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GEOGRAPHIC INFORMATION SYSTEMS

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Mapping Westchester County

New application consolidates mapping functions and core GIS data layers

After several months of development, Westchester County GIS has completed a total redesign of its central GIS web mapping application. Entitled ***Mapping Westchester County***, the new application contains dozens of GIS data layers which users can interactively view, query, and print out in hardcopy. ***Mapping Westchester County*** consolidates several individual web mapping applications (Environmental, Community Facilities, Historic Sites) which the county currently offers at its web site. The new application has expanded functionality and provides a more intuitive user interface.

As illustrated below, ***Mapping Westchester County*** is activated by clicking on the countywide map to select a municipality or by viewing other datasets by the following options:

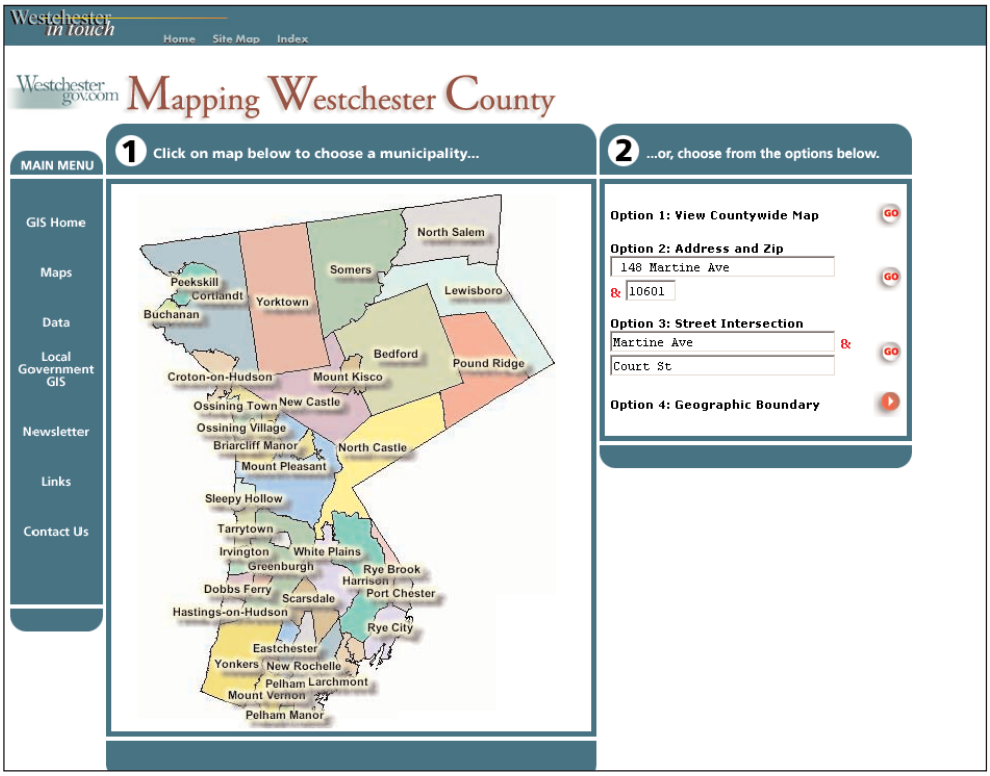
1. View Countywide Map(s)
2. Address and Zip (Geocoding)
3. Identify by Street Intersection
4. Select Geographic Boundaries

(Legislative District, Fire District, School District, Zip Code or Watershed)

For ease of use, GIS data layers have been thematically grouped into five categories (folders): Land Use and Environmental, Districts, Facilities, Transportation, and 2000 Census. By taking advantage of simple point and click functions of the user interface, non-technical users can open "folders" in the map legend to turn on/off GIS layers once a particular area of the county has been identified to view in greater detail. GIS data layers included in the application have been derived from several data sources, including data developed by Westchester County GIS between 1988-2002, federal, state and local sources, and street centerline files from Navigation Technologies. Data layers from the Westchester County base mapping project will be added to the application in 2003.

The application toolbar includes buttons (icons) to allow users to zoom/pan, go to previous/next screen, search by address or geographic boundaries, and retrieve layer attribute information from FGDC compliant metadata. The application also provides a mapping template which allows users to type in map title and functions to print out the map on a local printer. A comprehensive online Help button provides assistance and guidelines on using the map legend, and toolbars, retrieving attribute and metadata, and printing out a map.

The application was developed using ESRI's ArcIMS 4.0 on Windows 2000 with Internet Information Services 5 with an ESRI Geodatabase using Oracle 9i and ArcSDE 8.2 providing the application database structure. The new application can be viewed and accessed at *http://giswww.westchestergov.com*. For more information contact Xiaobo Cui at *xxc1@westchestergov.com*.



The startup page for the new Mapping Westchester County GIS application has a easy-to-use graphical user interface. The application allows users to explore, view, query, and map all areas of the county. Specific areas of the county can be selected or "zoomed" to based on an address or other geographic boundaries such as municipality, school and fire districts, watersheds, or county legislative district.

NEARC President Appointed

Sam Wear, Westchester County GIS Manager, was elected President of the Northeast Arc Users Group at their annual conference which was held at the Mt. Washington Hotel in Bretton Woods, New Hampshire, November 3-6th. The NEARC President, who is supported by an elected Board of Directors, assists in the coordination of the annual user group conference, administration of the NEARC web page ***http://www.northeastarc.org*** and serves in several capacities in representing ESRI software users from the seven northeastern states (Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, and New York). The term is for two years.

GIS Outreach

GIS staff continue to maintain an active schedule in outreach and coordination with government officials and industry representatives on a wide range of GIS development and implementation issues. In September, field personnel from ***Navigational Technologies (Navtech)*** met with GIS staff to provide an update on current street centerline database development activities in Westchester County. County GIS and Planning Department staff met with officials from both ***NYS Dept. of Environmental Conservation (DEC)*** and ***U.S. Federal Emergency Management Agency (FEMA)*** in October to discuss a proposed mapping update of flood zones using new topographic and planimetric data from the recent base mapping project. In November, Sam Wear made a presentation at the ***Socioeconomic Data and Applications Center (SEDAC)*** Users Group meeting in Manhattan. ***SEDAC***, which is based at the ***Center for International Earth Science Information Network (CIESIN)*** at Columbia University. ***CIESIN*** is working towards becoming a key online provider of U.S. metropolitan integrated remote sensing, environmental, and hazard vulnerability data. Staff attended GIS software training in the last quarter of 2002. Ariane Porter and Cindy Louie attended ***Introduction to ArcGIS*** (November) while Xiaobo Cui attended ***ArcIMS Administration training*** (December). In December, GIS staff met with staff from ***ConEdison*** to discuss the exchange of spatial datasets to support selected emergency management operations, while other staff attended a two-day on-site Java API workshop by ***Northern Geomatics*** and ***ESRI***. On January 9th, Sam Wear made a presentation to the ***Westchester County Association of Public Works Administrators*** on using GPS and GIS technology as part of GASB 34 compliance.

GIS EVENTS

New York State GIS Conference

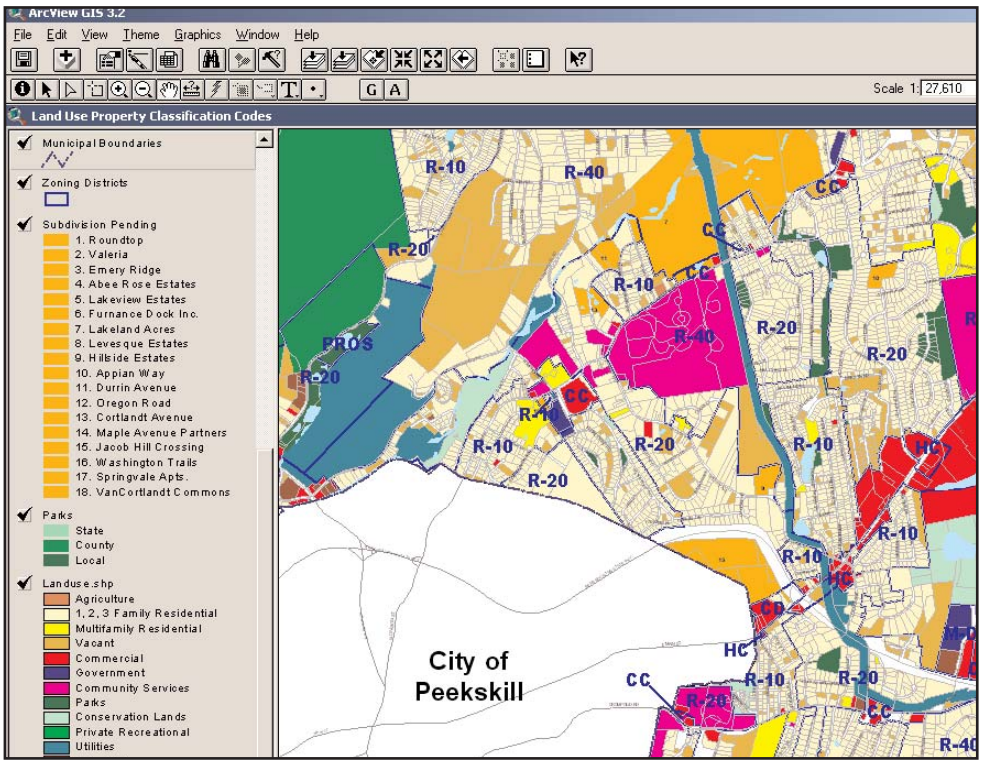
Westchester County GIS contributed significantly to the annual NYS GIS conference which was held in Syracuse, New York, October 4-6th. Staff contributed a total of seven posters which highlighted several applications and programs GIS staff has built over the past twelve months. Sam Wear, GIS Manager, led a pre-conference workshop entitled: ***GIS Basic Training: Implementing GIS in Your Organization.*** Both the posters and the pre-conference workshop presentation are available as PDF files and can be downloaded from the GIS homepage at *http://giswww.westchestergov.com*.

Local Government News

GIS staff are providing on-going support to the ***Town of Cortlandt*** for a master plan update which includes updating land use, zoning and environmental features as well as data development for a build-out analysis, in-fill development, and open space mapping. County staff recently met with the ***City of Yonkers*** to formalize the initial steps in its GIS implementation program. Staff from city assessment, MIS, and engineering met with county staff to discuss networking, GIS hardware and software installation, digital tax map development and enterprise GIS administration. The ***City of Rye*** continues to work with the county on the conversion of both planimetric and tax parcel data to ESRI format. In December, staff from the ***City of White Plains*** Police Department met with Westchester County to discuss spatial data sharing opportunities and system compatibility issues. It was the first GIS meeting between the city and county in over ten years. In early January, GIS staff made a presentation to officials from the ***Village of Mamaroneck*** on potential GIS uses and applications in the village. The village anticipates working with the county in a user needs study and implementation plan during 2003.

County staff is working with the ***Village of Dobbs Ferry*** on a SARA funded GIS user needs assessment and implementation plan. In addition to reviewing a wide range of potential GIS applications throughout village government, a key component of the study will be to integrate the village's GIS program with Westchester County GIS via the countywide Telecom Project. GIS staff have also been discussing potential 2003-2004 SARA grant applications for user needs studies with the villages of ***Port Chester*** and ***Larchmont***. Several municipalities, including the ***Village of Mt. Kisco*** and towns of ***New Castle*** and ***Yorktown*** are discussing utilizing the county's new web-based tax parcel mapping application. During the first quarter of 2003, GIS meetings are scheduled with the cities of ***New Rochelle***, ***Peekskill*** and ***Mt. Vernon***. The City of ***Mt. Vernon*** anticipates delivery of its digital tax parcel data in GIS format from Weiler Mapping in the first quarter of 2003. The firm has maintained the city's mylar tax maps for several years and began the conversion project in late 2002. County staff have responded to base map data requests from both the ***Village of Pelham Manor*** and the ***Town of Harrison*** to be used for local studies. The county has initiated GIS Data Sharing IMAs with several municipalities including ***New Castle***, ***North Salem***, ***Ossining***, ***Yonkers*** and ***Cortlandt***. The IMA provides a framework in which the county shares both planimetric and orthophoto data from the base map project with a municipality in exchange for local datasets - at no cost to either party.

For more information on local government contact Ana Hiraldo at *aeh2@westchestergov.com*.



Westchester County GIS support to the Town of Cortlandt's Master Plan Update includes detailed tax parcel analysis and mapping relative to land use codes, zoning, and locations of proposed subdivisions. Work for the project is being coordinated through the Cortlandt Planning Department. The image above shows both land use and zoning districts.

Westchester County GIS Celebrates GIS Day!

Maps, user demonstrations highlight day-long event

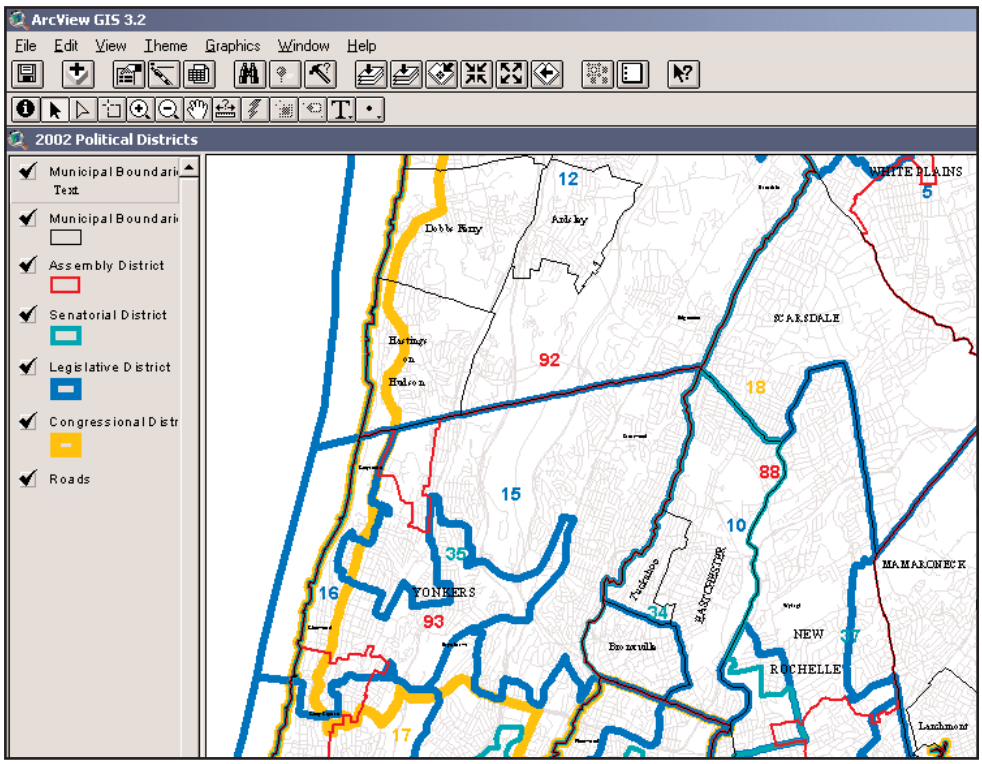
With Westchester County Executive Andrew J. Spano officially proclaiming November 20th as GIS Day, Westchester County celebrated its first GIS Day with an "open house" in the main lobby of the county office building in downtown White Plains. Initiated in 1998 and coinciding with National Geography Awareness week, GIS Day is sponsored by the National Geographic Society, Association of American Geographers, University Consortium for Geographic Information Science, U.S. Geologic Survey, Library of Congress, Sun Microsystems, and Environmental Systems Research Institute (ESRI). GIS Day is a grassroots event that formalizes the practice of geographic information systems (GIS) users and vendors opening their doors to schools, businesses, and the general public to showcase real-world applications of this important and increasingly expanding technology.

As dozens of Westchester County workers casually reviewed GIS products that were on display throughout the day in the main lobby, visitors from both the general public and local government also attended the event. In addition to maps and materials prepared by Westchester County GIS staff, other county departments including the departments of Public Works (Traffic Engineering), Transportation, Planning, Health, and Westchester Community College, also participated in the program. GIS handouts and literature were provided by ESRI-Boston.

County staff from the various user departments were present to answer questions on specific GIS applications or mapping projects. Traffic Engineering staff member Roger Griffith provided a hands-on GPS demonstration highlighting how DPW was using GPS for signage inventory efforts along county roadways. County Executive Spano took a few moments to demonstrate and use the new Community Facility Locator application which is now available at the county's GIS web site. With the county GIS staff expecting expanded user involvement and outreach in 2003, it is anticipated GIS Day 2004 will be even larger and more successful!

For more information on GIS Day's event contact Ana Hiraldo at *aeh2@westchestergov.com*.

2002 Political Districts



GIS staff member Cynthia Louie has created a composite countywide map showing boundaries of County Legislative, New York State Assembly and Senate, and U.S. Congressional districts based on redistricting programs associated with the 2000 census. The countywide map is available for download in PDF format from the county GIS website.

Base Map Coverages Available

Selected planimetric coverages from the 2000 countywide photogrammetric base mapping project are now being made available for distribution. The first countywide coverage that can be downloaded from the county's GIS website is hydrography which includes all creeks/streams, rivers, and water bodies (greater than one acre). The coverage is available as an ARC/INFO export file and includes metadata. In addition to being spatially much more accurate (1"=100') than earlier countywide hydrography coverages (1"=2000'), the base map datasets are much more complete. For example, the WCLAKES (1"=2000') coverage which has been used extensively for the past 10 years contains 2,294 features, while the new WCLAKES2000 coverage contains 2,798 - an increase of 504 (22%) mapped features. Feature content in the new WCSTREAMS2000 coverage increased significantly as well.

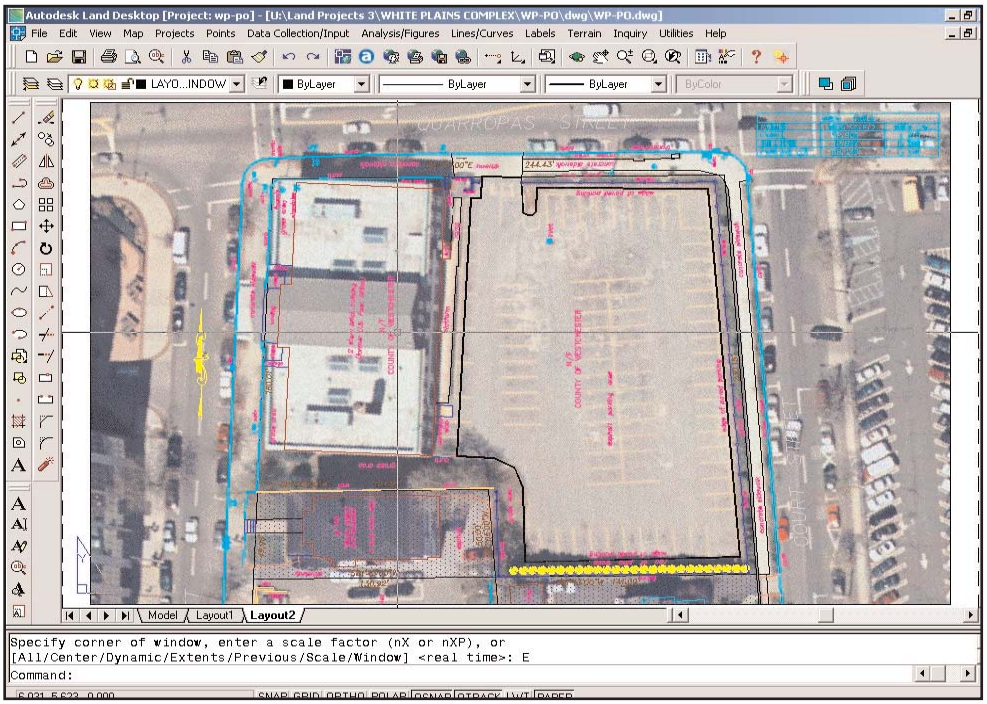
Other countywide planimetric datasets will be released over the course of the year. Due to public safety and security concerns, not all planimetric datasets will be made available for immediate download over the web, but instead will be reviewed on a case-by-case basis. For data access and more information on Westchester County GIS data downloads, visit our website at *http://giswww.westchestergov.com* or contact Cindy Louie at *(914) 995-3014 or via e-mail at llc4@westchestergov.com*.

County Government GPS Users

On January 3rd, GPS users from several county departments met to review and discuss ongoing GPS development issues. Representatives from the departments of Planning, Health, Public Works, Parks, Transportation, and Information Technology were briefed by GIS staff on new GPS hardware and software maintenance policies, countywide GPS infrastructure projects, and provided with a demonstration of the new county-operated GPS base station. Representatives from each department gave a brief overview of their individual GPS projects and plans for expanded GPS/GIS integration. County GIS/GPS staff anticipate a significant growth in GPS use throughout local and county government over the next 12-24 months, particularly with regard to GASB34 (*http://www.esri.com/industries/localgov/gasb34.html*) compliance. Local government officials are encouraged to make contact with Deb Parker at (914) 995-3888 or via e-mail at *dape@westchestergov.com* to learn more about the county's GPS initiative or for additional GPS technical assistance.

AutoCAD Users Expand Use of Base Map Coverages

Over the past several months, use of the county's digital base map data - both planimetric and orthophoto - has increased significantly by county staff using computer aided design (CAD) software. The high accuracy datasets (1"=100' planimetric and .5M pixel resolution color orthophotos) provide an excellent reference for design work being done by county engineers and landscape architects using AutoCAD. Planimetric data is stored as ARC/INFO coverages that can be imported using AutoCAD utilities, while orthophotos are available to CAD users in both MrSid (compressed) and TIFF (uncompressed) formats. All base map data has been projected to New York State Plane Feet East Grid Zone in both the North American Datum (NAD) 1983 and North American Vertical Datum (1988).



Site of the former White Plains post office on Quarropas Street which now houses Westchester County Board of Elections. From within the AutoCAD environment, county engineers can drape survey data (DXF format) on top of color orthophotography (MrSid or TIFF format).

Both the Department of Public Works(DPW) and Department of Planning access the data on a regular basis for use in the AutoCAD environment. Rich Murray, county surveyor in DPW, commonly drapes older survey data (DXF format) on top of the color orthophotos to find old survey points as well as to verify new field work. "Overall," says Murray, "the new base mapping data provides great context to all of our surveying work." Several other civil engineers in DPW utilize the data on a day-to-day basis as well.

In the Planning Department, staff from both the Capital Projects and Urban Design sections access the data to support site design projects. For example, Robert Lopane, Landscape Architect, uses the base mapping data (topography, hydrology, roads and building footprints) to conduct preliminary analysis of sites and prepare schematic designs. "It provides the initial base map for all of our Capital Project design work", Lopane notes.

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