

Goal:

Improve the management and analysis of information through an integrated Geographical Information System for improved service delivery in Sullivan County.



INTEGRATED GIS

Geographic Information System (GIS) is an information system that combines spatial information layers about locations in the County. It links attributes and characteristics of an area to its geographic location to gain a better understanding for planning and emergency management purposes serving as a visual tool for decision-making. These information layers range from physical characteristics that illustrate a picture of a place to the underlying data features that describe what makes that place unique (i.e., water sources, infrastructure, roads, etc).

One of the main benefits of GIS is to improve the management and analysis of information for improved service delivery in the County. Sullivan County government, municipalities, other governmental agencies, organizations and the public will all benefit from having GIS available to assist in their decision-making processes. For example, 1) a municipal planning board could utilize GIS to evaluate a proposed development, or to conduct a build-out study to assess how proposed development will impact their community. 2) The County DPW could maintain an inventory of infrastructure and maintenance schedule. And 3) the County 911 Emergency Dispatch System could effectively map and respond to emergency calls.

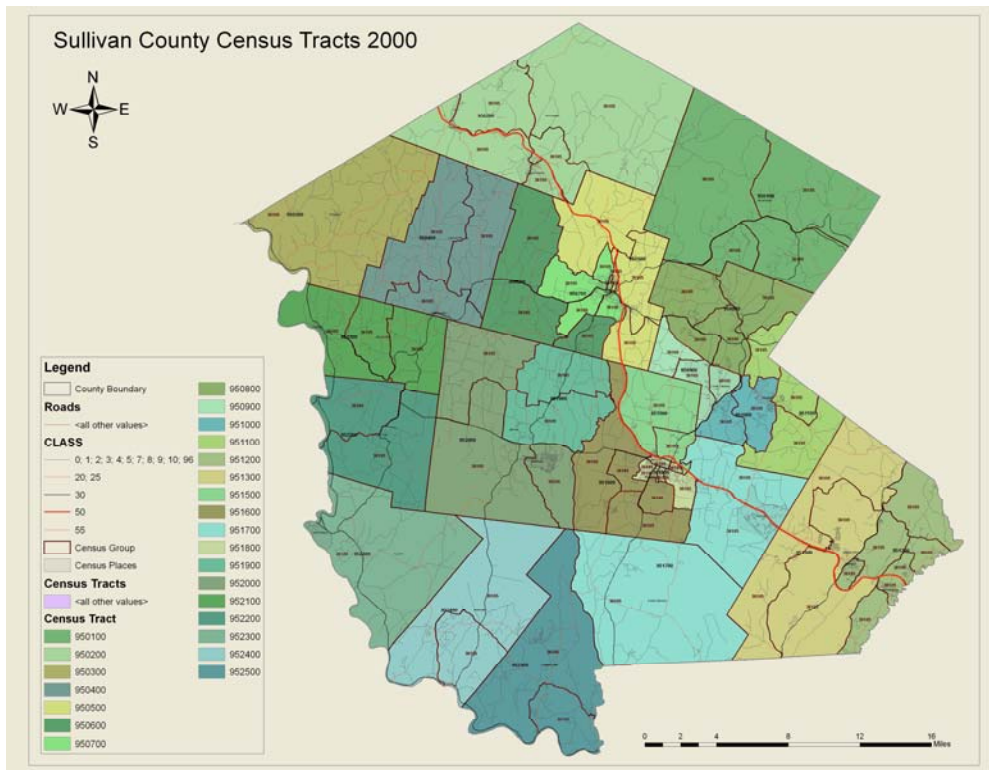
In 2004, Sullivan County embarked on the task of analyzing and upgrading the current use of GIS within the County government system. The project began with a series of departmental interviews and a municipal workshop to get a sampling of the current and potential use of the GIS technology. This project was broken up into three phases: the Needs Assessment, the Conceptual System Design, and the Implementation Plan.

The GIS Needs Assessment was conducted to determine the current and potential applications of GIS within Sullivan County, design a “best fit” system, and outline the steps needed to develop and upgrade the system. The key findings from the needs assessment were as follows:

- *Establish an Enterprise GIS* – An enterprise GIS is defined by ESRI’s GIS dictionary as a system designed to “support strategic business decisions or large databases across multiple departments in an organization”. The piecemeal approach to building a GIS is not cost effective, so to ensure a successful program the County is developing an integrated system that can be implemented Countywide.

- *Develop a broad range of applications* – both Desktop and web-based GIS applications were identified. The designed system should accommodate both application types to serve a diverse constituency of users, at both the County and municipal levels.

Based on these findings a recommended conceptual system was designed to address the current needs regarding GIS and expand with the growth of the County, technological advancements, and GIS usage. The key strategies identified in the conceptual system are described here.



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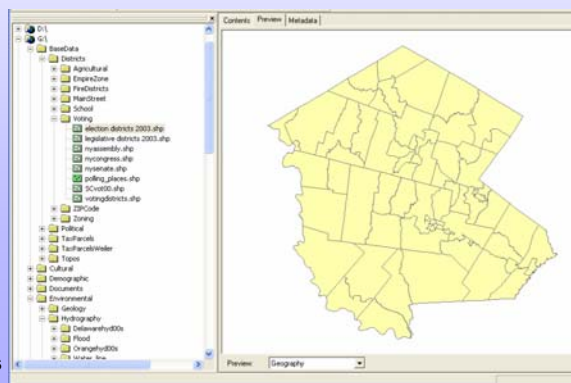
STRATEGY 6.5

Create a GIS Resource Center as the functional organization to serve as the primary point of contact, to manage and support the County's overall GIS.

Timeframe

SHORT TERM
INTERMEDIATE
LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Assign a County staff member dedicated to GIS operations.	C	A
Coordinate GIS initiatives countywide, such as the enhancement of web-based GIS applications.	C/P	A
Develop and maintain all GIS data layers other than those developed and maintained by the Real Property Tax Service (RPTS), Department of Public Works (DPW), and the Division of Planning and Community Development (DPCD).	C/P	A
Administer and provide technical support to users of the County's web-based GIS application.	C/P	P
Provide and/or coordinate all required GIS training.	C/P	A
Serve as a GIS service bureau to provide ad hoc and project specific support to County departments, municipalities, and the public on an as-needed basis.	C/P	A
Recommend system expansion and enhancement initiatives on an annual basis.	C/P	A



Leadership Role: C – County M – Municipality P – Partners
Status: A – Active P – Pending C – Complete

Resources

Documents

- ◆ Fact Sheet 1: What is GIS?
- ◆ “GIS Solutions for Land Records Management”
- ◆ “Many Benefits Realized Through Cadastral GIS”. ArcUser: The Magazine of ESRI Software Users.
- ◆ “GIS Helps Keep Communities Thriving”. ArcUser: The Magazine of ESRI Software Users.
- ◆ “Web-Based Property Assessment System Implemented with GIS”. ESRI ArcNews Reprint, Vol. 24, No. 1. Spring 2002.
- ◆ “Local Government: GIS Solutions for Community Development and Public Works”.

Organizations and Programs

- ◆ *Environmental Systems Research Institute (ESRI)* - www.esri.com
ESRI was founded as Environmental Systems Research Institute in 1969 as a privately held consulting firm that specialized in land use analysis projects. Since then, ESRI has evolved to the largest research and development organization dedicated to GIS.

Funding Sources

- ◆ *ESRI Grant Resource Guide* - www.ESRI.com/grants/index.html
- ◆ *New York State Archives* - www.archives.nysed.gov/a/grantsawards/index.shtml
The New York State Archives offers grants and awards to support, promote, and recognize sound archival and records management practices, as well as to encourage creative and valuable uses of archival records.
- ◆ *New York State Program for the Conservation and Preservation of Library Research Materials*
www.nysl.nysed.gov/libdev/cp/
The New York State Program for the Conservation and Preservation of Library Research Materials offers funding for the proper care and accessibility of research materials in the State of New York.

Other

- ◆ “Government Matters” is a quarterly newsletter distributed by ESRI
www.ESRI.com/library/newsletters/govmatters

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STRATEGY 6.6

Launch a web-based GIS application (SCIMAP: Sullivan County Internet Mapping Program) for designated users via the County’s intranet.

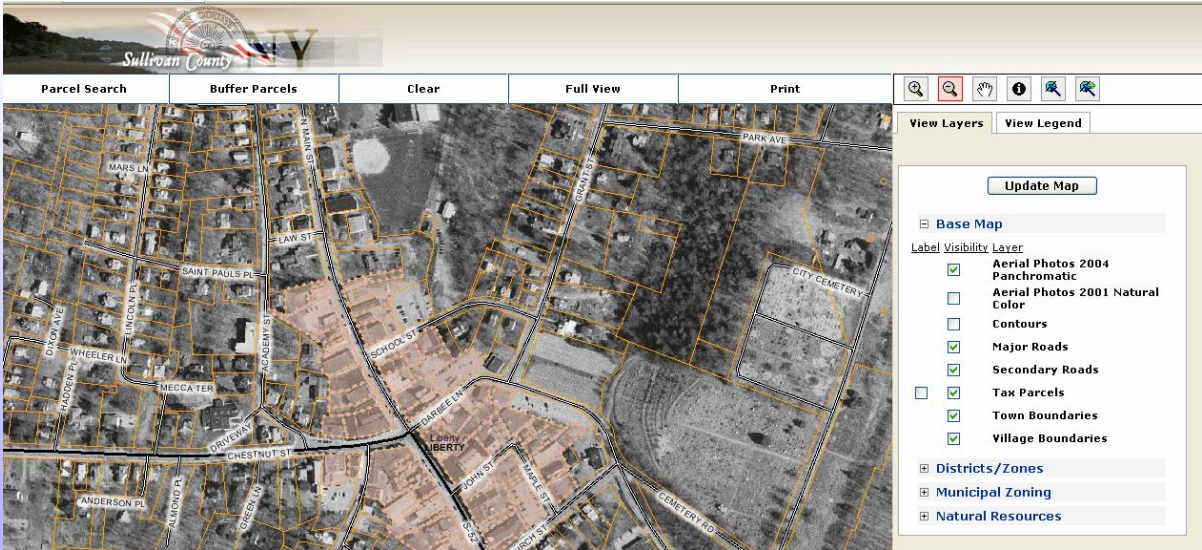
Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Engage in data quality reviews, acquire new data useful to the County, and enhance existing data.	C	A
Provide read-only access to basic GIS data layers including but not limited to tax maps, aerial photography, roads, lakes, rivers, zoning, special districts and wetlands.	C/P	
Upgrade software and hardware to host the website.	C/P	
Hire a consultant to design the website.	C/P	
Launch the website internally to test capabilities.	C/P	
Provide secure access to municipalities.	C/P	



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Resources

Organizations and Programs

- ◆ *Ulster County GIS Mapping Application* - gis.co.ulster.ny.us/pviewer/main.asp
The Ulster Parcel Viewer (UPV) provides robust display and query functionality of the tax parcel base layer(s). Additionally, the application provides an efficient means of generating an abutter's list for zoning variances (and other) notification purposes.
- ◆ *Westchester County GIS Mapping Application* - giswww.westchestergov.com
The Westchester County Geographic Information System (GIS) develops, maintains and distributes digital data for Westchester County, New York. County GIS staff support GIS applications and programs in both county and local governments.
- ◆ ESRI GIS Model Applications - www.esri.com/industries.html
- ◆ Montgomery Township, NJ Mapping Application: www.gismap.us/montgomery/

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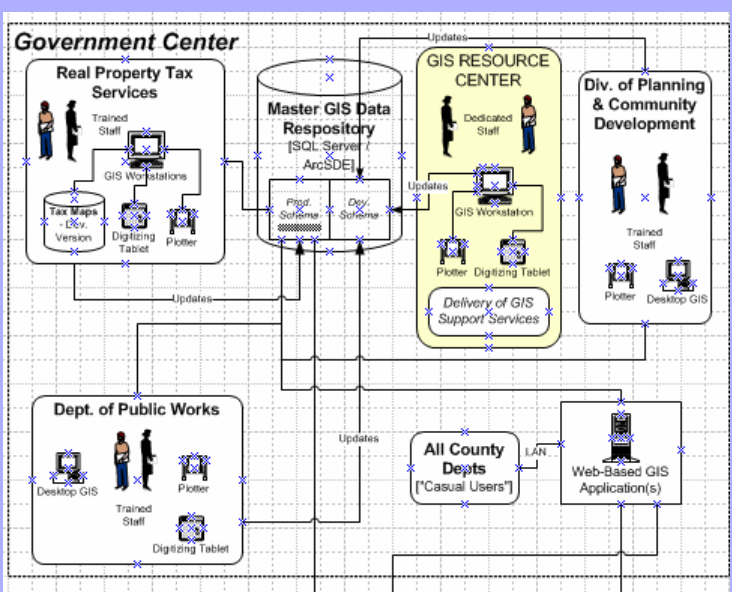
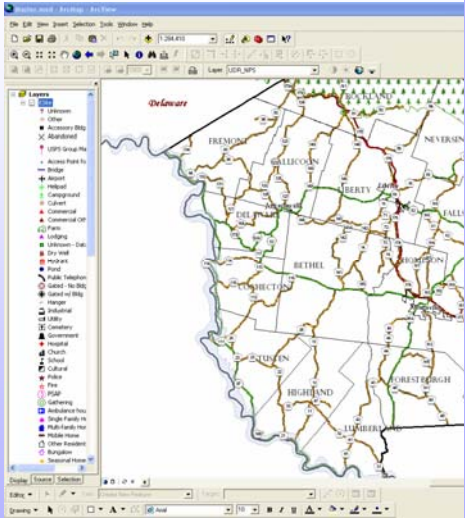
STRATEGY 6.7

Maintain up-to-date desktop GIS applications (software and hardware) for GIS staff and other trained staff.

Timeframe

- SHORT TERM
- INTERMEDIATE
- LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Initially update desktop applications for the Division of Planning and Community Development, Department of Public Works, Real Property Tax Service, and 911 Emergency Control Center.	C/P	
Coordinate upgrades on an annual basis between MIS, GIS staff, and other users.	P	
Provide additional training for staff to increase utilization of GIS applications.	C/P	
Develop or acquire task or department specific applications to facilitate specific job activities within the County.	C/P	



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Funding Sources

- ◆ *New York State Archives* - www.archives.nysed.gov
The Local Government Records Management Improvement Fund: Units of local government may apply for up to \$75,000 for activities related to records management (cooperative and complex applications may request more). Every local government in New York State is eligible to apply if they 1) have an appointed Records Management Office and 2) have adopted the appropriate records retention and disposition schedule issued by the State Archives. Applications must focus on one of six project categories including Inventory and Planning, Active Records, Inactive Records, Microfilming, Historical Records, and Educational Uses of Local Government Records. More information is available at the New York State Archives Website.

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STRATEGY 6.8

Maintain a centralized GIS Data Repository to store GIS related data that can be accessed by trained desktop users, as well as the web-based mapping site.

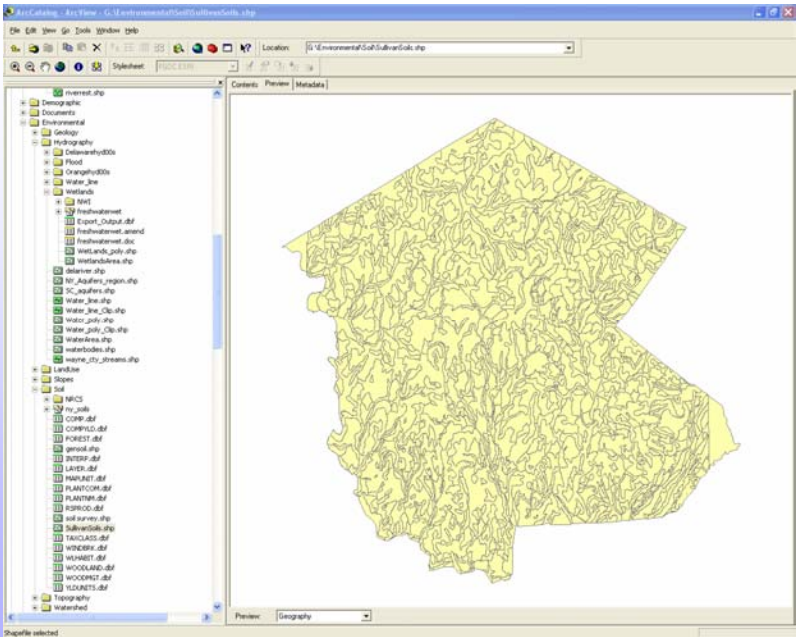
Timeframe

SHORT TERM

INTERMEDIATE

LONG TERM

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Continue to acquire and develop County-wide data sets.	C/P	
Maintain Quality Assurance/Quality Control (QA/QC) practices by developing data quality standards across the County.	C/P	
Maintain a data dictionary to illustrate what data is available and the data's affiliated information.	C	
Upgrade to the latest data storage formats on an as-needed basis.	C	



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Organizations and Programs

- ◇ The *Federal Geographic Data Committee (FGDC)* is a 19 member interagency committee composed of representatives from the Executive Office of the President, Cabinet-level and independent agencies. It is developing the National Spatial Data Infrastructure (NSDI) in cooperation with organizations from State, local and tribal governments, the academic community, and the private sector. The NSDI encompasses policies, standards, and procedures for organizations to cooperatively produce and share geographic data.
- ◇ *Geospatial Data Clearinghouse* - <http://clearinghouse3.fgdc.gov/>
The Geospatial Data Clearinghouse is a collection of over 250 spatial data servers, that have digital geographic data primarily for use in Geographic Information Systems, image processing systems, and other modeling software. These data collections can be searched through a single interface based on their descriptions, or "metadata."
- ◇ *Cornell University Geospatial Information Repository* - cugir.mannlib.cornell.edu/index.jsp
The Cornell University Geospatial Information Repository (CUGIR) is an active online repository in the National Spatial Data Clearinghouse program. It provides geospatial data and metadata for New York State, with special emphasis on those natural features relevant to agriculture, ecology, natural resources, and human-environment interactions. Subjects such as landforms and topography, soils, hydrology, environmental hazards, agricultural activities, wildlife and natural resource management are appropriate for inclusion in CUGIR.
- ◇ *NYS GIS Clearinghouse* - <http://www.nysgis.state.ny.us/>

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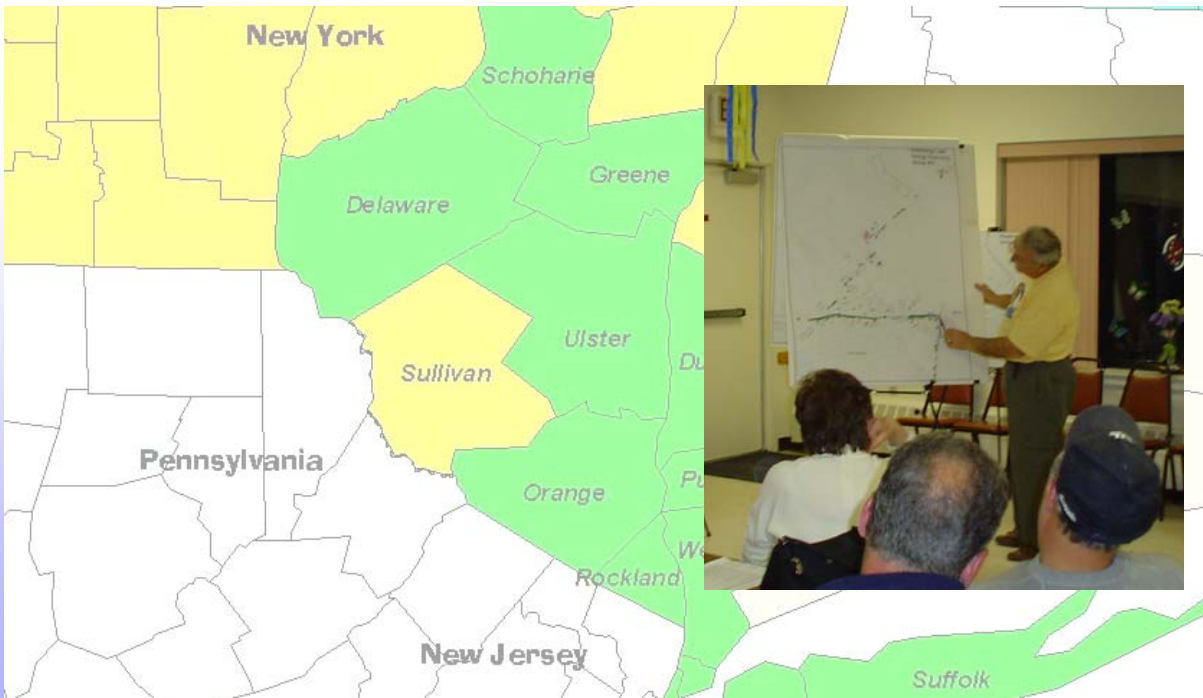
STRATEGY 6.9

Expand access to GIS data to the public for education and information purposes.

Timeframe

- SHORT TERM
- INTERMEDIATE
- LONG TERM**

Steps	Leadership Role (C/M/P)	Status (A/P/C)
Hire a usability consultant to conduct a study that would make the website user-friendly.	C/P	
Hold public workshops to identify areas where the GIS web-based service would be useful for public use without compromising the network security of the GIS system or the County.	C/P/M	
Develop a publicly accessible version of the GIS web-based service.	C/P	



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Resources

Documents

- ◆ Fact Sheet 2: Hosting A GIS Day Event

Organizations and Programs

- ◆ *Sullivan County Community College GIS Degree Program* - www.sullivan.suny.edu/academics/programs.asp

Other

- ◆ *VanMap* - www.city.vancouver.bc.ca/vanmap/index.htm
VanMap is a web-based map system in Vancouver that pulls together information and data from a variety of sources, and puts it into maps that can be viewed, saved or printed out by the public. There are dozens of features that can be turned on and off and offers much more than street names and intersections, such as property lines, zoning information, sewer mains, water mains, addresses, public places and more.
- ◆ *Community Viz* - www.communityviz.com
Community Viz provides GIS-based analysis and real-world 3D modeling that allow people to envision land use alternatives and understand their potential impacts, explore options and share possibilities, examine scenarios from all angles - environmental, economic, and social - and feel confident in their decisions. Developed by the Orton Family Foundation, the nonprofit Vermont- and Colorado- based operating foundation that assists small cities and towns grappling with the rapid changes brought about by growth and development pressures.