

## GIS/GPS Development Initiated for County Naturalists

### Mapping, Field Data Collection, and On-line Training Scheduled

Early this fall, GIS staff met with staff from the Westchester County Department of Parks, Recreation and Conservation (PRC) to begin outlining a long-term strategy which will provide county naturalists access to a variety of GIS and Global Positioning System (GPS) technology tools. Under the direction of Mary Davis, director of Conservation, the naturalists first met with GIS staff in late September to discuss potential GIS and GPS applications. In addition to identifying basic GIS hardware and software requirements, GIS staff provided an overview of (GPS) units which are anticipated to be used by naturalists for field data collection projects. The components needed to develop

a uniform base map (hardcopy and digital format) for all of the county parks were also discussed, as well as central database coverages which are maintained by GIS staff.

Since the initial meeting in September, GIS staff has met with the naturalists twice, once in GIS offices for additional project scoping and demonstrations, and on November 16 for an "in-field" GPS field data collection exercise at Read Sanctuary. While hardware, software and network requirements continue to be identified throughout the park system, naturalists are concurrently being offered "on-line" GIS training through ESRI's Virtual Campus (<http://campus.esri.com/> in

courses such as "Introduction to ArcView GIS". The Conservation Division has been doing on going biodiversity studies since 1985, taking inventory of the flora and fauna of Westchester County Parks in order to formulate Natural Resource Management Plans. "The training provided by GIS will enhance our biodiversity project by giving us the capability of collecting and analyzing the data in a standardized manner," says Mary Davis. "We are excited about our partnership with GIS and about putting our new-found knowledge to use." For more information on the county naturalist GIS initiative, contact Sam Wear at [stw1@westchestergov.com](mailto:stw1@westchestergov.com) or Mary Davis at [mbd1@westchestergov.com](mailto:mbd1@westchestergov.com).

### GIS Supports World Trade Center Disaster Mapping

In the aftermath of the World Trade Center disaster on September 11, Westchester County GIS was contacted by New York City's Emergency Operations Center (EOC) which was requesting volunteers to support on-demand, around-the-clock GIS/mapping functions. Initially, county GIS staff Ana Hiraldo, Carrie Keneally, and Mike Morgan (Intern) provided assistance on the weekends. Once a more detailed work program was developed by GIS Manager Sam Wear, staff member Greg Sullivan was also able to contribute in this important effort at the temporary EOC located at Pier 92 on the Hudson River.

A wide range of transportation, utilities, and infrastructure maps were constantly updated and distributed to city agencies and utility companies involved in the recovery effort. Examples of the mapping products can be viewed at <http://www.nyc.gov/html/em/transport.html> or [http://www.nyc.gov/html/oem/html/emols/emols\\_wtc.html](http://www.nyc.gov/html/oem/html/emols/emols_wtc.html). Westchester County GIS is proud to have been called upon and contributed in this national disaster recovery effort.



**Introduction to GIS:** As part of their initial GIS meetings and discussions, Westchester County naturalists, as seen here in a roundtable discussion with GIS staff, have been provided the opportunity to review a wide range of hardcopy and digital products which are generated from the county's central GIS program. County naturalists anticipate utilizing GIS to manage data on flora and fauna found within the county parks. It is anticipated this information will assist in developing Natural Resource Management Plans.

## GIS Outreach

On November 14, Sam Wear presented an overview of the county's GIS program to the **Municipal Administrators Association** and was joined by staff member Tong Zhou for a similar presentation at the **Annual Westchester County Assessor's Conference** on November 19. Senior GIS staff member Xiaobo Cui, along with Tong Zhou attended both the **Navtech User Group Meeting** on November 7 in Park Ridge, New Jersey and the **Sagent Northeast User Group Meeting (SNUG)** on November 16 in Stamford, Connecticut. Ana Hiraldo prepared several maps for the county's first **Hispanic Summit** held October 16. The maps highlighted Hispanic population figures from the 2000 census. On November 1, GIS staff met with the **Environmental Management Council (EMC) Executive Committee** to discuss GIS outreach efforts and how the county's EMC can gain greater access to GIS data and training. Laura McGinty met with staff from both Westchester County **Departments of Public Works (Traffic Engineering) and Transportation** on October 29 to review on-going GPS data collection of guiderails/curbing along county-owned roadways.

## 2001 NYS GIS Conference

Westchester County GIS staff members Sam Wear, Ana Hiraldo and Tong Zhou attended the 17th Annual New York State GIS conference held October 29-30 in Albany. With the theme **"GIS... Not So Scary!"**, this year's conference was well attended by hundreds of GIS professionals from government, business, and academia, and also included over 20 exhibitors. Not only important in its quality of technical workshops and paper presentations, this annual conference continues to be the preeminent statewide venue in providing opportunities for county staff to participate in important statewide GIS initiatives.

Westchester County GIS staff presented seven posters which were displayed during the two-day conference. Titles of posters submitted included: **Westchester County GIS Web-Based Interactive Maps** (Xiaobo Cui); **Municipal GIS Development and Support in Westchester County, New York** (Ana Hiraldo); **Utilizing GIS in the Support and Development of a Computer Aided Dispatch (CAD) System for Westchester County, New York** (Carrie Keneally and Greg Sullivan); **Development of the Westchester County Base Map** (Laura McGinty); **Development of a Land Cover Database with LANDSAT Imagery in Westchester County, New York** (Francesca Pozzi, Sam Wear and Carrie Keneally); **Spatial Analysis of 2000 Census Population Figures in Westchester County, New York** (Tong Zhou); and **Managing Bridge Information in GIS** (Josephine Amato).

## Westchester County GIS User Group Meeting

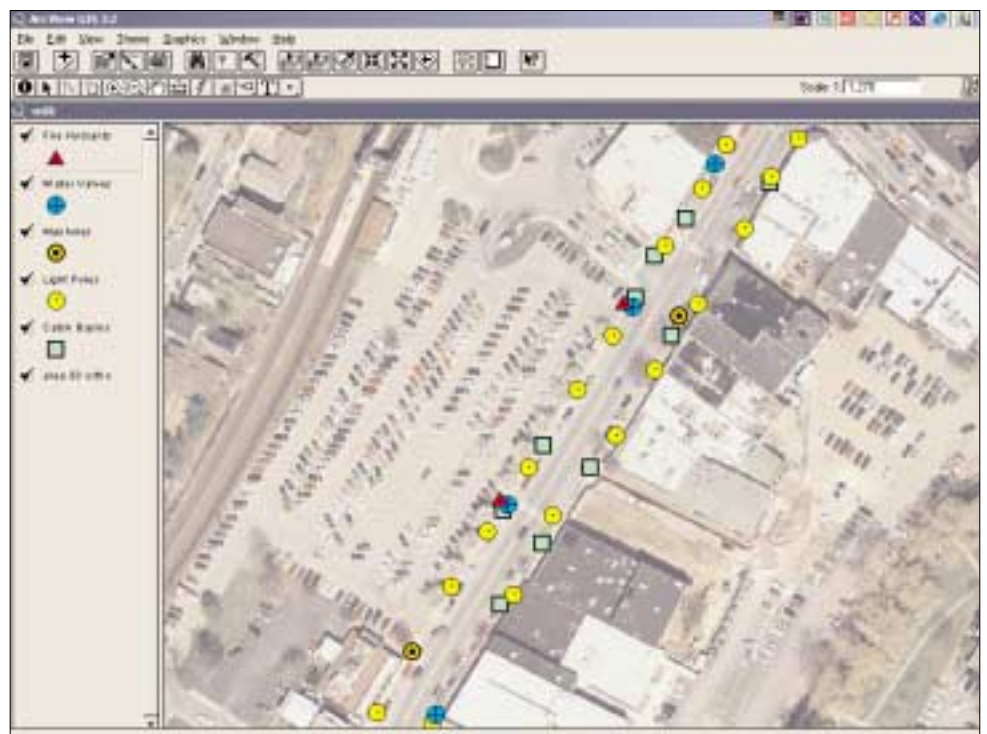
On October 3 over 65 individuals attended the fall Westchester GIS Users Group meeting which was held in downtown White Plains and hosted by Westchester County GIS. The meeting drew representatives from local, county, and state government, as well as business and academia. Highlighting the meeting were GIS presentations by Westchester County GIS, a discussion by David Weaver from Applied Geographics, Inc. (AGI) which is providing Quality Assurance/Quality Control (QA/QC) services on the current countywide base mapping project, and the display of several hardcopy maps provided by local governments illustrating municipal GIS projects.

Former county planning commissioner and current chairman of the Westchester GIS Task Force, Peter Q. Eschweiler, opened the meeting by welcoming attendees and provided a brief review of the historical development of Westchester County GIS since its inception in 1987. GIS Manager, Sam Wear, then provided a brief overview of several Westchester County GIS projects, including outreach to numerous local government GIS projects. Significant discussion followed which focused on the sharing and distrib-

uting of GIS databases, as it relates to public safety and emergency response - and particularly in context with the terrorist attacks of September 11.

After the AGI presentation, Chris Attridge of ESRI-Boston spoke briefly on current ArcView licensing and migration issues. After lunch was served, the meeting concluded with a series of informal demonstrations by Westchester County GIS staff. Veteran GIS staff member Laura McGinty offered a brief GPS overview including hardware components and examples of current staff GPS projects, while GIS Intern Mike Morgan provided an ArcPad demonstration. Concurrently, Xiaobo Cui highlighted recent GIS web development activities.

All meeting attendees took advantage of the informal atmosphere to network with colleagues and discuss the expanding number of GIS applications throughout Westchester County and the lower Hudson region. Plans are being made to hold a similar meeting, which will focus on different GIS applications, at the same location in the first quarter of 2002. For more information contact Ana Hiraldo via e-mail at [aeh2@westchestergov.com](mailto:aeh2@westchestergov.com).



**Integrating Spatial Data:** GIS provides an excellent environment to view and analyze spatial datasets which are often developed from different sources and technologies. This map, which shows a section of the central business district in Mount Kisco, New York, illustrates how digital orthophotography can be integrated with street feature data collected independently with GPS equipment. The digital orthophoto is from the county's base mapping project which along with planimetric data meets National Map Accuracy Standards at 1"=100'. Street feature data including catch basins, fire hydrants, manholes, water valves, and light poles were collected during September 2001 by county GIS staff using a Trimble Pathfinder Pro XR GPS unit.

# GIS Supports "Yonkers Elder Friendly Initiative"

Nearly 600 Community Resource Facilities Mapped in 38 Neighborhoods

Westchester County GIS has recently mapped nearly 600 community resource facilities in 38 Yonkers neighborhoods as part of the **Yonkers Elder Friendly Initiative (YEFI)**. The Community Planning Council of Yonkers, in cooperation Saint Joseph's Medical Center, are sponsors of the initiative which will produce the 38 neighborhood maps in a guide entitled **Yonkers Asset Map: A Tool for Community Building**.

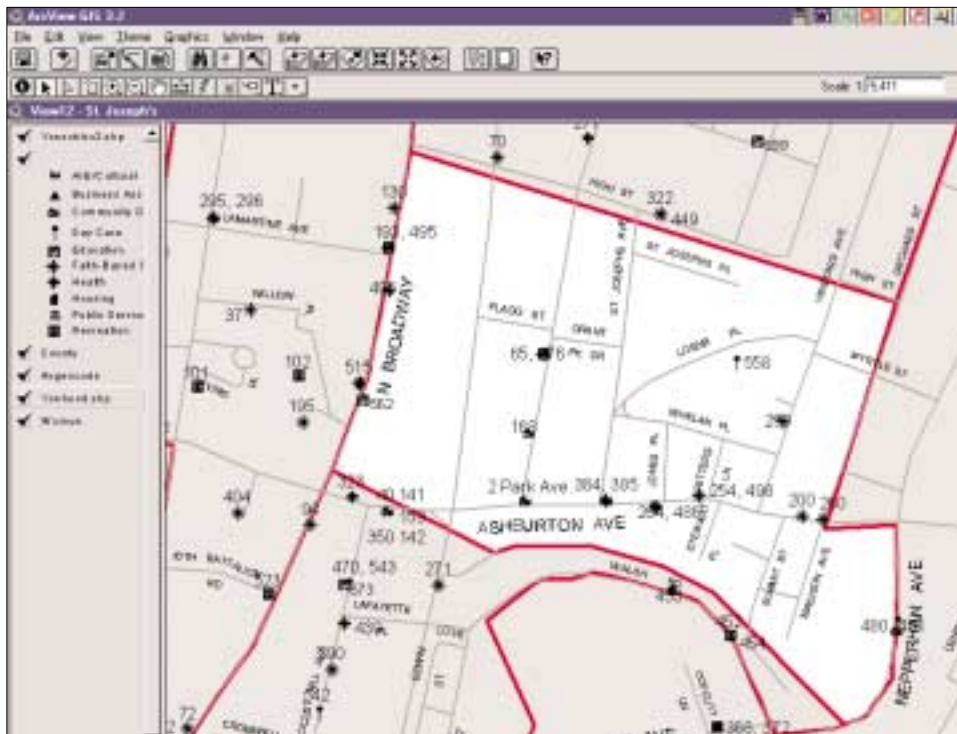
The map series lists specific community resource facilities (educational, recreational, health, faith-based, housing, etc.) which have been identified by the project sponsors as being important for improving the quality of life for Yonkers' growing elderly population. A spreadsheet, which lists the type, address, name, and other pertinent information for each facility by neighborhood, is also included.

The books were distributed to Yonkers residents and community planning professionals at a conference called "Asset-Based Thinking: Mining Community Resources," which was held November 29 at St. Joseph's Medical Center in Yonkers. The keynote speaker at the conference was Robert Francis, who is

a faculty member at the Northwestern Universities Asset Based Community Development Institute. He has successfully used asset-mapping strategies as part of his work in the revitalization of Bridgeport, CT.

The conference was directed towards health agencies, schools and colleges, organizations serving children, families and older adults, community, faith-based and art/cultural organizations, businesses, government and grant-making organizations. The concept of "asset-based thinking" is intended to facilitate outreach, recruitment, planning, communication, education, marketing/publicity, advocacy, prevention, knowledge of neighborhood resources, community mobilization, empowerment and delivery of appropriate services. The project is a two-year program funded by the Helen A. Benedict Foundation.

For more information on the YEFI mapping project, contact Greg Sullivan at [ggs5@westchestergov.com](mailto:ggs5@westchestergov.com) or Ann Louise Lyman, Yonkers Community Coordinator for the Westchester Retired and Senior Volunteer Program (RSVP) at (914) 993-0085.



St. Joseph's is one of the 38 neighborhoods which was mapped as part of the Yonkers Elder Friendly Initiative (YEFI). Generalized neighborhood boundaries were compiled by county GIS staff based on manuscripts provided by the project sponsors. As illustrated in the sample above, community resource "assets" were grouped into ten categories with each facility being labeled with a unique number. This number provides a cross-reference to a corresponding spreadsheet (also developed as part of this project) for more detailed information on each facility.

## Local Government News

GIS staff is currently working with the **City of Peekskill** on a GIS user needs assessment and is scheduled to initiate a similar effort with the **Town/Village of Harrison** in the first quarter of 2002. Other GIS work throughout the county involves the mapping of hiking trails in the **Village of Irvington** with GPS and implementing a desktop GIS for the **Bedford Hills Fire Department**. GIS staff has also recently met with the **Towns of Ossining and North Salem** and the **City of Mt. Vernon** to discuss GIS implementation issues and have meetings scheduled with both the **Villages of Port Chester and Larchmont**. GIS staff are scheduled to meet with representatives from local government public works and engineering departments on December 13 to discuss street feature and infrastructure mapping priorities as a follow-up to the county's current base mapping project. For more information on local government activities with Westchester County GIS contact Ana Hiraldo at (914) 995-4416 or via e-mail at [aeh2@westchestergov.com](mailto:aeh2@westchestergov.com).

## LGRMIF Grant Applications

For those local governments looking to secure 2002-2003 grants for GIS user needs studies and implementation projects, New York State Archives and Records Administration (SARA) grant applications and reference materials are now available online at [http://www.sara.nysed.gov/services/intro\\_forms\\_bk.htm](http://www.sara.nysed.gov/services/intro_forms_bk.htm). Also, County GIS staff are available to discuss SARA grant options and opportunities with individual communities in Westchester County. Contact Ana Hiraldo at 995-4416 or the New York State Archives at (518) 474-6926. Application deadline is **February 1, 2002**.

## 2001 NEARC Conference

GIS staff members Carrie Keneally, Laura McGinty and Greg Sullivan attended the 16th Annual Northeast Arc Users Group (NEARC) Conference September 23-26 in Worcester, Massachusetts. With the theme "**Users Helping Users**" the conference was attended by over 500 users of ArcView, ARC/INFO, and other ESRI software products. The conference covered a broad range of GIS topics ranging from technical training sessions to application case studies to GIS management strategies. Conference workshops sessions included GIS in Education, Public Safety, Transportation, Economic Development, and Community Planning among others.

At the conference, Sam Wear was elected to the NEARC User Group Board of Directors. He served as president of the user group in the early 1990's and was conference co-chairman of the NEARC conference when it was held in Stamford, Connecticut in 1992. He will serve on the Board of Directors for a two-year term.

## GIS & Fire Hydrant Mapping in Bedford Hills

County GIS staff has recently initiated work with the Bedford Hills Fire Department in developing an entry-level GIS application as well as providing technical support in the mapping of fire hydrants throughout the fire district. The anticipated application will be built with ArcView 3.2 and will be integrated with existing hardware and software currently maintained by the department.

Fire hydrants will be mapped with Global Positioning System (GPS) technology using a Trimble GPS Pathfinder ProXR. Mapped fire hydrant data will then be linked to additional datasets in the fire department which will provide the ability to access and view hydrant attribute information such as hydrant-ID, type of hydrant, and water flow. Additionally,

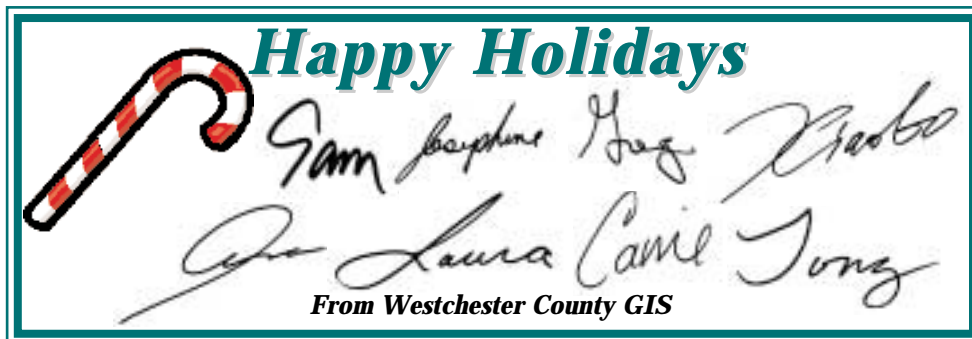
the new GIS application will assist the fire department in locating addresses, identifying adjacent fire hydrants, and providing access to other GIS data such as tax parcel boundaries, street center-line files, planimetric data, and water sources (streams and lakes), all of which are being supplied by Westchester County GIS. ArcView training is also scheduled for fire department members.

This initiative will serve as a prototype for similar local government fire department data collection and GIS implementation efforts throughout the county. For more information on the Bedford Hills Fire Department project, contact Laura McGinty at [lam7@westchestergov.com](mailto:lam7@westchestergov.com) or Santo Curro, Bedford Hills Fire Department, at (914) 666-5010.

## ESRI Assists in GIS Web Site Migration

On October 15-19, ESRI-Boston provided on-site support to county GIS staff for both web site migration and application development work using ArcIMS 3.1. ESRI staff successfully configured a Dell PowerEdge 2450 server (dual 733 MHZ processor with one gigabyte of RAM) with both ArcIMS 3.1 and ServletExec 3.1. The on-line maps access data stored in ESRI's geodatabase model using ArcSDE Application Server with Oracle 8.1.6.

Currently, the seven on-line, interactive maps (Environmental Features, Community Facilities, State and County Roads, County Historic Sites, Sample of Orthophoto Images, Sample of Planimetric Map, and 2001 County Legislative Districts) now utilize ArcIMS 3.1. The tax parcel applications for both the Town of New Castle and Town of Yorktown have also been migrated and configured to the new GIS web server using MapObjects Internet Start Application. For more information, contact Xiaobo Cui at [xxc1@westchestergov.com](mailto:xxc1@westchestergov.com).



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Westchester County GEOGRAPHIC INFORMATION SYSTEMS

is published by the Westchester County Department of Information Technology

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