

GEOGRAPHIC INFORMATION SYSTEMS

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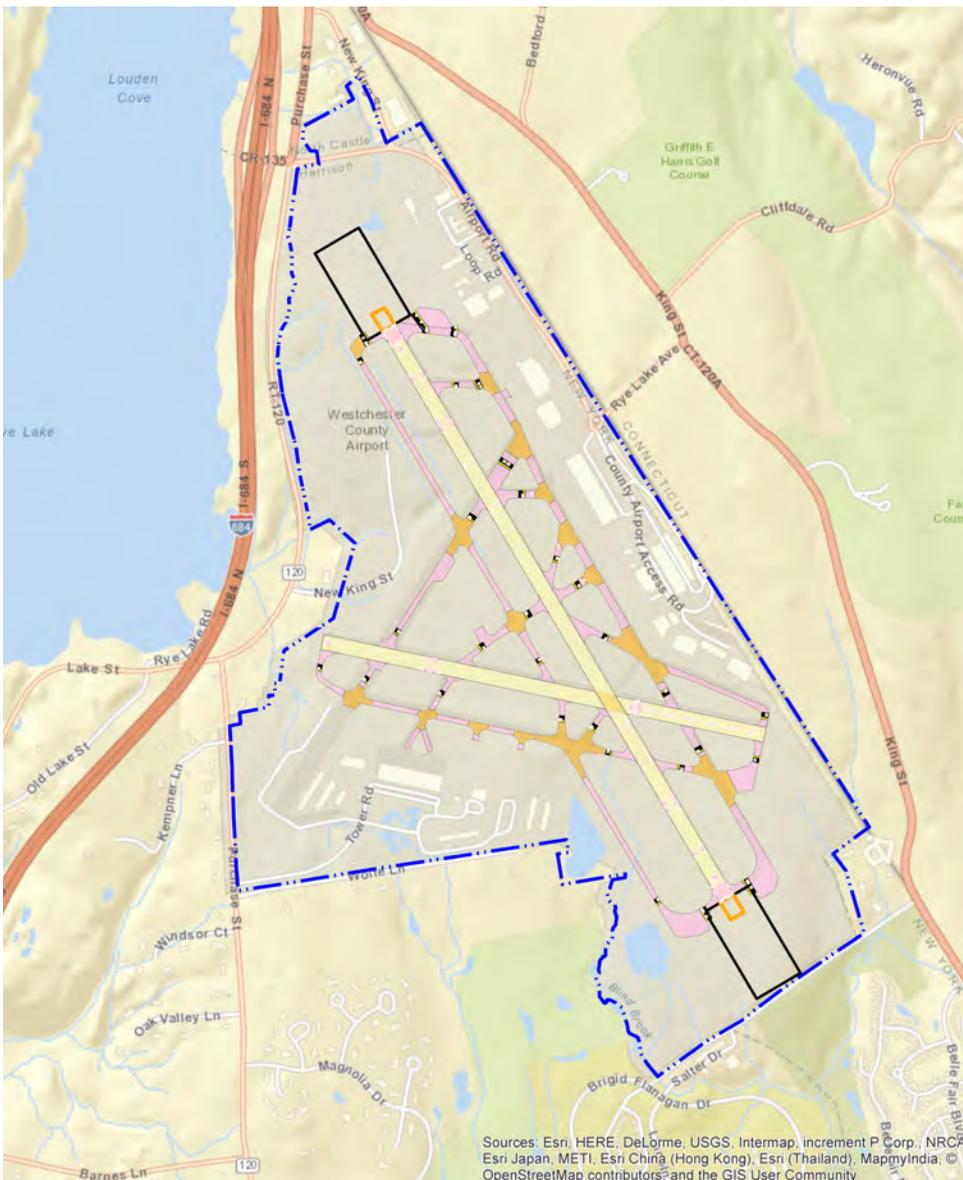
GIS for Airports

Geospatial provides comprehensive solution for airport planning and management

Earlier this year, County GIS staff began working with the Department of Public Works & Transportation (DPW&T) on the implementation of a comprehensive pro-

gram intended to fulfill the County's obligation with Federal Aviation Administration (FAA) regulations (FAA Advisory Circular 150/5300-18B) man-

dating the management of spatial information at the Westchester County Airport. Providing consultant support to the project is the county's GIS software vendor Environmental Systems Research Institute, Inc. (ESRI), which developed "ArcGIS for Aviation," a program designed to assist airports in meeting this FAA requirement.



The project comprises of an enterprise implementation of the ArcGIS for Aviation platform which includes FAA compliant data models and tools to maintain and deliver data in digital format to the FAA Airports GIS web portal. Data viewers and management tools being developed as part of this effort will be fused with Westchester County Airport Master Plan data (44 layers of which were just recently approved through the FAA AGIS portal) and other geospatial datasets maintained in the county's enterprise GIS database.

Built with ArcGIS JavaScript API and leveraging the new ArcGIS online technology, the Westchester County Airport viewer will include a wide range of user tools and functionality. For example, airport staff can perform query searches on individual data layers, redline and annotate maps "online," print maps, measure distances and determine latitude/longitude coordinates. The new system effectively integrates and makes available many different geospatial datasets, which previously had been managed separately and were unavailable for enterprise use.

Due to the geospatial nature of this project, County GIS is taking the lead and is playing a major role in all phases of the project. County GIS staff is coordinating the project between county and airport staff as well as managing and monitoring consultant deliverables. For more information, contact [Zhenglu Zhang](#) at (914) 995-5347, or [Craig Lader](#) at (914) 813-7759.

The new Westchester County airport GIS application combines dozens of datasets including facility and environmental data from the recent Airport Master Plan project with authoritative planimetric data maintained by the county GIS staff.

Neighborhood Mapping for Assessors

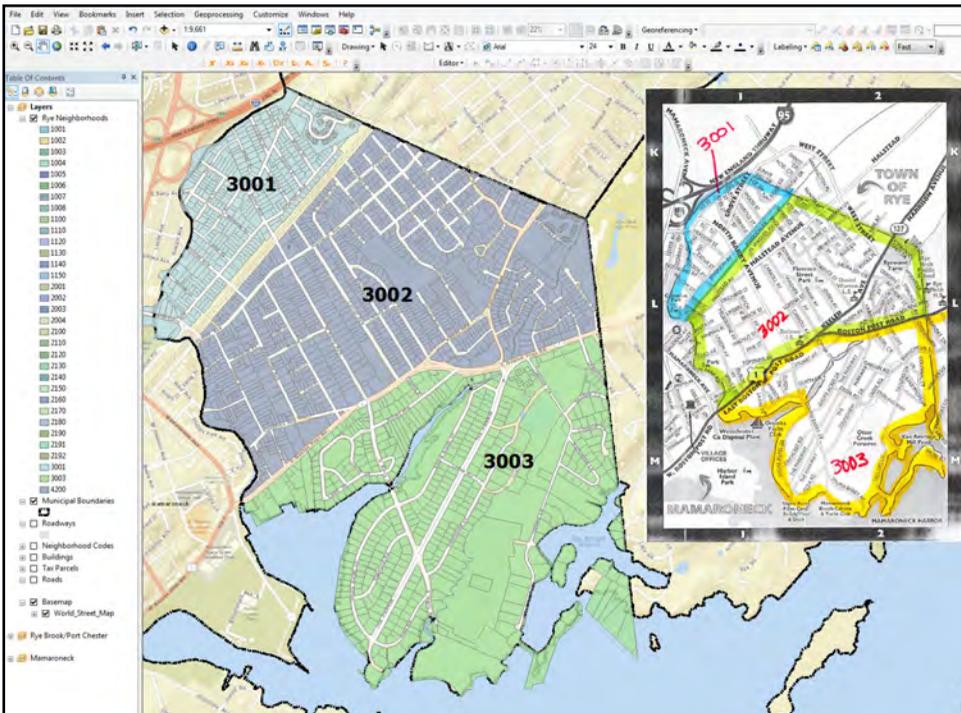
At the request of the Town of Rye Assessment Office, county GIS staff created a "Neighborhood Map" based on neighborhood codes in the town's Real Property

System (RPS). Neighborhood maps are useful to local assessors in helping qualify property values in different areas of their municipality.

For towns at 100% of market value, like the Town of Rye, valuation updates use neighborhoods (which by definition is an area of "homogeneous" properties) to determine assessment increases or decreases to mirror market conditions. Furthermore, there needs to be a statistically significant number of sales within a neighborhood to make it useful in valuation modeling as neighborhoods are not necessarily contiguous. It is important to see these neighborhoods and their "boundaries" visually and accurately on a map.

Prior to the implementation of the new tool, Rye Town assessor Denise Knauer was working with a barely legible 8 X 11 map created with colored pencils and consisting of very limited detail. The new digital GIS-generated neighborhood map, which is based on tax parcel boundaries enables her office to refine and possibly redefine neighborhood codes to make their assessing more effective and as equitable as possible. In the future, the Assessor has expressed an interest in taking the neighborhood map a step further to produce "heat maps" to show the relationship between assessments and sales prices.

For more information contact [Will Buckhout](#) at (914) 995-4005 or [Denise Knauer](#) (914) 939-3075.

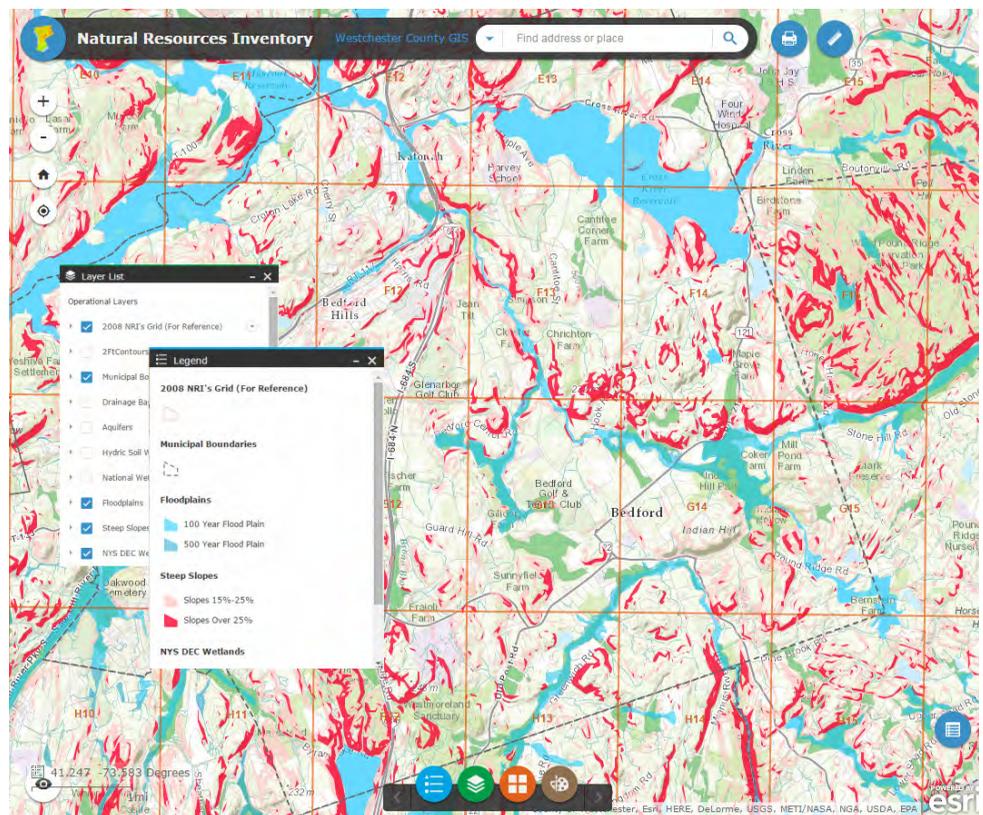


A GIS-generated map which shows a section of the Village of Mamaroneck which falls within the Town of Rye. The inset image in the upper right hand corner is the original hardcopy map of the same area.

Natural Resource Inventory Maps now Online

In 2008, County GIS developed the [Natural Resource Inventory \(NRI\) map series](#) to provide access to a wide range of environmental data in hardcopy (PDF) format. The countywide maps were generated in a uniform grid and scale (800') optimized to be printed on 11X17 sized paper. The inventory included 16 layers of data, several of which have been updated since initial publication in 2008. The PDF download page has been visited more than 4,000 times since 2011.

Today, ESRI's ArcGIS.com technology has made it possible for County GIS to provide the NRIs map series online. Using selected feature layers from the existing and publically available [Environmental Features map service](#), a new web map was created to make all of the same data available in digital format. The new web map, which also includes the original map grid for reference purposes, enables users to change base maps, use measuring tools, draw and redline on the map, and access feature attribute data. For more information, contact [Ana Hiraldo-Gomez](#) at (914) 995-5162.



The Natural Resource Inventory online application will provide users with features such as draw, measure, and access feature attribute data not available in the previous map series.

County Real Property One Stop (CROS) 2.0

Application provides access to important county-owned property data

County-owned properties provide essential infrastructure support for government services and programs. Records related to these properties are among the county's most important information resources. These records support highly visible activities that are critical to the mission of county government and are consulted regularly and frequently by county departments for a wide range of operational reasons. The Departments of Public Works, Environmental Facilities, and Parks, Recreation, and Conservation have broad and significant county property management responsibilities. In addition to its business significance for county departments, records related to County-owned property contain information of interest to other individuals including historians, urban planners, public policy analysts, environmentalists, as well as municipal governments.

GIS released the first version of CROS in 2008, which provided single portal and unified geospatial interface for convenient online access to data and documents about County-owned properties. Since then, 262 properties containing 676 parcels have been inventoried in 44 out of the 45 municipalities across the county with the exception of Town of Buchanan. Westchester County owns and manages a wide range of properties from large facilities, such as

Westchester County Medical Center at Grasslands (450 acres) and large parks such as Ward Pound Ridge Reservation in Pound Ridge/Lewisboro (approx. 4,315 acres), to tiny "residual" parcels along several of the parkways and transportation corridors many of which are less than an acre in size. Feedback from county users on the initial release of CROS 2.0 has been positive. For example, Cynthia Sauer, principal archivist for Westchester County Archives, notes:

"The Westchester County Archives has almost 400 record series in its collections, many of which contain appraisals, deeds, correspondence, reports, maps, and other records about county-owned properties. CROS will enable us to make our holdings more accessible to researchers - both by containing concise listings of what is available at the Archives, and in some cases digital images of some of the most important records. CROS has the potential to be a powerful research tool and we look forward to using it to its fullest capacity."

CROS 2.0 is a complete rewrite of the original application using the JavaScript API at ArcGIS 10.3. Supplementing GIS staff application development efforts on the new release has been Bowne Management Systems (Mineola, NY). For more information, please contact [Dongming Tang](#) at (914) 995-4437.



CROS 2.0 provides users with access to information on over 262 individual properties across the County. Properties can be viewed in context of local tax map designation (SBL), environmental data (floodplains, wetlands, soils, etc.) and planimetric datasets from the countywide base map.

1986 Historic Aerial Imagery

County staff has begun the process of mosaicking 1986 historic aerial photography into one countywide seamless image. Over 700 images will be geo-referenced and mosaicked as part of the effort. Selected images will be georeferenced to the County's 2013 base map and orthophotography using ESRI ArcGIS 10.3.1 georeferencing toolbar. After georeferencing, images are cropped and mosaicked together using LizardTech GeoExpress software. Upon completion, the compiled image will be reviewed for spatial consistency. The end product will be similar to four other mosaicked flight years (1947, 1960, 1976 and 1990) that are currently available on [Mapping Westchester County](#).

Story Maps

County GIS staff continues to assist county departments and municipalities on the development of ESRI-based Story Maps. Story Maps, which are increasingly being referred to as "geo-journalism" are effective tools for these agencies to promote and provide information on products and services. In addition to the county properties listed on the [National Register of Historic Places](#), the [Westchester County Golf Courses](#), and Infrastructure Mapping Projects, GIS staff currently worked with the Department of Health on a [Regional Health Insurance Coverage Profiles](#) story map based on the Community Health Assessment Data. For more information on these and other story maps, contact [Ana Hiraldo-Gomez](#) at (914) 995-5162.

Indian Point Exercise

GIS staff participated in the county's Indian Point emergency response and preparedness drill held at Westchester's Emergency Operations Center (EOC) in Hawthorne on Wednesday, August 5. Annually, drills at the EOC test Indian Point-related emergency response systems as well as train responders from throughout the ten-mile emergency zone surrounding Indian Point. GIS staff supports the Indian Point Emergency drills by providing technical assistance with a GIS (IPEG) application that is used extensively by Westchester County Department of Emergency Services (DES) staff during the drills. GIS staff also prepares maps and reports for representatives of various agencies and County departments while the EOC is activated. For more information about the EOC or GIS mapping applications, contact [Iliir Tota](#) at (914) 995-5605 or [Noah Goldberg](#) at (914) 864-5454.

Local Government Geospatial Projects Flourish

Mobile and ArcGIS Online applications most common

Westchester County GIS staff continues to work with and support local governments on a wide range of geospatial projects. Over the past several months, meetings have been held with multiple municipalities including Greenburgh, Dobbs Ferry, Irvington, Ardsley, Yonkers, Peekskill, North Salem, Sleepy Hollow, Yorktown, Somers, Mount Kisco, Larchmont, New Rochelle and Bronxville.

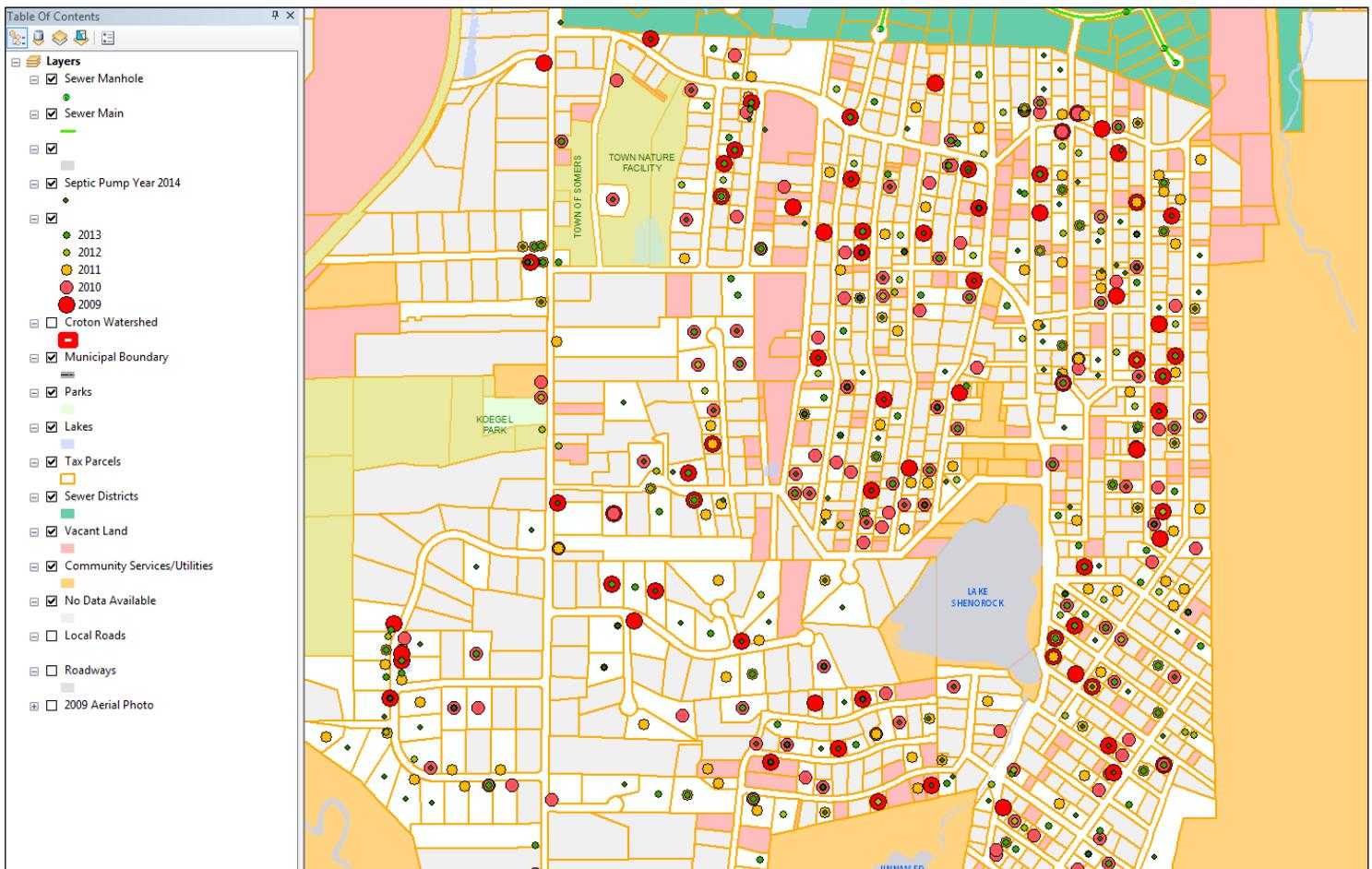
County GIS is providing municipalities in northern parts of the county with septic system pump-out data maps based on data collected by Westchester County's Department of Health. Maps are being used by each municipality to augment their work as part of compliance with the Municipal Separate Storm Sewer Systems (MS4) program. The maps highlight prop-

erties with septic systems that have been pumped in the last five years as well as identifies properties that are vacant, conservation lands/parks, or public utility lands, which normally do not include septic systems. Property classifications are based on the property class code in the local assessment role.

County GIS staff continues to support local government smartphone data collection efforts, which municipalities use to inventory and map street features. As designed, the application leverages the county's enterprise GIS infrastructure and does not require any software from local governments. Successful projects have already been completed with the Village of Larchmont, Town of Eastchester, City of Rye and Village of Rye Brook, with a large

project involving the Town of Greenburgh (which includes six incorporated villages) just recently completed. To date 27,358 signs have been mapped in 11 municipalities with the data now being maintained at the local level.

County staff also continues to provide assistance to other municipalities with desktop clients such as ArcGIS, and Google Earth and increasingly the ArcGIS.com online environment. GIS staff are assisting several municipalities in the northeastern part of the county in configuring local ArcGIS.com accounts to be compatible with the New York State Electric and Gas (NYSEG) power-outage reporting and inventory tool. For more information, contact [Connor Lynch](#) (914) 995-6532.



An area around Lake Shenorock in the Town of Somers. The larger the dot, the longer it has been since the septic system was last pumped. Tax parcels that are shaded grey have no pump-out data while pink represents vacant lots and orange is town owned landed with community facilities (not typically with septic).

Articles and graphics in this newsletter prepared by: Xiaobo Cui, Will Buckhout, Ana Hiraldo-Gomez, Connor Lynch, Dongming Tang, Ilir Tota, Sam Wear, and Zhenglu Zhang.



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