Market Analysis
Program (MAP)

Industry Sector Markets 1989-1994

State and Local Government Sector

Forecast Update

INPUT®

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300

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INDUSTRY SECTOR MARKETS 1989-1994

STATE AND LOCAL GOVERNMENT SECTOR

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I

Introduction

A

Purpose

The purpose of this Forecast Update is to provide the 1989 INPUT forecasts and commentary on recent market and competitive issues. This update should be used in conjunction with the vertical industry report issued in December 1988. Forecasts contained in this update are reconciled to those in the earlier report.

B

New Issues

The new issues listed in Exhibit I-1 are impacting the state and local government sector of the information services industry.

EXHIBIT I-1

New Market Issues

- Demand for new technology
- Use of mincomputer-based departmental systems
- Escalating staffing problems
- Termination of federal revenue sharing/budget control issues
- Long decision cycles/low-price orientation
- Increased use of packaged software
- Emerging availability of state ADP plans

This sector has not been known to embrace new technology advances quickly or to engage in technological experimentation. However, evidence of state and local government organizations' adopting new technology offerings is seen throughout the U.S.

The public safety organizations—i.e., police and fire departments and emergency medical services—are demanding new technology to improve their services deliveries. Personal computers are employed for a wide variety of public safety applications: police records management, dispatching, fire management, and jail management. Additionally, equipment often must be made more rugged to withstand adverse operating conditions. Personal computers running hazardous materials abatement applications are now dispatched with fire trucks in some communities.

Automated Teller Machines (ATMs) are widely used throughout the U.S. to automate traditional banking transactions. State agencies looking to reduce costs associated with welfare benefits distribution are exploring the application of ATMs to disperse welfare payments, food stamps, and unemployment checks.

Electronic benefits systems are expected to help state budgets reap major benefits through lower state operating costs, reduced errors, and reduced incidence of fraud and theft in the distribution of welfare benefits to recipients. Successful completion of pilot programs—primarily limited to single counties in Arizona, Maryland, Minnesota, New York, Pennsylvania, and Washington—will result in widespread use in other localities in these and other states. Vendors that offer electronic benefits systems should gain expanded revenues in the next few years.

State and local governments are seeking alternative solutions to existing and future traffic problems. A coalition of federal, state, and local governments and the University of California at Berkeley is experimenting with automated traffic control roadways employing a wide range of software and equipment.

The new field of geographic information systems has special interest to local governments that need to quickly call up maps to determine water main and fire station locations and to control traffic congestion.

Increased demands for new technology have also fueled the growing use of departmentally based minicomputer systems. Smaller, more powerful hardware is replacing traditional mainframe systems and is expanding access to users at the state and local government levels.

The inability of this sector to retain IS technical personnel is increasing. In addition to losing personnel to the commercial sector, governments are facing major labor shortages as obsolete equipment is replaced and

employees retire. It will be increasingly difficult to compete with the commercial sector for technical personnel trained in new technology, unless the governmental unit has installed the latest state-of-the-art equipment.

The termination of federal government revenue sharing allocations to state governments in the mid-1980s was a result of federal budget deficit control measures. The effects on state governments were to severely tighten operating budgets and spur states to seek alternative automated solutions to service commitments.

Often governors and mayors are embarrassed by the apparent lack of budget information they need to access. Frequently, they are unable to rapidly acquire, digest, and discuss critical budget data from their existing computer systems. Many executives have discovered they have an urgent need for funds to pay for modernizing and adding automation equipment. Faced with increased IS demands, governments are encountering opposition to increased state and local taxes to provide these services.

This sector is typically characterized as having lengthy selling and bidding cycles. These delays are frustrating and costly to vendors and sector governments alike. In an effort to streamline administrative costs and replace outdated bidding practices, some governments have begun to award single multimillion-dollar contracts for microcomputer equipment acquisitions. California's Department of General Services and Orange County each awarded contracts to Businessland Inc. in 1988. The state of Utah and the District of Columbia selected single vendors in 1989 to fulfill personal computing requirements of their users.

State and local governments are specifying more packaged software solutions from independent software vendors and systems houses. Packaged or off-the-shelf applications, especially for accounting departments and state treasury offices, are usually less expensive solutions for governments than custom software development efforts. Vendors, as well, can maximize their resources and profits by developing and marketing products aimed at multiple government customers. Returns on investments can be much higher than in the commercial sector.

C
Industry Trends

Key trends in state and local government use of information services are summarized in Exhibit I-2.

Dependence on contractors of professional services and systems house services will continue to grow rapidly during the next few years in response to increased commitments that require IS solutions and to a lack of experienced internal personnel. Government agencies also need to link islands of data across many departments.

EXHIBIT I-2

Industry Trends

- Increased dominance of system houses
- Rise of VARs
- Increased use of processing services

State and local governments faced with new technology acquisitions are increasingly seeking outside contractor support to assist in problem definition, specification, vendor selection, and implementation. Like the federal sector, state and local governments have difficulty retaining and attracting qualified IS personnel in the face of less competitive pay scales than in the private sector.

Consultants and systems houses possess the technological skills necessary to implement and utilize new hardware, software, and telecommunications technologies. Consultants and systems houses are receiving contracts at the expense of major hardware manufacturers that lack expertise in linking multiple architectures. Major vendors in this market are EDS, IBM, CSC, and Andersen Consulting.

The state and local sector is the third largest systems integration market opportunity. A unique aspect of this market is that the largest expenditures will be for replacement of the aging installed base of computer and communications equipment.

Governments will require the aid of specialists to solve the problems of integrating older systems with new equipment. Integrators, systems houses, and professional services firms will also be called upon to solve the problem of networking recently purchased microcomputers into existing systems that were not designed to operate with newer technology.

VARs are showing strong market presence in this sector—especially in the area of public safety, where they capitalize on the diverse needs of this emerging field. VARs also fill the niche needs of governments as governments strive to achieve a more businesslike approach in automating operations.

Vendors that offer processing services to this market sector expect to see increased revenue in the near future as government agencies without the budget to acquire their own equipment struggle to automate specific functions.

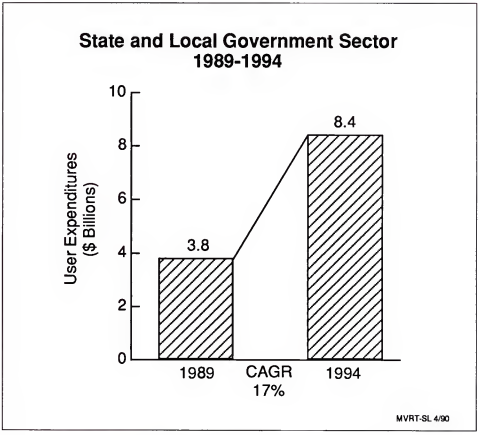
A number of state ADP organizations have noted that the success of acquisitions of information products and services by the federal government has been aided by giving advance notice to industry of the agency's buying intentions. These states now plan to give vendors copies of confidential ADP plans. As other states adopt this practice, vendors will find it easier to participate in this market and will have more information to identify the opportunities available to them.

II

Market Forecast

INPUT forecasts that external user expenditures for vertically oriented state and local government information services will amount to $3.8 billion in 1989, as shown in Exhibit II-1. The rate of increase from the comparable 1988 figure for total services—$3.3 billion—is 16%.

EXHIBIT II-1



The 17% compound annual growth rate predicted for the period of 1989-1994 for the state and local government sector reflects the following factors:

- The need to replace an aging installed base of computer systems
- Implementation of more on-line information systems to satisfy rising citizen demands
- Application of business enterprise principles to state and local government agencies, with accountability for productivity and general operational efficiencies
- Integration of existing and new systems across departments

Details of the forecasted growth are shown in Exhibits II-2 and II-3. All delivery modes are expected to sustain strong growth rates through 1994.

Processing services will continue to be one of the two largest delivery modes over the next five years, growing at a 20% rate as users seek outside services to meet growing ADP requirements. The conversion of processing services to in-house operations to reduce costs has lagged behind such conversions in the federal government and commercial sectors. This lag results in part from the inability of state and local governments to offer IS salaries that are competitive with those of the commercial sector.

Although professional services is the largest delivery mode in this sector, its CAGR for the forecast period is one of the lowest at 14%. Nevertheless, it represents a strong, stable market for vendors.

Network services will grow at the highest rate (24%) as state and local agencies strive to network existing and new information systems.

Systems integration services will also experience a high growth rate of 20% and is the third largest delivery mode in terms of expenditures.

As Exhibit II-3 indicates, applications software growth will be highest for workstation/PC products (23% CAGR versus 12% for minis and 7% for mainframes). The total volume of sales of applications software for workstation/PCs will exceed $100 million by 1994. The CAGRs, however, are considerably lower for software for each hardware category compared to the 1988-1993 forecast period. As noted earlier, the decreases are the result of this sector's escalating staffing problems.

EXHIBIT II-2

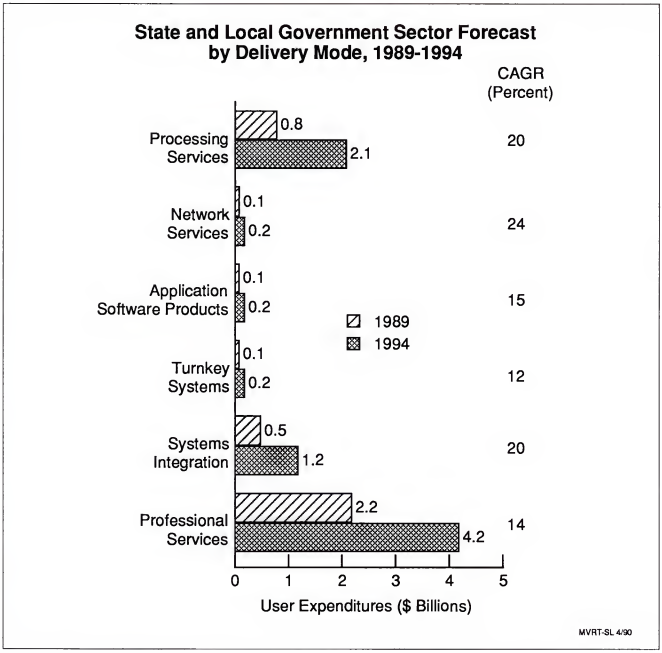
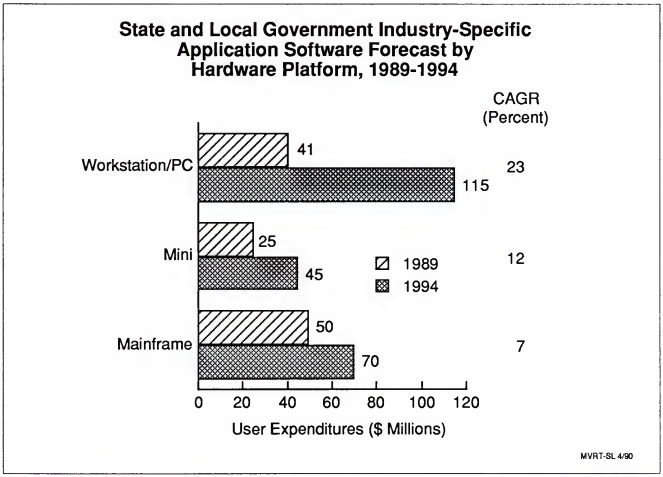


EXHIBIT II-3



III

Competitive Developments

The State and Local Government sector continues to rely heavily on information services vendors to provide services. Recent events within the industry that could impact how state and local government agencies procure IS services are presented in this chapter.

A
Industry Events

Leading vendors in this sector continue to include: AMS, CSC, EDS, Information Associates (MSA), GTECH, A.D. Little, SHL Systemhouse, SCT, IBM, Business Records Corp, Consultec, and Lockheed. In addition, PRC and Unisys are now playing significant roles in providing IS services to state and local governments.

The year 1989 has been eventful for PRC. Originally owned by Emhart, the company was sold to Black and Decker along with its sister professional services firm, Advanced Technology, Inc. Almost immediately following the sale, Black and Decker placed both companies on the selling block again. Corporate mergers and acquisitions tend to create anxiety on the part of existing users and potential buyers of equipment and services. Although PRC is touted as a reputable, profitable, and solid corporation, concern has been raised over another sale.

Niche vendors enjoying significant market share in this sector are: Wang for office automation products and services; and AT&T, MCI, and Boeing Computer Services for network implementation. Other specialists include: Ernst & Young, Coopers and Lybrand, and McDonnell Douglas. These companies are gaining market presence in this sector by providing professional and integration services based on their earlier laurels earned as software developers.

B

Recent Profiles of Vendors in the State and Local Sector

1. American Management Systems (AMS)

Founded in 1970, AMS provides professional services, applications software, and processing and micrographic services. Since 1982, AMS's marketing has focused primarily on financial service firms, the federal government, state and local governments, colleges and universities, and energy and telecommunications companies.

Within the state and local government sector, AMS provides applications software products and professional services. AMS's key competitors within state and local government include: Peat Marwick, Management Sciences America, and numerous small, independent firms. Competition from smaller firms is greater at the local government levels.

In addition to consulting on problem definition and systems design and implementation, AMS provides a number of products to the state and local government industry. Key products include:

- The Local Government Financial System is an integrated system providing expense and revenue budgeting; appropriation, expenditure, and cost accounting; general ledger, accounts payable and receivable, and cash disbursements; and encumbrance control. The system has a number of options available to meet defined needs.

- The Government Financial System provides budgeting, accounting, and financial reporting for large government entities such as federal agencies, state governments, and large cities.

- The On-Line Appraisal and Statistical Information System maintains property information and performs property evaluation, tax roll preparation, and tax collection.

- The Computer Assisted Collection System automates the scheduling, assignment, and distribution of collection work. The system is used by at least six state governments.

- The Government Human Resources System maintains data about all government employees included in the system.

AMS derives an estimated 20% of its revenues ($210 million estimated for 1988) from the State and Local Government sector. (AMS derives an estimated 35% from the federal sector). The company has included the top 350 state and local governments among its key target markets.

2. Andersen Consulting

A part of Arthur Andersen & Co., Andersen Consulting provides services in systems design and installation, systems integration, system productivity consulting, information planning, strategic consulting, change management, and facility/network management.

Although Andersen has a wide range of products available, it derives revenues from state and local governments primarily from professional services. Andersen estimates that 5% ($60 million) of its revenues are from the state and local government sector. The majority of the revenue derives from systems development.

In the state and local government sector, Andersen receives strong competition from the Big 8, from major equipment manufacturers (IBM, Unisys, Wang, etc.), and from numerous small, independent companies that are cost-effective for smaller state and local government jobs.

3. Computer Sciences Corporation (CSC)

Computer Sciences Corporation is one of the largest independent professional services companies in the industry. Serving government and commercial clients, CSC provides management consulting in information technology, requirements analysis, software development, systems engineering and integration, turnkey computer communications systems, and facility management services.

The company also provides industry-specific proprietary products and services for credit reporting, claims processing, health maintenance organizations, and income tax preparation.

Although CSC is able to provide a wide range of technology-related products and services, services to the state and local industry sector account for only an estimated 3% of the company's revenue. CSC derives an estimated 71% of its revenue from the federal sector.

Of the services provided to the state and local government sector, approximately 84% ($31.3 million) derived from services related to CSC's Health and Insurance Systems. An additional $3.9 million (5%) derived from the Systems Group, which provides services related to Integrated Systems, Systems Sciences, Network Systems, and Applied Technology.

CSC competes with a wide variety of organizations, including TRW, Hughes Aircraft, IBM, Unisys, PRC, EDS, and Blue Cross/Blue Shield.

CSC has indicated that it wants to expand its services into the commercial arena. A key to accomplishing the strategy has been strengthening of the systems integration organization.

In addition, CSC is increasingly interested in solidifying its position in the international arena. Solidification is being approached through alliance relationships (shared ownership) of the INFONET network with major foreign telecommunications authorities.

4. Electronic Data Systems (EDS)

Formed in 1962, EDS provides a wide range of systems development and management services to a wide range of industries. Although the percentage has been declining somewhat steadily, EDS derives an estimated 47% of its total corporate revenues ($4.8 billion) from services provided to General Motors.

The remaining noncaptive revenue (53%) is split as follows: 22% from finance and insurance; 17% from commercial, communications, and international services; and 14% from government systems.

Medical claim processing services contributed the majority of revenue from state and local government.

With an emphasis on systems integration and with the needs of state and local governments to improve and integrate their systems, EDS can be expected to be a key contributor to the growth of information services in the state and local government sector.

5. Infocel, Inc.

Founded in 1976, Infocel designs, develops, supports, and markets integrated computer-based systems to meet the needs of local governments, schools, public safety departments, and community colleges.

Infocel derives nearly 100% of its revenues from state and local governments, schools, and public safety departments. Its 1988 revenue of approximately $12 million derived from turnkey products related to:

- Financial management
- Public administration
- Geographic information
- Geographic reporting and analysis
- Utility billing and collections
- Systems design and productivity
- School administration
- Public safety

6. Municipal Data Management (MDM)

Formed in 1980, MDM develops, designs, and markets information systems for municipal departments. Of MDM's 1989 revenues (fiscal year), 90% derived from application software products. The remaining 10% derived from professional services.

MDM provides a number of systems that run on IBM computers:

- Budget and accounting
- Investment portfolio and cash management
- Sewer collection and accounting
- Utility collection and accounting
- Municipal court
- Criminal violations
- Police criminal reports
- Payroll and municipal attendance
- Tax revenue collection
- Construction code management

An estimated 95% of MDM's 1989 revenues derived from the state of New Jersey. The remaining 5% derived from states bordering New Jersey.

7. Network Computing Corporation (NCC)

Founded in 1971, Network Computing Corporation provides remote computing services to the utilities industry. An estimated 20% of NCC's clients are owned or controlled by municipal governments.

NCC's processing services are targeted at medium- and large-sized multiservice municipal utilities, water/sewer utilities, and electric cooperatives. Services are provided through on-line, interactive terminals. NCC provides a number of applications:

- The Customer Information System (CIS) provides a complete customer record and billing system.

- The Capital Credits System maintains patronage, allocations, retirement, estate settlements, and general settlements based on data from the CIS system.

- The Materials Management System maintains a data base of all inventory and balances transactions affecting inventory value and quantity with general-ledger inventory totals.

- The Transportation Accounting System provides a data base of all vehicles and their equipment.

- The Financial Information System provides all utility accounting functions.

- The Personnel and Payroll System maintains employee data, calculates labor distribution and associated equipment costs, processes payroll checks, and prepares tax returns.

NCC's applications are also available as a series of application software packages or turnkey systems.

8. Pacific Western Information Systems

Pacific Western develops and markets application software products for state and local governments, schools, college bookstores, and mortgage brokerage firms.

Key products that utilize Prime minicomputers and AT&T microcomputers include:

- Trust accounting systems
- Secondary school recordkeeping system
- Bookstore management systems
- Mortgage tracking software

9. Systems & Computer Technology Corporation (SCT)

SCT provides application software products and systems integration professional services—including custom software development, telecommunications consulting, information resources, and facilities management—to government agencies and educational institutions.

SCT provides a wide variety of administrative systems through two operating divisions. The Information Resource Management division provides system integration services, including management and staffing of operations. The Software and Technology Services division incorporates SCT's packaged applications software products and telecommunications consulting.

SCT's key competitors include Planning Research Corporation, Computer Sciences Corporation, Electronic Data Systems, American Management Systems, Management Sciences America, and other smaller, local firms.

ACT derives approximately 60% of its estimated $37 million revenue from educational institutions and 40% from government.

10. Telos Corporation

Telos is a professional services corporation that provides design, development, and support of software on a project and/or consulting basis for government and commercial applications. Computer and peripheral hardware maintenance services are also provided.

The majority of Telos's revenue is from custom software development and maintenance on a wide range of systems. Telos has few packaged applications.

Approximately 87% of Telos's 1988 estimated information services revenue of $80 million derived from the the federal sector. Of the remaining 13%, the majority derived from state and local governments.

Telos's key competitors include Computer Sciences, Logicon, TRW, PRC, Computer Horizons, and Unisys. The company also competes directly with hardware manufacturers for hardware maintenance contracts.

SL-A

Appendix: State and Local Government Forecast Data Base, 1989-1994

Exhibit A-1 provides the detail on which the state and local sector forecast is based. The Exhibit incorporates the base data for each delivery mode.

EXHIBIT A-1

State and Local Government Sector User Expenditure Forecast by Delivery Mode, 1989-1994 ($ Millions)

Sector by Delivery Mode	Act. 1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total State and Local Government Sector	3,280	16	3,803	4,428	5,180	6,055	7,107	8,359	17
Processing Services	740	13	839	1,006	1,210	1,456	1,756	2,121	20
-Transaction Processing Services	190	20	228	255	286	320	359	402	12
-Systems Operations	550	11	611	751	924	1,136	1,397	1,719	23
Network/Electronic Information Services	50	27	64	78	97	120	149	186	24
-Electronic Information Services	25	32	33	39	45	53	62	72	17
-Network Applications	25	22	31	40	52	67	87	113	30
Application Software Products	90	29	116	132	150	172	198	229	15
-Mainframe	40	24	50	53	57	61	65	70	7
-Minicomputer	20	27	25	28	32	36	40	45	12
-Workstation/PC	30	36	41	50	62	76	93	115	23
Turnkey Systems	120	12	135	150	170	190	210	235	12
Systems Integration	380	22	465	571	714	879	1,103	1,382	24
Professional Services	1,900	15	2,185	2,491	2,840	3,237	3,690	4,207	14

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SL-B

Appendix: Forecast Data Base Reconciliation

Presented in Exhibit B-1 is INPUT's forecast reconciliation, which indicates the changes made in this year's forecast compared to last year's.

This year's forecast reflects a slightly higher CAGR for the total state-and-local market due to slightly higher CAGRs for processing services, systems integration, and professional services.

Increased CAGR for processing services reflects the fact that in-house processing capabilities continue to be insufficient to meet user demands and that funding for new systems is constrained by budgetary considerations. Increased professional services and systems integration prospects are related to state and local agencies' facing declining IS staffing levels and to mounting demands for technical expertise to manage new technology.

The application software products forecast has been revised downward, from 23% CAGR to 7% CAGR. This decrease is a result of escalating staffing constraints. Because application software products remain at less than 5% of the total market, this revision has little impact on the total state-and-local market forecast.

The base 1988 numbers are unchanged.

EXHIBIT B-1

State and Local Government Sector Market Forecast Data Base Reconciliation by Delivery Mode

Delivery Mode	1988 Market			1993 Market			88-93 CAGR per data 88 Rpt. (%)	88-93 CAGR per data 89 Rpt. (%)
	1988 Report (Forecast) ($M)	1989 Report (Actual) ($M)	Variance as % of 1988 Report	1988 Report (Forecast) ($M)	1989 Report (Forecast) ($M)	Variance as % of 1988 Report		
Total State and Local Market	3,280	3,280	0	6,580	7,107	8	15	17
Processing Services	740	740	0	1,550	1,756	13	16	19
Network Services	50	50	0	150	149	0	25	24
Application Software Products	90	90	0	250	198	(21)	23	17
Turnkey Systems	120	120	0	220	210	(4)	13	12
Systems Integration	380	380	0	1,060	1,103	4	23	24
Professional Services	1,900	1,900	0	3,350	3,690	10	12	14

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SL-C

Appendix: Definitions Pertinent to the State and Local Government Sector

Functionally, the state and local government sector can be divided into the following areas:

- Executive, Legislative, and General Government
- Justice, Public Order, and Safety
- Public Finance, Taxation, and Monetary Policy
- Administration of Human Resources Programs
- Administration of Housing and Environmental Quality Programs
- Administration of Economic Programs

Executive branches of government include city managers' offices, mayors' offices, county supervisors' offices, governors' offices, and executive advisory commissions.

Legislative bodies include boards of supervisors, city councils, county commissioners, and legislative assemblies and advisory commissions.

General government bodies include general accounting offices, government personnel agencies and boards, and purchasing and supply agencies.

Applications used by 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
- Integrated municipal system

On the state and local government level, the justice 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' offices and public prosecutors offices; and correctional institutions.

Applications used by the justice system 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 for public safety
- Police systems
- Crime analysis
- Crime reporting and criminal information
- Traffic ticketing and enforcement
- Equipment control
- Fire systems
- Automatic vehicle locating systems

Public finance, taxation, and monetary policy includes 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 cashiering
- Fund accounting management information systems
- Financial control
- Fiscal management
- Government costing
- Municipal control systems
- On-line appraisal and statistical information
- Real property tax
- Tax management
- Revenue data collection
- Treasurer's 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 administrations, maternity medical assistance program administrations, unemployment insurance offices, workers' compensation offices, and more.

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

Administration of economic programs includes administration of general economic programs; regulation and administration of transportation 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 includes 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, licensing and utility inspection agencies, alcoholic beverage control boards, labor management negotiation boards, licensing and permits bureaus for the retail trade, rent control agencies, work safety administrations, 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 licenses
- Land parcel data bases
- Building and zoning
- Highway impact model
- Housing authority tenant accounting
- Truck trailer scale system
- Title system

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

INPUT OFFICES

North America

Headquarters
1280 Villa Street
Mountain View, CA 94041-1194
(415) 961-3300
Telex 171407 Fax (415) 961-3966

New York
959 Route 46 East, Suite 201
Parsippany, NJ 07054
(201) 299-6999
Telex 134630 Fax (201) 263-8341

Washington, D.C.
1953 Gallows Road, Suite 560
Vienna, VA 22182
(703) 847-6870 Fax (703) 847-6872

International

Europe
Piccadilly House
33/37 Regent Street
London SW1Y 4NF, England
(01) 493-9335
Telex 27113 Fax (01) 629-0179

Paris
52, boulevard de Sébastopol
75003 Paris, France
(33-1) 42 77 42 77 Fax (33-1) 42 77 85 82

Tokyo
Saida Building
4-6, Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101, Japan
(03) 864-0531 Fax (03) 864-4114