Developing and Implementing A GIS for Local Governments

1. Introduction

2. Educate people about GIS
   a. Educate board about GIS and its benefits; either a local representative or an outside group willing to demonstrate the potential of GIS does this.
   b. Educate department heads and decision makers on the value of GIS.
      i. Contact all agencies in county that may have an interest in GIS these include: all main departments, NRCS, YMCA, Red Cross, Farm Bureau, City governments, Township officials, Economic developers, Schools, and Utilities.

3. Educate interested parties on how long it will take and the dollars that will be spent.
   a. County needs to realize that developing a GIS is a time consuming process and does not happen overnight.
   b. Some counties will be able to accomplish this within 2 year others more than 10 years.
   c. The returns from your investment will not be immediate and may not be visible until years latter.
   d. County governments should understand that some benefits would not be seen or felt by the general public, only by county staff.
   e. The full benefit will not be reached until the users of GIS become familiar and feel comfortable with using the new GIS.
   f. Developing a GIS can be a costly investment and may tax other resources.
      i. Large amount of money will be needed in the beginning with nothing to show up front.
      ii. Rock Island County's GIS project as an example.
         1. RICO has spent approximately $326,284 to date
         2. Hardware/Software-- $116,284
         3. Manpower-- $130,000
         4. Digital Photography--- $80,000
         5. Revenues
            a. Document Funds $70,000
            b. Partnerships $80,000
            c. Grants $35,000
            d. Software Grants $25,000
            e. Total Revenues $210,000
4. Develop steering committee
   a. Board assigns interested individuals to the steering committee.
   b. Members represent all parties’ interest in GIS development.
   c. Steering committee will help guide the county through the process.

5. Decide on a Consultant.
   a. At this point your county/community will need to begin the more
      complicated steps of developing GIS.
   b. You will need to decide if now is the time to bring in a consultant to
      help with the planning process.
   c. If you choose to use a consultant during planning, here are the
      steps.
      i. Design an RFP that details what you want done and what
         you expect.
      ii. After proposals are sent file for a request for qualifications
         from select vendors.
      iii. What to look for?
      iv. Where to find them?

6. In House Route
   a. Things to consider before deciding to proceed with the project in
      house
      i. Does the entity have a champion willing to lead the charge
      ii. A department that will be responsible for project from
         beginning to end
      iii. Is Staff willing to move forward with the learning curve
   b. From the needs assessment will the demand be there to require
      local updates
      i. If yes, staffing and equipment issues should be addressed
         early on in the process.

7. Conduct a needs assessment.
   a. Identify departmental decisions where GIS would help.
   b. Identify existing maps and determine how they are used.
   c. Identify existing records data and determine it’s geographic content.
   d. Identify existing computer hardware, location, and connectivity.
   e. Identify existing software used and its relation to geographic
      content.
   f. Determine who will use the GIS.
   g. Determine what applications are needed to support GIS.
   h. Determine goals and objectives.
   i. Present report on assessment and give recommendations.
   j. Board needs to approve the assessment and decide if to continue.
8. Second phase is to apply your planning efforts into a usable implementation process. You will have two choices; develop the GIS “In-House” or contract with a consultant.
   a. Create specifications, run pilot study and develop GIS database using a consultant.
      i. The next step is to use the needs assessment to develop the specifications for your GIS, these include:
      ii. Data specifications (scale, layers to include, procedures for new data.)
      iii. Software specifications (functions it must provide, what data it can handle, how user friendly is it, how well it works with other data).
      iv. Updating of data stored (develop specifications on who will update data, how it is updated, who has access, time frame for updates and other issues).
      v. This is where things really change doing it in house. Up to this point everything is pretty much the same, needs assessment, pilot project, etc. But at this point hard dollars will need to be spent to move forward.
   b. In-House – create specifications to move forward
      i. Realize creation of parcel layer takes time and requires the most powerful of the GIS software programs and equipment
      ii. Begin conversion to digital, geo-referenced world
      iii. Transformation from line work to polygon world
      iv. Testing phase—Most crucial, time consuming, and laborious portion of the project.
      v. Hold on to data until correct ( No matter how many people are beating down the door—Don’t release until correct)
      vi. Must know everything there is to know about the data base information for parcel level information (Know everyone’s job besides your own.)
      vii. While all of this is going on continually demonstrate the power of the GIS—During this development phase pretty maps may mean a lot.
      viii. Begin to consider deployment to who and how
   c. Create RFP for vendors to create landbase database.
   d. Create RFP for software vendors and application developers.

   a. Explore applications and decide on modifications.
   b. Train staff on GIS use.
   c. Inform public of progress.
Please provide us with any comments or questions about these following discussions.

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A copy of this Outline may be found at www.wiu.edu/users/miiira/GIS/index.htm