

Coordinated state-local information systems offer the hope of integrated services to citizens and streamlined operations within government. Many government and professional organizations are searching for ways to make these essential systems more successful. But, there is very little reliable information about what makes state-local projects succeed or fail. This study, sponsored by the New York State Governor's Task Force on Information Resource Management (now the NYS Office for Technology), is one of the first attempts in the US to analyze and document practices that lead to success.

The objective of this project was to identify and document the practices associated with successful state-local information systems by studying the experiences of eleven existing initiatives in New York State:

- Aging Network Client Based Service Management System Project
- Electronic Filing of Local Government Annual Financial Reports
- Electronic Death Certificate Project
- Electronic Transfer of Dog License Data
- Hunting and Fishing Licenses
- Immunization Information Systems Project
- Probation Automation Project
- Real Property System Version 4
- SALESNET
- Local Social Services District Imaging Project
- Electronic Voter Registration

Information needed to support the project objective was gathered in four ways: a literature and current practice review, an effort to describe the eleven participating projects in a standard way, a survey of both state and local participants in each project, and focus group interviews with the project teams. The Task Force established a Special Work Group on State-Local Information Systems to serve as both a planning and advisory body.

The main deliverable of the project is a handbook of best practices called **Tying a Sensible Knot: A Practical Guide to State-Local Information Systems** which presents a variety of practices that project managers and participants can use to develop successful state-local information systems. However, the project also uncovered issues that constrain success, but that cannot be addressed by single project teams acting on their own. These constraints are the result of environmental factors that combine to reduce the effectiveness and increase the cost of all state-local systems. This final project report discusses these systemic constraints on effective systems and offers three sets of recommendations for mitigating their effects.

Environmental factors that shape state-local systems--and their consequences

Every information system operates in a larger context that includes the policy, legal, and economic environment; program rules; business processes; management techniques; and human and organizational limitations. Our review of the goals, methods, and problems encountered across the eleven projects revealed several environmental factors that made all systems more difficult and costly than they might have been. The figure below shows how these factors combine to produce these undesirable consequences.

Systemic Constraints on Effective State-local Systems

Roles and relationships. The roles of state and local government are complicated, changing, and often poorly understood. The two levels of government operate on shared and separate bodies of law, they interact differently with citizens, attract and rely on different kinds of professionals. They are organized according to a mixture of constitutional, programmatic, financial, traditional, and geographic dimensions. In addition, they engage in a variety of relationships with one another: collaborative, contractual, regulatory, and adversarial.

Variety. Local governments, especially, exhibit great variation. For example, New York has 57 counties, 62 cities and 932 towns. There are also thousands of special districts that manage schools, fire protection, sewers and water systems, transportation services, and other specialized activities. Within each kind of local jurisdiction there is an infinite variety of specific conditions based on population characteristics, economic conditions, and physical geography.

Missions. Every level of government tries to carry out a large number of unrelated missions: build roads, educate children, protect the environment, fight crime, create jobs. Even in the same agency, specialized programs usually

serve to divide rather than connect groups of people with similar responsibilities. Systems that support service programs reflect this “stove pipe” way of organizing work.

Technology. The 1980s and 90s have introduced powerful new computing and communications technologies to government operations. However, the electronic revolution has not reached into every corner of our society or every government office that serves local communities. Wide discrepancies in technical capacity from one place to another severely limit the degree to which these new tools can be applied to program management and information sharing goals.

Adaptability. The very structure of our government allows change only when there is agreement among a number of individuals and institutions. By codifying governmental activities in law and regulation, we ensure stability in operations, but also make change difficult to achieve. The budgetary process, civil service requirements, and procurement and ethics laws all act as brakes on the ability of any one actor to make and implement decisions. Moreover, federal, state, and local electoral, budgetary, and legislative cycles may not coincide, making intergovernmental initiatives even more difficult to define and implement.

The environmental factors described above have specific consequences for using information systems effectively:

- Technological capacity (hardware, software, networking), and the ability to pay for it, vary widely from place to place.
- Inadequate intergovernmental, interagency, and inter-program communications lead to fragmented and duplicate development efforts.
- Program-specific funding and legal requirements encourage stand-alone, single-purpose systems.
- Voluntary local involvement in state-initiated projects results in uneven local participation in new systems, often requiring state agencies to support two or more variations.
- Inadequate development and retention of a technical workforce reduces the ability of both state and local governments to take advantage of new technologies.

Recommendations for increasing government-wide system effectiveness

The principles and practices described in *Tying a Sensible Knot* can help government managers avoid or reduce many problems. However, state and local government officials, as individuals, cannot change the environmental factors that make public sector work so complicated. The recommendations which follow are designed to mitigate their negative consequences by capitalizing on both the findings of this study and the infrastructure-building work already underway in New York State.

1. **Expand existing efforts to build a statewide information infrastructure encompassing technology, data, and human resources.** New York’s new statewide secure intranet, the NYT, offers many benefits to state and local participants. It needs to be accompanied by education, demonstration, and incentive programs that encourage localities to connect. Existing efforts to establish preferred technology and data standards should be augmented with greater local involvement. A technical workforce assessment recently begun, should recommend ways to improve recruitment and retention of technical staff as well as more effective use of contracts at the both the state and local levels.
2. **Establish formal linkages and communications mechanisms that encourage awareness of other models and experiences.** Peer reviews are already being required by the Office for Technology for major new system initiatives and voluntary best practice presentations are conducted on selected topics. These should be expanded to include periodic peer consulting sessions to help project managers define and design new state-local systems. This should be augmented by two additional efforts: a Web site containing up-to-date descriptions and contact information about current state-local systems projects and an ongoing program of communications and information exchange among state and local agencies.
3. **Establish and support a project management “academy” for both state and local managers.** Traditional government services provided by a single agency are giving way to complex service programs that require many exchanges of information involving not only public agencies but often private and nonprofit organizations as well. The best practices guidelines produced by this project amply illustrate the importance of partnerships, collaboration, and entrepreneurship in bringing state-local system initiatives to successful implementation. In addition, public managers now face the complexity of negotiating and then managing contracts for functions and services they traditionally operated themselves. All of this calls for new management skills that take advantage of information as the key resource that ties all these parties together. Public managers would greatly benefit from a well-organized program of training and development that prepares them to guide projects from inception to evaluation in this complex new environment.

