Spring NEARC 2009
Effective GIS for Smaller Municipalities in Challenging Economic Times
Overview

• AppGeo’s Experience and Perspective
• Characteristics of a Successful GIS
• Challenges of a Small Town GIS
• Potential Solutions to the Challenges
• Case Study
• Questions
AppGeo’s Perspective

- We’ve worked with hundreds of towns – large and small
- Varying approaches to implementing GIS
  - Plan then build
  - Build foundation, then plan the rest, then build out
  - Build the foundation, fix the cracks, then plan and renovate
- Any of these approaches can be successful, but why such varying approaches?
  - Demands are similar, but resources vary widely
  - Money is not always the key to success or failure
  - Nor is planning always the answer, but it usually helps
- No specific “formula” for success, but there are common characteristics of success
What are the characteristics of a successful GIS?

- **Efforts are coordinated**
  - A point person or coordination committee exists
  - Regular communication regarding projects, new data, new applications
  - Stakeholders are all represented
  - Consensus (not always agreement) exists

- **GIS Integrated with business processes and other systems**
  - Provide answers to questions, not just access to data
  - Integrate with COTS software where practical and applicable
  - Provide answers to questions that would not be able to be answered without GIS
What are the characteristics of a successful GIS?

- **Data is readily available**
  - GIS data, maps, and tools are available to all staff that need them
  - Data, maps, and tools are available to the public (not necessarily called GIS)
  - Little to no training required to use technology

- **Data is maintained**
  - GIS data is kept up-to-date on regular basis
  - Varying frequencies based on need and content
  - Updates built into work flow process

- **Data is accurate enough**
  - Accuracy defined by intended use
  - Accuracy is improved over time

- **Adequate Budget**
Typical Challenges for Smaller Town GIS

- Program may **not be** well Coordinated
  - Usually no full-time GIS Coordinator
  - GIS often falls onto existing staff person without official recognition of responsibility
  - Limited communication with other stakeholders

- **GIS is stand-alone, not integrated with business processes and systems**
  - Often think of GIS as its own “destination”
  - GIS is often departmental
  - Lack of expertise with system integration
  - Lack of exposure to integration options that are available
  - Often, no full-time (or even part-time!) IT support
Typical Challenges for Smaller Town GIS

- **Data is not readily available**
  - Data is often stored on local hard drive
  - Lack of sufficient software licenses to make available to all users
  - Infrequent use of system/data can be inefficient

- **Data is not maintained**
  - Lack skills and/or software to perform updates
  - Low quantity of updates => false requirement, not necessary
  - Frequency of updates tends to be sporadic

- **Accuracy standard set too high**
  - Desire to make everything survey level accurate
  - Desire to map 100% of the features
  - Desire to collect everything you may ever want to know

- **Limited or no budget**
Potential Solutions, What We’ve Seen Work…

- **Coordination**
  - Have regularly scheduled coordination meetings
  - Use email to broadcast projects, data, and uses
  - New staff, make sure they know what you have
  - Build momentum early, small incremental achievements
  - Prioritize – don’t try to do everything at once
  - Set reasonable, attainable expectations

- **Integration**
  - Take advantage of COTS solutions where they exist
    - Lower cost of ownership
    - Proven and tested with broader user groups
    - But, check with experienced users first
  - Think of GIS as a tool to solve a business problem
  - Build tools into workflows, not workflows around your tools
  - Use consultants as sounding boards
Potential Solutions, What We’ve Seen Work…

- **Data Readily Available**
  - Take advantage of State and Regional Efforts
  - Know what the Federal Gov’t is up to
  - Use web applications to make data accessible
  - Evaluate Hosted Solutions vs self-hosted:
    - Provides low cost of deployment
    - Eliminates "stove piped" data
    - Minimizes IT support costs
    - Reduces software purchase and maintenance costs

- **Data Maintenance**
  - Evaluate needs versus desires – How often is often enough?
  - Add accuracy through your maintenance
  - Set realistic completeness goals – 90/10 rule

- **People Issues**
  - Personalities are as important as technical resources
  - Support will come when they see tangible benefits
Potential Solutions, What We’ve Seen Work...

- **Why the web works...**
  - **People have access:** Ubiquitous high-bandwidth connectivity is here, or is it?
    - At home, at work, on phones, on the road
    - Still exceptions in rural areas
    - But that’s changing: $4.7 billion Broadband Improvement Act just approved in stimulus funds
  - **It’s easy:** web literacy is widespread
  - **Centralized management**
Case Study: Town of Prospect, Connecticut

- “The Best Small Town in Connecticut”
- Population: 9,250 +/-
- Households: 3,100 +/-
- Area: 14.5 Square miles
- Single Mayor since 1977, Robert Chatfield (16 Terms)
- Parcels: 3,800
- Annual Budget: $6.9 Million
Case Study: Town of Prospect, Connecticut

- **History of GIS in Prospect**
  - 2005 Accomplishments:
    - Needs Assessment and Implementation Plan
    - Pilot Project:
      - 4 Tax Map Pilot Area
      - Base Map: Free CT DOT Orthophotos
    - Built consensus and proof on concept
  - 2006 Accomplishments:
    - Parcel automation
    - Tax Map Production
    - Primary user Assessor, but 4 departments also used tax maps
    - Data provided to departments in ArcExplorer and Adobe PDF
Case Study: Town of Prospect, Connecticut

- History of GIS in Prospect
  - 2007 Accomplishments:
    - Annual parcel updates
    - Updated tax maps
    - Link to Assessor’s CAMA database – “live-link”
  - Natural resource and land use layers
    - Zoning Map
    - Wetlands/Soils
    - Sub-regional Watersheds
    - Public Water Supply Resources
    - FEMA Flood Plains
    - Land Use
  - ArcReader Application Development
  - 3 Departments using system
  - Various Consultants using data for plan of development
  - Appraisers using data for valuation of property
Case Study: Town of Prospect, Connecticut

- History of GIS in Prospect
  - 2008 Accomplishments:
    - Annual parcel updates
    - Web Site Development
    - Hosting of Web Site
    - Training of municipal staff
    - Townwide use of web-based application
    - Public Access of data
- Average Web Site Usage:
  - 750-800 Maps/month
  - 140-150 Visitors/month, plus town staff
  - 7 days a week, most popular days Wed & Friday
- Total Cost Expended to date: $40,000
So what have been the key factors for Prospect’s success?

- They stuck to the plan
  - They had a 5 year plan and they are 4 years into it
- ArcGIS Publisher Application and hard copy maps built early momentum and support
- GIS website expanded use and built public support
  - They were still resolving some data questions, but didn’t get stuck waiting for perfection
- GIS Committee
  - GIS Committee is formal and very effective
  - Multi-departmental approach; departments with needs are invited to meetings and given support
  - Mayor is engaged and supportive
- Incremental improvements continued to gain support each year
- Data has been maintained annually
GIS Trivia Question: Where are we all headed eventually with GIS?

Cemetery GIS
Questions…?

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