

State-local information systems link state and local agencies together in a coherent service delivery or administrative environment. These systems facilitate information sharing for the achievement of mutual program or administrative goals. They address both individual and common needs and result from ongoing discourse among state and local participants. The main product of the project is a set of best practice guidelines for creating these systems.

The full set of guidelines, *Tying a Sensible Knot: A Practical Guide to State-Local Information Systems*, is available in both print and electronic form. It includes a full discussion of all the environmental factors, principles, and practices summarized below plus descriptions of the eleven state-local projects involved in the study. Each practice is illustrated by vignettes from the projects.

Changes in the nature of intergovernmental authority and activities

Three trends are reshaping the nature of intergovernmental relations: public demand for services that make sense and operate at reasonable cost, the shift of authority away from the federal government to the states and localities, and movement away from mandated programs to voluntary ones.

- **Public demands for sensible, cost-effective services.** Increasingly, citizens and businesses expect one-stop, same-day, customized services instead of the fragmented, duplicative, and lengthy processes that have often characterized government operations.
- **Devolution of authority.** Our recent political history has seen a dramatic shift away from Washington toward state capitals in such critical public programs as Medicaid and Welfare Reform. This transfer of authority to states in many cases also means a shift of responsibility to localities.
- **Mandates vs. voluntary local participation.** As states take up the responsibility of newly “devolved” programs, they are mindful of local opposition to unfunded mandates. It is now common for local participation in state initiatives to be voluntary in whole or in part.

Characteristics of the ideal state-local information system

Project participants identified dozens of characteristics that they would expect to find in the “ideal” state-local information system project. These characteristics fell into four categories: objectives, project management methods, design features, and user support features.

- **Objectives.** The objectives of a state-local system project set the stage for all subsequent activity and evaluation. They drive all the investments of all stakeholders. Clear compelling objectives make these investments pay off.
- **Management.** State-local systems projects involve a variety of players in different organizations, at different levels of government, in different locations, and sometimes in both the public and private or nonprofit sectors. An ideal project management process takes all this into account.
- **Design.** Systems that connect state and local government usually affect work already underway in both places. Ideally, such systems integrate with processes, information flows, technologies, and staff capabilities already in place.
- **Usability.** State-local systems are implemented in a wide variety of organizational settings and used by staff with a range of skills and experience. The system will only be as successful as its users can make it. User support services are a key to that success.

Barriers to ideal systems

These ideals are difficult to achieve because there are significant barriers to overcome. The project participants identified many problems that state-local projects encounter. These are among the top ranking barriers:

- lack of education and information about technology and programs
- lack of a shared, reliable computing and network infrastructure
- goals that are too ambitious for the resources available
- human and organizational resistance to change
- unrealistic time frames
- organizational, programmatic, technological, and legal complexity

- changing priorities
- overlapping or conflicting missions among participating agencies

Guiding principles

Nine fundamental principles to guide state-local information system initiatives emerged from this study of eleven existing efforts. These principles support shared vision and commitment— vision of what is to be achieved and commitment to a collaborative way of achieving it.

- **Understand the full range of local and state conditions.** In order for state and local levels of government to work toward the same or complementary goals, they need to understand and appreciate one another's abilities, strengths, and limitations.
- **Have a clear purpose and realistic, measurable expectations.** Common understanding of a shared and clearly articulated purpose is crucial in state-local initiatives. Realistic, measurable expectations about achieving that purpose are equally important.
- **Commit to serious partnerships.** Active, trustful partnerships focus on common goals and support healthy interdependence.
- **Choose the right people for the jobs that need to be done.** State-local system projects demand a full range of management, programmatic, administrative, technical, and customer service skills.
- **Expect to assemble a mixture of resources.** Most state-local systems are supported by a variety of funding and in-kind resources contributed by different organizations, with different rules of accountability.
- **Communicate as if your survival depends on it.** Open interchange of concerns and ideas means an ongoing flow of complete, appropriate, timely, and accurate information tailored to the needs of each audience.
- **Design a system that integrates with your business.** A new or revised system should take account of, link with, and enhance existing operations.
- **Demonstrate and refine ideas before you implement.** Prototypes and demonstrations make ideas tangible to users and open to improvement throughout the design process.
- **Let common sense guide you to workable solutions.** Trust the experience and good sense of participants to define needs and uncover practical ways to meet them.

Best practices

The surveys, interviews, and project documents revealed nineteen best practices that should go into the design, development, and operation of any state-local information system. Each state-local system project requires a somewhat different mix of these practices to guide it to a successful conclusion. A traditional way of thinking about projects is that a number of steps need to be completed in order to reach project goals. While this kind of thinking is useful and important for managing activities, we think of these best practices not as steps, but as areas for continuous attention through the entire project. The level of intensity that any one practice commands at any point in time will vary— but it will not disappear.

- **Define purpose and scope.** Well defined project purpose and scope both rest on a solid understanding of the underlying program or policy. Together, they represent deliberate decisions about what part of the program the project should address and what realistically can be achieved given the resources available. Ideally, the selected purpose and scope not only attack current problems, but lay a foundation or build capacity to deal with future ones.
- **Choose a well-skilled and respected project leader.** The project leader is a critical success factor in state-local projects. Choose a person who is able to span the psychological and political distance between state and local governments; has a good understanding of local operations; enjoys the confidence and support of top-level executives; is an excellent communicator; is a resourceful manager of people, time, and money; and is flexible and willing to seize opportunities.
- **Recruit the right project team.** Assemble a team of both state and local staff who collectively have strength in three areas: management, technology, and policy. Without individuals capable of handling project management functions (time lines, workplans, budgets, recruiting) you run the risk of poor coordination, and wasted time and effort. If a project lacks adequately skilled technology personnel, it is likely that deadlines will be missed and applications may fail or contain crucial flaws. Teams that do not include well-informed program and policy staff, especially those engaged in direct service functions, are likely to miss the boat on substantive service goals.
- **Sell the project to decision makers.** At the beginning of the project, develop a shared vision that identifies

tangible benefits and shows how investments of state or local resources can achieve them. This vision (used consistently in important project documents and events) communicates to decision makers important information about why the project is being undertaken, what the expected goals are, and how the realization of these goals will benefit their stakeholders.

- **Communicate often and clearly with stakeholders.** Good communication practices ensure that all stakeholders (both those actively involved and those who will eventually be affected) are continuously and adequately informed about project goals and progress. This is not a one size-fits-all endeavor. The techniques selected should be based on the particulars of the project and specific needs of each audience: what information do they need? how much detail? how often? through what medium?
- **Finance creatively.** A state-local information system effort will likely be financed by a package of resources that includes cash appropriations, grant, in-kind resources (public and private), and a lot of redeployed human effort. Creative financing entails not only the usual budget management skills, but the ability to convince others to contribute resources, to identify and capitalize on grant opportunities, to “leverage” resources, and to balance the constraints and rules that multiple funding sources can impose on a project plan.
- **Adopt tools and techniques that can manage complexity.** These projects require tools to manage people, time, relationships, partnerships, ideas, conflicts, resources, information, and processes. Project managers need a range of techniques and the insight to use them in the right context to manage multiple streams of formal and informal communication and activity. Successful techniques are usually based on a keen understanding of the project’s goals and common sense adaptation of both traditional and newly popular management tools.
- **Look for existing models.** Any project can benefit from a systematic review of similar efforts in other places. Since private and public sector organizations in this country and others often conduct similar programs, there are nearly always models from which to learn. Academic researchers and nonprofit organizations may also have solved a problem, or at least developed part of the solution. There is a lot to learn from success stories and even more to be learned from cases where things didn’t always go as planned.
- **Understand and improve processes before you apply technology.** A system which successfully supports both the service delivery role of local governments and the information requirements of the state usually results from a clear understanding of the dependencies and requirements which govern the business processes that link them together. Project teams often find that a significant amount of the improvement they expect from a new system actually comes from understanding and improving these processes before they apply any technology.
- **Match the technology to the job.** Before choosing a technical approach, give full consideration to the work processes and overall business context in which a state-local system must operate. Consider user capabilities and the organizational and staffing limitations of the agencies that will be implementing, using, and maintaining the system to deliver services. Conduct technical awareness activities such as literature reviews, searches on the World Wide Web, vendor presentations, or attendance at technology exhibitions and conferences. Prototyping is an excellent, relatively low-cost way to test the “fit” between a technology and the environment in which it must work.
- **Use industry standard technology.** Industry standards exist for almost every type of hardware, software, and communications technology, including such things as data organization and access (e.g. database structure, query languages), data sharing (e.g. Electronic Data Interchange, encryption), networking services (e.g. data communications, network management, e-mail), and document imaging (e.g. scanning, imaging, work flow). Standards enable interoperability and electronic messaging among system components. They also offer vendor independence and scalability # when you use a common standard, you will be able to choose among different products that adhere to the standard and will be able to scale up to larger systems when the need arises.
- **Adopt and abide by data standards.** Data standards usually include an agreed upon definition of the meaning of a term and an agreed upon format for how the term will be represented in the system. Standard data definitions and formats organized in a common data dictionary are an essential prerequisite for effective information sharing among government organizations and between the government and private firms. They provide a common language for information sharing, help ensure that the data sets will be described accurately, facilitate automation, allow for both central and distributed storage of data, and support electronic information exchange.
- **Integrate with related processes and practices.** In most cases, state-local information systems projects are focused on standard business processes such as issuing a license, determining eligibility for a benefit, or recording a property transaction or vital record. However, these business processes are conducted throughout the state in very non-standard environments. Projects therefore need to focus on both the business process and the ability of individual organizations to adopt an information system to support that process. Tools such as data dictionaries, and process and workflow analysis help identify ways that different organizations can and should participate. Organizations unable to implement a sophisticated automated system in the short term can begin by focusing simply on the new or improved business process. An organization that needs to retain its

reliance on paper processing can still improve its performance and consistency by adopting the set of standard data definitions that are built into the computerized system. In this way, each organization can begin to integrate the useful elements of the new system into its own environment, within its own operational and resource constraints.

- **Use prototypes to ensure understanding and agreement about design.** The philosophy behind prototyping is that system development is more effective when customers are partners in the design process. Prototyping allows for the building of the system to begin much earlier in the development process, and allows customers to see and influence the system as it is being built. The prototype makes tangible all the ideas that both designers and customers usually try to communicate to one another in words. The prototype makes it possible for both to see and understand the needs, functionality, and limitations of the design and to alter it as needed.
- **Choose a capable pilot site.** Many system implementations are initiated with pilot tests that bring the system into the field to evaluate and refine design, performance, and integration with other systems and activities. The pilot site is a critical organization — one that is willing to undergo on-the-spot evaluation and identify and work on the inevitable problems that pilots are created to uncover and resolve. A capable pilot site must be representative of local conditions, have the organizational capacity and leadership commitment to carry out the pilot, and be geographically accessible for easy interaction among designers and users.
- **Make the best use of vendors.** Technical expertise to support the implementation of a new networking technology, a new database engine, or a more intuitive graphical user interface is not the exclusive knowledge of government officials. Depending on resources and the needs of the project, outsourcing portions of the work to technical specialists can be an effective way to get the job done. Well-managed outsourcing allows the government staff to focus on those issues that demand their specialized knowledge and experience while relying on other experts to do the technical work.
- **Train thoroughly.** The process of adopting a new system can be made much less difficult by offering well-designed, user-oriented training sessions and reference materials. User training needs to demonstrate not only how the system works, but how it fits into the larger work picture. It also needs to take place at the right time and be offered by methods that take into account the different ways that people learn.
- **Support users.** The time period surrounding implementation is a critical one for user support. Offering immediate, appropriate support at this point in time will relieve anxiety and will encourage willing and effective users. But there are always new users and most systems continue to add or change features throughout their life cycle. User support needs to be continually updated and continuously available through such methods as a formal help desk, newsletters, online help features, and lists of frequently asked questions.
- **Review and evaluate performance.** A formal evaluation tells how well the system supports the purpose and goals of the project. A comprehensive evaluation is attractive to funders, policy makers, and taxpayers alike by answering questions such as: how well does the system meet customer needs? how well does it contribute to integrated service delivery or other service system goals; how well does it meet time-savings, streamlining, and other operational improvement and user effectiveness goals; and how well does the system meet cost-savings or revenue goals? The answers to these questions lead to decisions about changes, improvements, refinements, and lessons for future initiatives.