I would like to address my topic today by basically looking at what we've done in Hamilton County in creating our Geographic Information System (GIS). First, I'll give you some background on what we've done and then discuss some important steps you should consider. Then, maybe you won't make the same mistakes we have in some areas.

Hamilton County is north of Indianapolis. We are the fastest growing county in Indiana, and that gives us some unique problems. Our estimated population this year is approximately 107,000, which is an increase of 25,000 from the 1980 census figure of 82,000. Noblesville is the county seat and our largest metropolitan area is Carmel. Hamilton County is basically a bedroom community for Marion County.

Another problem we have in finding a system to use is our unique planning structure. It is unlike anything we have come across in our search. We have no county-wide planning organization. We have nine planning jurisdictions. These are Noblesville, Carmel, Westfield, Fishers, Sheridan, Cicero, Arcadia and Atlanta. Each jurisdiction takes care of itself. Now we have some townships that are joining together into what we call a county-wide plan commission. This actually only comprises four townships, and we're only handling those because there are no cities in those townships that can handle their planning needs.

MAPPING

Carmel has initiated their own system for mapping. They did that several years ago. Basically, they are digitizing some county and other maps that they have and putting them into a CADD system. Some of the other communities, such as Cicero, Atlanta, Arcadia and Sheridan, are still using maps that date back to the turn of the century.

At the county level, the Auditor's Office has a tax mapping department. They are responsible for parcel maintenance for each parcel within the county. The Surveyor's Office maintains drainage maps, legal surveys, and other miscellaneous surveys that have been donated or that the surveyors have acquired through the beg, borrow or steal method. The County Highway Department maintains right-of-way maps and bridge plans. The County Health Department has septic permits, which we found out are not filed by location, but only by date of issuance. The Clerk's Office, of course, maintains the precinct maps. They contract that out to a private surveyor. The Recorder has the secondary plats that are on record as well as any surveys that are required to be filed with the recorder under Rule 13.

I became interested in GIS in 1986, and began collecting information. In 1988, the auditor's tax mapping department realized that they were getting snowed under with work that they couldn't effectively keep up with, so they talked to me
and we went to the auditor to suggest we start looking at a GIS. In the fall of 1988, the auditor and I asked the county commissioners to commission a feasibility study to establish a GIS system. A consulting firm was contracted for this feasibility study.

This study was performed primarily for the Auditor's Office for tax mapping. The consultants were to identify primary and secondary users of this information, evaluate the adequacy of existing records, identify the means of improving and maintaining those records and recommend the most practical and cost-effective alternative to achieve improved records as well as improved maintenance of those records.

The study showed us that we had over 4,100 maps in the county, cities and utilities. Of these, the county had approximately 3,400. Each agency that responded, including utilities, did not feel that those maps were accurate enough to continue using. We needed increased accuracy. The photography that was used in the Auditor's Office at this time was not controlled. It was felt by all respondents that controlled photography was needed.

There were three alternatives proposed. The first proposal called for controlled photography with deed research for each parcel and then digitization of each parcel onto the base map. This alternative had an estimated cost of $1.7 million. The second option, at an estimated cost of $1.2 million required controlled photography again. However, instead of using orthophotography for the entire county, it would only be used for the urban areas. We would have the rural areas in the can, so to speak. However we would not produce those maps at that time. The third alternative was direct conversion of our old maps at an approximate cost of $400,000.

It was agreed that direct conversion was not what we wanted. We did not want to recreate the mistakes we already have in an electronic medium. What we did was to create the GIS Users Group. The Users Group consists of myself, the County Plan Director, the County Auditor, the Sheriff and the Clerk. We have also initiated an implementation study through another consulting firm. This study is not yet complete. However, we do have some initial items from the consultants. They have identified six vendors for consideration. What we will do next is to create a benchmark for those vendors and have them demonstrate their products to us. We want to get some hands-on demonstrations so we can see how each one fares.

COMPILED OF THE DATA

In our County, we see the Tax Mapping Department as having the core information. They will receive the deeds of the secondary plats and the annexations from the individual cities and towns. They would, then, maintain the base map — the core information. From that, the Surveyor's Office, the Highway Department, the Clerk and the Planning Department could use that information, layering their own information for their needs upon the base map.

Currently, the Planning Department, the Surveyor's Office, the Highway Department and the Auditor's Tax Mapping Department are the immediate users for this particular program. Those users that may get involved in the future with this data would be the Sheriff, the Parks Department, the Health Department and the Assessor's Office. We have also contacted various cities and towns. At
this time only Fishers has expressed an interest in helping to establish the system. The other communities are taking a wait and see attitude, which may cost them dearly later on if they want to come on board.

Some key things you may want to consider when doing your own system:

1. Focus on the requirements for each department. Gather the information you need, and establish a users group.

2. Decide what you need in the long run and in the short run.

3. When planning, think items through before you initiate or purchase. It may save you expenses in the long run.

4. In staffing, consider availability, recruiting and retaining of your staff. Also consider the capability of that staff in training and retraining.

5. Examine the funding of the project. This is an area we have not yet tackled. Different ways to fund this project include leasing the equipment and bonds. Also consider charging-back — making the users pay for the information they receive.

6. Set realistic goals, deadlines and milestones. You don’t want to look bad to the public. If you do not meet your goals — if you’re too ambitious — you will look bad. It will take time to build the databases, implement both the hardware and the software and train the staff.

7. Try to balance your expectations. Consider not only what your own needs are, but also your staffing, your vendors abilities, the costs and your time.