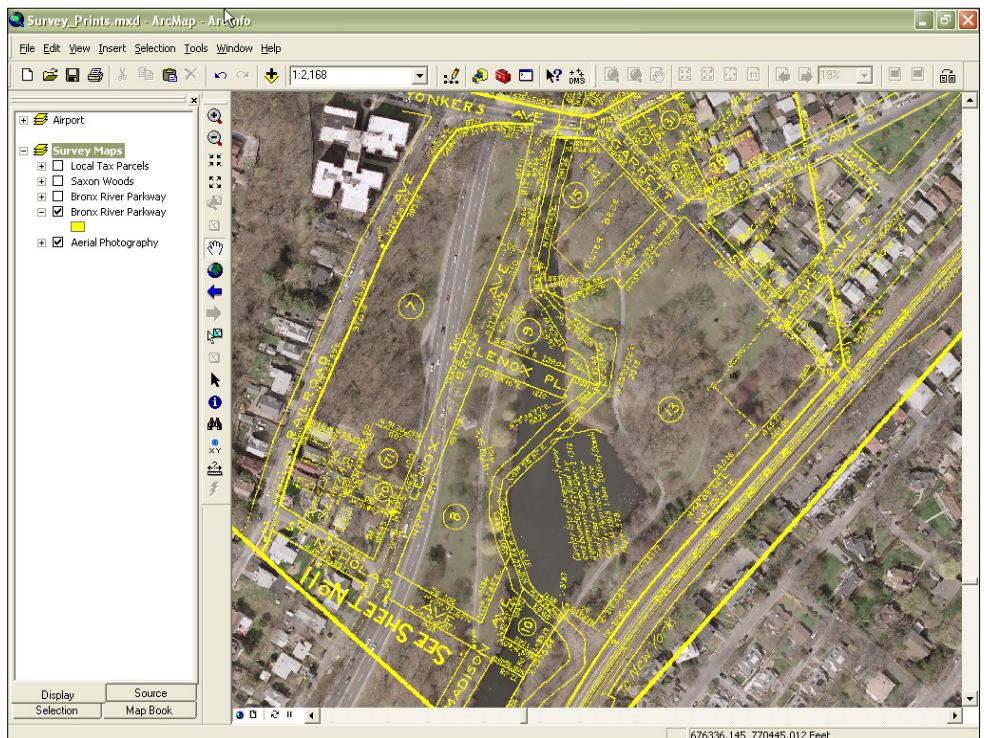
*ArcGIS Server chosen to support new multi-department application*

With over 200 county properties consisting of over 425 tax parcels in 42 municipalities, management and administration of Westchester County's real estate data is a challenging task. The properties range in size from 125 square feet to over 386 acres, at Ward Pound Ridge Reservation in Pound Ridge and Lewisboro. Adding to the challenge in managing the county's real estate in digital format is the fact that Westchester County is the only county in New York State which does not maintain tax parcel data. Currently, management and maintenance of the county's nearly 255,417 tax parcel is the responsibility of 26 separate municipal tax mapping programs.

Under the leadership of Director of Real Estate Salvator Carrera, the county has recently taken active steps towards managing the many different sources of real estate data (both hardcopy and electronic) by choosing ESRI's ArcGIS Server 9.2 technology. County GIS staff is currently working with ESRI-Boston staff on the initial design of the County Real Estate One Stop (CROS) application which is to include ESRI tools such as spatial query and analysis, layer management, zoom/pan functions, map making, and integrating new image management tools with ArcImage Server. The CROS application will enable GIS staff to publish a common service to many county government users focusing initially on basic search and discovery functions.

Subsequent phases of the application will include data input and maintenance modules for selected departments and simple viewing/searching tools with Google Earth.

"My office sees this as a major step in more effectively managing real estate the county owns," notes Carrera. "GIS enables non-technical users to easily access and visualize large amounts of data which in the past has been located in many different locations throughout the county." Staff resources from the county's Tax Commission, and departments of Public Works, Parks, Planning, Environmental Facilities, and Transportation continue to contribute towards building key databases upon which the application will be built. Additional benefits of building the real estate application include providing Public Safety and Emergency Response personnel with access to scanned floor plans of major county-owned buildings and the scanning and archiving of many "original" field surveys - many dating back to the early 1900s - which will be incorporated into the application. The comprehensive tax parcel inventory will also provide a valuable starting point for real estate-related litigation the County becomes involved with including the encroachment of activities onto county-owned properties. For more information on CROS, contact Cindy Louie at [llc4@westchestergov.com](mailto:llc4@westchestergov.com).



*As part of the CROS project, original property field surveys - many dating back several decades - are scheduled to be scanned and geo-referenced as TIF images. This scanned survey in the Bronx River Parkway was originally drafted in 1912 and is rendered in context of 2004 aerial photography.*



# Expanding GIS Support in Department of Health

## Multiple Program Areas Benefit from New Data, Tools

GIS staff are working to build geospatial capacity within the Department of Health (DOH), focusing on GIS data and tools suited to the needs of staff in several program areas. These efforts include providing ArcGIS 9.2 software and access to data in Oracle SDE, deploying new GIS and GPS tools, and continued support of DOH-specific ArcIMS data viewers.

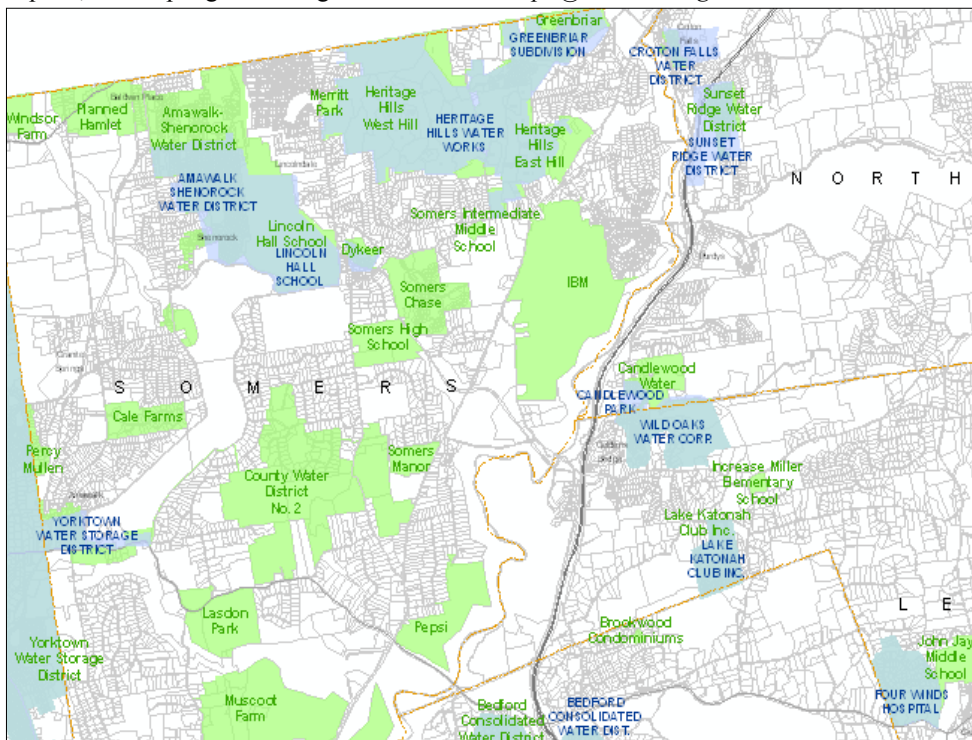
GIS and DOH are cooperating on an update of old water supply district boundaries created with small scale (typically 1:24,000 USGS) map sources. New boundaries will follow tax parcel boundaries where available. Water districts in Westchester County range in size from municipal systems serving tens of thousands of households to single-entity systems such as a school or restaurant. GIS staff will add and improve boundaries from research, and with DOH will outreach to municipalities to help review and validate new boundaries. More accurate water district boundaries will support the county's Reverse 911 system, which notifies households and businesses in events such as drinking water contamination alerts.

GIS is providing new GeoPDF-format maps for field work and data collection performed by DOH staff. Petroleum Bulk Storage inspectors will use the maps on Toughbook field computers with the free GeoPDF toolbar. For the Bureau of Environmental Quality (BEQ)'s water quality monitoring program, GIS staff produced a database from text reports, for sampling sites along the Bronx and

Hutchinson Rivers. Associating the observation data with these sites allows visualization and analysis of the measured contaminants. GPS equipment was also ordered for BEQ to map new sites.

GIS is supporting a DOH initiative tracking lead-based paint exposure in children. DOH requested GIS to geocode 23,000 street addresses within a designated high-risk area, so that mailings could be sent in advance of onsite building inspections. GIS staff created neighborhood maps (of approximately 1,000 addresses each), which could be covered door-to-door in approximately two weeks. Once draft maps were approved, GIS generated mailing lists for each neighborhood.

Work is also in progress for GIS to support the new Septic Management Program which will assist DOH in the mapping of septic system inspections. NY State requires DOH to track repairs to septic structures through reports submitted by septic system maintenance contractors. Based on information provided by program contractors, GIS staff intends to provide DOH staff with geocoding/address matching tools to locate septic systems based on tax parcel or street address data. Most septic systems are located in the northern half of the county, and parcel-based addresses from NY State's ALIS program are available for all but four municipalities in this area. GIS staff is working to develop this data for these four towns. For more information contact Deborah Parker [dape@westchestergov.com](mailto:dape@westchestergov.com).



This screenshot shows the water district boundary update work in progress, with original district data in blue, and draft updates - based on parcel boundaries - in green. These edits will be reviewed by local authorities before publication.

## Hilltop Hanover Trails Map

A new map has been produced by the planning department of the Hilltop Hanover Farm and Environmental Center in the Town of Yorktown. Westchester County acquired Hilltop Hanover Farm in 2003 as part of County Executive Andy Spano's initiatives to preserve open space, protect drinking water and promote environmental education. The 187-acre farm property is located on Hanover Street in Yorktown, and consists of natural woodlands, pastures and historic buildings. A trail system was laid out on the woodland portion of the property and nearly 3 miles of existing and proposed trail alignments were mapped using GPS last spring. During this summer, student interns performed trail construction work and installed trail blazes as markers. The trails provide access to scenic viewpoints, vernal ponds, unique rock formations and a pondside picnic area. To learn more about Hilltop Hanover Farm and to view the map, go to [www.westchestergov.com/planning/environmental/hhfarm/Main.htm](http://www.westchestergov.com/planning/environmental/hhfarm>Main.htm)

## NRI Map Series Released

Westchester County GIS developed a Natural Resource Inventory (NRI) map series for local government officials, planning department and environmental organizations, as well as community groups to provide a framework for wide range of environmental planning and land use analysis functions. Maps were produced at a uniform grid (800' scale, 11x17 size paper) with at least 16 environmental and natural resources data layers and made available in GeoPDF format (TerraGo Technologies [www.terragotech.com](http://www.terragotech.com)). The PDF format gives users the ability to add comments and generate markups which can be exported to shapefile format. For more information contact Ana Hiraldo-Gomez at [aeh2@westchestergov.com](mailto:aeh2@westchestergov.com).

## Archives Uses Scanning Grant

Utilizing funding through a New York State Archives grant, the county's Archives and Records Center is funding a project to automate Department of Environmental Facilities (DEF) sewer system hardcopy maps, aerial photos and as-built drawings for integration into GIS applications. Approximately 6,500 historical documents are being scanned by the Archives, and stored as GeoTIFF files. Images will be referenced to ground coordinates and made available in multiple county applications. Grant funding for the conversion work was to support the DEF Automated Sewer Manhole Inspection (ASMI) application as well as archive and preserve many original documents. Work on the project will start in April and is expected to continue through early 2009. For more information contact Deborah Parker at [dape@westchestergov.com](mailto:dape@westchestergov.com).

Articles and graphics in this newsletter prepared by: Xiaobo Cui, Ana Hiraldo-Gomez,  
Cindy Louie, Deborah Parker, Colette Phipps and Sam Wear.



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Andrew J. Spano, County Executive

Marguerite Beirne, Acting Chief Information Officer

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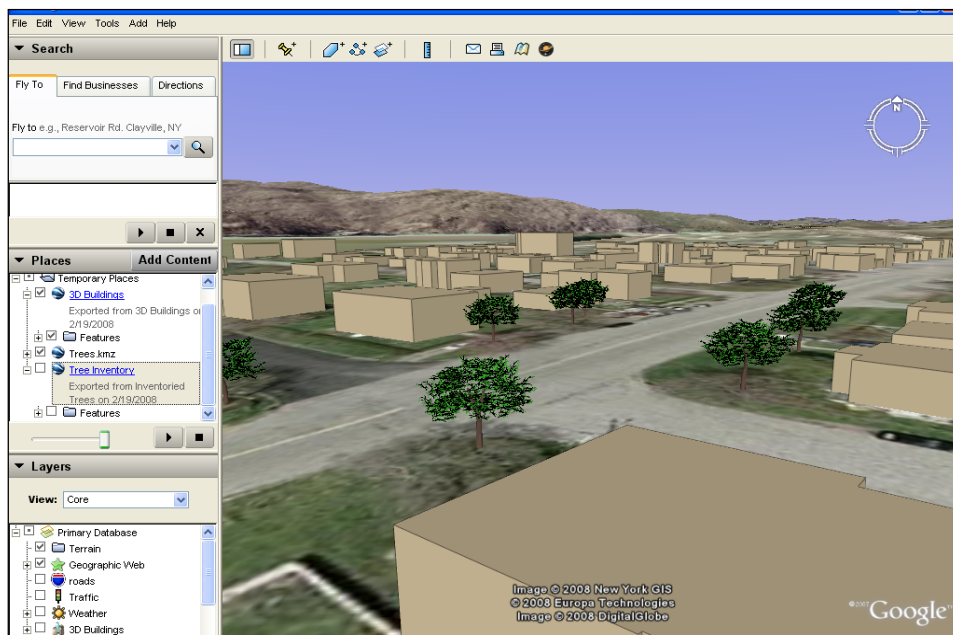
## Local Government News

The **City of Yonkers** DPW continues to work with the city's fire department on a fire hydrant replacement inventory and with the police department on developing a "*Crime Analysis Mapping*" application to quickly access crime data from internal databases and

generate maps. The **City of New Rochelle** is working on a street infrastructure inventory using GPS technology and street feature datasets provided by the county from the 2004 basemap project. The **Town of Cortlandt** received a grant from the NYS

DEC Urban and Community Forestry Grant to develop a tree inventory. The town worked with Davey Group ([www.davey.com](http://www.davey.com)) to conduct the inventory in the hamlet of Verplanck. A total of 555 trees were inventoried on town-owned properties and right-of-way using GPS technology. "Both the Planning Dept. and the town's DES Tree Crew, all ISA certified arborists, staff will maintain the inventory's database and prioritize tree removal, pruning and preservation of trees throughout the hamlet," said Richard Di Sanza, Town of Cortlandt open space coordinator.

The towns of **Eastchester** and **Somers** completed their GIS user needs assessment study and are working with Bowne Management Systems on initial implementation phases. The towns of **Pelham**, **Eastchester**, and **Mamaroneck** are in the final stages of converting their tax maps to digital format and will be completed by late spring. County staff is working with the **Town of Lewisboro** and **City of Mt. Vernon** on a GIS user needs assessment update through the County's new Shared Service program. The **Town of Greenburgh** GIS UNA is completed and will begin implementation this spring. For more information contact Ana Hiraldo-Gomez at [ah2@westchestergov.com](mailto:ah2@westchestergov.com).



Utilizing data collected by a Town of Cortlandt consultant as part of townwide tree inventory, GIS staff is able to generate a 3D model of the Verplanck streetscape in Google Earth.