MINUTES

MILWAUKIE CITY COUNCIL WORK SESSION
FEBRUARY 15, 2005

Mayor Bernard called the work session to order at 5:30 p.m. in the City Hall Council Chambers.

Council Present: Councilors Barnes, Collette, and Loomis.

Excused: Councilor Stone.

Staff Present: City Manager Mike Swanson, Information Systems and Technology Director Esther Gartner, Planning Director John Gessner, Engineering Director Paul Shirey, GIS. Coordinator Kate Rosson, and Information Systems Analyst Linda Noren.

Information Sharing

Scheduling

- JPACT Hearings at Metro, February 17
- Town Hall with Rep. Carolyn Tomei, February 17
- Mayors' Day at the Capitol, February 23
- Clackamas Cities Dinner Meeting, February 24 hosted by Happy Valley
- Meeting with Congressman Blumenauer, February 24

Enterprise GIS Project

Ms. Rosson provided a PowerPoint presentation about the components of a GIS system and its value in managing information for the organization. City staff currently relied on hard copy maps to assimilate information, many of which were deteriorating after years of use. The information was potentially inaccurate, and Milwaukie lagged behind other similarly sized cities in its deployment of an enterprise GIS system.

Mr. Shirey provided examples of some of the 2,200 hard copy maps currently being used that were tattered and fading. That was the sort of data that needed to be standardized and made available to all users. The issue was being able to share accurate data. GIS expanded from a niche technology used by specialists to an integrated information technology used within and between organizations and agencies. Data may be collected once but used many times, and a map can be created at any time at any scale for anyone.

Mr. Gessner added GIS would allow staff to do other things it would not otherwise be able to do. There was a lot of information regarding a particular site, and the planning department constantly struggled with history and conditions at a certain point in time. GIS would allow staff to take vast amount of data associated with individual locations and provide analytical opportunities. Information could be used to identify emerging trends and land use scenarios.

Mayor Bernard's main concern was funding and the amount of time it would take to enter the data.

Ms. Rosson said a lot of the data already existed, and part of the process would be taking a more complete inventory of what the City had and needed. The project would probably not entail hiring new staff. There would be some cost involved with scanning old paper maps into a digital format.

Councilor Collette asked if enterprise was a term of art or a specific system.

Ms. Rosson replied "enterprise" meant citywide. The system Milwaukie used was ESRI, which was used consistently throughout the region making it relatively easy to share data with other agencies such as Clackamas County and Metro. Ms. Rosson demonstrated Oregon City's online GIS system to give the Council an idea of what would be possible with the proposed project.

Ms. Rosson discussed the project team made up of representatives from various departments. The goals were to have a user friendly application that was available to all staff; convert hard copy maps to electronic format; build GIS links to existing applications; and develop a public website for citizens. She reviewed the hardware, software, and data needs.

Councilor Barnes asked how the City would choose its vendors, how many people would get the software, and the costs per person. There was a proposed budget for this phase, but there were unidentified software upgrades and training expenses. $52,000 was for the initial start up that included a certain number of stations. As the system expanded, she understood the software would have to be purchased for each additional station.

Ms. Rosson explained staff would use the web browser, which all users currently had. The power users were already identified, and the cost of that upgrade was included in the initial budget. There could be new versions of the web-mapping software in 5 or 10 years, but that was not an immediate expense.

Ms. Gartner said the servers had capacity and were suitable for the proposed application.

Ms. Rosson said training was budgeted, but some could also be done in-house. Software costs for the laptops used in the field were included. In moving forward, the team would want to provide organization-wide access to GIS data, ensure the data was accurate in a centralized location, ensure compatibility with vendors and contractors with whom the City was sharing data, establish a standard software platform, and keep current with technology.

Phase 1 of the project was from now to the end of this fiscal year. During this time, staff would take stock of its data and identify priority data. The second phase would be July 2005 through December 2005. The departments would begin purchasing and installing software and start training. Phase 3 would be October 2005 through March 2006 when all paper maps were scanned and a mobile GIS solution was deployed. Phase 4, April 2006 through September 2007, would be implementing interactive web-mapping for the public and linking GIS to the legacy applications.

Ms. Rosson reviewed the budget. Phase 1 would involve normal staff time. Phases 2 and 3 would include the hardware and software purchases and training that would cost approximately $52,000. The costs for linking to legacy applications in Phase 4 were not determined at this time. She discussed linking the SQL-based information.

Ms. Rosson said the benefits included more effective use of staff time in looking for information and fewer errors and delays on projects caused by information gaps. Milwaukie would be able to exchange data with partner agencies and consultants more effectively and citizens would be able to research information on their properties and neighborhoods. GIS would also benefit the City's economic development efforts by providing information on the Internet.

In summary:

- This was an important foundation for planning and sharing information within the City and with partner agencies;
- The cost savings would offset the initial expenses; and
- The team would appreciate the City Council's support of this project.

Mayor Bernard commented Milwaukie was creating a virtual City but it could not pave its roads. The City had a great computer system, but it could not pave King Road. He realized there would be savings, but he did have some major concerns. He supported the project.

Mr. Shirey discussed the pavement management system that worked most effectively when integrated with GIS.

Councilor Loomis commented this would be a tool for providing better service.

Councilor Collette asked how all of the information was collated to build the many layers.

Ms. Rosson said there were ways to automate the systems, and Milwaukie also go a lot of data from other agencies. She discussed geographically referenced aerial imagery. The City got its tax parcel information from Clackamas County, and the proposed software would be compatible.

Mr. Shirey discussed the Stormwater Master Plan update that began with a lot of inaccurate data related to the location and elevation of the manholes. It was expensive to make it right. To him it was very important to connect GPS information to mapping. The project would be funded from the four utilities, and he discussed assessing other departments such as community services and police.

Councilor Collette thought this would be an investment that would pay off in the future.

Councilor Barnes supported the technology but was concerned about software upgrades in the future.

Ms. Gartner discussed desktop applications and the cost of deploying software on individual PCs. This proposal was for a web-based program, so the City would pay about $8,000 for the web program. The browser was already on

everyone's desktop and would be the tool the used to access the information. The information would be stored and crunched by the web server itself. She believed that would be the most economical way to address distribution and maintenance. The initial investment was $8,000, and there would be an annual maintenance cost that covered future versions.

Mayor Bernard requested information on the annual maintenance costs.

Ms. Gartner discussed the various vendor formulae for annual software maintenance agreements.

Mayor Bernard announced that the goal setting work session scheduled for February 18 was cancelled. He urged people to attend the JPACT hearings and to show their support for Lake Road Improvement Projects and the Main Street Improvements funding.

Mr. Swanson added that one of the projects that had some challenges to its total funding was Metro's Urban Regional Centers Program. Milwaukie received $455,000 from this program for the North Main Project, and he would testify in support of that program. He believed Metro was very loyal to Milwaukie and stepped up to the plate to provide needed funding. He felt a responsibility to do the same for Metro.

Mayor Bernard and **Councilor Collette** agreed to go to the Metro hearing.

Mayor Bernard encouraged people to attend the Rep. Tomei's Town Hall.

Mr. Swanson commented on street funding and annual street lighting costs of about $300,000. Every year an organization announced Tax Freedom Day at which time everyone was freed of his/her burden of working for the various units of government. Last year, Tax Freedom Day was April 11. Those units of government supported by property taxes typically covered between January 1 and January 11. These were the units of government that delivered the services. He felt this illustrated the difficulty faced by cities.

Mayor Bernard discussed the option of adding a fee to residents' PGE bills to pay for street lighting.

Mr. Swanson believed people were feeling beleaguered by taxes. Although local entities represented 11 of the approximately 101 days of the tax burden, cities and districts were still on the front lines. He understood people's concerns but wished those who delivered the services had a way to access the funds necessary to actually deliver those services. Milwaukie had a good group of people delivering a lot of services. He provided a list of draft priorities that he prepared for the goal setting process. It was an ambitious list of projects that were currently underway.

Mayor Bernard adjourned the work session at 6:30 p.m.

Pat DuVal

Pat DuVal, Recorder

AGENDA

MILWAUKIE CITY COUNCIL WORK SESSION
FEBRUARY 15, 2005

MILWAUKIE CITY HALL
Second Floor Conference Room
10722 SE Main Street

WORK SESSION – 5:30 p.m.

A light dinner will be served.

Discussion Items:

	Time	Topic	Presenter
1.	6:00 p.m.	Enterprise GIS	Paul Shirey, John Gessner & Kate Rosson
2.	6:30 p.m.	Adjourn	

Public Notice

- The Council may vote in work session on non-legislative issues.

- The time listed for each discussion item is approximate. The actual time at which each item is considered may change due to the length of time devoted to the preceding items.

- Executive Session: The Milwaukie City Council may go into Executive Session pursuant to ORS 192.660. All discussions are confidential and those present may disclose nothing from the Session. Representatives of the news media are allowed to attend Executive Sessions as provided by ORS 192.660(3) but must not disclose any information discussed. No Executive Session may be held for the purpose of taking any final action or making any final decision. Executive Sessions are closed to the public.

- For assistance/service per the Americans with Disabilities Act (ADA) please dial TDD (503) 786-7555.

- The Council requests that all pagers and cell phones be either set on silent mode or turned off during the meeting.

To: Mayor and City Council

Through: Mike Swanson, City Manager

From: Paul Shirey, Engineering Director
John Gessner, Planning Director
Kate Rosson, GIS Coordinator

Subject: Enterprise Geographic Information Systems (GIS) Project

Date: February 2, 2005, for February 15, 2005 City Council Meeting

Action Requested

The Enterprise Geographic Information Systems (E-GIS) Project Team requests support from Council for the implementation of an organization-wide GIS solution.

Background

For the past ten years the City of Milwaukie has come to rely on GIS services for essential mapping and data analysis capabilities. This need is evident in the daily decisions, long term project planning and project reviews performed in the Public Works, Engineering and Planning Divisions. In recent years the reliance on GIS information has significantly increased, however, the City's GIS infrastructure has not kept pace with these demands. The City has identified five key areas of improvement to GIS to increase its efficiency and reliability for staff and partner agencies.

1. Reliability of data used in GIS. Four years ago the City made significant strides to improve the accuracy and quality of information used in GIS by purchasing a Global Positioning System (GPS) unit and investing in a new parcel layout format called COGO (Coordinate Geometry) through a cooperative agreement with Clackamas County. These two elements have provided a solid foundation from which to work. However, many of the City's datasets do not contain positionaly accurate data, which leads to inaccurate mapping and analysis thus causing downstream problems in project planning and execution. The City needs to establish standards and formats for managing all GIS data handled for the City regardless of origin.

2. Reducing the backlog and bottleneck of products and services by the GIS Coordinator. Commonly requested maps and datasets should be made available to all staff via a standard desktop application. Staff could then decide to review, print, analyze or manipulate data (in certain circumstances) without the aid of the GIS Coordinator.

3. Conversion of current paper maps (2200+) to a portable digital format where it could be viewed remotely and organized in a fashion to enhance the speed of data recovery.

4. Linkage of GIS to backend legacy systems, such as Hansen, Filenet and Incode, where staff can visually see all actions and/or assets attached to a given parcel or all parcels affected by a given action and/or asset.

5. Providing key interactive maps to the Public via the City's Internet website. This will provide the public with key information, thus reducing the amount of calls to City staff for commonly requested information.

Recommendation
The E-GIS project team, after reviewing the City's GIS needs and current state of GIS services, recommends moving forward with the implementation of an Enterprise GIS solution. The team estimates the project will significantly enhance the quality, reliability and usefulness of GIS within the City and surpass the initial investment costs within a short period of time.

Concurrence
The Engineering Director, Planning Director, Public Works Director and Information Systems and Technology Director all concur on the implementation of this key project.

Fiscal Impact
The estimated cost of implementing three out of four stated goals is $52,050 for fiscal year 2005-2006. The cost of the fourth goal, linking GIS to backend legacy systems, such as Hansen, Filenet and Incode, still needs to be determined. The request for funds for the fourth goal would not be reflective until fiscal year 2006-2007's budget.

At this time the project team is requesting the four Public Works Divisions (Water, Sewer, Storm Water and Streets) budget for the $52,050 equally in the upcoming 2005-2006 budget. This request reflects the fact that greater than 75% of the project's accomplishments will benefit the Public Works Divisions. Other departments will contribute to the project over the next two budget years as software licensing and training costs arise.

Work Load Impacts
This project is part of the GIS Department's annual work program. Additional work will be required by various Public Works, Engineering and Planning department staff to identify datasets and assist in the overall desktop program design. Some work will be required from other departments, such as Police, Community Development and Community Services as the project progresses and the GIS Department starts assessing their datasets and GIS needs.

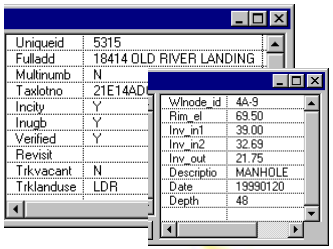
Attachment:
Copy of the presentation.

ATTACHMENT 1

Milwaukie Enterprise GIS

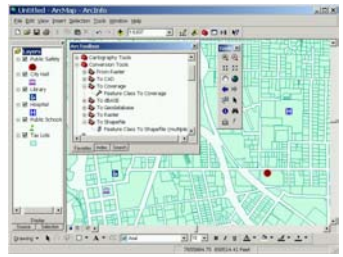
Geographic
Information
Systems

What is GIS composed of?



INFORMATION

MAPS

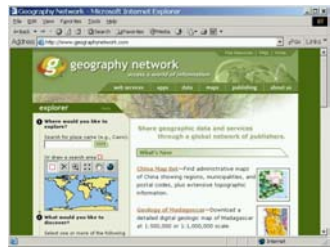


SOFTWARE

DATA
"LAYERS"

GIS

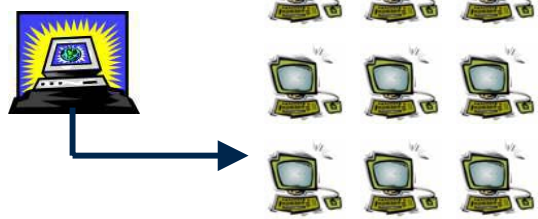
GIS ON
THE WEB



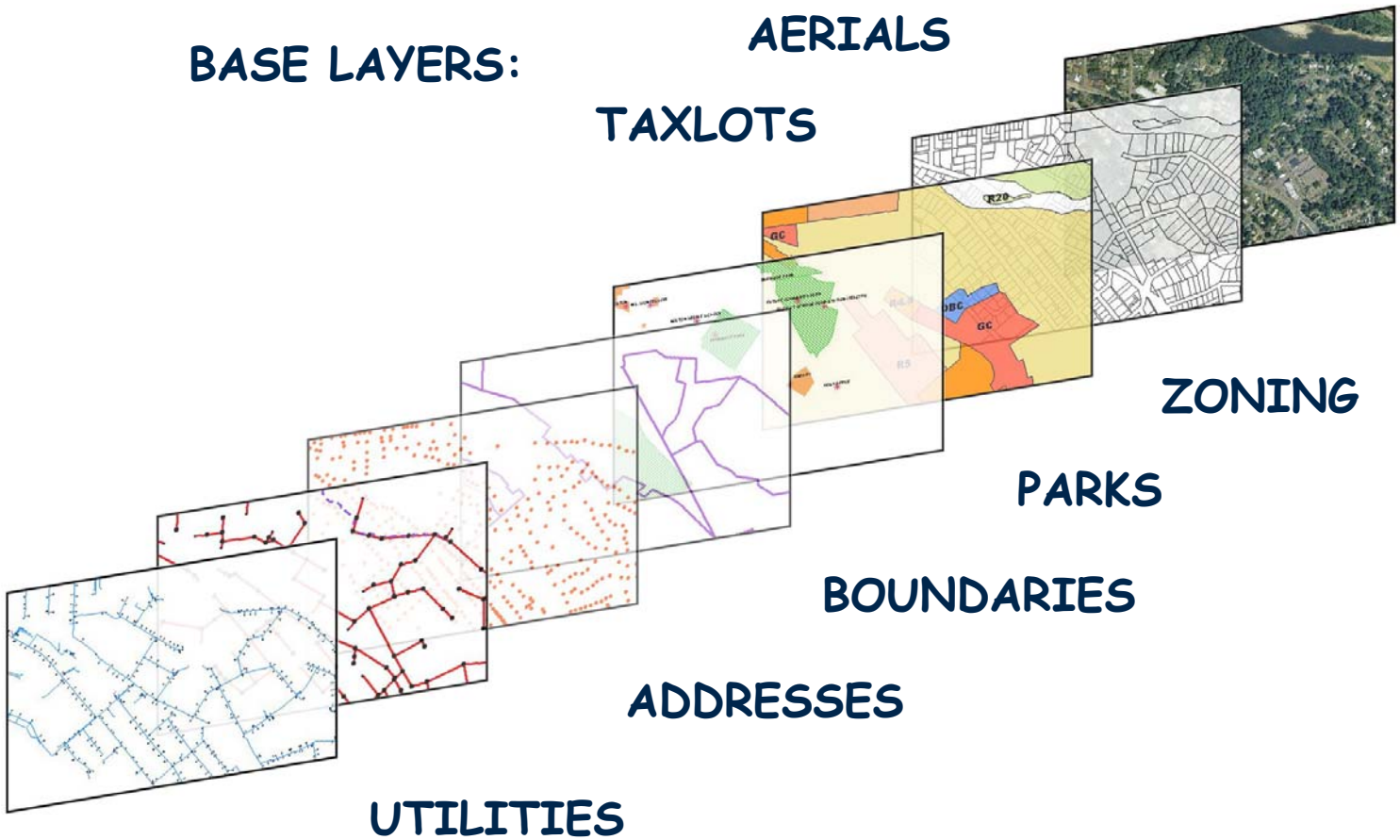
USERS

MAINTENANCE
& DEVELOPMENT

COMPUTER
NETWORK

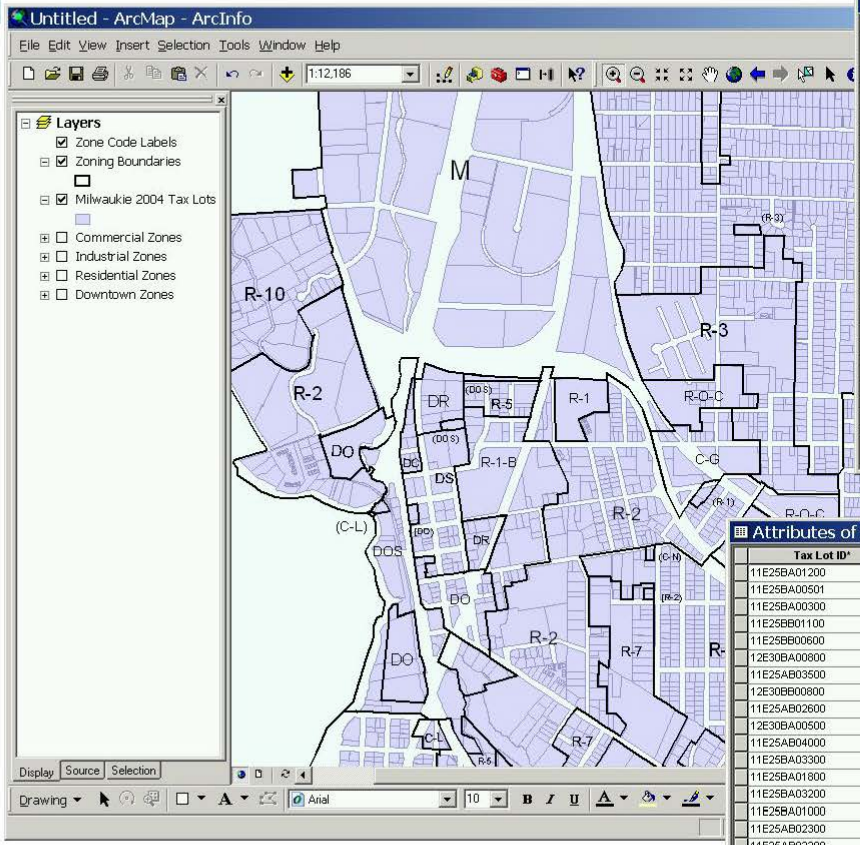


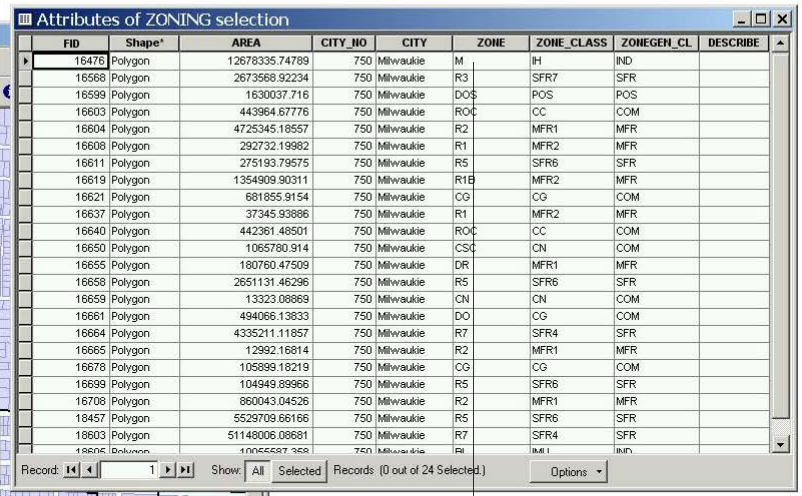
GIS Data “Layers”

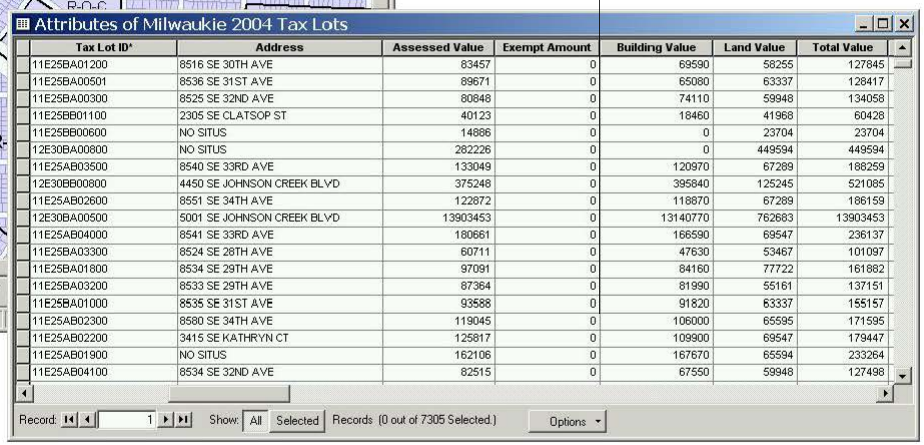


The layers need to be accurate and up to date…

Geographic **Information** Systems







Overlay information and analyze geographically

Database structure and data dictionary

GIS Coordination

Maintenance and Development

Where does the data come from?

- Internal Sources:
  - GPS data (primarily collected by public works staff)
  - Use local knowledge and city maintained data to enhance information received from other agencies
  - Develop data using aerial imagery or paper maps (“digitizing”)
  - Develop data based on addresses or coordinates (“geocoding”)
  - Legacy applications (Hansen, Filenet, Incode, etc.)

- External Sources:
  - Clackamas County – Tax lot boundaries, tax assessor database, special projects (e.g. LiDAR)
  - Metro – RLIS, Aerial photo consortium
  - Partner Agencies – e.g. Portland Police for crime analysis
  - Consultants – e.g. Sewer and Storm Water master plan data
  - State and Federal – Flood zones and other environmental data

Current GIS Network aka Delivering GIS

GIS Coordinator

Provide data, software, support, system maintenance and development for city GIS.

GIS DATA SERVER

Provides some data for use by staff, stores datasets for use by GIS Coordinator.

ARCVIEW Users
(some knowledge-
limited access to data

HARDCOPY MAPS
(static information)

STATIC MAPS
(web page image files)

Where we are now

- Staff rely on hard copy maps to assimilate information
  - Paper maps wear out and if the data has not been maintained electronically information can be lost.
  - Maps may not be current or accurate.
  - Errors are more likely when comparing separate maps, rather than being able to directly overlay information.

- GIS Coordinator and a few other "power users" of GIS produce maps for staff
  - Map requests can not always be completed in a timely manner.

Where we are now…cont'd

- Staff rely on potentially inaccurate datasets
  - Data collected by staff is not annotated or managed in a method to ensure accuracy.
  - Internal sharing of data is limited to knowledge, location, ownership and verification of data by staff.
  - Exchanging data with consultants and partner agencies is jeopardized by incompatible formats due to:
    - Lack of up-to-date City software
    - Lack of GIS formatting and storage standards
    - Inability to ensure integrity or accuracy of the dataset
- Milwaukie lags behind other same-sized cities in development and deployment of an Enterprise GIS

Where we are now…cont'd

City	E-GIS Internal	E-GIS Public
West Linn	X	X
Oregon City	X	X
Tigard	X	
Lake Oswego	X	
Beaverton	X	
Milwaukie		

Where we are now…cont'd

- Examples
  - Current weathered Engineering and Planning maps
  - Staff time spent assembling paper map data for decision making
  - Errors in field work due to lack of information in planning

Moving Forward…

Milwaukie needs to move forward with an Enterprise GIS,

How do we proceed?

Moving Forward…

Step 1: Assemble Your Team

Assemble Your Team

- Current Core Team – establishing the project
  - Engineering (*Shirey*)
  - Public Works (*Somers, Saatkamp, Clark, Perry*)
  - Planning (*Gessner*)
  - Information Technology (*Gartner, Rosson*)
- Expanded Team – enhancing the capacity of the project
  - Police
  - Community Development
  - Community Services
  - Risk Management

Moving Forward…

Step 2: Identify our Goals

Moving Forward…

Four Main Goals of the E-GIS

1. Create an easy to navigate user-friendly application built on a standardized platform (web)
2. Convert non-electronic maps into digital format for preservation and geo-code as required
3. Build GIS links to legacy applications (such as Hansen, Filenet, Incode, etc.)
4. Develop custom datasets for public review on City's Internet website

Moving Forward…

Step 3: Identify Your Needs
(hardware, software, data)

Proposed GIS Network

aka Delivering GIS

Intranet (Web) Server
Provides graphical data interface for staff via web browser.

GIS Coordinator

Provides and manages data, software, support, system maintenance and development for city GIS.

GIS Data Server
Provides data for use by Power Users, stores datasets for use by GIS Coordinator.

ARCView POWER Users
(fully trained-expanded access to data)

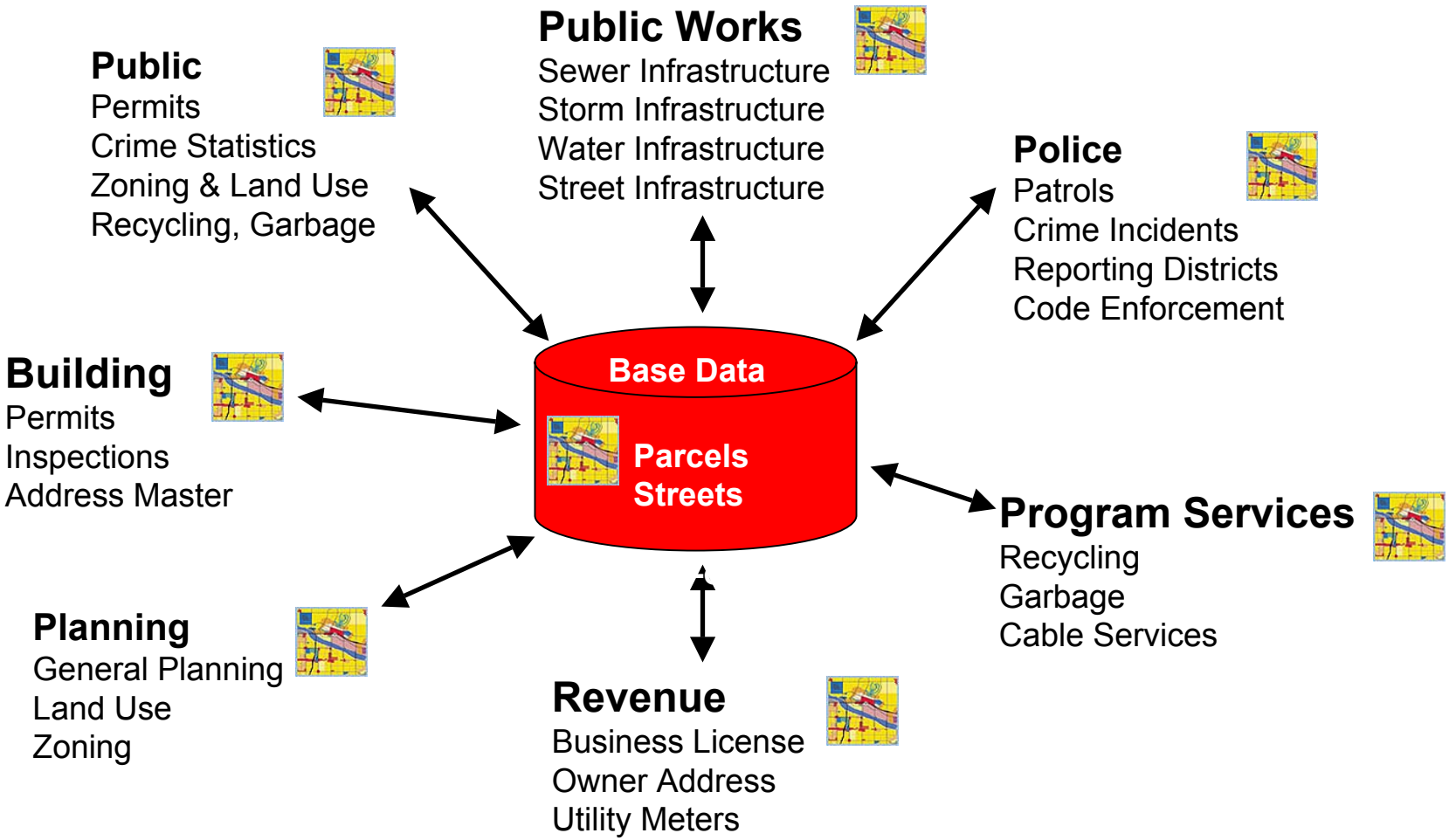
DESKTOP GIS
(web-based GIS application for all staff)

MOBILE GIS
(GIS application for field personnel)

HARDCOPY MAPS
(static information-as needed)

DYNAMIC MAPS
(Public viewing on Internet website)

Milwaukie Enterprise GIS



Moving Forward…

- Need to provide organization-wide access to GIS data
- Need to ensure integrity and location of ALL GIS data
- Need to be compatible with vendor and contractor systems for data sharing
- Need to establish a standard software platform and processes for maintaining and deploying geographic information
- Need to keep up with current technology

Moving Forward…

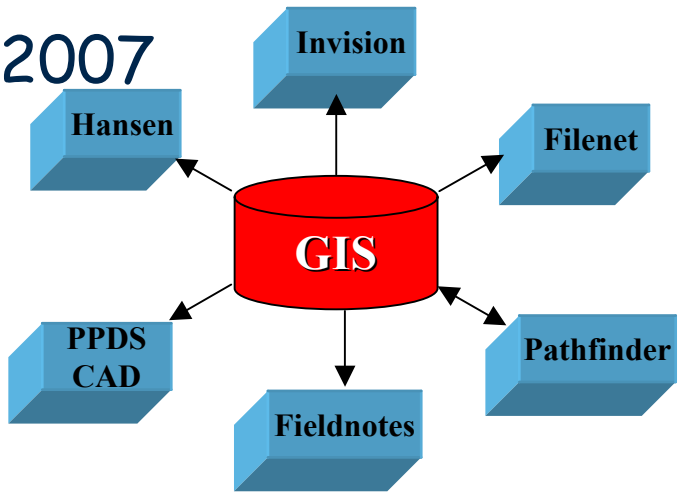
Step 4: Identify Your Timelines

Project Phases

- Phase 1: Now – June 2005 (FY04-05 Q3 & Q4)
  - Assemble Data Sets – development centralized data warehouse for all geographic data, ensure data is current and accurate, identify gaps, acquire or develop any missing priority data sets
- Phase 2: July 2005 – December 2005 (FY05-06 Q1 & Q2)
  - Software implementation – purchase and install ArcIMS, ArcSDE and ArcGIS Desktop
  - Deploy prepared data sets with ArcIMS interactive web-mapping for internal staff use
  - Train power users on ArcGIS Desktop software
  - Train all city staff on using interactive web-mapping

Project Phases

- Phase 3: October 2005 – March 2006 (FY05-06 Q2 & Q3)
  - Scan paper maps (2200+)
  - Acquire or develop remaining data sets (internal, vendors, utilities, etc.)
  - Deploy mobile GIS solution
- Phase 4: April 2006 – September 2007 (FY05-06/FY06-07 Q4 & Q1)
  - Implement interactive web-mapping for public web site
  - Link GIS to other City applications



Moving Forward…

Step 5: Identify Your Budget

Budget - Personnel

- Coordination
  - Conduct inventory of current electronic and non-electronic data maintained by all departments
    - Certify current accurate datasets
    - Tag and remove old inaccurate datasets
  - Conduct needs assessment for data to be developed or acquired from other agencies.
  - Test new E-GIS system and refine as needed
- Time
  - This is a multi-phase project to be completed over the next year and a half.

Budget - Dollars

- FY05-06
  - Phase 2 — $37,850
    (includes ArcIMS, ArcSDE purchase, ArcView license upgrades, training and installation costs)
  - Phase 3 — $14,200
    (includes software licensing for PW mobile units and scanning costs)
- FY06-07
  - Phase 4 — $TBD
    (includes application modules to link E-GIS to legacy applications (Hansen, Filenet, Incode, etc.)) *
- **Total Estimated Upfront Costs: $52,050**

Enterprise GIS Benefits

- Centralized datasets
  - Easy to identify current version of datasets
  - Annotated and catalogued for future reference
  - Conforms to established data standards
  - Centralized management and manipulation of GIS data
- Standard GIS platform(s) for staff
  - Web-based for all staff
  - ArcView/GIS for Power Users

Enterprise GIS Benefits (cont'd)

- *Cost savings*
  - Staff time spent looking for and determining currency of data
  - Omission of project errors and delays due to poor or missing GIS information
  - Staff being able to retrieve information and make critical decisions in the field with a mobile GIS solution
  - Increased availability of parcel-based information to the public from desktop application by front counter staff
  - Personnel time *not* spent answering base level questions that citizens can query themselves from web-based application or by other non-technical staff
  - E-GIS deployment and maintenance of standard web-based platform already on staff desktops (no new desktop applications)

Enterprise GIS Benefits (cont'd)

Other Benefits

- Staff will be able to spatially view legacy application information previously available in data format only
- Increase ability to exchange accurate data with consultants, vendors and partner agencies
- Citizens will be able to query published information from web-based application on City's Internet website (e.g. parcel information, zoning, utilities, etc.)
- Project can benefit the City's Economic Development initiative by offering valuable GIS information via the website to prospective businesses and citizens

E-GIS Project Wrap-Up

- E-GIS project is an essential foundation for planning and sharing information within the city, with business partners and with our citizens
- Benefits from this project will surpass the initial investment costs in a short period of time
- The E-GIS project team appreciates your support of this essential and worthwhile project

Milwaukie Enterprise GIS

Questions?

Milwaukie Enterprise GIS

Thank You!