

Countywide Information Technology:

*A Statement of Business
Principles to Guide Future
Automation Investments*

(Project No. 01-M-04)

This document is the result of a collaboration between
the Information Systems Services Department and the Office of Financial
Management & Budget, Financial Management Division

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Executive Summary

Report Highlights . . .

Our review of the concepts and mechanisms for making information technology decisions found that:

- ☑ *There are key issues about the delivery and role of IT services which remain unresolved*
 - ☑ *Existing informal IT governance policies were not adopted and have not been adhered to*
 - ☑ *A new IT strategic plan is needed, and should be prepared by an outside consultant to maximize its credibility with users*
 - ☑ *The acquisition or development of IT solutions requires evaluation tools before decisions can properly be made*
 - ☑ *An effective decision-making structural hierarchy is needed to delegate accountability to appropriate levels in the organization*
 - ☑ *A structured process for evaluating new IT systems on a business basis is needed*
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There are many challenges facing the county as it seeks to provide information technology (IT) services to both internal and external users on a timely, efficient and financially prudent basis. Some of these challenges are relatively new, driven by rapid technology advances and increasing interactive capabilities desired by our customers. Some challenges are old, such as justifying when and how to replace legacy IT systems. Each year, the county seeks to address these challenges through the annual budget and capital improvement process; increasingly this takes place outside of an adequate contextual framework.

In order to address these challenges in a more systematic and integrated manner, the Management and Program Analysis (MPA) Section was asked to develop a framework within which strategic and operational decisions regarding the future provision of IT services in Palm Beach County could occur. This report contains the results of that effort, in the form of issues and recommendations. Taken together, the recommendations constitute a plausible framework to guide such decisions in a planned and orderly way. The framework we envision is graphically depicted on page 3. Our major recommendations are as follows:

1. Key decisions remain to be made or reaffirmed involving four fundamental business issues:
 - The level of decentralization of the IT function
 - The role of “e-government” in the overall delivery of county services
 - The direction of the county’s Geographic Information System
 - The level of privatization of IT services.

Once made, decisions on these issues will provide strategic guidance for future IT development, thereby keeping future automation investments properly aligned with the core business needs of the county. As a first step, a committee with representation from county administration, ISS, OFMB and operating departments, should be empanelled to address these four key issues.
2. A new IT Strategic Plan should be commissioned to integrate the four key business issues above into a coherent strategy for the next 5 years. To meet our needs, the Plan should contain all of the following components:
 - A vision statement which recognizes how IT services are to be delivered in support of the county’s core services;
 - A set of IT strategic goals with target implementation dates;

- An environmental scan of the IT industry to determine industry direction and available product technology;
- A status report on the county's 1995 *Technology Transformation Plan* prepared by Unisys Corporation;
- An updated three- to five-year program for IT infrastructure development and IT operations.

Consistent with past practice, and in order to maintain a countywide perspective and elicit the Constitutional Officers' support, the plan should be prepared by an outside consultant with high credibility in the industry.

3. The county's *Governance Policies* should be updated, adopted and adhered to. As envisioned, the following elements would be included in the Policies:
 - An operational hierarchy to define authority levels for IT decision-making throughout the organization. At a minimum, these would consist of an "enterprise" level for deciding countywide IT issues, a "functional" level for deciding multi-departmental issues, and a "business unit" level at which stand-alone department issues would be decided by the users involved.
 - An outline of authority and responsibility for participants at each decision-making level.
 - A set of non-technical and implementable policies for the acquisition, use and maintenance of IT systems, particularly those at the "enterprise" level which would apply countywide.
4. A structured process for evaluating new IT systems should be developed which utilizes a set of business principles to be established to facilitate decision-making. Components of this process would include:
 - A standardized checklist identifying the rationale for changing IT systems;
 - Detailed cost/benefit analysis criteria for assessing alternative IT solutions;
 - A mechanism for reporting actual results achieved compared with expected results.

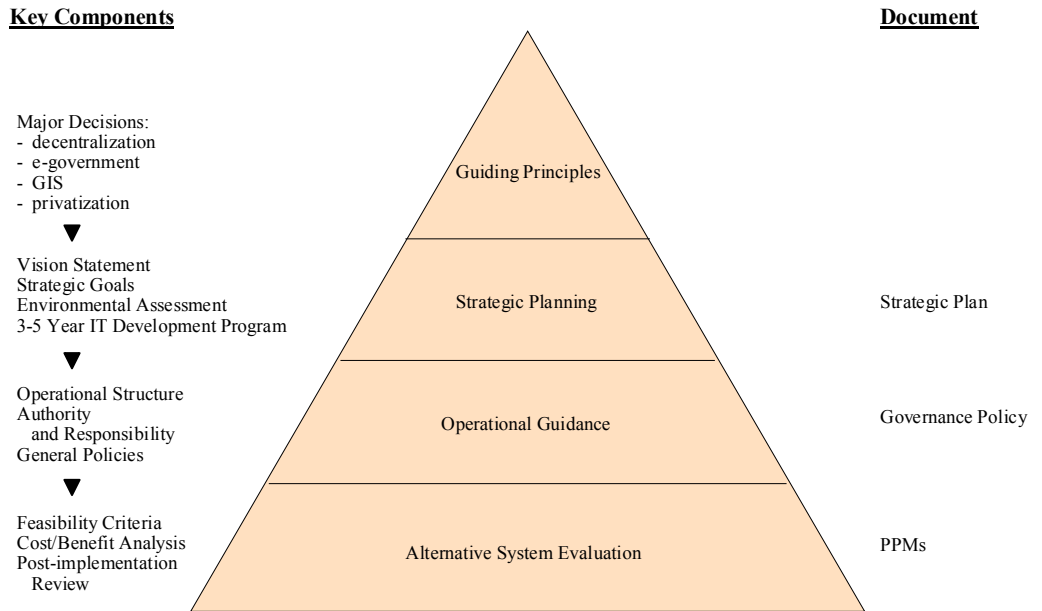
Included in this report and its companion Appendix volume are numerous examples from other jurisdictions around the nation to assist with the implementation of these recommendations.

One final point should be made regarding the issues presented in this report. All of the IT issues addressed in our report—strategic planning, decentralization, use of e-government, evaluation of new IT systems—are also covered in the *Government Performance Project County Survey for 2001*. Based on a review of the questions contained in the IT Management section of this survey, our recommendations concerning each of these issues are consistent

with the “best practices” direction implied in the survey. (A copy of the IT Management section of the GPP survey appears in the appendix to this report.)

FIGURE 1

**Proposed Framework for
Countywide Information Technology Decision-Making**



Countywide Information Technology: Statement of Business Principles

A study to develop a framework within which strategic and operational decisions regarding future provision of information technology services in Palm Beach County can occur

The purpose of this report is to provide county administration and information technology (IT) managers with insights into the state of planning for, and implementation processes relating to, the acquisition and development of contemporary automation technologies.

The study focused mainly on identifying the major decisions and limitations which affect the overall provision of IT services in the county, identifying planning tools which can be used to structure long-range decisions, and developing an effective, comprehensive statement of business principles to keep future automation investments timely and properly aligned with the strategic business needs of the county government.

The methodology used in this study included all of the following:

- The most recent attempts to comprehensively outline the future direction of IT services for the county—the Unisys Corporation’s *Technology Transformation Plan* and ISS’s *Governance Policies and Information Economics Model*—were examined;
- Local jurisdictions identified as progressive were surveyed to determine how decisions regarding IT services were made elsewhere;
- Internet website of the surveyed jurisdictions and other jurisdictions identified in the course of the study were reviewed to locate useful examples of strategic plans, governance policies, and IT project evaluation tools.

The Current State

MAJOR DECISIONS/LIMITATIONS AFFECTING THE PROVISION OF INFORMATION TECHNOLOGY SERVICES IN THE COUNTY

There are a number of high-level decisions which, once made, will provide the overall framework within which IT services will be provided within the County. These include:

- The level of decentralization of the IT function;
- The role of “e-government” in the overall delivery of county services;
- The direction of the county’s Geographic Information System;
- The level of privatization of IT services.

These decisions will form the basis of a set of “guiding principles” from which all other IT decisions can follow. We begin by briefly examining each of these decision points.

Decentralization

Decentralization of the IT function involves the degree to which decision-making authority for priority setting, hardware and software, content control, and means of production is delegated to IT users or confined to a centralized source. Depending on where the balance between central control and distributed authority is struck, there will be operational implications, such as separate IT staffing structures, some variation in hardware and software, and possibly even different infrastructure standards.

With the abolishment of the ISS Board, no governance mechanism currently exists to establish policies and set priority direction for IT services in Palm Beach County. Consequently, the following four key players collectively constitute the decision-making authority for IT services in the County:

- Constitutional Officers
- The Judiciary
- The central IT department (Information Systems Services)
- Departments under the County Administrator

The County cannot directly dictate IT standards or control the IT staffing of the Constitutional Officers or the Judiciary (which is itself subject to Florida State requirements). However, the Board of County Commissioners can influence the IT spending decisions of certain Constitutional Officers and the Judiciary through the annual budget process, and can provide input to the state which approves the budgets of the Property Appraiser and Tax Collector. Most importantly, the County Administrator can directly control the balance of decision-making between ISS and the BCC departments. The need to re-examine the existing level of decentralization and the resulting operational implications to identify opportunities for improvement has been recognized by

the ISS Department as indicated in its recommended goals for the BCC's 2001 Goal Setting Process (see Goal # 2 in *Appendix 1*).

On-line (e-Government) Services

ON-LINE SERVICES
Tax payment
Permit issuance
Payment of fines
License purchase and renewal
Reservation of county facilities
Resume submission for employment

With the growth of World Wide Web (the Web) and Internet usage, local governments first sought to become players by establishing websites and displaying information about their jurisdictions. A relatively recent advance has been the establishment of on-line services whereby residents can electronically access services from their governmental jurisdictions. Hence, the name "electronic government" or "e-government."

Among surveyed jurisdictions, all of the types of on-line services shown in the chart above are in use. Of particular note is the extensive on-line service program provided by the City of Charlotte/Mecklenburg County, North Carolina (*Appendix 2*).

In Palm Beach County, many departments and agencies have established websites which provide static information, permit downloading of forms, and permit status checks for applications (*Appendix 3*). In contrast, submission and review of electronic documents is still very limited, as is full transactional processing (*Appendix 4*).

As a way of facilitating access to on-line services by potential users, some jurisdictions, in designing their Web pages, have either listed their on-line services or identified a primary selection as "e-government" or "e-services" on the opening pages of their sites. Selection of this option immediately takes the viewer to a page listing all available e-services for that jurisdiction (*Appendix 5*). Palm Beach County has no such e-service selection on its County Government home page, on individual County Departments' home pages, or on Elected Officials' home pages, although the Tax Collector's site does reference upcoming on-line capabilities (*Appendix 6*).

With the recent passage of federal legislation authorizing electronic signatures, use of on-line services can be expected to increase. Maximizing the use of e-government as a service strategy was identified as a priority by the ISS Department in its recommended goals for the BCC's 2001 Goal Setting Process (see Goal #1 in *Appendix 1*).

Regarding long-range planning for e-government services, the International City/County Management Association (ICMA) and Public Technology, Inc. (PTI) conducted a survey of municipal and county governments in the fall of 2000 concerning the use of electronic government. This survey, titled the

Electronic Government Survey 2000, examined the ways in which local governments use the Internet to deliver interactive services and information to citizens. Two questions addressed whether the local governments had an overall e-government strategy and/or master plan to guide their future e-government initiatives and, if not, were they considering developing a strategy or plan within the next year. Less than nine percent of responding jurisdictions indicated that they had such a strategy or plan, while sixty percent of those that did not were considering developing one within the next year.¹

Geographic Information System

A Geographic Information System is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information (i.e., data identified according to their locations).² Maps and other data are stored as “layers” of information (e.g., buildings, streets, customers) that can be linked together by geography.

Creation of a geographic information system represents a multi-million dollar investment for most jurisdictions. In Palm Beach County, the revised CIP amount for this project is \$5,697,209.³ The project description for the county’s GIS states:

“Purchase, development and installation of a geographic information system. The system will include a multi-feature common base map (geodetic control, digital orthophotography, parcel, road base, Tiger and planimetric maps), technology and an operational data model to access enterprise data for disaster preparedness and to service the land-related information needs of county agencies, municipalities, and other governmental agencies and the public.”⁴

Expanded information on the county planned GIS, including system capabilities, GIS data types, the GIS process, typical GIS user applications, and a list of available GIS maps is included as *Appendix 7*.

¹ “Is Your Local Government Plugged In? Highlights of the 2000 Electronic Government Survey,” prepared for ICMA and PTI by Donald F. Norris, Patricia D. Fletcher, and Stephen H. Holden, University of Maryland, Baltimore County, February 27, 2000, p. 8.

² GIS website, U.S. Geologic Survey, U.S. Department of the Interior.

³ PBC *Capital Project Status Report for Fiscal Quarter Ended December 31, 2000*, p. D-08.

⁴ *Ibid.*, p. D-08.

**GIS DEVELOPMENT
RESPONSIBILITY**

Engineering & Public Works
Environmental Resources Mgt.
Planning, Zoning & Building
Information Systems Services
Clerk of the Court
Fire-Rescue
Public Safety
Water Utilities

Responsibility for development of the county’s GIS is divided among the departments and agencies listed in the table at left. To coordinate the development of the system in Palm Beach County, a three-part GIS structure has been established: a *GIS Policy Advisory Committee*, consisting primarily of department directors from the above-listed departments and representatives from the affected Constitutional Officers, and chaired by the County Engineer; a *GIS Project Management Team* consisting of key departmental staff involved with the

implementation of GIS; and a *Countywide GIS Forum* involving, in addition to the BCC, municipalities, special taxing districts, the state government, the federal government, educational and non-profit organizations, and the private sector.⁵

Although the CIP amount for this project shows \$5.7 million, this figure represents only one component of the GIS cost. An unknown amount of staffing costs, operating expenses and some capital equipment costs are scattered throughout the organization in individual departments and agencies. In addition, not all agencies which ultimately can use GIS data are currently represented in the GIS organizational structure. The Sheriff is a case in point.

To date, two phases of the GIS project have been completed. Phase I was an assessment and planning exercise. In November of 1998, PlanGraphics, Inc. completed an *Operational Data Model (ODM) Implementation Plan* which defined the requirements and design concept for the County’s GIS. Phase II provided a reference site evaluation, proof of concept prototype and an initial implementation of the operational data model. GeoAnalytics, Inc. was retained to complete Phase II, which began in September of 1999. In March of 2001, GeoAnalytics issued a report on the GIS project which represented the completion of Phase II.⁶

In its report, GeoAnalytics, Inc. provided a status report on the GIS project, identified substantive issues and opportunities that comprised a list of potential action items, and offered recommendations for the next phase of project implementation. In discussing the future direction of GIS in the County, GeoAnalytics recommended a “stakeholder visioning exercise” be held with the

⁵ Handout on GIS. [See *Appendix 8*]

⁶ “ODM Implementation Project Report and Plan Update, prepared for the Palm Beach County, Florida Countywide GIS Coordination, GIS/LIS Operational Data Model (ODM) Project Phase II,” prepared by GeoAnalytics, Inc., March 2001, p. 11.

GIS Policy Advisory Committee and the Project Management Team to bring about consensus on the direction of GIS at the County. Specifically, the consultant recommended five topics for consideration:

- A long-range plan for GIS in Palm Beach County;
- Leveraging efficiency through possible process improvements;
- Future roles, responsibilities and structure of countywide GIS;
- Intergovernmental relationships; and
- The relationship of GIS to citizens and the private sector.⁷

Regarding the technology component of GIS, GeoAnalytics stated that opportunities exist to expand or improve GIS functionality by taking advantage of both ongoing industry enhancements to technology and of systems that now exist but have not been adopted as part of this project, including improving GIS functionality through changing web technology and related infrastructure. In this regard, one recommendation of the consultant involved evaluating interest in e-commerce and data distribution over the web.⁸

Appendix 9 lists those data elements identified by GeoAnalytics that are envisioned as being part of the County's GIS. However, some data elements which are currently used by other jurisdictions (e.g., crime statistics data, emergency dispatch information, evacuation zones, public health hazards⁹) and which would appear to merit consideration for inclusion in the County's system have not been identified. Also, a timeframe for completion of data input has not been specifically identified in the report.

In addition to County staff, the GIS is intended to be used by County residents, the private sector, and others outside of Palm Beach County. According to GeoAnalytics, the GIS "could eventually mature into a significant community service."¹⁰ In order to facilitate use of the GIS by the public at large, an easily identifiable access point will need to be provided. Currently, no reference to the County's GIS can be found on the County Government home page (refer to *Appendix 6*) or its Site Index (refer to *Appendix 10*). Other jurisdictions do include information about their GIS systems on their Web sites, typically through an "on-line services" option (refer to *Appendix 11*).

Privatization

IT services can be provided by an in-house IT department or an outside private company under contract (outsourcing). Typically, outsourcing has been used

⁷ *Op cit.*, p. 7.

⁸ *Op cit.*, p. 8.

⁹ Examples taken from the book "Zeroing In – Geographic Information Systems at Work in the Community" by Andy Mitchell, 1997-1998, Environmental Systems Research Institute, Inc.

¹⁰ *Op cit.*, p. 42.

on a selective basis for a specific project, or to supplement existing staff, as in the case of year 2000 compliance. Recently, however, entire IT functions have been outsourced by local governments. San Diego County, California (annual budget of \$2.9 billion, workforce of 17,000), approved a seven-year, \$644 million contract with Computer Sciences Corporation to assume responsibility for the county's IT function. (See *Appendix 12* for details). The advantages of privatization of the IT function would include:

- A private company, more attuned to the rapidly changing IT environment, would be responsible for monitoring emerging IT technologies to replace existing systems, thereby relieving the local government of this responsibility;
- A private company, rather than the local government, would be responsible for planning, scheduling and providing periodic upgrades to IT equipment; and
- Less costly IT services due to private sector efficiencies (e.g., specialization, recruitment, purchasing).

The disadvantages of privatization of the IT function would include:

- Potential loss of control and flexibility inherent with an in-house operation; and
- Potential disruption in service should the private company go out of business.

As with any privatization effort, the keys to a successful IT transformation include:

- A well-conceived plan;
- A well-written contract with a reputable company already engaged in providing IT outsourcing services with one or more comparably-sized jurisdictions;
- A properly staffed county contract management team to monitor contract performance; and
- Use of a performance bond to protect the county's interests in the event major problems occur with the vendor.

“BEST PRACTICES” SURVEY

Once decisions regarding issues such as privatization, decentralization, on-line services, etc., have been made, a process needs to be developed whereby long-term planning for the provision of IT services can occur and within which specific IT requests can be evaluated. In order to help develop the specific elements of such a process for Palm Beach County, local jurisdictions identified as progressive were surveyed to make a general assessment and comparison of the information technology environments. Survey questions focused on three areas: 1) the organizational structure used to provide IT services; 2) the

process used to identify, evaluate and plan for long-term (3-5 year) and short-term (annual) IT needs; and 3) the procedures used to govern IT operations on a day-to-day basis.

Eight cities or counties were contacted regarding how IT services were provided in their jurisdictions. Of these eight, telephone surveys were completed with five. The Internet site of a sixth jurisdiction (Indianapolis, Indiana) provided most of the required information. A summary of the responses is contained in the Table 1. The actual survey responses are included as *Appendix 13* to this report.

TABLE 1

**Summary of Responses to Survey
on Information Technology Practices Nationwide**

Item	Fremont CA	Indianapolis IN	Maricopa County	Mecklenburg County	Phoenix AZ	San Diego County
IT Organizational Structure						
Governance Committee (establish policies/set priorities)		•			•	•
Technical Working Committee (develop standards)	•	•	•		•	•
Chief Information Officer (day-to-day management)	•	•	•	•	•	•
IT Planning Process						
Strategic Plan (3-5 year plan)		•	•		•	•
Annual Work Plan (annual plan of projects)	•	•	•	•	•	•
Evaluation process for new systems (economic model/ranking system)	•	•	•	•	•	
Formal process to identify emerging technologies		•			•	•
IT Operations						
Governance Policy (general policies/procedures)		•	•		•	
Enterprise-wide standards	•	•	•	•	•	•

All of the surveyed jurisdictions have established the position of Chief Information Officer to provide day-to-day IT management, have produced an annual work plan of IT projects, and have developed enterprise-wide standards

for IT operations. Most jurisdictions use a technical working committee to develop standards, and have a formal evaluation process for new systems, although no common set of criteria was used by all agencies. Less universal was the use of a governance committee to establish policies and set priorities, the formulation of a 3-5 year strategic plan, the use of a formal process to identify emerging IT technologies, and the adoption of a formal governance policy.

STRATEGIC PLANNING FOR I.T. SERVICES

A strategic plan can be defined as a “functional blueprint which clearly and concisely defines a strategic framework resulting from the planning process.”¹¹ Due to the rapid rate of change in information technology, strategic planning for IT services typically covers only a three to five year time period.

As shown in the previous section of this report, a formal three- to five-year strategic plan is the mechanism used by several of the surveyed jurisdictions to plan for the provision of future IT services. The following section of this report explores the use of strategic planning in Palm Beach County and other selected jurisdictions.

Palm Beach County

In April of 1994, the Palm Beach County ISS Board approved a project with the Unisys Corporation to develop a strategic plan for IT services in Palm Beach County. The project was subsequently approved by the BCC in August of that year. The purpose of this project was to develop a workable plan to move the county away from a mainframe-centric environment and into a client/server architecture based on “open systems” standards.¹² The final project report, titled the *Technology Transformation Plan*, was issued in April of 1995. (A copy of the Plan Overview is included as *Appendix 14*.) The total expenditure for the Plan over a 3½-year period was estimated to be \$14.6 million.¹³ The total amount paid to Unisys Corporation to develop the Plan \$205,628.¹⁴

The *Technology Transformation Plan* addressed five key components of the information technology infrastructure.¹⁵ These components, and the future direction indicated in the Plan for each, are summarized below.

¹¹ MoneyWords.com

¹² PBC *Technology Transformation Plan Overview*, issued April 10, 1995, p. 6.

¹³ *Ibid.*, p. 15.

¹⁴ Source: PBC Information Systems Services Department

¹⁵ *Op cit.*, pp. 8-10.

<u>IT Component</u>	<u>Future Direction</u>
System architecture	Non-proprietary hardware and software structured around 3 tiers
Networking	“Open systems” with a countywide implementation of the non-proprietary TCP/IP communication protocol
ISS organization and skills	Tightly integrated matrix organization which is responsive to the business requirements of ISS customers
Applications	Time phased transition of each of the 3090 based applications, based upon the transition effort and business impact of transition on each agency
Systems management	Use of the best of class tools and techniques for “open systems” management.

During the early stages of implementation of the Plan, several significant events occurred which impacted the provision of IT services in Palm Beach County. First, the ISS Board, the policy setting entity for IT services in the County, was abolished. Second, the centralized IT function, represented by the Information Systems Services Department, was moved directly under the County Administrator. Third, difficulties emerged in converting various applications to a client/server environment versus remaining in a mainframe environment (e.g., LGFS). And finally, the ISS Department was required to concentrate resources on addressing Y2K concerns. As no recent status report on the *Technology Transformation Plan* has been developed, the impact of these events on the Plan cannot be determined.

In October of 1998, the ISS Department issued a report titled *A Management Plan for the Palm Beach County Enterprise Network*. (A copy of the Management Plan is included as *Appendix 15*.) This document, in effect, provided an update of the Networking component identified in the *Technology Transformation Plan*.

In the Acknowledgment section of the *Technology Transformation Plan*, Unisys made the following observation:

“While Unisys believes that the Plan is valid for the county at this time based on the information provided, the rapidity of change in the information technology arena will render the Plan ineffectual in a very short period of time. As newer technologies and opinions emerge, and as the needs and situation of the county change through time, the Plan should be updated to reflect the changed environment.”

There are currently no plans to update the *Technology Transfer Plan* or to develop a new strategic plan for the county.

Indianapolis, Indiana

In May of 1995, the City of Indianapolis and Marion County, Indiana selected SCT Corporation to provide information technology services for their jurisdictions. As part of this responsibility, SCT was charged with the development of a joint strategic IT plan for the city and county. This plan, known as the *Comprehensive Technology Master Plan (CTMP)*, covers a three-year time period from 2000 to 2002.¹⁶ The CTMP included the following major elements:

- A Vision Statement of recommended IT service delivery; and
- Strategic Initiatives for IT infrastructure development and IT operations.

In general, the process outlined in the CTMP specifies that all future technology projects should support one or more strategic initiatives which, in turn, echo the vision of the city/county for technology development. The IT Vision Statement for Indianapolis/Marion County states:

“Our technology vision provides citizens, businesses, organizations, and employees with access to information and services they need and are authorized to use, from anywhere, at any time. It is founded on a robust, flexible network of integrated systems appropriately sharing information throughout the enterprise. Accepted standards, strong planning, appropriate security, effective IT leadership, and a well-trained workforce will be central to the achievement of this vision.”¹⁷

Thirteen strategic initiatives were identified which were viewed as critical to the success of Indianapolis/Marion County’s core business operations and achievement of its vision. These initiatives are summarized in the chart on the following page.

After completing an evaluation of the components of each strategic initiative, specific recommendations related to the implementation of the strategic initiatives were made by SCT with estimated costs, where applicable. A summary of SCT’s recommendations is included as *Appendix 16*.

¹⁶ A complete copy of the CTMP document can be retrieved from the Indianapolis/Marion County official website (www.indygov.org/sct/intranet/sitedocs/ctmp/).

¹⁷ Indianapolis/Marion County, Indiana *Comprehensive Technology Master Plan*, issues January 20, 2000, p. 1-1.

**INDIANAPOLIS
INITIATIVES**

Systems

- Applications
- Web-based systems
- GIS enhancements/expansion
- Document management/imaging

Access

- Gigabit network
- Server supplementation/realign
- Remote access

Culture

- Accessibility and integration
- Governance
- Annual work plan
- End-user support services
- Business process re-engineering
- Training

The CTMP is intended to provide the budget framework for the city/county in IT acquisition and resource allocation. Annual updates to the CTMP were envisioned, to include:

- Review of all user needs;
- Reassessment and verification of established priorities;
- Assessment of accomplishments within the current year;
- Revision of all schedules based on the new information; and
- Review of advancements in information technology and their potential impacts on the Plan.

In recognizing the need to update the CTMP, SCT made the following observation in the Preamble section of the document:

“ . . . it is important to realize that this CTMP process should never end. This CTMP should be viewed as a living document, which must frequently be revisited in order to ensure its continued relevance, and modified as necessary whenever environmental factors change.”¹⁸

Maricopa County, Arizona

As part of its long-term planning process, Maricopa County has established a set of “IT Strategic Goals” with specific implementation dates. These goals and corresponding dates include:

- County employees will have the flexibility to do their jobs from anywhere in the county at any time. [July 2003]
- The public and outside organizations will be able to obtain services and transact business electronically from any location at any time. [July 2006]
- Operational and strategic decision-makers will be able to readily and easily access information they need to make informed decisions. [July 2005]
- The cost and time to deliver services will be reduced by streamlining business operations through the use of technology. [July 2006]

¹⁸ *Ibid.*, Preamble

- Through countywide technology standardization, we will optimize the use of resources so that the information technology department strategic goals will be achieved. [July 2003]¹⁹

GOVERNANCE OF I.T. SERVICES

Governance can be defined as “the process of securing user input on such issues as information technology direction, establishing priorities, reviewing technical decisions, and providing effective user communication in systems development and daily operations.”²⁰ An effective information technology governance process ensures that IT plans and directions stay aligned with those of departments and agencies, and that the jurisdiction as a whole continues to adapt to, and take advantage of, increasing capabilities offered by new technology.

The following section of this report discusses the use of a formal governance policy in Palm Beach County and other selected jurisdictions.

Palm Beach County

In Palm Beach County, the ISS Board approved a set of formal Governance Policies on July 12, 1995. A revised set of Governance Policies, incorporating suggested changes from OFMB, was issued on September 11, 1995. (A copy of the county’s revised Governance Policies is included as *Appendix 17*.) According to the ISS Director, the purpose of the Governance Policies was to “provide a consistent and cohesive approach to the acquisition, use and maintenance of IT.”²¹ The Governance Policies identify an “information management master plan” with a seven-level accountability structure summarized in Table 2 on page 17. The purpose of the levels is to define the applicability of policies and standards. Within this structure, the policies provide that close adherence to standards is required at higher levels while maximum flexibility is provided at the local and personal levels.

The following policies and standards are outlined in the “Information Systems Goals” and “Statement of Principles” sections of the Governance Policies:

- County agencies and constitutional organizations shall become fully responsible for the cost/benefit justifications for information technology

¹⁹ Maricopa County brochure titled, “Information Technology—Our Vision,” published by the Office of the CIO, January 5, 2001, p. 2.

²⁰ Indianapolis/Marion County, Indiana *Comprehensive Technology Master Plan*, issued January 20, 2000, p. 4-46.

²¹ Internal memorandum, dated July 14, 1995.

deployed in their operations, and delivery of productivity gains derived from information technologies.

- The county’s enterprise-wide information systems shall share resources effectively and efficiently through adoption of common standards, common data, and common software capabilities.
- The county shall manage information through central policy direction and decentralized execution to assure responsiveness, quality, learning, and innovation.
- The county shall develop and enhance information systems using standard process models that document business methods.
- The county shall acquire information services through competitive bidding that considers internal as well as external offerings.
- The county shall enter data into the information system only once, at the point of origin.

TABLE 2

Palm Beach County IT Governance Policies are Built Around a Seven-Level Accountability Structure

Level	Definition
1 Global	All functions, services and standards that ensure the interoperability of the enterprise with suppliers, customers and vendors of information technology.
2 Enterprise	All services and standards that set the rules of governance to ensure the cost effectiveness and interoperability of information systems.
3 Functional Processes	All functions that support common business processes and ensure horizontal integration of activities, across the entire enterprise, that have inter-related work flows regardless of location or business.
4 Business	All systems that are unique to the products or service delivered by an organizational unit.
5 Application	All systems features that uniquely satisfy the operating needs of personnel who perform similar tasks.
6 Local	All systems features and practices that are unique to individuals or groups who require modifications of the standard processes not provided by higher organizational levels.
7 Personal	All data that individuals wish to keep private.

Key participants in the IT governance process are also identified with responsibilities assigned to each. Table 3 below profiles these participants and their roles.

TABLE 3
Key Participants in the
Palm Beach County IT Governance Process

Participant	Responsibility
ISS Board	Consent to and issue all county information management goals, principles, policies and objectives.
Director of ISS	Independently assess whether the information management plans are aligned with the approved county business plans, and long-range human resource planning for county personnel involved in information management
Business Unit Information Officer [§]	Ensure accuracy, consistency and timeliness of data for which their organization is accountable, and assess alignment of business unit's information management plans and resources with approved goals, principles, policies, and objectives of business unit and county.
Information System Manager	Respond to customer needs, authorize access to information, and provide training to users.
Operating Manager	Plan, design, implement and monitor operational performance of information systems supporting their mission, and granting security access to information.

§ One individual to be appointed by each county agency and constitutional office (business unit).

On July 9, 1996, the Board of County Commissioners directed that a management audit of the ISS Department be performed. A final audit report, titled *Information Systems Services* (Report 96-36), was issued on March 19, 1997. (A copy of Internal Audit Report 96-36 is included as *Appendix 19*; department response to the audit is included as *Appendix 20*.) The third objective of the audit sought to determine the effectiveness of the current reporting structure and Governance Policies. Regarding the existing Governance Policies, the Internal Auditor made the following findings:

- “All departments interviewed had seen a copy of the policies, but none had been provided any direction as to how the policies should be implemented or what their respective roles were to be in the implementation process.

- Although most of the policies are appropriate and reasonable, many appear to be general ‘feel good’ statements which may be difficult or impossible to implement.
- Policies requiring specific actions usually require additional written procedures in order to be implemented effectively.”²²

Based on these findings, the Internal Auditor made the following recommendations:

“We recommend that the Governance Policies be reviewed and rewritten. Policies requiring specific action by County and ISS staff need to be followed up with Countywide and departmental PPMs which clearly describe how the policy should be implemented and by whom.”²³

In his response to the Internal Auditor’s recommendation, the ISS Director indicated that draft recommendations would be submitted to the ISS Board and the BCC before October 1997.²⁴ The revised Governance Policies have not yet been issued.

As part of several equipment acquisition issues raised in the audit, the ISS Director stated that countywide policies and procedures needed to be established to improve control over the acquisition of computer equipment and software. The Director indicated that ISS would develop appropriate PPMs for implementation as part of the review of the governance policies, and that these PPMs would be implemented before the end of the fiscal year 1997.²⁵ Completion of this work remains an issue for the ISS Department as indicated in its departmental Goals and Objective for 2001-2003 (see Goal 2.0, Objective 1.2 in *Appendix 22*).

Indianapolis, Indiana

The IT governance process for the City of Indianapolis/Marion County was established by ordinance (*Appendix 23*.) The ordinance creates a four-tiered organization for the provision of IT services, with responsibilities assigned as shown in Table 4 below.

²² Internal Audit Report No. 96-36, titled *Information Systems Services*, issued March 19, 1997, p.5.

²³ *Ibid.*, p. 5.

²⁴ Department response to Internal Audit Report No. 96-36, dated February 21, 1997, p. 4.

²⁵ *Ibid.*, p. 6. [Note: It was subsequently decided that development of the PPM dealing with the acquisition of computer equipment and software would be a joint project between OFMB and ISS. A draft PPM was finalized by OFMB in November 1999 (*Appendix 21*).

TABLE 4

**Key Participants in the
Indianapolis/Marion County IT Governance Process**

Participant	Responsibility
IT Board	IT policy development and overall direction, major IT contract approval, and IT budgetary request review and approval.
IT Integration and Coordinating Team (IT Team)	Assist in development and revision of technology standards, IT Board guidelines and benchmark processes.
IT Functional Teams [§]	Review standards, policies and procedures being considered by the IT Team for adoption, and communicate results back to their departments and agencies.
Chief Information Officer (CIO)	Day-to-day IT operation, contract performance monitoring, and technical advisor to the IT Board.

[§] Each city department and county agency is assigned to one of seven Functional Teams based on common interests or common data needs. Teams have been established for Administration; Community Support Services; Financial Services; GIS/Data Administration; Judicial; Property; and Public Safety.

The enabling ordinance also calls for the establishment of enterprise-wide standards, policies and procedures. Examples of microcomputer standards, IT infrastructure standards, and an Internet access policy are available on-line.

Maricopa County, Arizona

The IT governance process for Maricopa County is outlined in a five-page Policy and Procedures document (*Appendix 24*). The process it describes is a three-tiered “federated” structure to manage information technology with responsibilities as summarized in Table 5 on the following page. At each level in the structure, an IT function is autonomous except as it relates to the tiers above it, where it must follow the prevailing policies, standards, conventions and practices for purposes of business process and system integration. In that respect, the policy is built on the notion of a cascading series of rights and limitations. It incorporates detailed principles to provide guidance for the implementation and integration of future IT systems:

- Business units (e.g., departments) are fully responsible for the benefits and costs of information technology deployed in their operations.
- Data should be entered into the information system only once at the point of origin.

- Significant investment in new technology will be integrated with process improvements which focus on eliminating inefficient tasks and duplicate data.
- Common systems will be used for all similar business functions unless verifiable proof exists that some functions must remain different or unique.
- Shared systems resources and common data repositories will be used wherever possible.
- When additional technology capability is required, consideration will be given to enhancing existing systems before opting for entirely new systems.
- The preferred approach to new systems will be to integrate purchased applications that are based upon recognized industry standards and common user interfaces; custom development will be considered only as a last resort.
- Technology resources will be leveraged through the adoption of common standards and shared information.

TABLE 5

**Key Participants in the
Maricopa County, Arizona IT Governance Process**

Participant	Responsibility
Enterprise	Policy, standards, infrastructure, core systems, security, and telecommunications.
Community of Interest	Processes, systems, and data shared among departments.
Department	Systems internal to a specific department or function.

Authority and responsibility are also assigned to three “leadership” roles:

1. Business Leadership, comprising the Board of Supervisors, County Administrative Officer, and department heads;
2. Technology Leadership, comprising the Chief Information Officer and Technology Officer²⁶
3. Community of Interest, involving various departments and agencies.

²⁶ Person designated by a department head to manage IT operations at the business unit level. Depending on the size of IT operations, the position may be an Information Systems Director, an Information Center Manager, or a Microcomputer Technology Manager.

EVALUATION OF NEW I.T. SYSTEMS

As discussed in the “Best Practices” Survey section earlier in this report, most of the surveyed jurisdictions indicated the use of a formal evaluation process for deciding on new IT systems. However, no single form or set of questions was universally used to complete such an evaluation. Nevertheless, several project evaluation tools were located, and are described in the following section of this report.

Palm Beach County

With regard to the evaluation of new IT systems, the Governance Policies approved by the ISS Board state that:

“County agencies and constitutional organizations (the county) shall become fully responsible for the cost/benefit justifications presented for information technology they deploy in their operations . . . Agencies/Organizations will assume full accountability for delivering the productivity gains derived from information technologies, as committed in their business plans. The county shall subject existing and proposed business methods to risk-adjusted cost/benefit analyses using for comparison the best public and private sector results.”²⁷

In June of 1996, the ISS Department provided information to the BCC regarding an *Information Economics Model* adopted by the ISS Board. (A copy of the Information Economics Model is included as *Appendix 25*.) The stated objective of this model is “to provide standards and guidelines to cost justify the use of technology for the automation of county functions.”²⁸

The evaluation process consists of two components, a set of ten “decision factors” and four “evaluators,” as summarized in the table on page 23. The relative importance (positive) or risk (negative) associated with each decision factor is determined, and then a weight is assigned to each decision factor. A value ranging from 0 (low) to 5 (high) is then assigned to each evaluator. After all calculations are completed and a total score computed, a positive value is an indicator to proceed with the project while a negative value will indicate the need for further review, change or elimination of the project.

As part of Internal Audit Report No. 96-36, the Internal Auditor examined the use of cost/benefit analysis for major IT systems development. The Internal Auditor made the following findings regarding the Information Economics Model:

²⁷ PBC Governance Policies, issued on September 11, 1995, pp. 1-2.

²⁸ ISS *Information Economics Model*, p. 53.

- The model was to be used for evaluating alternative IT investments;
- The model required OFMB to verify the value of labor-cost savings;
- The procedure had not been issued or coordinated with OFMB and the procedure did not provide any specific guidance for estimating cost savings in order to perform a cost/benefit analysis.²⁹

TABLE 6

**Palm Beach County Information Economics Model
Evaluation and Ranking Form**

Decision Factor	Weight	Evaluators				Agreed Value	Weighted Value
		Line of Gov't	Finance	Planning	ISS		
Economic Impact (Rate of return on yearly cash flow)							
Strategic Business Alignment (Degree of alignment with county strategy)							
Performance Impact (Degree to which inter-organizational collaboration is facilitated or business advantage is achieved)							
Management Information Support (Degree of management information provided for key business unit activities)							
IT Planning Process (Performance Risk)							
Project/Organizational Risk (Degree to which the project is dependent on new or untested skills and management capabilities)							
Definitional Uncertainty (Degree to which the specifications for the project are ill-defined and/or unapproved)							
Technical Risk (Degree to which the project is dependent on new or untested skills, hardware, software and systems)							
Strategic IT Alignment (Degree to which the project is aligned with IT strategy and architecture)							
IT Investment (Degree to which other IT investments are prerequisites or required)							
						Total Score	

²⁹ Internal Audit Report No. 96-36, issued March 19, 1997, p. 2.

Based on these findings, the Internal Auditor made the following recommendation:

“We recommend that specific requirements be established for performing cost/benefit analyses as part of the feasibility review and project approval process. The procedure should also establish a mechanism for reporting actual results achieved with the expected results. Such cost/benefit analyses should be required for all information system projects above a specified amount.”³⁰

In his response to the Internal Auditor’s recommendation, the ISS Director indicated that the existing draft Information Economics Model would be finalized prior to June 1, 1997. Detailed procedures would also be written to formalize the methodology for investment modeling, and ISS would attempt to establish a process to measure and monitor the actual benefits received from investments in technology projects.³¹ To date, the Information Economics Model has not been finalized, and the related monitoring and measurement procedures have not been established.

Indianapolis, Indiana

One of the strategic initiatives evaluated by SCT Corporation in the Comprehensive Technology Master Plan involved what was referred to as an *Annual Work Plan* (AWP). The AWP details the specific operational tasks, software and computer hardware to be acquired during the upcoming year. It is developed in concert with Indianapolis/Marion County’s budget preparation cycle. Subsequently, the adopted AWP becomes the basis of IT budget requests for each fiscal year. According to SCT, the AWP “is that document that takes the approved departmental and enterprise-wide needs and articulates the cost/benefit and resource allocations to a very detailed level.”³²

SCT recommended that Indianapolis/Marion County implement an objective methodology and system for setting priorities and selecting projects as part of the city/county’s AWP process. SCT’s proposed system involves the use of eight evaluation criteria with points assigned to each criterion as shown in Table 7 on page 25. A more detailed version of the system proposed by SCT is included as *Appendix 26*.

³⁰ *Ibid.*, pp. 2-3.

³¹ Department response to Internal Audit No. 96-36, dated February 21, 1997. [Note: It is noteworthy that an early test of the policy requiring that a cost/benefit analysis be performed was to involve PZ&B’s proposed Development Management System. We are not aware that such an analysis was performed as part of that project evaluation.]

³² Indianapolis/Marion County, Indiana Comprehensive Technology Master Plan, p. 4-53.

TABLE 7

**Indianapolis/Marion County, Indiana
IT Application Evaluation Criteria**

Criterion	Point Range	No. Categories	Point Assignment Basis
Cost avoidance	0-10	5	% payback over time
Cost savings	0-10	5	% payback over time
Improved management	0-10	3	Level of improved management
Legal requirements	0-20	4	Compliance criticality; timing; impact on existing applications
Multiple use systems	0-10	4	Number of benefiting departments
Non General Fund	0-10	2	Funding source
Service to public	0-10	3	Population served; level of service improvement
Unique circumstances	0-10	n/a	Potential for recurrence
Maximum points	90		

Maricopa County, Arizona

As part of its evaluation process, Maricopa County has identified “minimal justification” criteria depending on the nature of the IT request. IT requests are first classified according to the following five types: personnel, business operations, hardware, software, and contract services. For each type of request (e.g., software), standard requirements (i.e., problems or needs) have been predefined (e.g., obsolescence). Specific justification involving obsolete software would include a written statement from the vendor regarding non-support and a written statement declaring lack of third-party support. A chart summarizing the minimal justifications utilized by Maricopa County is included as *Appendix 27*.

State of Oregon

Oregon Statutes specify that the State Department of Administrative Services is responsible for planning for, acquiring, implementing and managing the state’s information resources through the adoption of rules, policies, procedures, standards, and guidelines.³³ To this end, the department has

³³ State of Oregon, Department of Administrative Services, Policy Number 03-03, issued February 1995, Abstract section.

established a set of policies governing the acquisition of information technology resources.

Policy Number 03-06 identifies four approval thresholds, based on costs, for the acquisition of hardware, software and personal services contracts, each with its own set of evaluation requirements. (A copy of Policy Number 03-06 is included as *Appendix 28*.) The table below summarizes these thresholds and related requirements.

TABLE 8

**State of Oregon
IT Approval Authority Matrix**

Cost Value	Evaluation Requirements			
	Info Resource Request Form	Dept of Adm Svcs Approval	Feasibility Study	Cost/Benefit Analysis
\$1 to \$24,999				
\$25,000 to \$74,999	•			
\$75,000 to \$124,999	•	•	•	
Greater than \$125,000	•	•	•	•

The *Information Resource Request (IRR)* form is a one page standard form that consists of checklists and fill-in-the-blank fields. It serves as a reference document for all the analyses and justification that occurred before the request was sent to the Department of Administrative Services by summarizing the quantity and type of hardware, software, or services sought along with costs, benefits, and funding source. A copy of the IRR form is included as *Appendix 29*.

A feasibility study is required for projects which cost \$75,000 or more to develop or acquire. The feasibility study is used to determine and document if a project can be done (a technical proposition), if it should be done (a question for decision-makers) and, finally, if it will be done (an operational matter). A *Feasibility Study Procedure Guideline (Appendix 30)* has been developed to assist with this process. In addition to outlining each participant’s role in the feasibility study process, the Guideline identifies an eight-part process for preparing a feasibility study. The process is summarized in the following table.

TABLE 9

The State of Oregon Uses an Eight Step Process for Determining IT Project Feasibility

Part	Activity	Task
1	Problem description	Write a concise statement of the problem to be solved, available opportunity, or mandate.
2	Identify success factors	Determine what results must be achieved to satisfy the problem defined in Part 1.
3	Describe current situation	Identify how things are being done now and what resources are available.
4	Consider approaches	List practical approaches, compare costs and benefits, and select the best alternative.
5	Solution analysis	Describe impacts of recommended approach.
6	Implementation schedule	Identify critical implementation elements and establish reporting milestones.
7	Management approval	Obtain key players' endorsements and management's approval.
8	Supporting documentation	

In addition to a feasibility study, a formal cost/benefit analysis is required for projects which cost \$125,000 or more to develop or acquire. Specific costs and benefits must be identified for at least three viable alternatives which focus on computing architectures (microcomputer, minicomputer, mainframe), computing philosophies (centralized, distributed, timeshare), or a combination of the two. A *Cost/Benefit Study Procedure* has been developed to assist with this process (*Appendix 31*). In addition to outlining each participant's role in the process, the procedure identifies nine tasks for preparing a cost/benefit analysis. Electronic spreadsheet-based forms have been developed to summarize cost, benefit, and risk information associated with certain tasks (*Appendix 32*). These tasks are summarized in the table on page 28.

As part of a post-implementation review procedure, agencies are required to conduct periodic reviews of major information systems in order to discover any problems so that plans and budgets can be developed for needed improvements, replacements or re-engineering. Information systems with acquisition or development costs over \$500,000 are reviewed for effectiveness within two years after project completion. The review updates the initial cost/benefit analysis, surveys users to see how well the system meets their requirements, and evaluates the system's technical performance.

TABLE 10

State of Oregon IT Cost/Benefit Analysis Steps

Task	Element	Content	Form
1	Project narrative	Problem statement, approaches considered, and recommended approach from feasibility study	
2	Development and operating costs	Personal services, operating and capital outlay costs, and reduced revenue.	1, 2
3	Tangible benefits	Cost reduction, revenue or reimbursements	3
4	Intangible costs and benefits	Description of intangible benefits and associated recipients	4
5	Net benefit and present value determination	Final discounted costs and benefits	5
6	Risk analysis	Measurement of potential economic, operational and technical risk	6
7	Alternatives comparison	Summary information for each alternative	7
8	Project summary document	Study summary, recommendations, and approvals	
9	Re-program study with actual bid prices	Re-calculated discounted costs and benefits based on actual bid prices.	5

Future Directions

The preceding sections of this report have pinpointed several major issues impacting the provision of IT services in the county, described past planning and operational mechanisms used to guide service provision efforts, and identified methods used by other jurisdictions to structure their IT decisions. Through a process of extensive document review, telephone interviews, and review of on-line examples of IT planning and evaluation tools, we offer our assessment with respect to the overall structure within which IT services are provided in the county, and present our recommendations to improve this structure. Our concepts are graphically depicted on page 3 of the report.

Key decisions remain to be made or re-affirmed to provide strategic guidance for future IT development, and to keep future automation investments properly aligned with the fundamental business needs of the county

At a minimum, items to be addressed would include each of the following:

- Comprehensive examination of the level of IT decentralization which has evolved in Palm Beach County. This review is necessary to determine where the county should be in terms of centralized control versus distributed systems, and to assess the subsequent impact on priority setting, coordination among functions, and operational implications. It should include BCC departments, Constitutional Officers, and the Judiciary, and their relationships with the ISS Department. While the county cannot dictate or control the IT decisions of the independent elected officials, it can offer an IT framework within which the Constitutionals can benefit by their willing participation. The current model used for the county's GIS offers one possible approach.
- Role that e-government should play in the delivery of county services. As a first step, the county will need to decide to what extent it intends to use the Web to interact with, as opposed to merely inform, users. This will involve a decision on the use of available technology for submission and review of electronic documents and full transactional processing, compared to the current use of the Web to provide static information, permit downloading of forms and permit status checks for applications. Criteria will then have to be established to determine which services are the best candidates for being provided on-line (e.g., high volume, counter-oriented transactions requiring significant staff time). Finally, an option should be added on the county's main Web page which immediately takes the user to a Web page listing all available e-services for the county, including e-services provided by elected officials.
- Long-range plan for GIS in Palm Beach County. The "stakeholder visioning exercise" and topics for consideration recommended by GeoAnalytics (*see page 9 of this report*) for the county's GIS is a logical first step to developing this long-range plan. In addition to the members of the GIS Policy Advisory Committee and the GIS Project Management Team, the members of the Countywide GIS Forum should also be included in this exercise. Additionally, data elements not identified by GeoAnalytics should be evaluated for potential inclusion in the GIS, with implementation plans and budgets developed accordingly. Finally, an option should be added on the county's main Web page or Site Index which immediately takes the viewer to a Web page listing all GIS Web sites for the county, including sites maintained by elected officials.
- Level of privatization of the IT function in Palm Beach County. As a preliminary step, jurisdictions should be contacted which have partially or completely outsourced their IT functions in order to ascertain the costs and benefits and to learn how successfully these transformations have actually worked for the users involved.

A committee, including members from County Administration, ISS, OFMB and several operating departments, should be established to address these

issues, with resulting recommendations constituting a set of “guiding principles” for IT development.

The “Technology Transformation Plan” is dated, limiting its further usefulness. It should be updated or a new plan commissioned. Consistent with past practice, and in order to maintain a countywide perspective and elicit the Constitutional Officers’ support, the plan should be prepared by an outside consultant

The new plan should include the following components:

1. A Vision Statement of recommended IT service delivery;³⁴
2. A set of IT strategic goals with proposed implementation dates. Direction/timeframes should be provided for issues such as:
 - Full transactional processing between the public and the county
 - Document management/imaging
 - Information sharing among county users
 - GIS enhancement/expansion³⁵
3. An environmental scan of the IT industry to determine industry direction and available products;
4. A status report on the progress made to date on five information technology infrastructure elements identified in the original *Technology Transformation Plan* (specifically, systems architecture, networking, ISS organization and skills, applications, and systems management).
5. An updated three- to five-year program for IT infrastructure development and IT operations.³⁶

The Governance Policies have not been used as intended. They should be updated, formally adopted and adhered to

The updated policies should include the following components:

1. An operational structure with established levels based on a defined hierarchy. At a minimum, the following levels should be included:
 - Enterprise
 - Functional — involving more than one department or agency
 - Business Unit — department or agency
2. An outline of authority and responsibility for each participant in the IT decision-making process, from the Board of County Commissioners through ISS to the end-user department or agency.

³⁴ See IT Vision Statement for Indianapolis on page 14 for an example.

³⁵ See IT goals for Maricopa County on pages 15-16 for additional examples.

³⁶ See IT strategic initiatives for Indianapolis on page 15 for examples of IT elements to be included.

3. A set of non-technical and implementable policies for the acquisition, use and maintenance of IT systems. At a minimum, the following policies should be included:
 - Requirement for common standards, particularly at the enterprise level, and policies for granting exceptions;
 - Policy maximizing flexibility at the lowest (business unit) level in the operational structure, except as it relates to the tiers above—functional and enterprise—where it must adhere to the prevailing policies, standards, conventions and practices for purposes of business process and system integration;
 - Process to evaluate existing business methods to identify and eliminate inefficient tasks and duplicate data prior to application of information technology;
 - Use of purchased applications over custom development;
 - Requirement for cost/benefit analyses for IT systems above a specified cost threshold;
 - Post-implementation review procedure.³⁷

It is specifically recommended that the draft Countywide PPM for the acquisition of IT resources be finalized and issued. Issuance of this PPM will facilitate implementation of the specific Governance Policy covering IT resource acquisitions by delineating how the policy should be implemented and by whom.

Existing methods used to evaluate new IT systems are inadequate and not utilized. A formal evaluation process for new IT systems should be developed which utilizes a set of established business principles to facilitate decision-making

The evaluation process should include the following components:

1. Standard checklist identifying the rationale for changing IT systems. Possible factors would include:
 - Obsolete technology
 - Limited or no future vendor support
 - Decline in processing speed to an unacceptable level
 - Volume of data becoming too large for current system
 - New capabilities required as, for example, by federal or state mandates
 - New capabilities desired, including such things as web-enabled systems

³⁷ See also the list of guiding principles for Maricopa County on pages 20-21 for additional examples of IT policies.

- Inability of existing systems to interact with other existing or planned systems
2. Detailed cost/benefit analyses of various IT alternative solutions. Factors used to determine the optimal IT system would include those systems with:
 - Highest productivity
 - Lowest cost
 - Greatest reliability
 - Maximum interactivity³⁸
 3. A mechanism for reporting actual results achieved compared with expected results

The actual timing for acquisition of major new IT systems would be determined by the new strategic plan.

³⁸ See also the discussion of the cost/benefit analysis process used by the State of Oregon on pages 27-28 for potential elements to be included.