

INPUT MEMORANDUM

To Shuj
MVG

DATE: June 29, 1993

FROM: Bob Goodwin

TO: Andrea Jeris

SUBJECT: Transmittal letter, state & local govt. report

CC:

DRAFT LETTER OF TRANSMITTAL

Dear Colleague,

Enclosed is your copy of INPUT's 1993 report on the State and Local Government industry. This edition, covering the 1993-1998 period, continues our new approach to major vertical markets, in that it combines the traditional INPUT interview-based survey and forecast activity, with the vision of an industry expert. INPUT believes that this combined approach strengthens our assessment of the trends, issues, technology and market developments that currently drive this market.

For this report, INPUT interviewed a broad range of users and Managers of Information Systems, plus a number of leading vendors of information services to the industry. This survey base, coupled with the knowledge of an experienced industry specialist, has resulted in what we feel is a highly informative and insightful report.

I would be pleased to receive your opinions and suggestions on this or any other of our reports in this new format.

Sincerely,

Bob Goodwin



INPUT

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August 1993

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Sincerely,



Robert Goodwin
Manager
Information Services Market Analysis Program

Enc.



VERTICAL MARKET ANALYSIS

STATE AND LOCAL
GOVERNMENT

1993-1998

**U.S. Information Services
Market Analysis Program**



AUGUST 1993

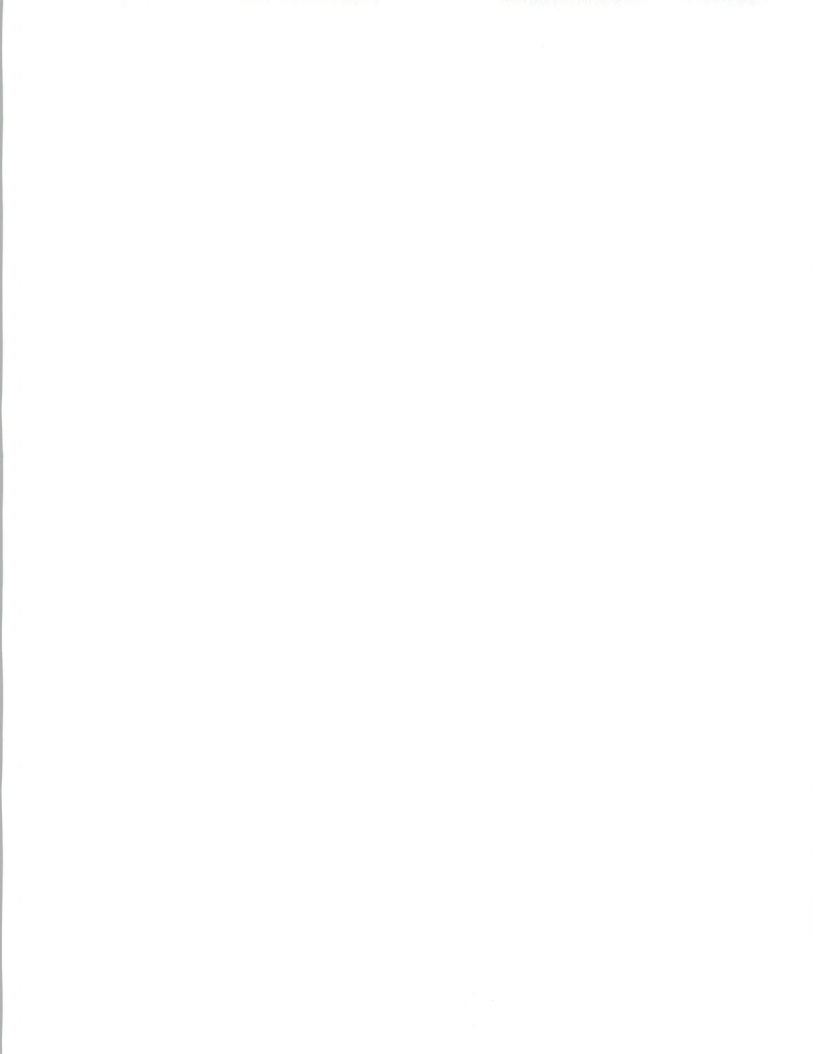
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1993-1998

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**Information Services Market Analysis Program
(MAP)**

State and Local Government

***Information Services Opportunities & Trends
1993-1998***

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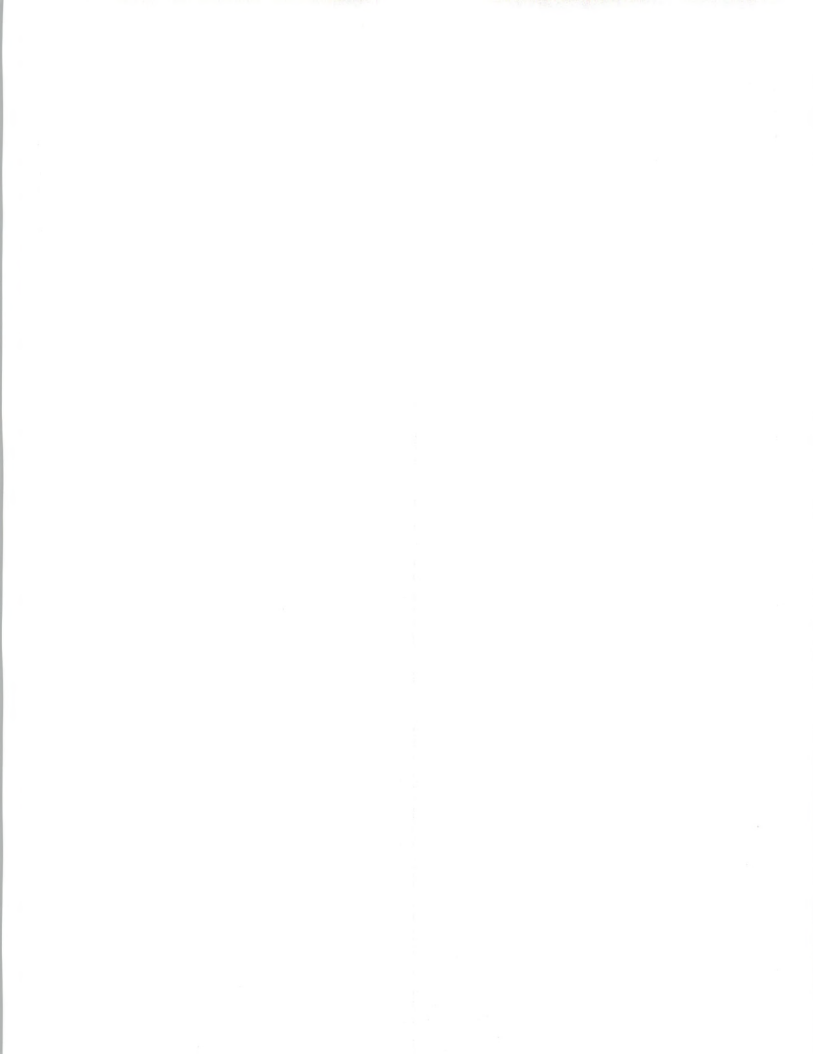


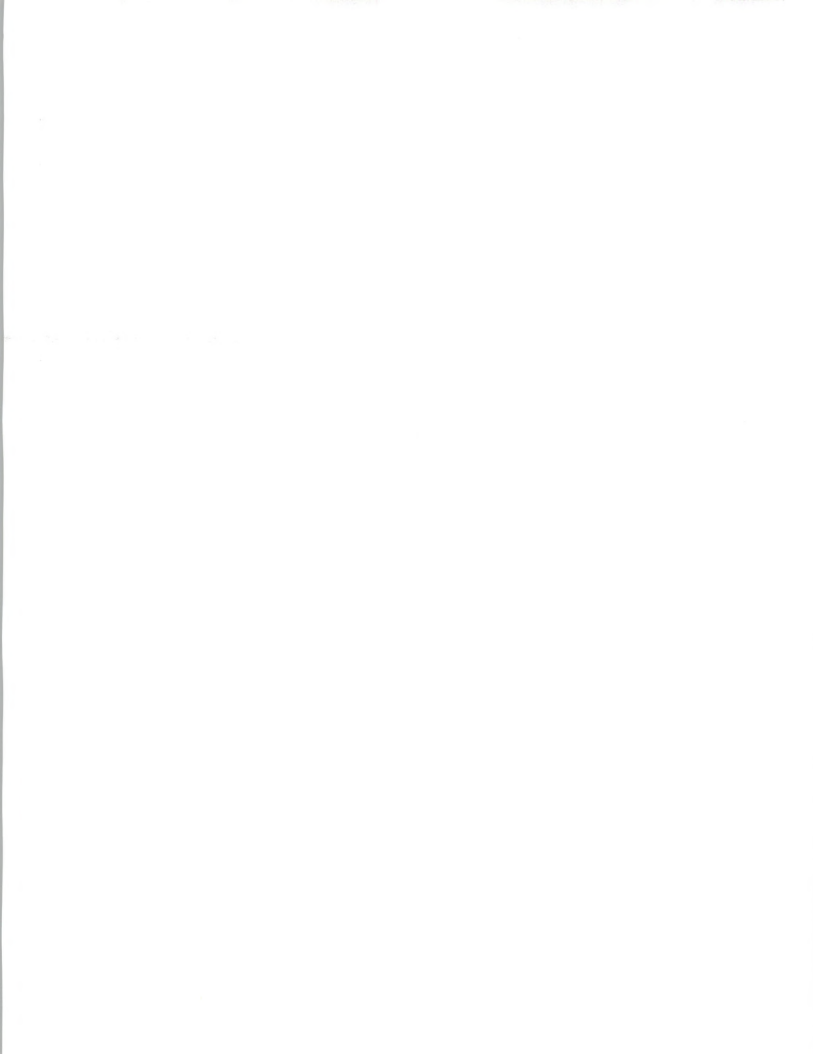
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Introduction

A

Purpose and Methodology

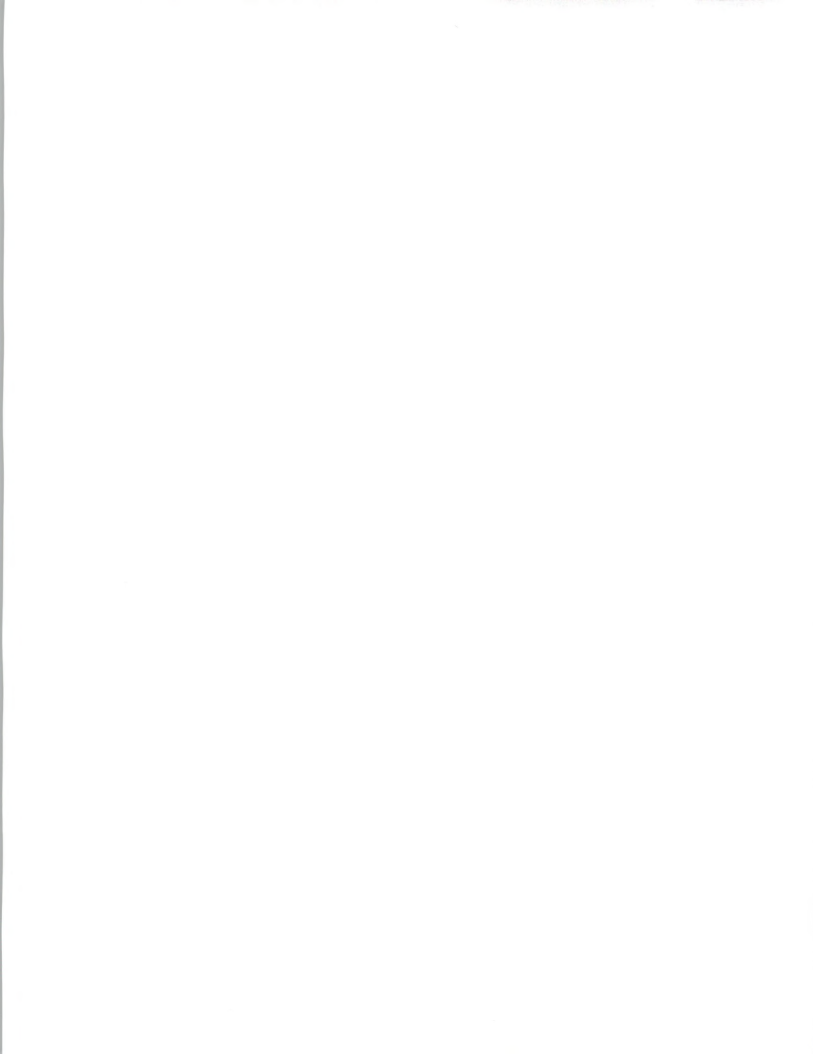
1. Purpose

The objectives of this Market Analysis Program industry sector report are to:

- Introduce the reader to the state and local government sector structure and demographics.
- Identify the business issues and trends that are driving the use of information services in the sector.
- Discuss how state and local government organizations use information services, and the issues facing their information systems organizations.
- Discuss the information services market within the state and local government sector, including market-sizing factors driving market demand for each delivery mode.
- Describe the competitive environment and profile-leading information services vendors that sell to the state and local government sector.

2. Methodology

This report is based on data gathered during 1992 and 1993 as part of INPUT's ongoing market analysis program. Trends, market size, and growth rates are based primarily upon in-depth interviews with state and local government users and the IS vendors serving this sector. INPUT maintains ongoing relationships with, and a data base of, all users and vendors that it interviews. Interviewees for the research portion of this report were selected from the data base of contacts.



To prepare this report, INPUT interviewed end-users and information systems executives in large and small state and local governments. Data obtained from the interviews was used as a base to analyze spending levels and patterns, and trends in the application of technology. Data gathered from interviews was augmented by budget data received from such agencies.

In addition to interviews with state and local government information end-users and information systems executives, INPUT interviewed leading vendors in the sector. Vendor interviews were conducted to develop an understanding of vendor issues and opportunities.

In addition to data gathered from interviews from vendors and users, extensive use was made of INPUT's corporate library. The resources of this library include several on-line periodical data bases, subscriptions to over 50 computer and general business periodicals, continually updated files on over 3,000 information service vendors, and up-to-date U.S. Department of Commerce publications on industry and employment statistics.

B

Industry Structure

The *Statistical Abstract of the United States 1992* identifies 83,236 state and local governments extant as of the end of 1987. (The federal government gathers data only once every five years, for years ending with a two or a seven.) Of the total, there are 83,186 local government entities, grouped as follows:

- 3,042 County
- 19,200 Municipal
- 16,691 Township and Town
- 14,721 School District
- 29,532 Special District

When considering the needs and requirements for information services, it is necessary to note the following:

- INPUT analyzes the education market (including school districts) as a separate vertical sector. The number of school districts therefore needs to be subtracted from the total.
- Of the total counties (3,042), 398 of them (13%) have a population of more than 100,000. At the other end of the spectrum, 23% (696) of the counties have populations of less than 10,000 people.

- Of the total municipalities (19,200), only 5% (1,029) have populations of more than 25,000. However, these represent approximately 67% of the population of this group.
- Two percent of the towns and townships (278) have populations of more than 25,000. However, unlike municipalities, 60% of the population is in both towns and townships of less than 25,000.

After considering factors such as uniqueness of needs and areas of greatest opportunity, INPUT believes that the state and local government market can be divided into two major groups.

- Approximately 1,200 state and local government entities (local, county and municipal) that represent the majority of the population
- An additional group composed of the special districts that provide service to one or more of the local government areas

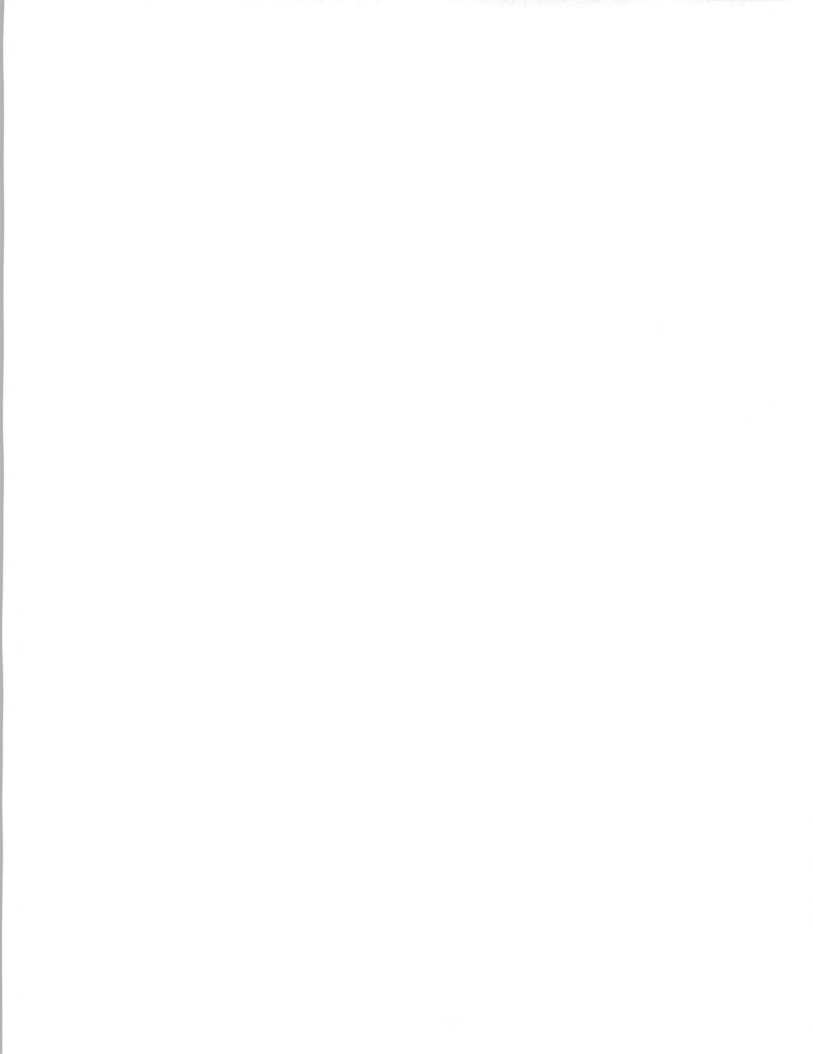
This report focuses on these entities as the source of the greatest opportunity.

C

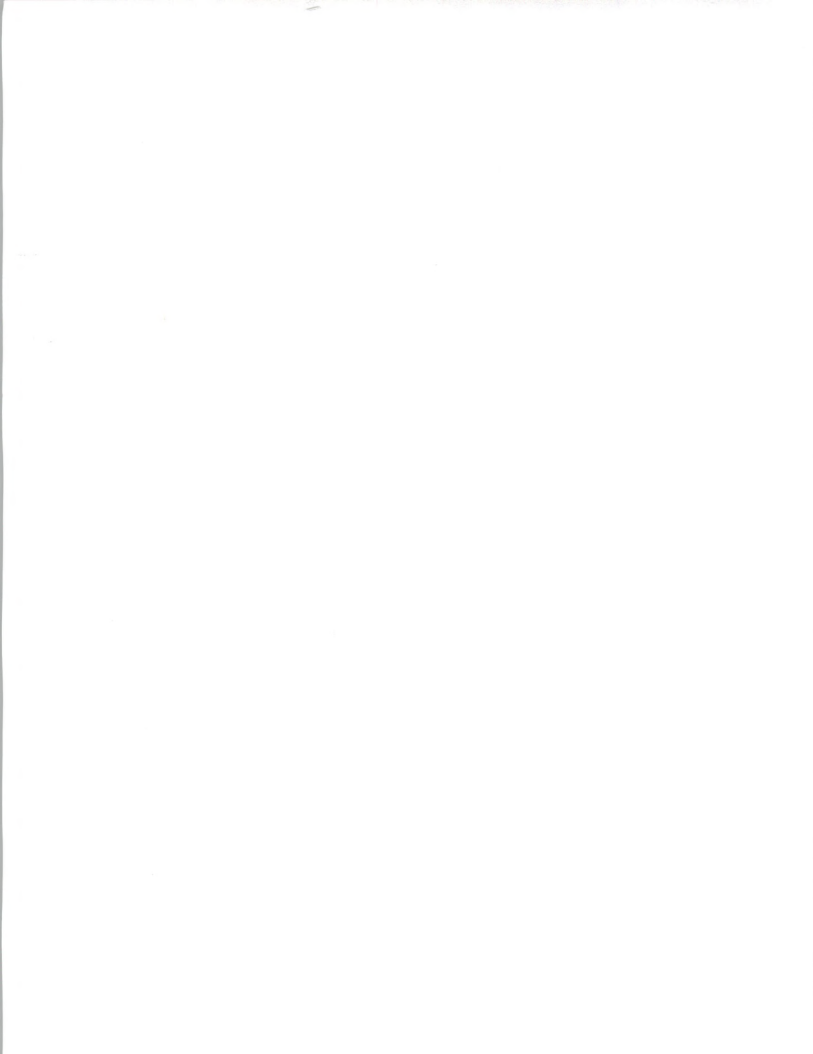
Organization and Contents

Following this introduction, the report is organized into five chapters and two appendices.

- Chapter II—Trends, Issues and Events—describes the business issues and trends that are driving the use of information services within the sector.
- Chapter III—Information Systems Environment—provides an overview of the basic business processes in the state and local government sector and their supporting information systems applications. The chapter considers how information is used, the impact of new technologies on the use of information systems, and issues related to budgets and organizations.
- Chapter IV—Information Systems Market—provides a forecast for information services in the state and local government markets. Following the forecast for the sector, the forecast is analyzed by delivery mode.
- Chapter V—Competitive Environment—discusses the competitive environment within the state and local government sector. This chapter provides a brief profile of several vendors which represent major trends in the sector.



- Chapter VI—Conclusions and Recommendations—provides a summary of the major areas of opportunity resulting from the research, and recommendations to vendors entering or expanding into the state and local government sector.
- Appendix A presents the Forecast Data Base and Forecast Reconciliation. The forecast data base contains the yearly (1993-1998) forecasts of user expenditures by delivery mode for the state and local government sector. The forecast reconciliation compares this report's forecast with the forecast provided in INPUT's earlier state and local government report and explains the reasons for any major differences.





Trends, Issues, and Events

A

Trends

State and local governments are caught in a squeeze. On the one hand, there are tremendous pressures to increase spending. An aging population is demanding increased health and public safety services, a weak economy is increasing social welfare costs, and inflation, though at its lowest levels in years, drives up the cost of the wages, goods, and services needed to operate government.

On the other hand, state and local governments' revenues are flat at best, and in most cases have decreased significantly, as a weak economy has eroded sales and income taxes. In better times, governments could simply watch revenues grow as incomes and sales increased, or could increase taxes, but those days have passed.

Nor is there help from Washington. Federal budget pressures have caused the shifting of responsibility from the federal level to the state level. At the same time, state budget limitations have reduced the states' ability to assist local governments.

Government executives generally want to provide more cost-effective methods of delivering services, and many recognize that information systems offer alternatives for cost effectiveness, but are unable to provide more funding to information systems departments.

At the same time, many information systems executives are frustrated and dissatisfied about being unable to apply technology that they know could result in improved operational and cost effectiveness.

One result of these conflicting pressures is the emergence of entrepreneurial managers, particularly at the local government level. They are finding ways to finance those information systems acquisitions which offer quick pay back. They are outsourcing an increasing number of operations such as parking ticket collections and ambulance run collections, to reduce costs and increase revenues at the same time.



These entrepreneurial managers are focusing on connectivity and interoperability of government systems to improve operations effectiveness. They are tying together different systems so, for example, citizens with unpaid parking tickets cannot renew their vehicle or driver permits until those tickets have been paid.

They are implementing electronic bulletin boards and on-line access to files such as assessment and property records, thereby improving public access to government information without hiring more clerks and increasing operating costs.

Vendors who can demonstrate fast pay back on the investment in their equipment, software, or services find that they can get the attention and support of these entrepreneurial managers. In the words of one systems integrator, "These days, city and county managers will listen to a business proposition which saves money even if there is no budget for it. If your proposition makes sense, they will take it to the council and get the funding approved."

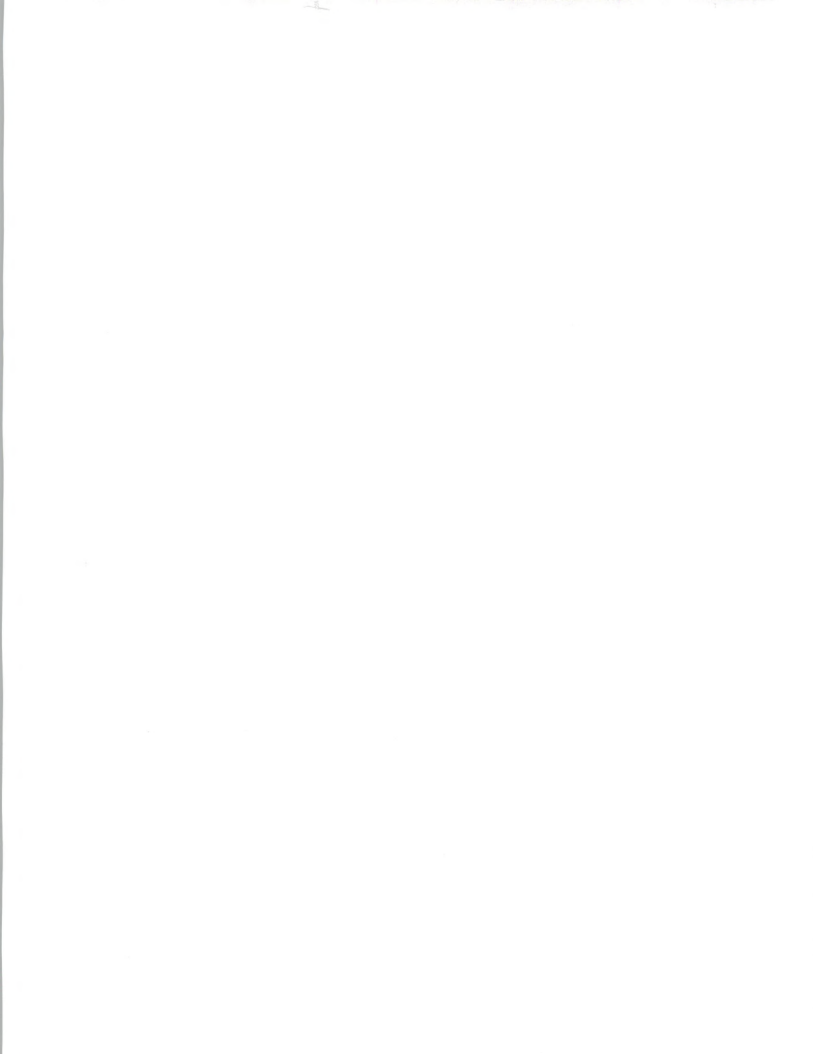
A number of information service vendors have learned to deal with the needs, politics, divided management responsibilities, methods of funding and budgeting, and staff problems that can be encountered in the sector. Selling to this sector requires careful analysis of the business factors and personalities involved in each sales situation.

During the last few years, there has been an increase in commitments by state and local governments which require new IS capabilities. Information services, particularly professional services and systems integration, will continue to grow during the next five years as a result. Key trends include those summarized in Exhibit II-1.

EXHIBIT II-1

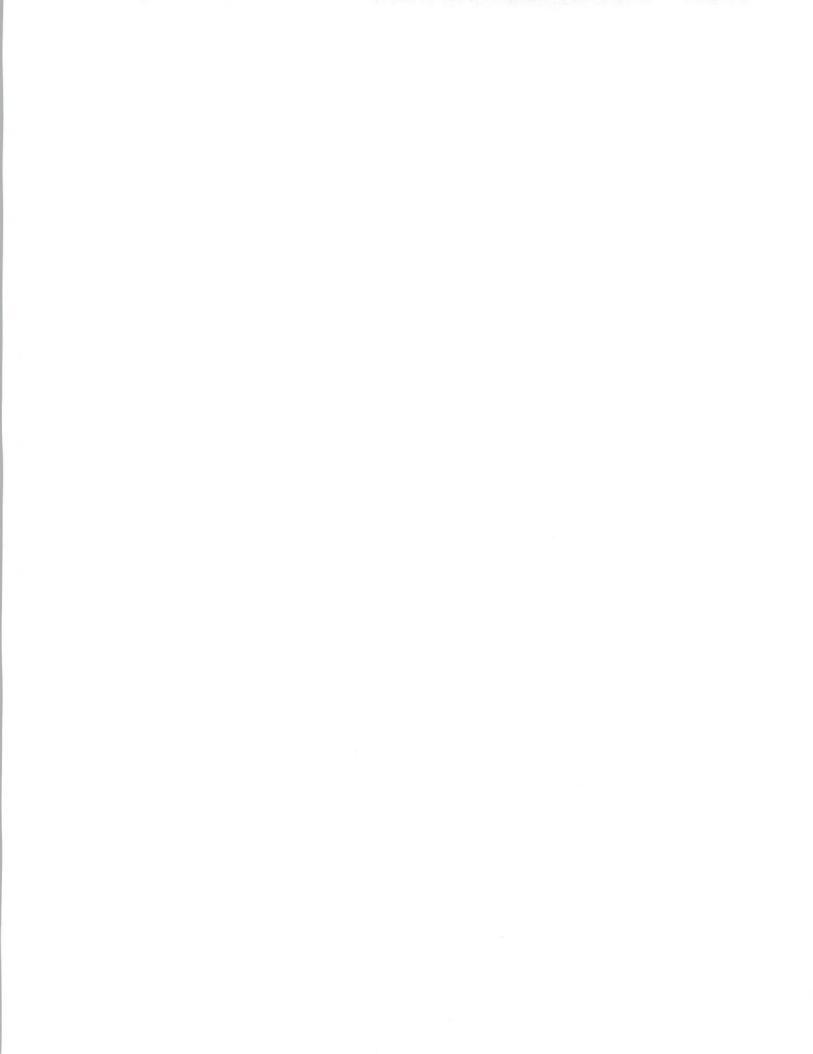
State and Local Government Industry Trends

- Increasing budget pressures
- Increasing IS solution demand
- Increasing demand for services from public
- Emergence of entrepreneurial managers
- Connectivity/interoperability
- Public data access/dissemination



- Reduced funding continues to be a major concern for both users and vendors. For vendors, the situation is not dissimilar to that in the private sector, in which many companies have delayed funding new projects due to lack of capital. The result has been an increasing focus on shorter and less costly projects that have a demonstrable short-term pay back.
- The need for short-term pay back can be a critical factor. Projects that can provide a clearly identifiable, early return may frequently receive funding where other long-term projects may not.
- Increasing focus on information systems as a solution can be a double-edged sword. On one side, vendors who can demonstrate tangible results can find greater opportunities. On the other side, many state and local government executives do not appreciate the high investments associated with technology solutions, making the sales job more difficult.
- Though growth of PCs and LANs is expected to continue, large main-frame systems will still be needed to support the large data bases, as well as new storage intensive applications such as electronic imaging and geographic information systems.
- The importance of connectivity and interoperability is growing in state and local government. As with the federal government, there is need for connectivity between a wide variety of hardware types. To date, state and local governments have focused on LAN connectivity, but demand is growing for comprehensive intra- and inter-department networks that will connect to large data bases, and for open systems standards.
- Public access to information and the ability to disseminate services electronically continues to grow rapidly in both state and local governments. Direct interaction with the public through on-line systems to request information and request and receive benefits is becoming more widespread.

The trend to on-line systems that connect directly to the public introduces significant social concerns regarding access by the poor and the elderly, as well as the need for strict security controls. These concerns can inhibit the drive to improve efficiency and reduce costs.



B**Major Issues for Information Systems (IS) Managers**

During May and June of 1993, INPUT conducted a series of interviews of state and local government IS managers. Major issues expressed by the IS department managers are summarized in Exhibit II-2.

EXHIBIT II-2

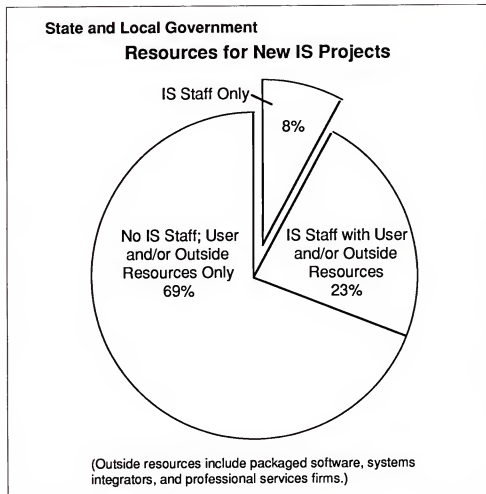
State and Local Government**Key Issues: IS Department Managers**

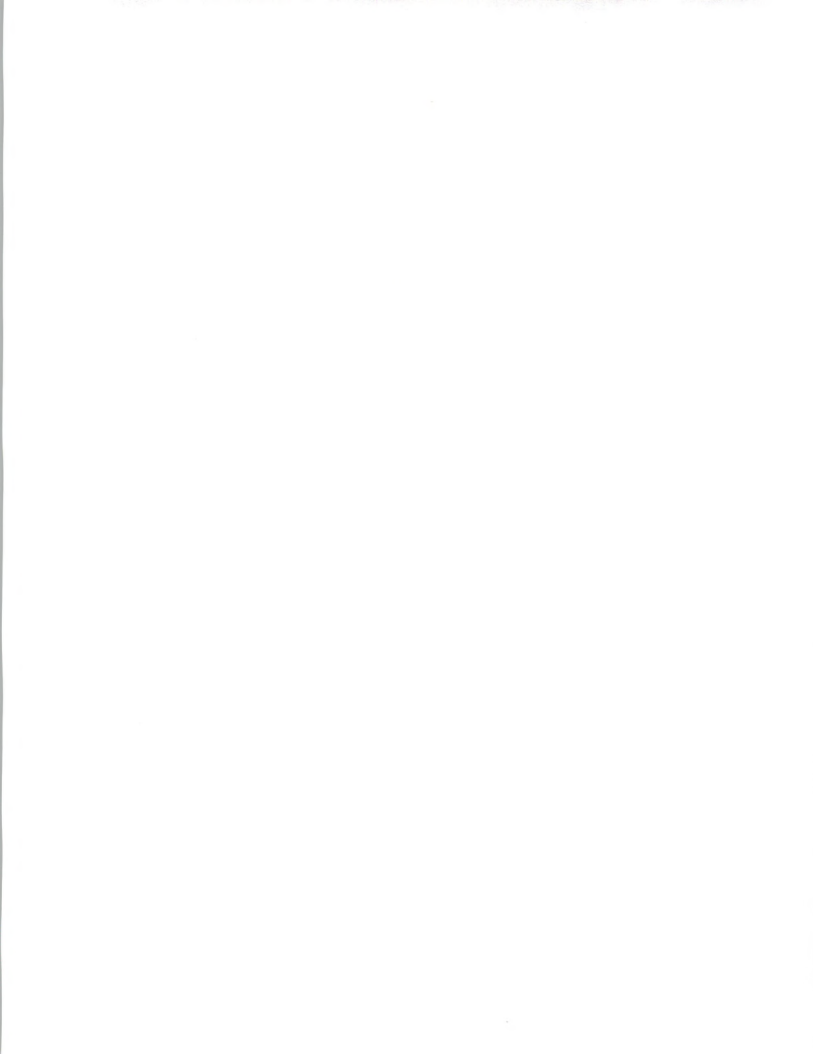
- Growing user expectations.
 - Increasing demand for new applications to improve efficiency and reduce costs.
 - Limited budgets.
 - Consolidation of mainframes to reduce costs.
 - Connectivity.
-
- User department executives in this sector increasingly expect to improve operational and cost effectiveness, through the use of information technology. However, they are frequently unable to provide funding for IS projects.
 - Systems solutions are increasingly complex. Until recently, systems were developed to meet the specific needs of a department or work group within a department. Users and officials now demand integrated systems for human resources, social service, taxes, courts, criminal justice, and public safety. Systems solutions now span multiple departments and even agencies. They need to integrate a wide variety of functions across a wide geographic area.
 - Few state or local governments have comprehensive plans for the use of technology. Many require an annual technology plan, but the plan is generally for a single department. Few state or local governments have developed and acted upon comprehensive plans to address needs over the next five years.
 - Due to budget pressures and staff reductions, only eight percent of IS executives interviewed plan to use in-house resources exclusively to implement new applications. The remainder plans to implement new applications with user department personnel and packaged software, or with the assistance of outside professional services firms and systems integrators.



- A surprising 69% will implement new applications without using any in-house IS staff. Though somewhat more pronounced, this is consistent with the trend in the private sector.
- There is no evidence that the mainframe will disappear from the state and local sector any time soon. In fact, 53% of agencies surveyed say that they plan to use mainframes, at least in part, in planned IS projects, while only 14% of agencies surveyed plan to use mid-range computers.
- Fifty-six percent plan to use desktop systems and LANs for their IS projects.
- The need for the integration of existing data and applications with new technologies is already an issue in this sector. Examples include the use of automatic vehicle locator (AVL) systems with new or existing ambulance dispatch systems, and imaging technology with geographic information systems (GIS). However, unless the application of these new technologies can demonstrate a clear reduction in costs, funding is not likely to be forthcoming.

EXHIBIT II-3





- The budgeting process in many state and local governments is an inhibiting factor to technology planning. Most follow the practice of using current operating expenses as a baseline, with incremental amounts to reflect increases in costs. Major new projects, such as information systems, are highlighted as separate line items in departmental budgets.
- A number of states are consolidating separate mainframes in an effort to reduce operating costs.

Major IS issues will be substantially the same over the next several years. Funding will remain a significant problem, and IS managers' top priority for new development will be responding to legislated requirements. Given budget pressures, they will have a very limited capability to execute comprehensive technology plans.

Despite the tremendous investment in information systems over the years, the mountain of paper work keeps getting larger, and ultimately undermines productivity of workers in state and local government. One estimate is that a social worker must file over a hundred federal, state, and local forms for a typical case. Most of the information on these forms is redundant.

C

Major Issues for End Users

Major end-user issues in the state and local government sector were researched through discussions with end-users themselves, as well as with IS managers and vendors. Vendors should consider the issues identified in Exhibit-II-4 when planning product and service offerings to this sector.

EXHIBIT-II-4

State and Local Government

Key Issues Information Systems Users

- Support of new desktop applications
- Connectivity
- Legislative Mandate

Connectivity continues to be a major issue for end-users, since there are many needs which involve access by legislators, city planners, controllers or program offices to financial, human resource, and benefits and services data bases. Increasingly, users in this sector are looking to vendors to provide network expertise.



As shown earlier, users are having an increasingly strong role in planning and implementing IS projects, while the role of the IS department is being reduced or eliminated. Professional service firms and systems integrators will play a major role in working with these users, especially on issues involving connectivity and interoperability.

Training and support is a consistent theme in interviews with the end-user. IS management, and increasingly vendors, must plan to adequately train and support users. Vendors interested in this sector should explore end-user training and support service offerings which build relationships while providing cost-effective training and support.

In many cases, the top priority for new applications will be dictated by legislated requirements. For example, in an effort to better measure hate crimes, child abuse, crimes against the elderly, etc., the federal Department of Justice now requires that the states change their crime-reporting to an incident basis. This has required many states and individual law enforcement agencies to completely revamp their reporting requirements. Texas has mandated a new emergency medical service-reporting scheme, with similar effects on local government.

D

Events

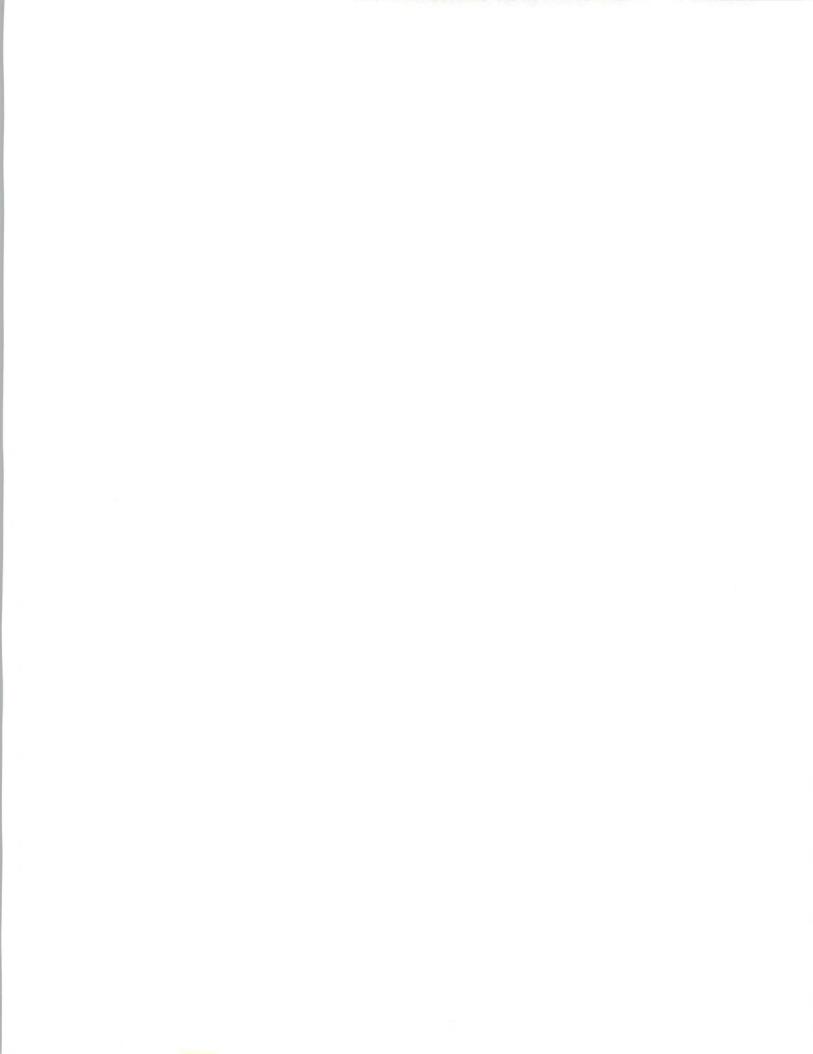
A number of events in state and local governments during late 1992 and early 1993 attest to the budget pressures and difficulties faced by IS management and state and local officials. Other events serve as strong indicators of the type of information systems needed to meet requirements in the future.

- Despite slashing general fund expenditures by seven percent, California expects a record deficit of \$6 to \$7.5 billion in the fiscal year beginning July 1, 1993.
- The Maricopa County Superior Court in Arizona has implemented a touch-screen system which permits members of the public to print court-approved divorce papers and eviction notices and to calculate child support payments. The system also provides free instructions in English and Spanish for filing these forms, and on a variety of legal matters such as collecting small claims and resolving landlord disputes.
- Michigan awarded a major contract to Unisys to develop a new client/server system to support over 6,000 welfare case workers. The system is expected to save \$40 million each year by reducing the number of errors and fraud which have plagued the existing network.



- In a program designed to provide equal access to educational technology, Indiana has set up a partnership between Apple, IBM, the Lilly Foundation and the Indiana Corporation for Science and Technology. The project, called the Buddy Project, is placing computers in the homes of 2000 students in grades 4 through 12.
- The Board of Supervisors from the City and County of San Francisco, in an effort to establish the city as an international multi-media center, passed a broad resolution to foster growth in the industry. The resolution calls for zoning law changes to allow for high-bandwidth telecommunications, and will support a multi-media center and library with funds from the hotel tax fund.
- The federal government agreed to cover 90% of the information systems planned by welfare departments in 30 states.

These events demonstrate that this sector is interested in applying information technology to solve problems, and also highlight the increasingly difficult financial choices facing policy makers.





Information Systems Environment

A

Applications

In the more than 83,000 state and local government entities, there are over 200,000 equipment sites and a wide range of information systems. Systems range from archaic equipment and early PCs to sophisticated networks using advanced systems and software. Ironically, small and medium-sized cities and towns, as well as small counties which were late to install information systems, often have much more sophisticated technology than do their larger counterparts and state governments which are struggling with systems installed in the 1970s and early 1980s.

Applications used in executive, legislative and general government include the following:

- Government personnel
- Applicant tracking
- Employee management and compensation
- Government payroll
- Purchasing
- Inventory management
- Voter registration
- Election returns

Major applications in state and local government can be grouped into several general categories: judicial systems; public order and safety; public finance, taxation and monetary policy; administration of human resources; administration of environmental housing and quality programs; administration of economic programs; and other public administration systems.

On the state and local level, the judicial system includes traffic courts, district courts, family courts, superior courts and many other types of courts.

Public order and safety includes state police and highway patrols, city police departments and sheriffs' offices, fire protection, legal counsel and protection (such as public defenders' and prosecutors' offices), and correctional institutions. Increasingly, counties are trying to integrate justice and public order systems which tie police, sheriff, prosecutors, courts, and corrections into a single unified system under the label of criminal justice information system, or CJIS.

Individual applications used in the justice and public order and safety organizations include the following:

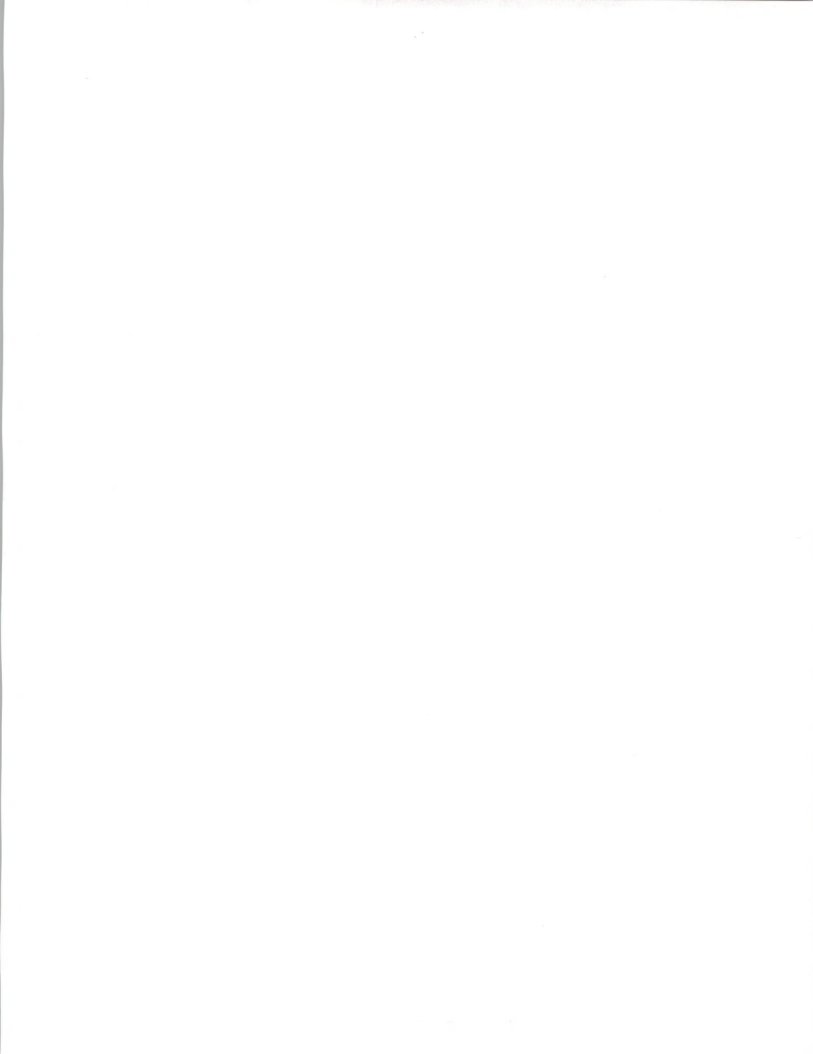
- Remittance control for courts
- Correctional institution control
- Information management systems for law enforcement
- Computer-aided dispatch systems for public safety
- Crime-reporting and criminal information
- Crime analysis
- Traffic-ticketing and enforcement
- Equipment maintenance and control
- Information management for fire protection
- Automatic vehicle locator systems
- Personnel records and training systems

Public finance, taxation, and monetary policy all cover organizations primarily engaged in financial administration and taxation, such as budget agencies, controllers' offices, property tax assessors' offices, state tax commissions, tax departments, and treasurers' offices.

Applications used in public finance, taxation, and monetary policy include the following:

- Tax collection
- Budgetary accounting
- Central cashing
- Fund accounting management information systems
- Financial control
- Fiscal management
- Government costing
- On-line appraisal and statistical information
- Real property tax
- Tax management
- Revenue data collection
- Treasurers' general ledger and warrant reconciliation

Administration of human resources includes the administration of educational programs, public health programs, and social manpower and income maintenance programs. Within this group are county supervisors of education, state education departments, teacher certification bureaus,



health statistics centers, immunization program administration, maternity medical assistance program administration, unemployment insurance offices, worker's compensation offices and more.

Administration of environmental housing and quality programs includes environmental programs and housing and urban development programs. Within this group are environmental protection agencies, environmental quality and control agencies, land management agencies, community development agencies, county development agencies, urban planning commissions, zoning boards and commissions.

Administration of economic programs includes administration of general economic programs; regulation and administration of transportation programs; regulation and administration of communication, electric, gas and other utilities; and regulation, licensing and inspection of miscellaneous commercial sectors.

Although this group contains many federal agencies, it also includes many licensing and inspection offices, port authorities and districts, railroad and warehouse commissions, transit systems and authorities, transportation departments, irrigation districts, utilities licensing and inspection, alcoholic beverage control boards, labor management negotiation boards, retail trade licensing and permits, rent control agencies, work safety administration and others.

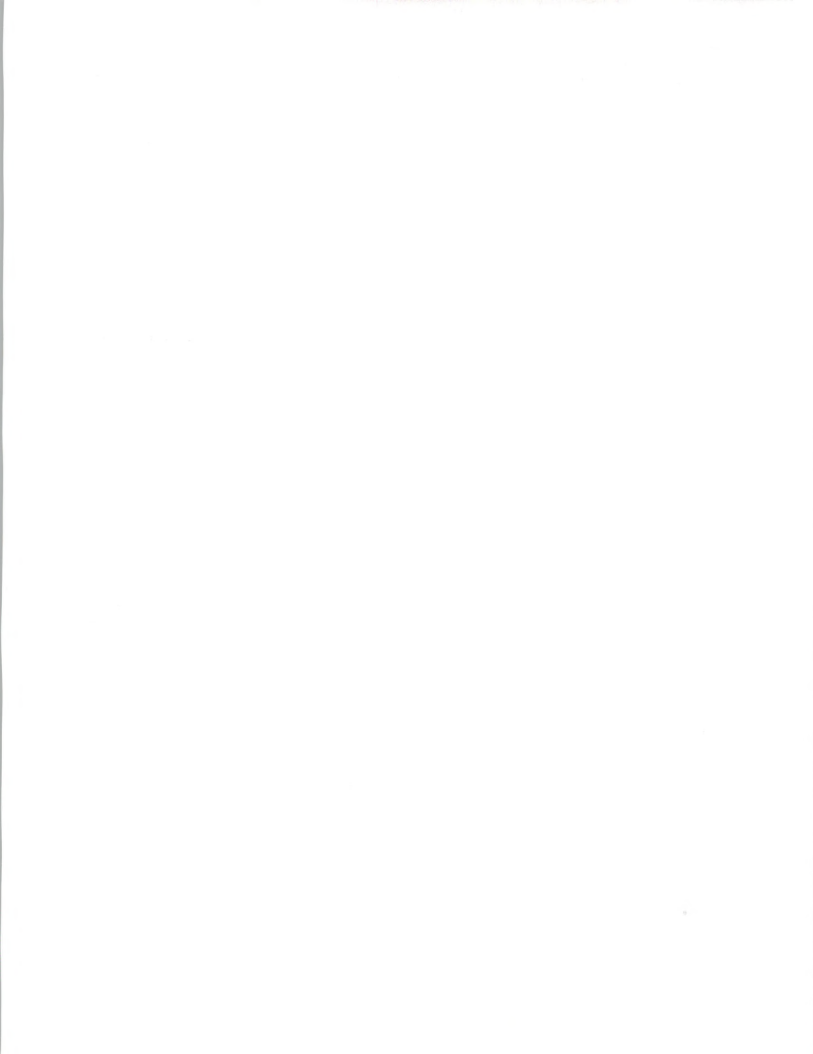
Applications developed for public administration are abundant. Listed below are a few:

- Financial accounting systems for education
- Welfare and public assistance control and licensing
- Animal control and licensing
- Building permits
- Business license
- Land parcel data base
- Building and zoning
- Highway impact model
- Housing authority tenant accounting
- Truck trailer scale system
- Title system

B

Applications Development Trends

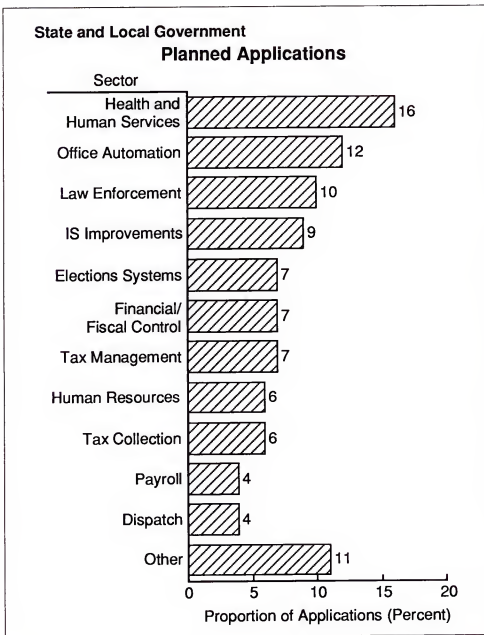
Surveys conducted by INPUT of state and local government indicate that users are taking increased responsibility for developing their own applications. Budget pressures and staff reductions in IS departments have forced users to look to the outside for help.



At the same time, both users and IS staff reported an increasing importance in standards in desktop applications. Forty-two percent of all agencies surveyed said that standards were increasingly important, while only two percent indicated a decrease in importance.

Exhibit III-1 shows that health and human services applications top the list of planned applications for 1993 and beyond, followed by office automation systems. These applications are driven by the need to meet the demand for increase workloads with fewer staff. The law enforcement applications also reflect the public's demand for improved public order and safety, and the budget constraints which prevent hiring more police officers.

EXHIBIT III-1





Improved IS systems include downsizing of platforms and migration to open systems.

C

Impact of New Technologies

Budget pressures make it impossible to acquire new technology for technology's sake. However, where technology can pay for itself through operational improvements, state, and local government are now quick to see the benefit.

INPUT's survey of state and local governments showed that IS users plan to acquire a number of new technologies (Exhibit III-2).

EXHIBIT III-2

State and Local Government Plans to Acquire New Technology

- Document imaging
- Office automation
- Local and wide area networks
- Client/server systems
- Mobile digital terminals
- Geographic information systems

Perhaps more significant is the integration of these technologies by a growing number of users: geographic information systems with mobile digital terminals for dispatch, for example, and office automation systems consisting of heterogeneous interconnected networks and client/server applications.

D

IS Issues

State and local governments face severe and growing budget constraints. Local governments cannot look to the states for assistance, nor can the states look to Washington, DC. While state and local governments are increasingly on their own, the demand from the public for services is growing.



State and local government allocations for IS funding are frequently affected by legislative decisions: to deliver new or different services; to raise or lower taxes on sales, incomes or property; or otherwise change the way business is conducted. These all impact the development and operation of information systems.

Many state and local governments have few resources available to develop or expand systems in response to the legislative mandate. Vendors selling to this segment must learn to separate those agencies with both IS needs and financial resources to fill them, from those who have only needs.

Solutions are increasingly complex, requiring the interconnection of disparate systems to provide the services to the public or information to managers and executives. These complex networked systems represent an opportunity for professional services firms and systems integrators.

State and local governments have to find ways to deliver more and better services to the public with fewer workers, and so they plan to invest in applications which will increase the productive capacity of the work force. Major improvements in technologies, such as document imaging and improved connectivity with systems in other agencies, are needed to reduce the volume of paperwork.

EXHIBIT III-3

State and Local Government Major IS Issues

- Budgetary constraints
- Increasing demands from users and public
- Improving worker productivity
- Connectivity and interoperability
- Shortage of IS personnel

Driving forces in the use of IS in this sector are shown in Exhibit III-4. With the acceptance of new technology, there are growing expectations and growing frustrations.

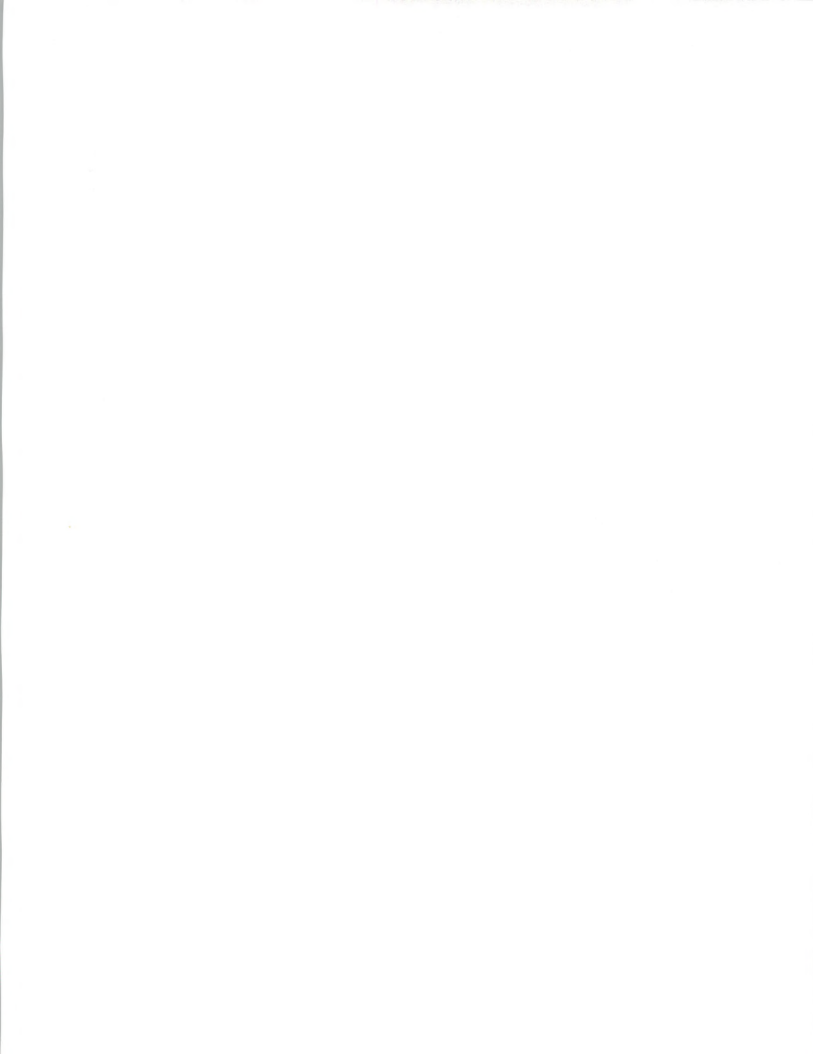


EXHIBIT III-4

State and Local Government**Driving Forces**

- Growing expectations
- Reduced funding
- Antiquated systems
- Increasing complexity
- Productivity and backlogs
- Integration of technology and systems
- Requirements mandated by law.

- While most agencies recognize the need for document imaging, networks, and electronic mail, they are inhibited by a lack of staff and funds. Those using antiquated systems are challenged to find ways to expand them and adapt them to new needs.
- Lack of funds and a shortage of IS staff, together with numerous old or obsolete systems, are driving state and local governments to use outside resources. Professional services for design and programming account for upwards of 50% of spending for information services. Consulting services to design and integrate networks are also in demand.

The reduction in overall funding and legislative constraints on the allocation of available money both continue to be the major issues. While costs of personnel, goods and services continue to rise, governments have strictly controlled budgeting and organizational procedures that encumber IS departments and users alike.

These constraints have created a new breed of entrepreneurial manager who can circumvent procedures in order to address information systems needs. Vendors need to understand these constraints, to seek out managers who can work within and around the bureaucracy, and to assist them in cost-justifying their products and services.

Systems integration contracts will continue to be used to address IS needs, while avoiding budgeting procedures and constraints.

Frequently, users need solutions which will permit the integration of data across departments. The need for shared data is driving the need for more complex systems.



- Police, fire and, emergency medical services must have access to data from criminal history, geographic and hazardous material data bases, and they need it immediately.
- Social welfare agencies must have access to data about other benefits such as health services. Benefits eligibility and use are becoming increasingly complex and are more often interrelated. Growing demand and documented abuses are driving the need for up-to-date information and integration of separate systems.

Legislated demands compound the funding, budget, and staff constraints. New legislation to provide benefits to the public, or to alter benefits already in place, often impacts IS schedules and resource allocation.

- Demands of the legislating body must be met, even if other projects must be postponed or abandoned.
- All too often, legislation provides a short-term fix, resulting in the diversion of resources from developing more comprehensive systems to the improvement of efficiency and a reduction in cost.

Vendors who can provide flexible modular applications, which can be easily integrated into existing systems, will have an advantage in this sector.

E

Organization and Budget

Information systems organizations in most state governments tend to resemble those in large industrial companies.

Many states have centralized data centers, but systems development and maintenance is increasing the responsibility of, and is being performed by, individual user departments similar to divisions in a large corporation. Few states have centralized systems development functions. The situation is similar in local governments, but on a reduced scale.

The independence of individual agencies and departments makes marketing somewhat more complicated, especially when applications span organizational lines. In some cases, vendors will find themselves negotiating with one department on behalf of another.

A number of factors impact the ability of state and local IS managers and users to implement new technologies. The key reasons are shown in Exhibit III-5.



EXHIBIT III-5

State and Local Government**Key Factors Affecting IS Budgets**

- Revenues/funding
- Cost of new technology
- Personnel costs
- Management understanding
- Management commitment

- With many state and local revenues down, funds for new information systems are hard to come by. Local governments, which relied heavily on state and federal assistance, must rely on their own source of funds or find innovative ways to finance purchases. The situation is worse at the state level, where the funding is as tight and more difficult for managers to innovate.
- The reduced funding has forced information systems users to address requirements on a project-by-project basis. Projects are selected on the basis of crisis or quick pay-back, rather than on long-range benefit to the organization.
- IS departments are short of qualified staff, leaving them unable to respond to user requests for help. This situation is a key driver for the continued use of outside professional services firms.
- There is still a need to educate senior officials about the value of technology. Senior officials need help in seeing the economic and political benefits of faster desktop machines, networks, geographic information systems, and document imaging, to name a few. Vendors who speak in terms of economic and political benefits, rather than technology, will capture the available funds.
- Senior officials often lack ongoing commitment to making major long-term improvements in an environment which swings to the short-term political reality.

Despite these barriers, there is a growing realization among state and local managers and executives that the application of technology is the only viable way out of the dilemma of more services for less money.



F

Objectives and Plans

IS Management objectives, shown in Exhibit III-6, reflect concerns about funding constraints, as well as both the cost and management's understanding of technology.

EXHIBIT III-6

**State and Local Government
Information Systems Management Objectives**

- Updating and expanding existing systems
- Connectivity/interoperability
- Train end-users
- Improve standardization
- Reduce operating costs

- Updating and expanding existing systems is a key need for many state and local government officials. Both these desires are driven by a need to connect in-place systems in different departments to meet new and growing service demands.
- Most states and local governments see the need for major network enhancements to implement integrated systems.

Vendors should focus their training on the end-user of the technology.

- The problems associated with diverse, incompatible systems are now apparent to almost everyone in state and local governments, and so a growing number of users and IS managers alike see the need for better standardization in desktop applications and networks.
- With government revenues down at all levels, there are enormous pressures to reduce the cost of government. A growing number of senior managers recognize that they have many of the pieces in place already to implement comprehensive systems which can eliminate redundant work, reduce fraud and abuse, and make government more efficient. These comprehensive systems can be assembled by integrating the pieces.

Exhibit III-7 shows data about state and local government expenditures. (This data is the most current available from the U.S. Bureau of the Census.)

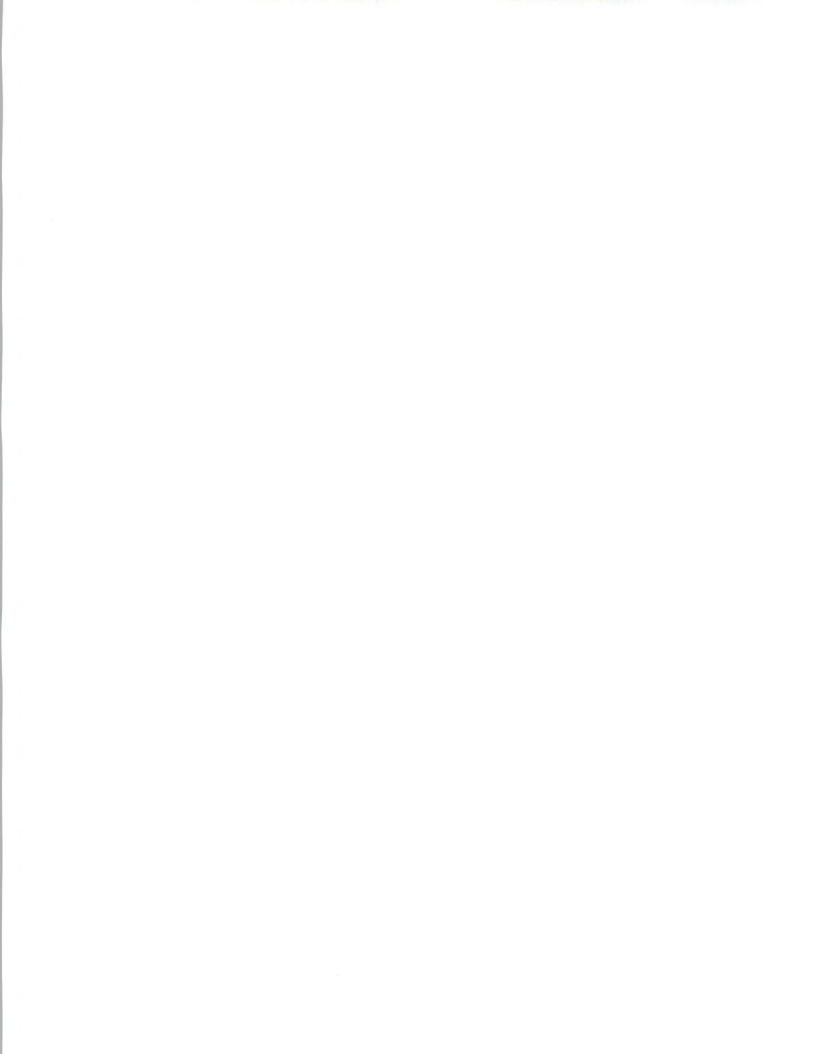
EXHIBIT III-7

State and Local Government Expenditures by Government Function

Government Function	State Government Expenditures, 1990 (\$Millions)	County Government Expenditures, 1990 (\$Millions)	City Government Expenditures, 1990 (\$Millions)
Highways	44,249	9,415	12,106
Public Welfare	104,971	16,114	7,890
Health and Hospitals	42,665	13,018	9,141
Police Protection	5,166	6,693	18,183
Local Fire Protection	-	-	9,487
Corrections	17,266	6,590	-
Sanitation and Sewage	-	-	16,476
Housing and Community Development	2,856	-	7,661
Government Administration	15,000	12,512	9,169
Interest on General Debt	22,367	7,976	11,317
Insurance Trust Expenditures	54,452	-	6,669
Education	184,935	18,395	17,368
Other	76,264	20,139	20,751

Source: Statistical Abstract of the United States 1992

- Public education and welfare both remain the largest areas of expenditures. This is not expected to change.
- State government expenditures overall increased by 47% between 1985 and 1990, led by increases in public welfare expense (56%), corrections, and health and hospitals (both at 55%).
- General expenditures by cities increased by 45% from 1985 to 1990, led by debt service up 65%, education up 52%, and housing and community development up 50%.



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IV

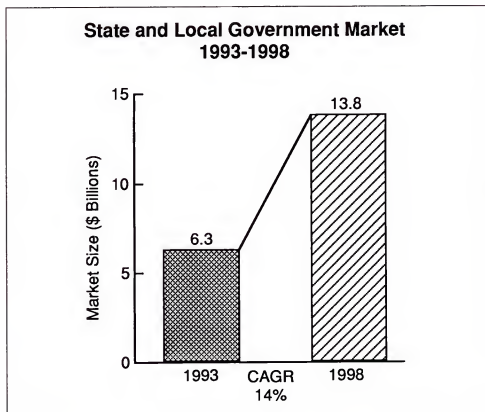
Information Services Market

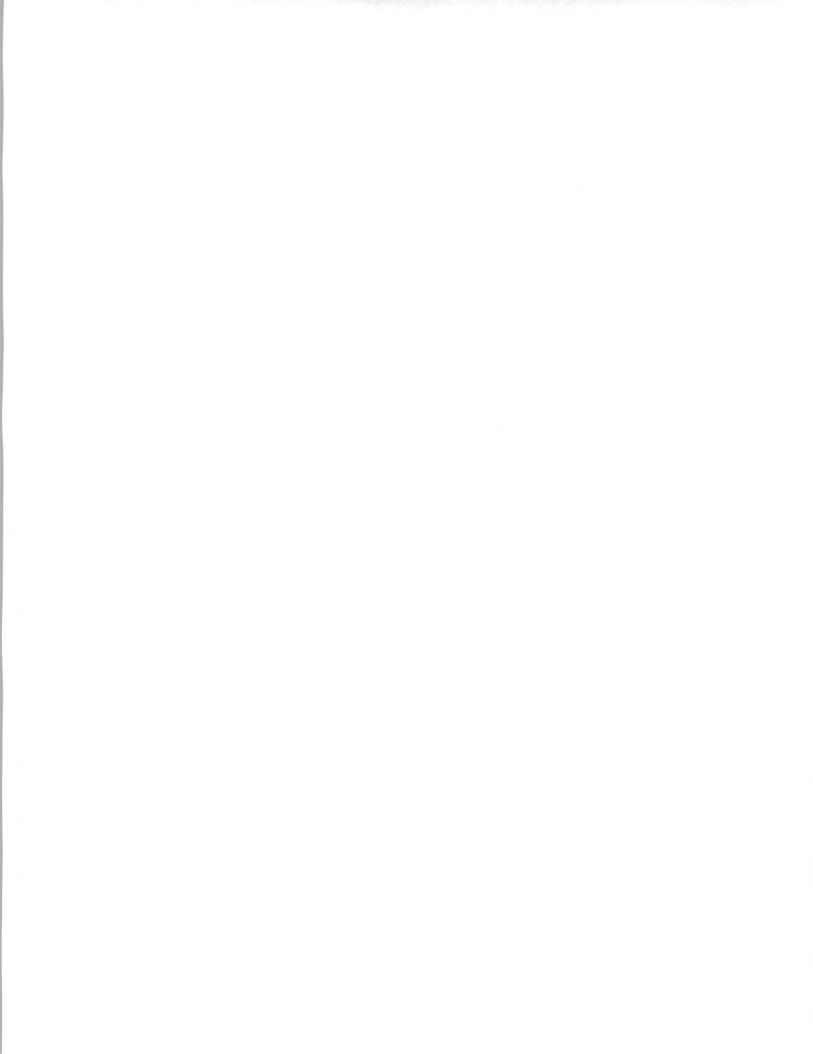
A

Overview

INPUT forecasts that user expenditures for information systems in state and local government will amount to \$7 billion in 1993, as shown in Exhibit IV-1. This represents an estimated growth of 13% over 1992. The compound annual growth rate is expected to average 14% for the next five years, resulting in a market of nearly \$14 billion by 1998.

EXHIBIT IV-1





The 14% average growth rate reflects the following factors:

- The growth rate is expected to rise gradually to 15% by 1998 as cities and states find ways to use information systems to improve cost effectiveness and operational effectiveness.
- There will be increased focus on the integration of existing applications to improve service delivery and reduce costs.
- There is an increasing recognition of the value of new and creative application of technology.
- There is a growing recognition of the need to automate office processes to meet increasing service demands without the addition of more workers.

B

Delivery Mode Analysis

Despite numerous fiscal difficulties faced by state and local governments, the market has a stable foundation and is expected to remain strong. Analysis of the delivery modes reveals areas of particular strength (Exhibit IV-2).

- Professional services remains strong and is growing as governments use outside services for systems design and development (Exhibit IV-3). Expenditures in 1993 are estimated at \$3 billion and should grow at a steady 12% annually. In many states, systems design and programming services can represent half of the professional services expenditures.

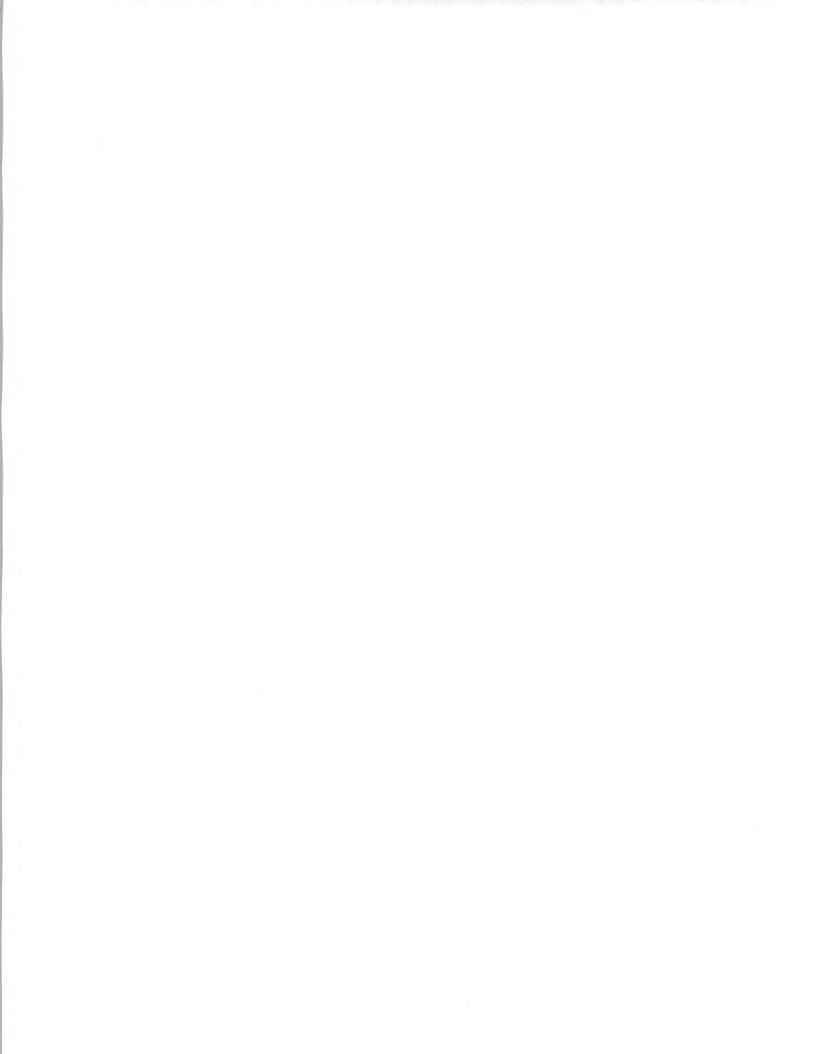


EXHIBIT IV-2

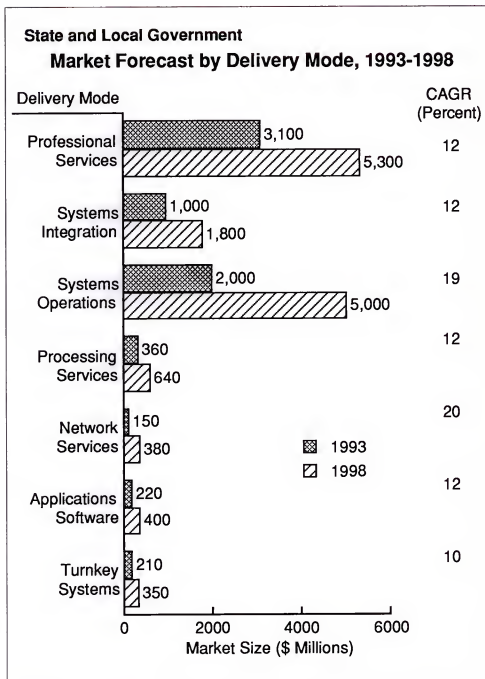
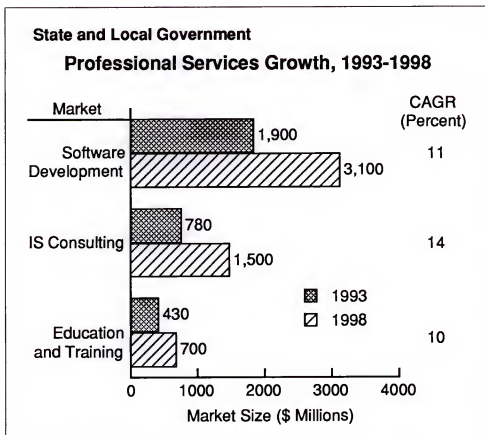
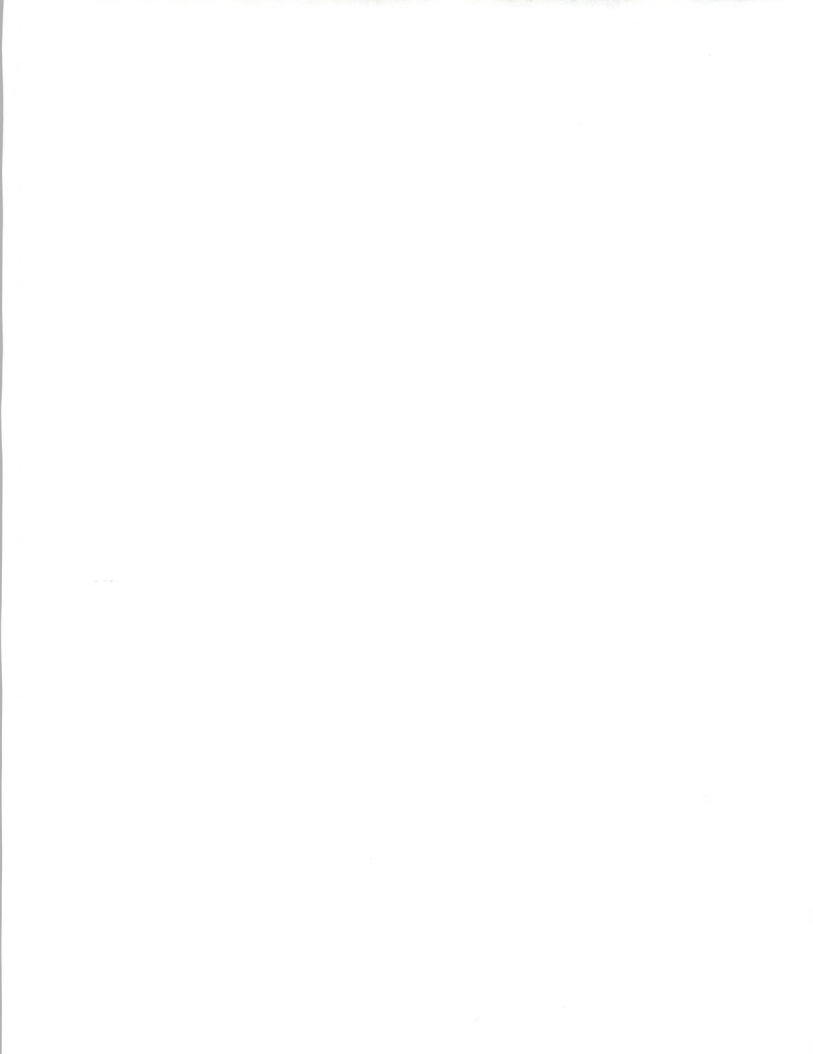




EXHIBIT IV-3



- The need for comprehensive, integrated systems solutions is growing in states, larger cities, and counties, where systems tend to be old and fragmented. Growing demand for services from the public, coupled with a shifting of the burden from the federal level to the state and local level, are fueling a demand for comprehensive, integrated systems to reduce waste and fraud. Professional services will account for over half of the \$1 billion spent in 1993 for systems integration services. Growth is expected to remain steady at 12% annually.
- Budget pressures and a shortage of staff are both causing state and local governments to turn to outside services to manage the operation of their systems. At the state level, management of health claims processing continues to be the major requirement. Among counties and large cities, increasing attention is being given to processors which can provide full service at a reduced overall cost. Systems operations are expected to grow to over \$4 billion by 1998.
- Network services will remain strong due to the need to interconnect networks within, and between, government agencies. A 22% growth rate is expected to increase expenditures on network services to over \$1 billion by 1998.



- In an effort to close the budget gap, local governments are billing for services such as ambulance runs and false burglar alarms, but find that they do not possess the people and systems to do an effective job of collection. Increasingly, they are outsourcing the billing and collection of these types of services, as well as collections of traffic tickets and parking tickets. These cities and towns experience a significant increase in collections, while lowering operating expenses at the same time.

C

Industry Sector Analysis

There are a number of factors causing the state and local government market to grow. However, other equally important factors are inhibiting greater use of technology to meet growing demands. The driving forces and inhibiting factors are discussed below.

1. Driving Forces:

The need to provide new or expanded programs and services to the public is the foremost driving force in this sector, as shown in Exhibit IV-4.

EXHIBIT IV-4

State and Local Government

Driving Forces

- Increasing service demands.
- Budget pressures.
- Improved affordability.
- Legislative mandates.

States and cities surveyed by INPUT have stated that new integrated systems are required to provide better services to the public, to allow fewer government workers to handle more work, and to provide better financial control and other requirements.

With fewer workers, state, and local governments indicate an increased reliance on IS as a major driving force in this sector. Officials and executives in the sector are demanding more ability to make inquiries, cross-reference different data, and communicate among agencies.

The improved affordability of powerful technology is one reason the services and experience of IS vendors are being sought. The use of more recent technology, such as networks and voice response systems, is

important in meeting service demands. Few organizations in this sector have had the opportunity to learn about these previously unaffordable technologies. As a result, third-party professional services firms and systems integrators are in greater demand.

At the same time, state legislatures are trying to contain social services costs by mandating improved integration of separate welfare and social assistance systems to reduce fraud. The federal government has agreed to pay 90% of the cost of updating such systems in 30 states.

2. Inhibiting Forces:

As shown in Exhibit IV-5, the inhibiting forces are predominantly management issues. In many state and local government offices, selecting between various technologies is less important than some organizational and political issues.

EXHIBIT IV-5

State and Local Government

Inhibiting Factors

- Available funding
- Qualified personnel
- Political impact
- Executive commitment

- With increased pressure to reduce bureaucracy and channel more funds to the public, funding for investment in technology is difficult to come by.
- State and local governments have frozen hiring, and, in many cases, have laid off personnel. Support services, such as IS departments, have been particularly vulnerable, while governments strive to hold on to positions that serve the public directly. Consequently, there is a requirement for solutions which can be supported with little internal IS staff.
- For both state and local organizations, there is great sensitivity to the political impact of any solution. A new electronic document storage system can reduce the cost of storing and retrieving documents. The same system can also raise issue about the potential compromise of confidential information.
- State and local executives are frequently unable to clearly identify the benefits associated with new technology, and thus are not committed to those solutions without considerable outside assistance.



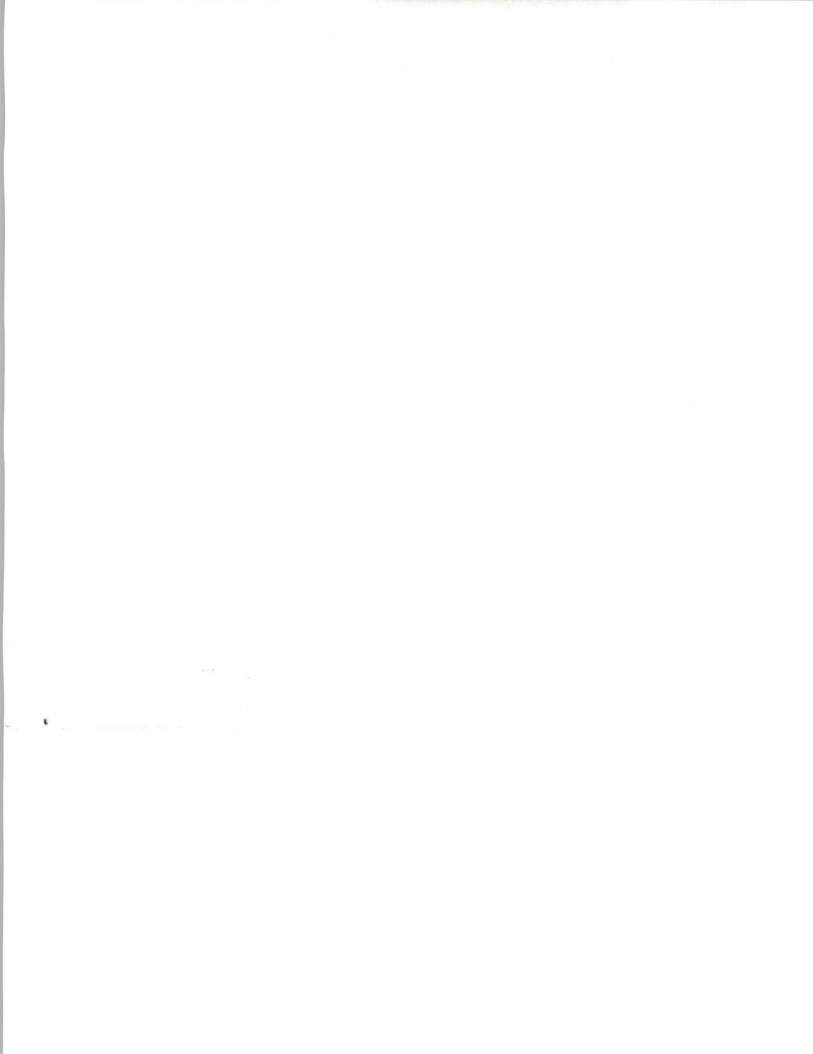
In order to ensue success of projects, vendors must follow through with good user-training programs and strong project management.

- Many vendors are still focused on products, or very specific services, but are missing the larger need for broader-based professional services and systems integration.
- There are also growing needs for vendors to design networks, aid with connectivity and interoperability, and to expand and update existing systems. Many vendors selling software products clearly have the expertise to fill this need, but many do not.

Overall, the market will remain strong. Short-term expenditures will be reduced until the economic climate improves significantly. However, growing demands for public service will make it impossible for expenditure reductions to become long-term.



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Competitive Environment

A

Introduction

This chapter presents a description of the information services vendors serving the state and local government market sector. The chapter is divided into the following sections:

- Competitive Climate
- Competitive Positioning
- Profiles of Leading and Emerging Vendors

INPUT conducts extensive analyses of vendor revenues. In order to present useful and accurate information for this sector, international revenues were excluded.

B

Vendor Characteristics and Trends

The competitive climate among state and local government vendors is influenced by demands for increased services together with the declining availability of funds and a shortage of MIS staff. These combine to cause state and local governments to rely heavily on information services vendors to update and expand their systems.

While vendors continue to offer the basic services of hardware- and application-specific software, they are paying increasing attention to the creative use of technology to update and expand existing systems. Emphasis will continue to shift from the provision of specific products and services to the use of vendors who can integrate a variety of new products with new and existing applications. The purpose will be to provide increasingly complex and integrated solutions.

As state and local government buyers tend to be risk adverse and late adopters of new technology, they are beginning to use technologies, such as document-imaging systems, which have become established in the private sector. In addition, applications such as geographic information systems, already established in state and local government, have become widespread.

To meet the demand for these new applications and integrated systems, state and local governments will seek vendors that are able to develop complex systems and manage large projects integrating a variety of technologies across organizational lines. Vendors with experience in the federal sector, as well as those from aerospace and defense markets, clearly meet these requirements and view the state and local sector as a greener opportunity.

C

Competitive Climate

1. Market Competition

The competitive scene in the state and local government market is very fragmented. Literally thousands of vendors pursue opportunities and much of the work for local governments in particular is performed by local vendors. While many of these local firms have specific technical expertise and provide good service, many others have substandard skills and provide poor quality of service. Few of them have the level of skills necessary to integrate complex systems and manage large projects.

2. Market Tiers

As shown in Exhibit V-1, niche systems integrators and niche software firms both concentrate on local governments, while major systems integrators (including recent entrants from the federal/defense/aerospace market), and major professional services firms, all focus on large city, county and state opportunities.

Firms that can provide design and consulting services will continue to be important, however, state and local governments are increasingly turning to vendors that can provide integrated solutions. Vendors that can demonstrate both the ability to understand user requirements and to integrate several technologies to meet specific needs will increasingly be favored over those with an in-depth knowledge of a single technology.

Vendors with specific technical skills will be more successful if they form strong alliances with large, well established service providers vendors that can integrate products and manage large complex projects.

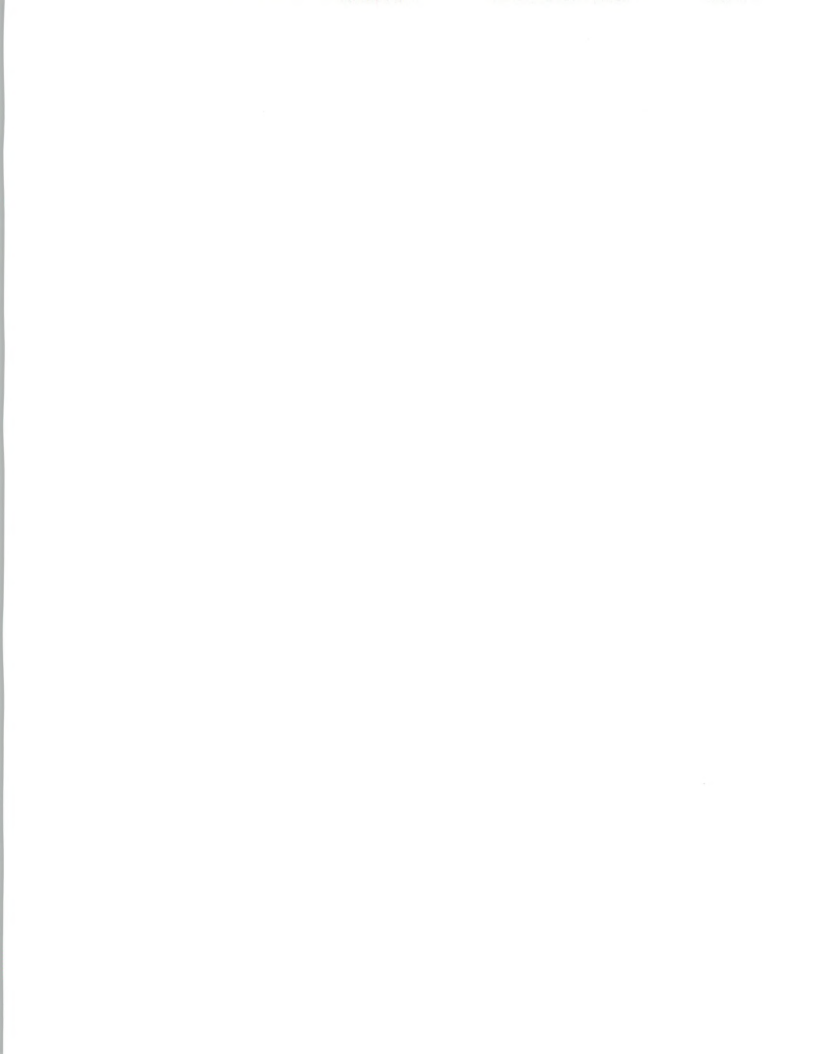


EXHIBIT V-1

State and Local Government**Market Tiers**

	... Small Cities, Towns, & Counties	... Large Cities & Counties	... States
Local IS vendors sell to ...	Often	Rarely	Rarely
Niche systems integrators sell to ...	Often	Often	Rarely
Niche software firms sell to ...	Often	Often	Rarely
Major systems integrators sell to ...	Rarely	Often	Often
Large professional services firms sell to ...	Rarely	Often	Often

D**Competitive Positioning**

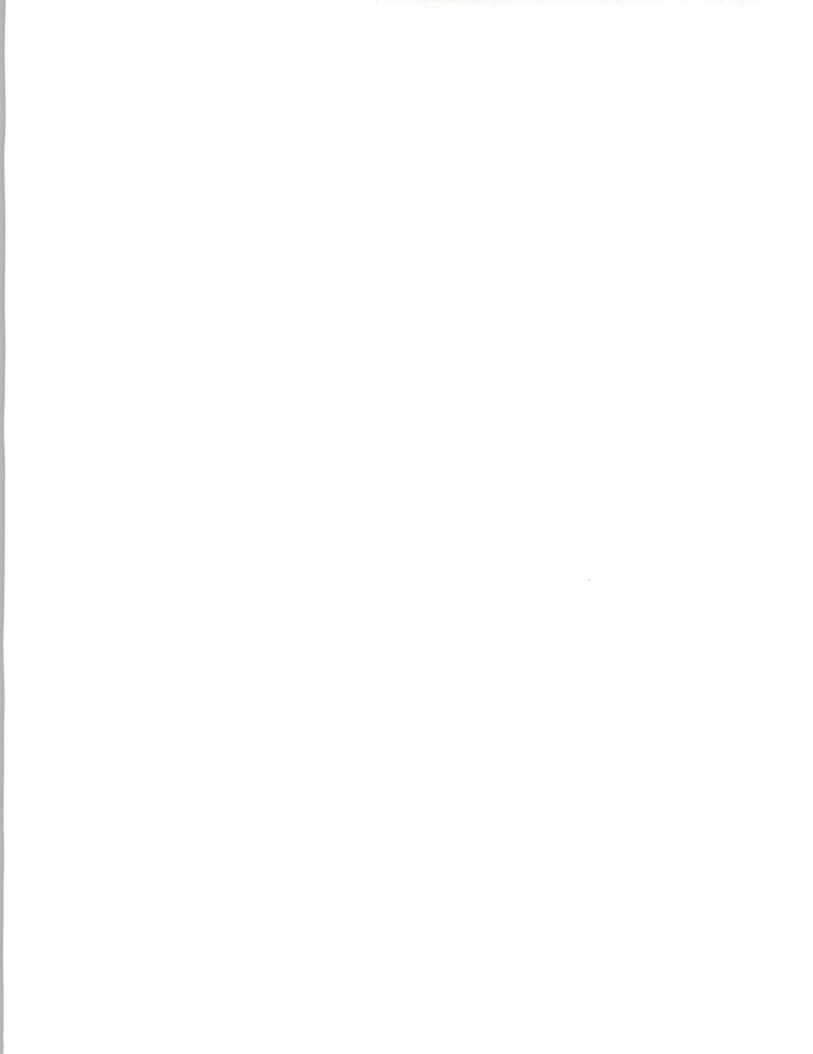
Although many vendors derive a healthy amount of revenue from this sector, the total revenue from all the leaders in the sector does not exceed an estimated 15-20% of the spending for services. The remaining 80-85% is divided among the numerous small, local providers, and the niche systems integrators and software firms described earlier.

OCS Technologies and Bell Atlantic Public Sector Systems are emerging vendors who have entered the market by acquiring leading niche providers.

Below is a summary of the leading and emerging vendors in the state and local government sector.

Applications Software: D&B Software
American Management Systems

Professional Services: American Management Systems
Andersen Consulting
Computer Sciences Corporation
Electronic Data Systems
Ernst & Young
SHL Systemhouse



Systems Integration:	Andersen Consulting Computer Sciences Corporation Electronic Data Systems
Systems Operations:	Computer Sciences Corporation Electronic Data Systems GENIX IBM ISSC
Emerging Vendors:	OCS Technologies Bell Atlantic Public Sector Systems

E

Profiles of Leading and Emerging Vendors**1. American Management Systems**

1777 North Kent Street
Arlington, VA 22209
Phone: (703) 841-6000
Total Employees: 3,566
Total Revenue: \$332,544,000

a. Company Description

American Management Systems (AMS), founded in 1970 provides system integration, consulting, re-engineering, and systems development (including reusable and custom software) services to hundreds of city and state governments.

b. Strategy

AMS realized 18% of its 1992 revenues came from state and local governments and universities. Service and product revenue from this market reached \$59.9 million in 1992, a 14% increase over 1991 revenues. It is estimated that revenue from this market will grow to \$72 million in 1993. State and local government revenues accounted for \$13.4 million and \$22.2 million respectively.

Though services and products provided to the Canadian provincial governments declined in 1992, several initiatives currently underway in Canada should result in growth in this market in 1993.

Imaging mobile computing and application downsizing are technology lines targeted for development in 1993.



c. Products and Services

Services and products are marketed to state and local governments and local education agencies for financial, human resource, and tax management applications.

Systems for colleges and universities focus on financial, human resource, student, and alumni and fund-raising information management applications.

d. Key Issues

- Key growth areas for AMS state government products and services in 1993 include child support, state financial systems, state revenue systems, state departments of transportation, and imaging projects.
- Key growth areas in 1993 for local government clients include financial systems, human resources, imaging, and criminal justice projects.
- Key growth areas for education clients include local school districts and new offerings for higher education clients.
- During 1992, AMS received key contract awards from Wisconsin, Utah, Louisiana, Minnesota, Massachusetts, Arizona, California, Pennsylvania, Virginia, Sacramento, and Westchester county.

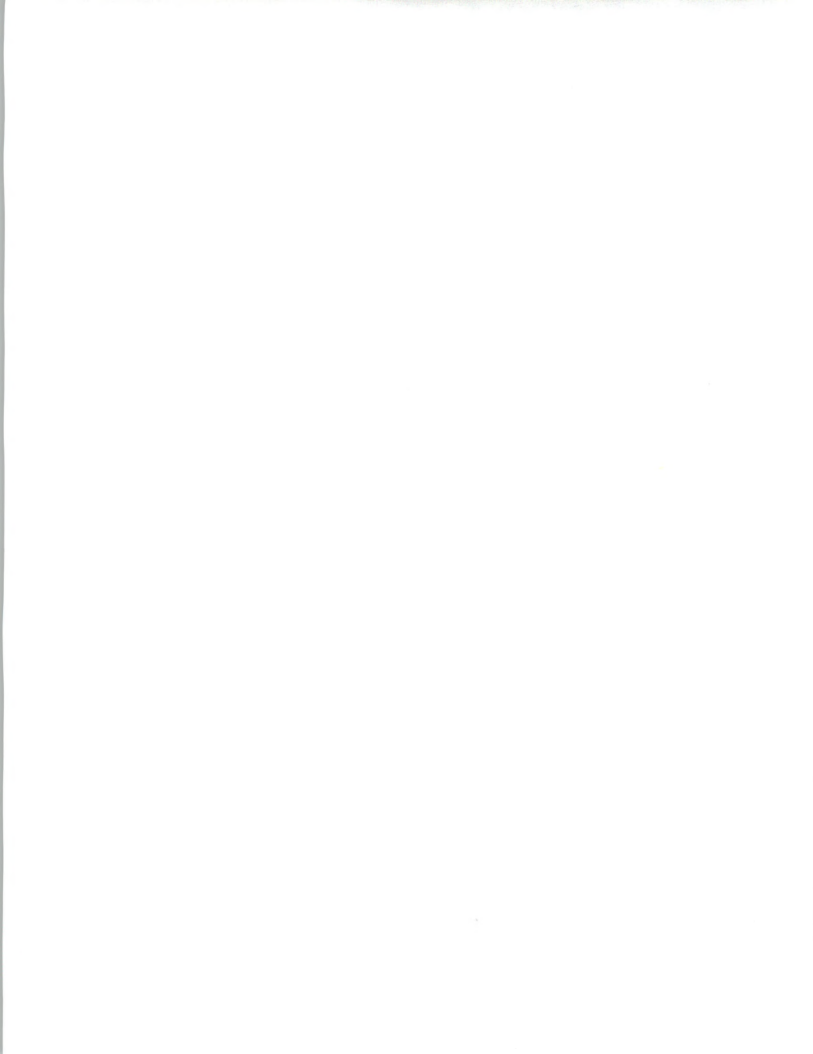
2. Andersen Consulting

69 West Washington Street
Chicago, IL 60602
Phone: (312) 580-0069
Fax: (312) 507-2584
Total Personnel: 22,730
Total 1992 Revenue: \$2.7 billion

a. Company Description

Andersen Consulting is an international management consulting organization whose mission is to help its clients change their organizational structure to become more competitive. Andersen works with clients from every industry to integrate their technology, processes, strategies, and organization. Andersen Consulting offers its products through the following service lines:

- Business Process Management
- Systems Integration
- Strategic Services
- Change Management



b. Strategy

Government is one of six vertical industry markets addressed by Andersen. Revenue in 1992 from the federal, and state and local government sector was approximately \$288 million.

Andersen competes across the entire state and local government application and services spectrum with particular emphasis on professional services and system integration activities. System integration projects typically involve customer systems, financial systems, criminal justice systems, document management systems.

c. Products and Services

Professional services projects to the state and local government sector typically involve customer systems, financial systems, maintenance or facilities management.

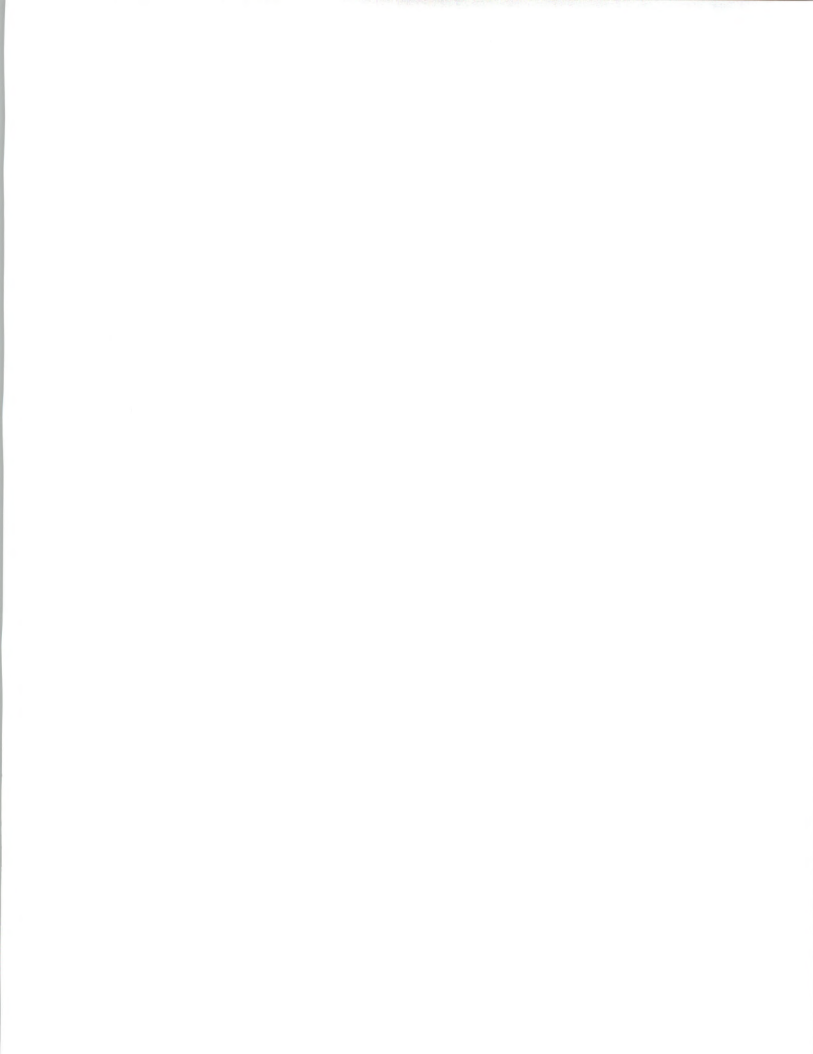
In addition, Andersen offers a proprietary CASE technology called FOUNDATION, which is composed of METHOD/1, PLAN/1, DESIGN/1, and INSTALL/1.

d. Key Issues

- A recent city government contract was completed for the City of New York, implementing SCRIBE, a computerized election imaging system.
- Andersen believes that by the end of 1993, 70-75% of its work will involve client/server technology.
- In 1993 Andersen Consulting continues to commit major resources to its six industry practice groups, believing that its industry focus is the key to remaining relevant to the marketplace.

3. Bell Atlantic Public Sector Systems

10300 49th Street
North Clearwater, FL
Phone: (813) 573-1911
Part of the Bell Atlantic Systems Integration Corporation
Parent: Bell Atlantic Corporation
Total revenue: \$12 billion
Total Employees: 75,700



a. Company Description

Bell Atlantic Public Sector Systems is an emerging player in the state and local government market. Bell Atlantic Public Sector Systems Group is a unit of Bell Atlantic Systems Integration Corporation, a joint venture with American Management Systems that provides services in the areas of network integration, strategic systems development, and information systems productivity.

b. Strategy

In the past, Bell Atlantic had not strategically targeted state and local government and instead delivered benefits services through Bell Atlantic Healthcare Systems and Bell Atlantic's Federal Systems Division. Bell entered the state and local government market by acquiring EAI Systems and gaining expertise in public safety dispatch applications.

c. Products and Services

The company has extended its market focus to include public transportation systems in cities and counties and offers vehicle tracking and route management applications, in addition to dispatch. Bell Atlantic Public Sectors Systems is poised to help cities and counties expand the capacity of current systems with the integration of new technologies.

d. Key Issues

- Although the market constraint of tight government budgets applies, transportation management applications are viewed as key systems needed to manage urban growth.
- Management sees customer service as the key to differentiation, and ultimately to success in this segment of the state and local market.

4. OCS Technologies

Suite 106
7011 Elbridge Way
Richmond, British Columbia
CANADA V7C4V5
Phone: (604) 273-8045
Employees: 320
1992 Revenue: \$30 million

a Company Description

OCS Technologies is a Canadian company that is a relatively new entrant into the state and local government sector. The company is focused on the judicial segment of the state and local government market, which it defines as including law enforcement/public safety, jails, prosecutors' offices, courts, prisons, and probation departments and systems.

b. Strategy

OCS has used an acquisition strategy to grow its business. It has grown from revenues of \$300,000 in 1991 to 1992 revenues of \$30,000,000. It has acquired business with product lines in the criminal justice sector that include jail systems and records management.

The company also recognizes two important characteristics of the state and local government market: 1) roughly three-quarters of the market already has some form of automation in place; and, 2) very few customers can find funding for complete replacement of these systems. OCS' strategy, therefore, is to build a long-term relationship with its customers by extending the life of existing systems through the integration of new technologies, rather than emphasizing system replacement.

c. Products and Services

OCS offers systems integration services and specializes in the criminal justice sector. OCS has grown through acquisitions of successful firms in the United States that specialize in applications such as computer-aided dispatch, police records management, jail and prison management systems, and county/state message switching systems. OCS currently has over 500 customer sites.

d. Key Issues

- From the announcement of several major new contracts OCS is emerging as an up and coming vendor in the state and local government sector.
- OCS recently won a \$30 million contract with the state of Florida to provide computer-aided dispatch to all state enforcement agencies, including highway patrol, fish and game, and marine enforcement.
- INPUT has assessed the criminal justice sector as a \$470 million market in 1992 with market size increasing to \$1 billion in 1998.



VI

Conclusions and Recommendations

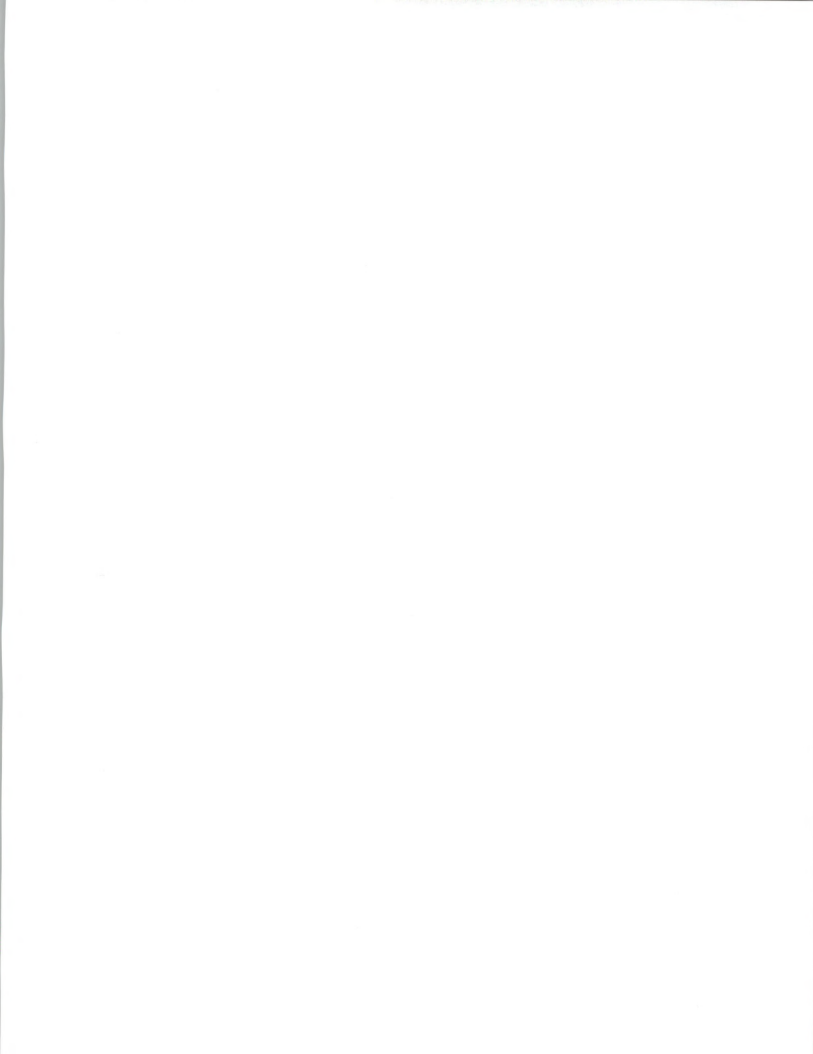
A**Conclusions**

Compared to the private sector, state and local government organizations are more likely to seek the assistance of information systems vendors to address the growing number of complex solutions required. Based on INPUT's surveys of state and local government IS managers and end users, key areas of opportunity are shown in Exhibit VI-1.

EXHIBIT VI-1

State and Local Government**Key Opportunities**

- Health and Human Services
- Office Automation
- Law Enforcement
- Elections Systems
- Financial/Fiscal Control
- Tax Management
- Human Resources
- Tax Collection
- Payroll
- Dispatch



B**Recommendations**

The diverse nature of successful vendors in the state and local government market underscores the fact that there are a number of ways to realize greater success in this sector. Key recommendations are shown in Exhibit VI-2.

EXHIBIT VI-2

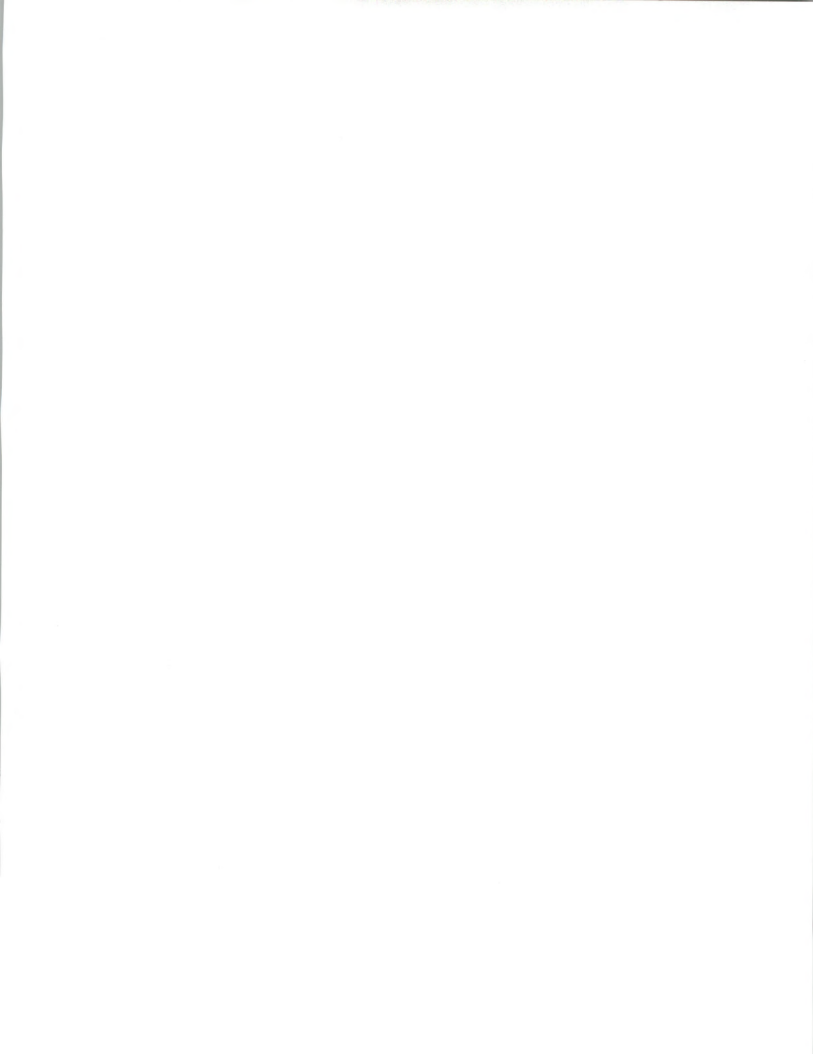
**State and Local Government
Recommendations**

- Increase awareness of market needs
- Use consulting approach
- Extend and update existing systems
- Replicate applications
- Find and support the entrepreneur

- Many vendors do not devote sufficient effort to monitoring developments in the state and local market. Requirements in one level of government are often the result of actions taken by a senior level of government. Successful vendors understand this interrelationship and thereby demonstrate an in-depth understanding of user requirements.
- Vendors new to the state market should approach the market through consulting services. This establishes credibility and aids in developing awareness of the IS problems of state governments. States will often award follow-on contracts to vendors who have demonstrated knowledge of their requirements.
- Many state and local systems have evolved individually over time and do not need current and future needs. Given the budget pressures, vendors who can expand existing systems and integrate new technologies without complete replacement will have an advantage.
- Vendors should ensure that all applications developed for one government entity are modular so they can be used in a corresponding entity in a different jurisdiction. While many state and local government requirements are quite similar, they are rarely identical.
- Find and support the new entrepreneurial breed of managers in state and local government. Understand their needs, develop solutions with quick pay-back, and assist with the cost-justification model.



With federal-to-state and state-to-local assistance declining, state and local governments will increasingly need assistance to improve operational performance and deliver more services at lower costs. A growing proportion of government executives recognize that the expanded use of information systems is the most viable means of meeting these conflicting pressures.



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Forecast Data Base and Reconciliation

A

Forecast Data Base

Exhibit A-1 on the following page presents the 1993-1998 forecast for the state and local government sector.

B

Forecast Reconciliation

Exhibit A-2 on the following page presents the forecast reconciliation for the state and local government sector.

Significant differences between the 1992 and 1993 INPUT forecasts are as follows:

- The 1992 market estimates for Systems Operations includes two new categories, Network Management and Desktop Services, which were not included in the 1992 forecast. As 1992 forms the baseline, the 1993-1998 forecasts have been increased accordingly.
- The 1992 market estimates for Systems Integration have been increased based on INPUT's latest study of user expenditures. Specifically, several large network integration contracts were awarded, including a major contract with the State of Utah. (Network integration is included within Systems Integration, though not identified as a separate category at this time.) Also, there were several large systems integration projects at the local government level, among them a parking citation management system in Chicago. As 1992 forms the baseline, the 1993-1998 forecasts have been increased accordingly.

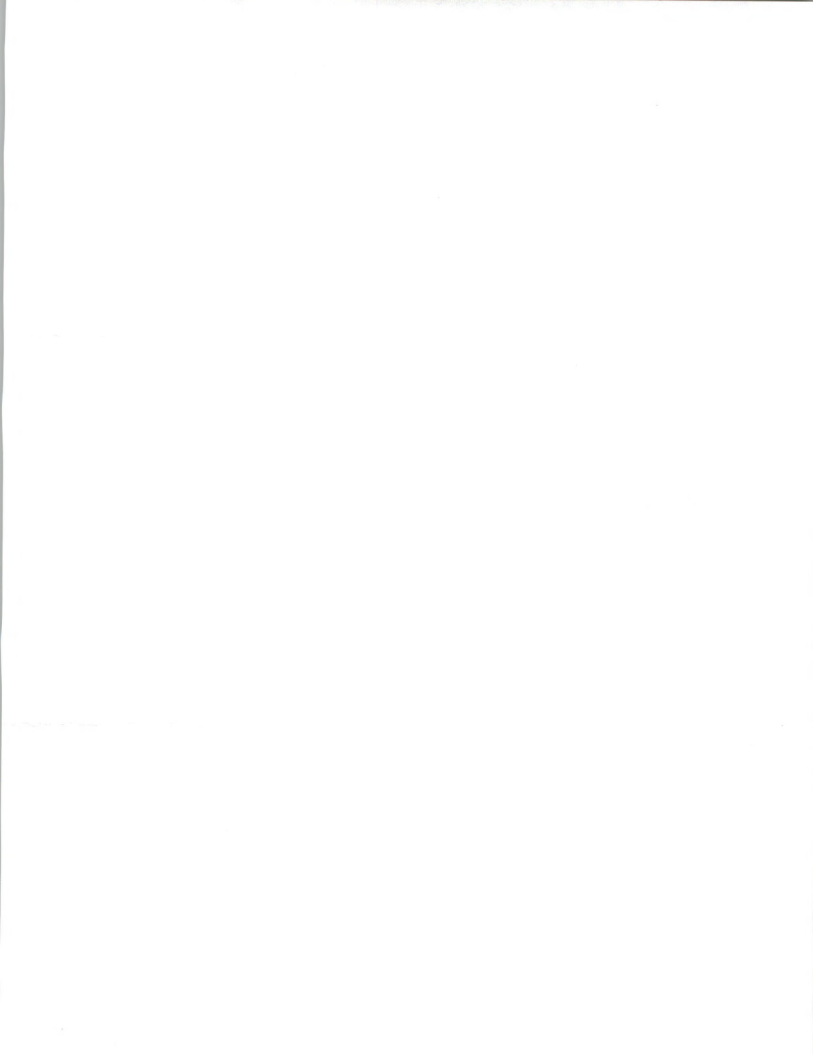


EXHIBIT A-1

**State and Local Government Sector
Market Size by Delivery Mode, 1992-1998**

Delivery Modes	1992 (\$M)	Growth 92-93 (%)	1993 (\$M)	1994 (\$M)	1995 (\$M)	1996 (\$M)	1997 (\$M)	1998 (\$M)	CAGR 93-98 (%)
Sector Total	6,266	13	7,099	8,060	9,188	10,479	12,037	13,848	14
<i>Professional Services</i>	2,751	12	3,070	3,427	3,825	4,271	4,770	5,327	12
- IS Consulting	681	14	776	885	1,009	1,150	1,311	1,495	14
- Education & Training	396	10	436	479	527	580	638	702	10
- Software Development	1,674	11	1,858	2,063	2,289	2,541	2,821	3,131	11
<i>Systems Integration</i>	920	13	1,035	1,161	1,301	1,456	1,626	1,813	12
- Equipment	350	7	375	401	429	459	491	525	7
- Software Products	60	9	65	71	77	83	90	97	8
- Applications Software	30	12	34	37	41	45	50	54	10
- Systems Software	30	6	32	34	36	38	40	43	6
- Professional Services	485	17	567	658	760	874	1,001	1,141	15
- Other	25	12	28	31	35	39	44	49	12
<i>Systems Operations</i>	1,760	16	2,045	2,395	2,840	3,370	4,080	4,950	19
- Platform Operations	410	11	455	510	565	630	700	780	11
- Applications Operations	955	15	1,100	1,270	1,475	1,710	2,090	2,555	18
- Desktop Services	175	29	225	290	400	540	690	880	31
- Network Management	220	20	265	325	400	490	600	735	23
<i>Processing Services</i>	325	12	364	408	457	511	573	641	12
- Transaction Processing	325	12	364	408	457	511	573	641	12
<i>Network Services</i>	125	19	149	179	215	258	312	377	20
- Electronic Info. Svcs.	50	11	56	62	68	75	83	91	10
- Network Applications	75	25	94	117	146	183	229	286	25
<i>Applications Software</i>	190	15	219	252	287	324	360	395	12
- Mainframe	60	7	64	67	69	70	70	70	2
- Minicomputer	40	13	45	50	56	63	71	79	12
- Workstation/PC	90	22	110	134	161	190	219	245	17
<i>Turnkey Systems</i>	195	11	216	239	263	289	317	346	10
- Equipment	88	7	95	102	109	118	126	135	7
- Software Products	74	12	83	92	102	113	124	136	10
- Applications Software	64	13	72	81	90	100	111	122	11
- Systems Software	10	10	11	11	12	13	13	14	6
- Professional Services	33	18	39	45	52	59	66	74	14

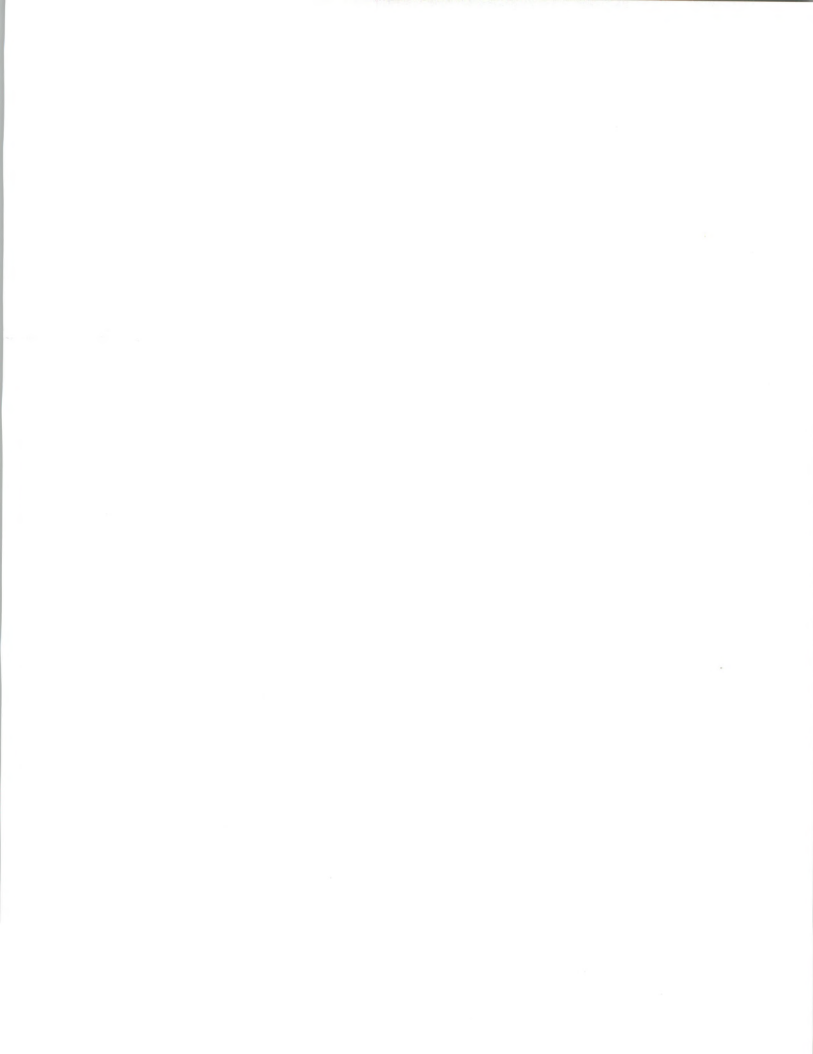


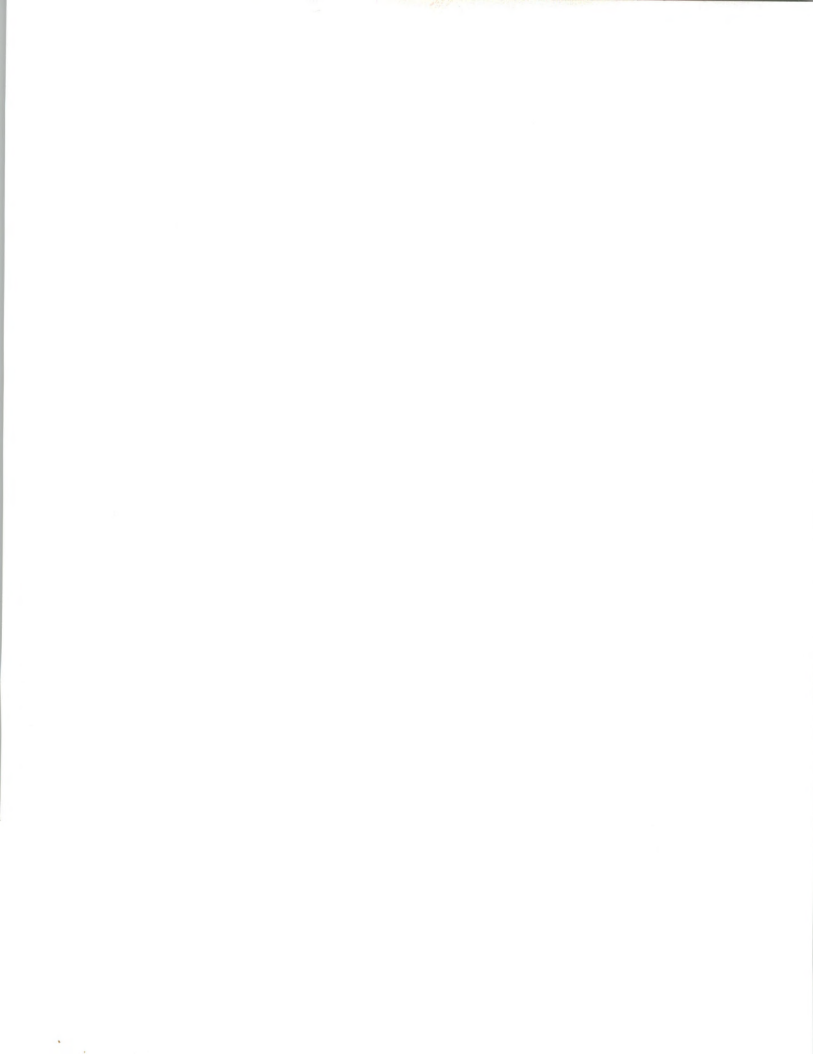
EXHIBIT A-2

**State and Local Government Sector
1993 MAP Data Base Reconciliation**

Delivery Modes	1992 Market				1997 Market				92-97 CAGR per data 92 Rpt (%)	92-97 CAGR per data 93 Rpt (%)
	1992 Report (Fcst) (\$M)	1993 Report (Actual) (\$M)	Variance from 1992 Report		1992 Report (Fcst) (\$M)	1993 Report (Fcst) (\$M)	Variance from 1992 Report			
			(\$M)	(%)			(\$M)	(%)		
Total	5,545	6,266	721	13	10,390	12,037	1,647	16	13	14
Professional Services	2,750	2,751	1	0	4,635	4,770	135	3	11	12
Systems Integration	685	920	235	34	1,320	1,626	306	23	14	12
Systems Operations	1,275	1,760	485	38	2,920	4,080	1,160	40	18	18
Processing Services	325	325	0	0	540	573	33	6	11	12
Network Services	125	125	0	0	310	312	2	1	20	20
Applications Software	190	190	0	0	350	360	10	3	13	14
Turnkey Systems	195	195	0	0	315	317	2	1	10	10



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- Systems Integration
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