A GIS Paradigm Shift for Local and County Government

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GIS Manager - County of Sussex, NJ
Sussex County, New Jersey

- Founded: 1753
- Population: 150,000+
- Area: 536 sq. mi
- Municipalities: 24
- Northwestern most county in NJ
- New Jersey, governed by Home Rule
Mission Statement

To foster development of a county-wide GIS enterprise system for the County of Sussex through cooperation with and assistance to local government organizations involved in the development and maintenance of information.
Objectives

- Improve
  - operating efficiencies
  - security
  - communication

- Eliminate
  - redundancy
  - non-value added activity
  - unnecessary costs

- Implement & Maintain
  - common infrastructure
  - shared approach to information management
  - transparent government
Defining Parameters

Shrinking budgets
“Do more with less”

“Work smarter not harder”

Layoffs

“Back to core responsibilities”

Dynamic roles

Increased use of Consultants

Increased Expectations

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**Path to Success**

**Author map once, publish once, use anywhere, any device**

**Build Relevance**

One map

Follow industry best management practices

Embed technology within workflow

**Faster solution deployment**

**Empower the User**

Cheaper/simpler solutions for maintenance

Leverage COTS

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GIS is a tool that...

- Expands the information base
- Enhances the analysis of available options
- Streamlines the decision-making process
- Dramatically improve your ability to select the best course of action

Example: Site Selection
- ~78,000 parcels in Sussex County
- 7,500 not in environmentally sensitive area
- 486 in sewer service area
- 292 in approved town centers
- 146 in industrial/commercial zones
- 20 vacant lots
Local Gov’t Manages Geography

County Clerk
- Deeds
- Mortgages
- Tax Liens

Citizen Services
- Voter Registration
- Senior Citizen
- Immunization programs

Engineering
- Land Records
- Tax Mapping
- Utility Mgmt.

Planning
- Transportation Networks
- Housing, Land & Zoning
- Schools, Day Care

Economic Dev.
- UEZ Business Development

Fire
- Fire response
- Inspection
- HazMat
- Fire Districts

Police
- Crime response
- Crime tracking

Crime
- Crime response
- Crime tracking

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GIS – Truly Multidiscipline

• Public Works
  – Capital Projects Tracking
  – Storm water Management
  – Capital Planning
• Law Enforcement
  – Mapping Crime
  – Analysis for Policy Making
• Emergency Management
  – Storm water during floods
  – Location of Shelters
  – Bridge Locations
  – Accurate number people per household and handicapping conditions for evacuations
• Housing
  – Building inspections
  – Vacant structures
• Parks & Recreation
  – Tree management
  – Park planning
• Taxation and Finance
  – Assist in extracting information for assessment.
  – Support environmental and community viability concerns.
• Neighborhood Services
  – Identifying population in need of services;
  – Retail recruitment;
  – Voter Service;
  – Participation in Public Decision Making.

• Utility Management
  – Multifunctional Organizations
  – System Linkage
  – System Use
• Economic Development
  – Site Location
  – Confluence of labor & raw materials
  – Plan & promote economic development
• Land-use Planning
  – Open Space
  – Neighborhood Planning
  – Historic Preservation
  – Special Communities
  – Siting Unwanted Facilities
• Public Health
  – Identifying Health Risks
  – Mapping Env. Hazards
  – Siting Health Facilities
  – Mosquito Control
Stakeholders

• Municipality
• County
• Regional Agencies
  – Highlands
  – NJTPA
  – School Districts
• State Agencies
  – OGIS
  – Tax
  – DOT
  – DEP
  – Elections

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GIS is Core Government

- Enabling Partners through Technology (Shared Services)
  - GIS and EDMS as embedded core technologies
  - Internet-based services
  - shared software & information
  - common, centralized resource
GIS Infrastructure

Sussex County 10.1 Configuration

Production

Enterprise

IIS
SCGIS-IIS
1 core
2 GB RAM
50 GB

AGS/ fGDB
SCGIS- AGS
1 core
4 GB RAM
250 GB

AGS/ fGDB
AGS-IMS
1 core
4 GB RAM
250 GB

AGS/ fGDB
SCGIS-AGS-02
1 core
4 GB RAM
250 GB

SQL exp
SCGIS-DBS
1 core
2 GB RAM
50 GB

Current Production

ECHO
ParcelLink

IIS

AGS/IMS

SQL std

Staging

Enterprise

ECHO
ParcelLink

IIS

GISStaging- -IIS
1 core
1 GB RAM
50 GB

AGS/ IMS
GISStaging2 -AGS
1 core
1 GB RAM
250 GB

AGS/ fGDB
GISStaging -AGS
1 core
1 GB RAM

SQL exp
AGSStaging -DBS
1 core
1 GB RAM

Resource Budget
12 cores
48 GB RAM

Enterprise Data Mgm’t

SQL std
SCGIS-PDM
2 core
4 GB RAM
800 GB

“Gold” Enterprise Geodatabase

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Supports the following Tasks:

- Inter-agency workflow
- Routine Data Updates
- Plan Review Process
- Planning Analysis
- Public Web Applications
Supports the following Tasks:

- Inter-agency workflow
- Routine Data Updates (Addresses/Parcels/Roads)
- Plan Review Process
- Planning Analysis
- Public Web Applications
Sussex County - Leaders in Managing Local Government Information

• Esri – GIS software company with 1/3 of global market

• Nationally recognized by Esri as model county for managing local government

• Recipient of 2012 Special Achievement in GIS by Esri
## Common Issues/Common Solutions

<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
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<tbody>
<tr>
<td>• No previous solution</td>
<td>• Develop Tools To:</td>
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<tr>
<td>• Limited staff</td>
<td>– Provide solution that integrates with current workflow</td>
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<td>• Large number of requests for information</td>
<td>– Easy to use for non-GIS User</td>
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<td></td>
<td>– Web-based</td>
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<td></td>
<td>– Leverage existing or available technologies</td>
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<td>– Quick deployment</td>
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<td>– Empowering the user</td>
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Provide Consistent Integrated Solutions

• Standard data model for data management (LGIM)

• Ready made application templates

• Integration with business applications

• Leveraging existing and cloud based technologies
Case Study - Division of Engineering

ROAD & BRIDGE CLOSURES

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GIS Solution – Empower the User

• With Centralize Data, information can now be accessed and shared live via ArcGIS Online, reports on the County Website with information controlled by authorized data managers.
Leveraging Content Management

Sussex County Division of Engineering

1930 and 2007 Aerial Photography Comparison for Sussex County, NJ

Description

This application allows a user to view the 1930 and 2007 aerial photographs along with a comparison using a swipe tool. The user will view the aerial photographs for Sussex County, New Jersey from the early 1930s. The source imagery was hand-cut to produce 26.2 mosaic tile prints on linen-backed paper. The data set for this service was produced by scanning these mosaic tile prints at 400 dpi and saved as TIFF images. They do not meet the National Standard for Spatial Data Accuracy (NSSDA).

The 2007 aerial photography native data set spatial reference system is State Plane Coordinate System NAD83 Coordinates, U.S. Survey Feet. In most client software, the default spatial reference system of the service will be Geographic Coordinates, WGS84. Several other coordinate systems are supported (see Distribution Information section). Multi-spectral digital orthophotography was produced at a scale of 1:2400 (1” × 1 2002) with a 1-foot pixel resolution for the State of New Jersey totaling approximately 8,102 square miles.

For more information regarding the aerial photograph, please visit the New Jersey Geographic Information Network (NJGIN).

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Case Study - Board of Elections

**ELECTION POLLING PLACE FINDER**

**POLLING PLACE MANAGER**
Polling Location – Quickest Route – Polling Info
Web App for Editing Polling Information
Case Study – Sheriff’s Department

ADDRESS MAINTENANCE TO SUPPORT 911 DISPATCH

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Common Place/ Address Maintenance

Sussex County Address Map

This map is for adding streets, apartments, and common places to support Sussex County’s Esri Digital Cadastral System and the Gisman System.

Editor

Site Address
Number
Address Range
Address Unit Type
Address Unit
Number
Alternate Address
Unit Type
Alternate Address
Unit Number
Full Road Name
Full Address
Place Name
Municipality Name
Description
Location
Capture Method
Default
Last Update Date
Last Editor
PLACE/NAME ALT1
PLACE/NAME ALT2
Delete

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Sussex County GIS
World Tour

• Sussex County featured in:
  • ArcNews
  • Computerworld
  • Directions Magazine Webinar
  • Government Computer News
  • Government Technology

• Transform Your Organization Seminar Series

• 41 cities across the US

• Demonstrates collaboration involving departments within city and state government.

• Highlights Sussex County’s Success with GIS

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DEMONSTRATION

QUESTIONS & ANSWERS